Monklands Replacement Project (MRP)

NHS Lanarkshire

Outline Business Case (DRAFT)

25th November 2022

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Introduction to the Outline Business Case

The Outline Business Case (OBC) for Monklands Replacement Project (MRP) provides the information required to demonstrate to the Board and Scottish Government Capital Investment Group (SGCIG) that the Project is ready to proceed to the detailed design and Full Business Case (FBC) stage. It seeks to demonstrate that the Project will:

- meet the business needs,
- offer value for money,
- be affordable and achieveable,
- contribute to the Scottish Government's objectives.

This OBC has been developed to align with the Scottish Capital Investment Manual (SCIM) and is therefore structured across five clear cases as summarised below:

Executive Summary – provides a clear and concise summary of the key features contained within this OBC.

The Strategic Case – establishes the rationale and key objectives driving the case for change and confirms that this is still valid as is the preferred service solution to successfully deliver on these objectives. The Strategic Case also demonstrates how this has been strengthened since the Initial Agreement (IA).

The Economic Case – provides a detailed summary of the processes and procedures undertaken to assess the short list of business options and also sets out the details of the consequential site selection process which followed.

The Commercial Case – documents the Projects commercial arrangements and the associated implications, clearly setting out the procurement route and defining the contractual and payment structure arrangements for the Project.

The Financial Case – sets out the Projects financial model (both capital and revenue) for the preferred option to determine the Projects overall affordability. This case makes clear any supporting assumptions and factors that have influenced the financial profile since the IA.

The Management Case – outlines the Projects overarching management plan, including details of the reporting structures, delivery team, key roles and responsibilities and project management procedures that will cumulatively demonstrate that the Board of NHS Lanarkshire is ready and capable of delivering the Project successfully

1. Executive Summary

1.1 Introduction

NHS Lanarkshire is the third largest regional health board in Scotland, employing more than 14,000 staff across its acute, primary and community care settings, and delivering healthcare to approximately 650,000 people living in North and South Lanarkshire.

The Board's strategic framework, Achieving Excellence, describes the radical changes needed in the approach to the provision of health and social care services to shift the balance of care away from acute hospitals to one where there is a greater emphasis on prevention and community-based intervention. Where acute hospital intervention is required, the focus will be on day case, day treatment and outpatient care rather than the traditions of long inpatient stays. This ambition that will carry through to the Board's emerging strategic framework, Our Health Together.

If service transformation is not delivered at scale it is likely that the predicted demographic changes in the coming years, which show a continued increase in the number of older adults across Lanarkshire's population, combined with other influencing factors, will mean NHS Lanarkshire needs to provide significant additional acute hospital beds to provide the current levels of service delivery in the future. In real terms this is not achievable, affordable or desirable.

The existing University Hospital Monklands (UHM) cannot deliver the new models of care that are required, with major structural and site limitations meaning the hospital lacks sufficient space and flexibility to adapt to future healthcare needs, a point that was re-enforced during the recent pandemic where lack of space and flexibility were rate limiting factors to the sites ability to respond efficiently. Additionally, much of the mechanical and electrical infrastructure has long exceeded its life expectancy and there are ongoing risks and issues with the quality of the aging fabric which cannot be fully mitigated.

The preferred strategic solution set out in the Initial Agreement (IA) was for the replacement or complete refurbishment of the existing UHM to deliver the emergent new clinical strategy. The IA was approved on the 5th October 2017 by the Scottish Government Capital Investment Group (SGCIG) [see **Appendix 1**].

1.2 The Case for Change

The Strategic Case re-visits the strategic context described in the IA, demonstrating how it has informed the project objectives and planning assumptions and also how those assumptions have been re-validated to ensure the preferred strategic and service solution remains aligned to NHS Lanarkshire's overarching strategic vision.

The case for change is centred around six core themes which have remained consistent since the IA. In summary the theses are:

Changing demographics: There is a need to respond to the anticipated change in the demographic profile of the Lanarkshire population to manage the impacts on future healthcare needs and the consequential impact on the workforce. Predictions indicate that there will be a continued rise in those aged over 75 in the coming years which under current arrangements will place significant pressure on the system.

Shift the focus of are away from inpatient stays: The way in which unscheduled care is currently managed and delivered needs to change significantly with a renewed focus on assessment leading to discharge rather than an attendance at the Emergency Department being the pre cursor to automatic inpatient admission. Future healthcare delivery must place emphasis on day case, outpatients, and community care being the norm.

More care provided in community settings: This requires development of a healthcare system that supports an integrated health and social care with a focus on prevention, anticipation and supported self-management, set within a wider context of co-production and supported by the continued digitisation of services to enable a greater level of remote based patient interactions.

Develop high quality 'Centres of Excellence': NHS Lanarkshire recognises the need to deliver sustainable services modelled around centralised speciality service provision and optimised resource utilisation. Clinical services delivered at each acute hospital should be consistent with that hospital's capacity and arranged around 'Centres of Excellence' where a specialty delivers care for the whole of the Lanarkshire

population. This will enable the provision of concentrated multi-disciplinary teams to deliver safe, person-centred care that achieves the best possible outcomes for patients.

Supporting Regional Working: Supports the need for regional working to deliver specialised services and join-up local healthcare planning to the wider regional context. This will contribute positively to balancing demand and capacity across various specialties ensuring timely access for patients.

Limitation of existing infrastructure: UHM has major limitations across its infrastructure and accommodation which in the most part fails to meet current healthcare standards. Business continuity at UHM is propped up by a costly backlog maintenance programme, however as a risk led programme it is subject to finite funding and cannot address the fundamental issues with the building including substandard fire escapes and stairs, non-compliant ventilation, historic sanitary ware and other hospital acquired infection (HAI) related issues.

Services		
Cancer Services	General Surgical	Pharmacy
Cardiology	Haematology	Planned Investigation Unit
Clinical Research Facility	Hospital at Home	Radiology
Critical Care	Infectious Diseases	Radiotherapy
Elective Orthopaedics	Labs	Research & Education
Emergency Department	Medicine/Old Age Services	Respiratory
Endoscopy	Mortuary	Short stay assessment
ENT	Older adults/Frailty	Spiritual Care
Facilities Management	Outpatients	Theatres
Gastroenterology	Outpatient Dialysis	Urology

[Table ES1]: Services affected by this proposal

1.2.1 Why is the proposal a good thing to do - Need for Change?

The Case for Change remains valid. The existing UHM is not able to respond to current and future healthcare needs and will continue over time, to compromise the quality of healthcare delivery due to the significant limitations of its existing and failing

infrastructure. To ‘do nothing’ would put NHS Lanarkshire in a highly challenging position that would mean it was:

- unable to achieve the investment objectives,
- unable to implement the required new model of care,
- continue to lack sufficient single room capacity,
- be unable to meet healthcare building and fire safety standards,
- continue to carry a significant backlog maintenance,
- continue to experience major incidents related to drainage and flooding that present ongoing service continuity and Infection preventions & Control challenges,
- be unable to deliver on the Net Zero strategy.

It is clear that significant change is needed and this proposal sets out a solution that will not only enable NHS Lanarkshire to respond in full to the changing healthcare needs of its population, but also build in flexibility that will ensure it can continue to adapt to currently unknown healthcare needs as they emerge.

1.2.2 Investment Objectives

Underpinning this ambitious Project and driving the design of this new facility are five key investment objectives. These objectives were defined through collaborative engagement with a wide range of stakeholders and design professionals during development of the IA and have remained consistent throughout development of the Project. The objectives demonstrate the key quality indicators that will determine successful delivery of this ambitious Project. The key investment objectives for the MRP are to:

- Improve person-centred services
- Improve the safety of patient care
- Improve clinical effectiveness and enhance patient experiences and clinical outcomes
- Improve the quality of the physical environment
- Provide flexible and adaptable facilities across the healthcare system.

1.3 What is the preferred solution?

A long list of seven potential implementation options was identified within the IA ranging from 'do-nothing' to 'full re-development'. This was refined to a short list of four options which are shown in **Table ES2**.

Option	Description
A	Do Nothing – maintain the Status Quo
B	Refurbishment on the Monklands site
C	New Build on the Monklands site
D	New Build at a New Site

[Table ES2]: Implementation Options

The short list options were taken through a detailed and rigorous options appraisal process that considered the associated delivery timescales, costs, benefits and risks of each option, illustrating how each option would be implemented and demonstrating the relative value for money [see Economic Case]. The appraisal process took place in two distinct phases:

- Phase 1 assessed the main business options (A – D), with the scoring of option D based upon a generic off-site solution.
- Phase 2 was to be undertaken if option D emerged as the highest scoring option from phase 1 and focussed on site selection.

Option D was confirmed as the highest scoring outcome by a significant margin and in line with SCIM guidance, a sensitivity analysis was undertaken in order to confirm this as the leading option. The sensitivity analysis found that in all four sensitivity tests, option D scored the highest and again this was by a considerable margin.

A financial sensitivity analysis was also undertaken for all options. Costs included:

- The full capital cost of delivering the building net of any land sales,

- Life cycle costs to maintain the building over its economic life,
- Any additional recurring revenue costs incurred net of any revenue savings,
- Any non-recurring revenue cost to support the development of the building.

The sensitivity analysis on both scoring and financial appraisal validated option D as leading option providing the Board with a high level of confidence that it demonstrates best value.

The outcome of option D as the preferred solution triggered the phase 2 process to select an appropriate site for the hospital development. The initial site selection process commenced in 2018 and on conclusion an independent review was instigated by the then Cabinet Secretary for Health & Sport, Jeanne Freeman, to provide an independent assessment of the site selection process undertaken by NHS Lanarkshire. The outcome report from this review provided a number of recommendations for NHS Lanarkshire to take forward.

The Cabinet Secretary for Health & Sport also advised that the existing site should be excluded from further consideration as it was not practical and NHS Lanarkshire should seek to identify further sites which could be considered for the new hospital location. As result, a further site, namely Wester Moffat, was added to the shortlist of potential sites. This, along with the other shortlisted sites of Gartcosh and Glenmavis underwent a rigorous feasibility options appraisal process.

Table ES3 summaries the appraisal of these site options showing that Wester Moffat emerged as the most economically advantageous site for the new development and best value for money.

Evaluation results	Gartcosh	Glenmavis	Wester Moffat
Economic appraisal	100	84.11	95.74
Risk appraisal	94.12	72.73	100
Combined total	**194.12**	**156.84**	**195.74**
Overall Ranking	**2**	**3**	**1**

[Table ES3] - Appraisal of Site Options

The Board of NHS Lanarkshire met on 16th December 2020 to consider the site selection outcome and approved the recommendation to the Cabinet Secretary for Health & Sport that Wester Moffat was the preferred site for the location of the new facility. This recommendation was accepted by the Cabinet Secretary for Health & Sport on 29th January 2021 [see **Appendix 2**].

1.4 Is the organisation ready to proceed with the proposal?

1.4.1 Procurement Strategy

The commercial case sets out the proposed procurement arrangements for the Project. The preferred procurement strategy is a Hybrid Two Stage Design and Build procurement approach. NHS Lanarkshire will deliver the Project under an NEC Contract structure.

This option is designed to secure a construction delivery partner at the start of the RIBA Stage 3 design process allowing the appointed construction delivery partner to work alongside the Board's Lead Advisor team to develop optimum and buildable solutions that can be delivered within an acceptable cost limit and at the earliest operational end date.

Following an independent review of the project cost and commercial arrangements by NHS Scotland Assure, a recommendation was to undertake a review of the selected procurement strategy. The outcome of this review indicated support for the proposed procurement strategy.

1.4.2 Bidder Selection Process

A bidder selection process has already been undertaken to ensure that only bidders with the appropriate experience and capability to deliver a project of this complexity and scale were are invited to tender.

The Contract Notice was published on 13th May 22 via the procurement portal which publishes the notice in the OJEU. It was accompanied by several procurement documents, including:

- A Pre-qualification questionnaire (for completion by interested parties see below).
- Memorandum of Information (MoI) describing the procurement strategy and next steps in the process.

Formal responses to the Contract Notice from interested parties were received on the 13th June 2022. An evaluation team was established to evaluate and score the responses received to the Contract Notice. Formal evaluation took place on the 23rd June 2022. The outcome of the evaluation process was accepted by NHS Lanarkshire and letters were issued to all participating parties informing them of this outcome.

The Project Delivery Timetable is detailed in **Table ES4**.

Master Programme	
Activity	**Key Milestones**
Outline Business Case	
Stage 2 Design Complete	September 2022
Planning Submission	January 2023
Key Stage Assurance Review Complete	November 2022
NHSL Board OBC Submission Approval	November 2022
SGHSCD CIG Meeting	January 2023
OBC Approval (provisional)	January/February 2023
First Stage Tender Contract Award	May 2023
Planning Determination	July 2023
Full Business Case	
Commence RIBA Stage 3/4 Design	November 2023
Complete RIBA Stage 3/4 Design for tender	February 2024
Second Stage Tender Commences	Q1 2024
Finalise Second Stage Tender	Q2 2024
KSAR FBC Approval	Q3 2024
FBC Approval	Q3 2024

Stage 4	
Groundworks	Q1 2025
Construction Start - Main Works	Q1 2026
Construction Completion - Main Works	2030
Clinical Commissioning	2030
Bring into Operation	Q2 2031

[Table ES4]: Project Delivery Timetable

1.5 Is the Project affordable?

1.5.1 Capital Costs

The Financial Case considers the affordability and financial consequences of this Project. The capital investment required is outlined in **Table ES5**.

	Total OBC £000's
Construction Costs	
Fees Design Team	[redacted]
Roads and Other Enabling Works Costs	[redacted]
Equipment and Furnishings	[redacted]
Decant Costs	[redacted]
Inflation	[redacted]
Risk	[redacted]
VAT	[redacted]
Total MRP Capital Costs	[redacted]
Sources of Funding	[redacted]
SG Additional Capital Funding	[redacted]
Total Sources of Funding	[redacted]

[Table ES5]: Summary of Initial Capital Investment

Approval to proceed with the preferred option as specified will be conditional upon confirmation from the Scottish Government that capital funding [redacted] can be made available to support the Project.

The capital investment required [redacted] from that reported in the IA. [redacted] is the culmination of factors associated with the time lapse since IA, site complexity, the requirement to achieve net zero resulting in an all-electric strategy and changing market conditions which have determined a significant upward trend in inflation associated with construction.

1.5.2 Recurring Revenue

The anticipated recurring revenue costs associated with the Project are set out in **Table ES6**.

	Total OBC
	£000's
Recurring Revenue Costs	
Depreciation	[redacted]
Additional Clinical Service Costs	[redacted]
Additional Non-Clinical Service Costs	[redacted]
Building Related Running Costs	[redacted]
Total Costs	[redacted]
Sources of Funding	
SG Additional Funding for Depreciation	[redacted]
NHSL	[redacted]
Total Sources of Funding	[redacted]

[Table ES6]: Summary of Revenue Implications - First Full Year of Operation (2031/32)

The annual running costs [redacted] from that reported in the Initial Agreement. This [redacted] reflects the culmination of factors most specifically the outcome of detailed workforce planning to support 100% single room accommodation and the emergence of an all-electric energy strategy.

The Board understands the current revenue challenges within NHS Lanarkshire and other Health Boards across the country. A full revenue plan is being developed to bring NHS Lanarkshire back into a balanced financial position, this will be in place well in advance of the new hospital.

1.5.3 Non-Recurring Revenue

The IA made no allowance for Non-Recurring cost, however as it is now confirmed that the new hospital will be developed on a new site and the facility is being designed to achieve net zero through an all-electric strategy, the following have been included at OBC stage:

- An allowance for excess travel costs allowing staff to claim additional costs to travel between their old and new base of work.
- A resilience strategy to back-up the reliance on electricity which has led to additional generators and oil tanks to ensure full back up power supply will be provided. The oil costs are in respect of the initial supply of oil to fill these tanks.

The associated costs are set out in **Table ES7**.

	Total OBC	Total IA	Difference
	£000's	£000's	£000's
Non- Recurring Revenue Costs			
Excess Travel	[redacted]		[redacted]
Oil Costs*	[redacted]		[redacted]
Contingency	[redacted]		[redacted]
Total Costs	[redacted]		[redacted]

[Table ES7]: Non-Recurring Revenue Costs - First Full Year of Operation (2031/32)

**The most resilient solution for backup currently available has been identified as oil. The Project are continuing to investigate more sustainable solutions.*

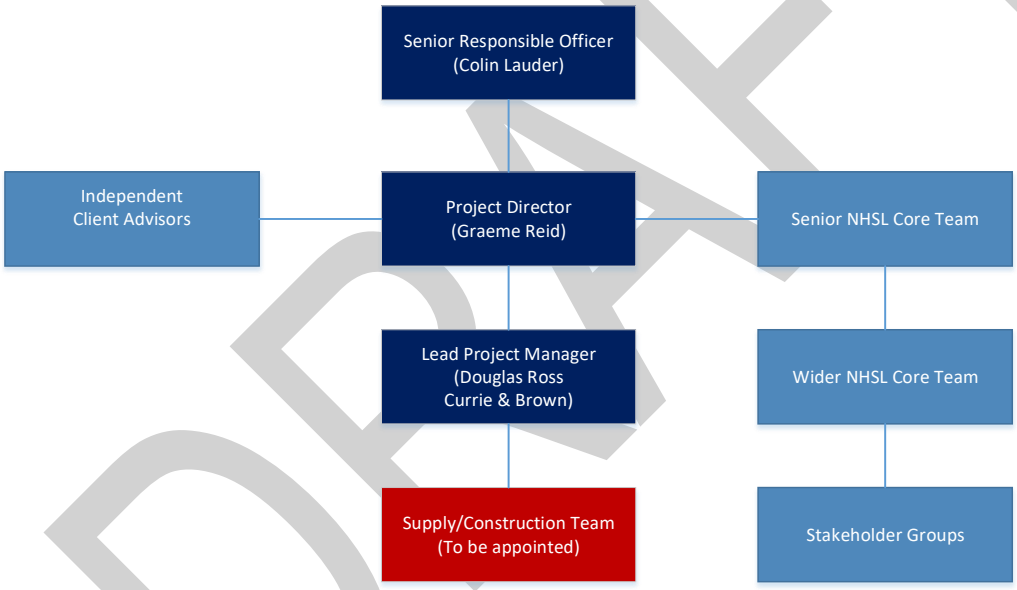
1.6 Is the organisation capable of delivering the Project?

NHS Lanarkshire has invested significant financial and organisational resources in ensuring that it has sufficient capacity and capability to be able to effectively deliver this project and has developed a team structure that aims to provide the required skills and experience across its breadth and depth with careful attention given to appointing suitably experienced lead officers, specifically the Senior Responsible Officer (SRO), Project Director (PD) and Lead Project Manager (LPM).

NHS Lanarkshire have also appointed a number of advisors to support the Project Team and ensure the successful completion of all Project activities. This includes:

- Lead Advisor (Currie & Brown)
- Health care Planners (Buchan + Associates)
- Legal Advisors (MacRoberts LLP)
- Finance advisors (Ernst & Young)
- Equipment advisor (NHS Scotland Assure)

Figure ES1 shows the Project Team structure.



[Figure ES2]: Project Team Structure

The reporting and governance arrangements of this Project respond in full to the requirements set out in the Scottish Capital Investment Manual (SCIM) and are shown in **Figure ES2**. This structure shows that the Board of NHS Lanarkshire is the investment decision maker and is being supported by key governance groups who are, and will continue to be, involved in providing oversight and assurance to the Board of progress throughout delivery of this Project. The robust nature of this structure recognises the scale and complexity of the Project and therefore aims to respond to the level of risk being undertaken.

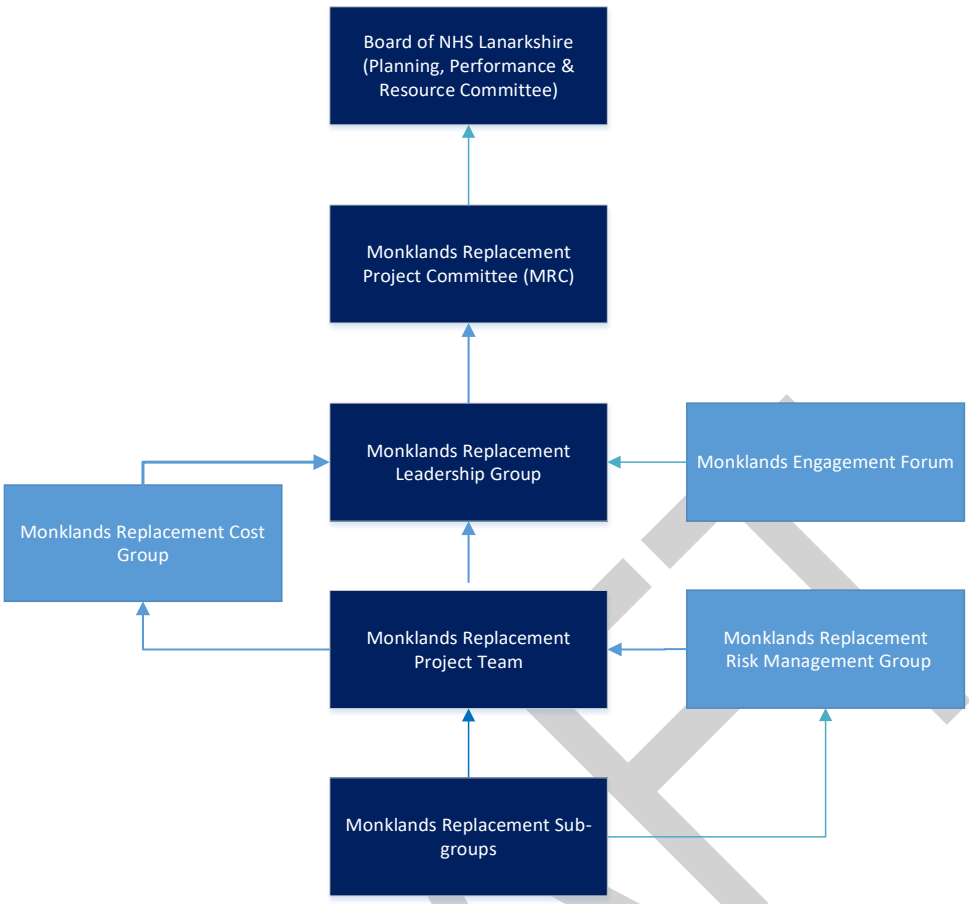


Figure ES3 - Governance & Reporting Structure

This Project has and will continue to be subject to a number of external reviews including the Office of Government Commence Gateway Reviews, NHS Scotland Design Assessment Project (NDAP) and NHS Assure Key Stage Assurance Review (KSAR) all of which evaluate different aspects of delivery readiness at specific stages throughout the Project lifespan. The following reviews have been undertaken during development of this OBC:

- **Gateway 2 review**
  Project given an Amber status with one key recommendation to ensure adequate internal scrutiny of the OBC.
- **NDAP (OBC) review**
  Project has achieved a 'supported' status.
- **KSAR OBC Review**
  Project has achieved a 'supported' status.

1.7 Is this proposal still important?

In June 2017 Health Facilities Scotland (now NHS Scotland Assure) undertook a review that considered the documented and observational evidence relating to the current and ongoing risks associated with the operational safety, functional suitability, and building & engineering infrastructure at the existing UHM. This review aimed to test the accuracy of risk descriptions that were included in the IA.

The report concluded that, as one of the oldest major acute hospitals in Scotland, UHM was undoubtedly in need of ongoing substantial investment to continue to deliver safe service delivery and confirmed that residual issues relating to vertical fire evacuation difficulties, space constraints, drainage issues, poor patient flows, clinical adjacency challenges, and noted that other functional suitability issues were likely to remain challenging.

Although improvement work has been undertaken through the Monklands Business Continuity Programme, it has become increasing clear, that these are not and cannot be considered long term solutions to the substantial risks at UHM which is must be considered as not fit for purpose.

The Monklands Replacement Project is NHS Lanarkshire's strategic proposal that will fully respond to the risks and constraints of UHM addressing the fabric, space, adjacency, functional, ventilation, fire safety, energy performance and IPC related issues. Any solution other than this will result in significant risks remaining.

2. Strategic Case

2.1 Overview

The purpose of the Strategic Case within this Outline Business Case (OBC) is to re-visit the strategic context of the Monklands Replacement Project and demonstrate that the strategic solution remains valid. This review re-considers the need for change and the problems associated with the current arrangements to confirm that the strategic solution can deliver on the investment objectives and the identified benefits, whilst effectively managing any associated risks.

In reviewing the Strategic Case, NHS Lanarkshire have considered and revisited a range of features and planning assumptions that were set out in the original Initial Agreement (IA) and have provided a response to key questions in the proceeding sections. The IA was approved by the Scottish Government Capital Investment Group (SGCIG) on the 5th October 2017 [see **Appendix 1** for IA Approval Letter].

NHS Lanarkshire recognises that a considerable amount of time has elapsed since the IA meaning that there is a need not only to re-consider the original case for change, but to also highlight additional features which both confirm and enhance some of the early stage assumptions made when describing the case for change.

In developing this OBC, NHS Lanarkshire are aware that the planning and specification for the Lanarkshire National Treatment Centre (NTC) is in progress, with an indicative operational date for 2027/28. This initiative will aim to provide additional capacity across a number of specialties, however it is not currently anticipated that provision at the Lanarkshire NTC will change the clinical profile of service delivery at the new hospital that is presented within this Strategic Case.

2.2 Proposed changes to the service model

Since development of the IA, a considerable amount of time and effort has been spent developing the proposed service models that will deliver the clinical strategy. This not only recognises the need to develop a solution for the new hospital that delivers improvements for all stakeholders, but also considers the broader context of service provision across the whole of NHS Lanarkshire and the wider regional health and social care landscape. This section of the business case therefore presents an outline

of the arrangements underpinning the development of the clinical service models along with an overview and description of its key components and associated benefits.

At the heart of the development of this new service model, NHS Lanarkshire has applied an evidence-based approach to ensure that the models of care can deliver:

- Best clinical practice,
- Safe, person centred care,
- High quality care with good outcomes,
- Cost effective use of resources.

Throughout this process, there has been extensive engagement with the clinical and operational staff who will have responsibility for delivering services in future. Staff have invested significant time and effort in reviewing how services are currently delivered at University Hospital Monklands (UHM) and in defining how services must change to deliver a healthcare model fit for the future. This work has taken into account any system change assumptions that need to be factored in to plans for the new facility.

In excess of 100 engagement sessions have been undertaken since approval of the IA, comprising 14 clinical and 7 non-clinical workstreams, with the primary focus of developing, testing, validating and signing-off the new service delivery proposals. Each clinical and non-clinical workstream has developed a new delivery model in response to anticipated system changes and patterns of demand and, in doing so, addressed the current known constraints whether they are linked to capacity, environment, workforce or other factors. The outputs of the engagement and collaboration have been clearly articulated in detailed client output specifications (COS) which have informed the design brief and the 1:500 adjacency matrix [see **Appendix 3**]. The output specifications have also supported the development of the Schedule of Accommodation (SoA), which in turn has been used to develop 1:200 departmental layouts.

The proposed new service delivery models capture the end-to-end integrated health and care arrangements required to support people to maintain their health and

wellbeing in the community or their own home, with hospital services only required for real accidents and emergencies and some elements of specialist care. Components of acute care will also be delivered in the community, co-designed and embedded within the integrated community infrastructure and related services.

Where acute care is provided, this will be focussed on rapid assessment to determine the best form of clinical management, patients will be admitted into specialist beds only when necessary. Time spent in hospital will be minimised by expanding and optimising ambulatory pathways for both planned and emergency care. The core components required to support this approach are summarised in **Figure S1** below.

[Figure S1] Core Components of Proposed New Care Models

Further details of each component, as well as services that support each care setting, are provided in the following sections. This also highlights some of the key differences between the existing service arrangements and the proposed solutions along with the associated improvements and benefits.

2.2.1 Hospital Front Door model / Assessment Village

Current service model

The current Emergency Department (ED) and assessment model involves a multidisciplinary approach. It utilises the skills of Consultants, Junior Doctors, Registered Nurses, Advanced Clinical Practitioners (ACP's), Pharmacists and Allied Health Professionals (AHP's) who are supported by admin and clerical staff, portering and domestic staff and a management team. Although ED functions are centralised within the existing University Hospital Monklands (UHM), the lack of space and inability to co-locate the assessment units results in a decentralised service that is being delivered in a number of separate areas. This is very inefficient in terms of patient flow and workforce and compromises the full potential for multi-disciplinary working. It also results in multiple patient transfers and handovers increasing the risks to patient safety and contributes to a poorer patient experience. The situation is compounded by the limitations of space and capacity within the existing radiology suite, which means that it is not possible to achieve an effective assessment and service delivery model.

Proposed service model

The redesigned hospital 'front door' model comprises the ED, and an Assessment Village (AV) for the management of patients presenting with potential medical and surgical conditions requiring rapid diagnosis and treatment as well a focus for the assessment of frail and elderly patients. The AV essentially comprises a Combined Assessment Unit (CAU) and from this point onwards this term is used throughout this Strategic Case.

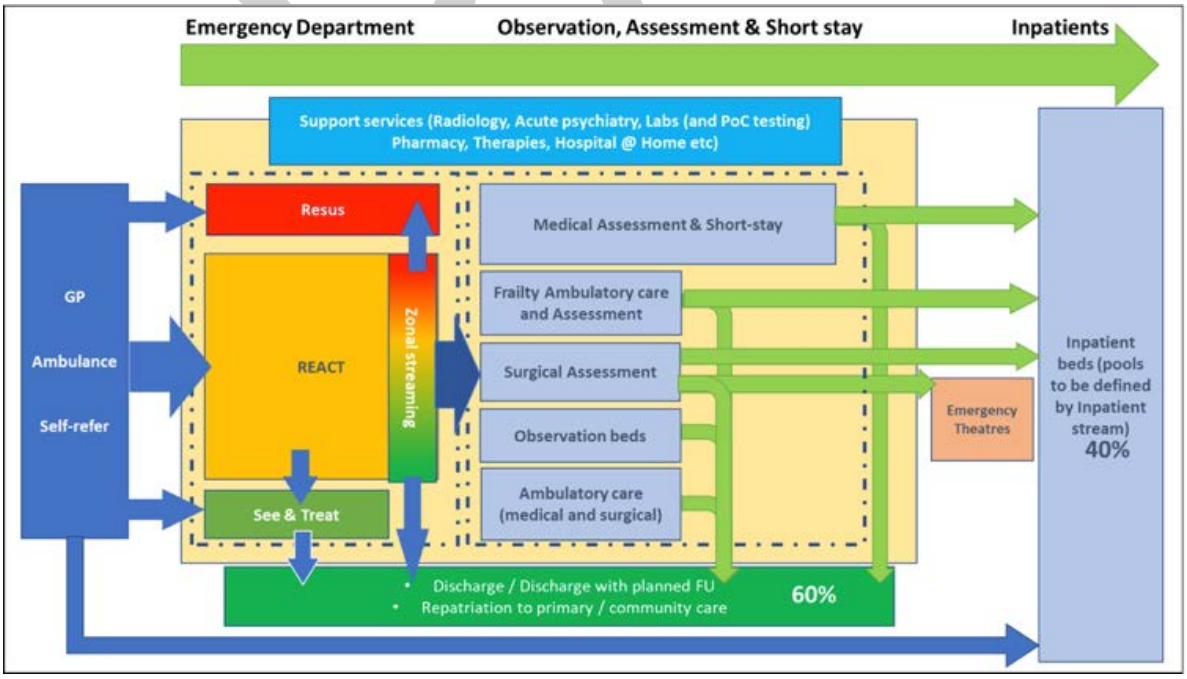
This unscheduled care service involves a number of assessment pathways including the Rapid Emergency Assessment Care Team (REACT); Same Day Emergency Care (SDEC); see and treat; and major treatment and resuscitation pathways. The key benefit of the proposed model is the ability to quickly assess all patients arriving at the hospital irrespective of their mode of arrival, in a bespoke centralised space that enables the multi-disciplinary team to operate in an efficient and integrated way.

The use of condition specific SDEC pathways to manage emergency presentations in an ambulatory care, non-bedded area has the potential to deliver more end-to-end

care within the ED resulting in a more streamlined and effective pathways and an improved patient experience.

The radiology department, with increased diagnostic capacity, has an immediate adjacency to the ED. This will support more rapid diagnosis, treatment and reduced length of stay.

The CAU will concentrate the vast majority of inpatient unscheduled care activity in one area of the hospital. Patients will benefit from being in a department that has a workforce with expertise in clinical assessment and in coordinating services with Health and Social Care Partnership (HSCP) colleagues to enable hospital discharge at the earliest opportunity. The successful implementation of the 'front door' assessment model will result in up to 60% of unscheduled patients being treated and discharged within 48 hours of admission. The remaining patients will, following a period of assessment, be transferred to a specialty inpatient bed for further care and clinical management. Therefore, the downstream specialty inpatient units will have a more predictable routine, as the majority of the unscheduled workload will be delivered in the CAU. An outline of the proposed model is provided in **Figure S2** below.



[Figure S2] Front Door/Assessment Model

Further detail about how the assessment unit activity levels have been modelled is included within the description of the Specialty Care model below.

Design proposals to support the Front Door/assessment model have been significantly informed by lessons learned during the Covid-19 pandemic. Enhancements that have been included to mitigate against similar situations in future include increasing the air changes within the ED waiting areas and treatment rooms to enable a higher throughput of patients and improve patient and staff safety. In addition, the major procedures room will have isolation lobbies that allow potentially infected patients to gain access from both within the emergency department and from a direct external route. A paediatric treatment room, close to the entrance of the ED, provides further resilience to accommodate patients with a potential high consequence infectious disease. The design proposals also allow for the separation of high and low risk pathways should this be required again in the future.

In summary the hospital 'Front Door / CAU:

- Provides a responsive and timely means of assessing patients on presentation to the ED and streams them to the most appropriate care setting through the deployment of REACT;
- Embeds SDEC within the ED which enables more 'emergency' attendances to be treated on a non-inpatient pathway avoiding hospital admission;
- Implements an 'assess to admit' paradigm that concentrates assessment beds at the 'front-door' of the hospital immediately adjacent to the ED;
- Manages the majority of unscheduled care demand reducing reliance on downstream specialty beds;
- Creates a locus for the 'frailty service' to deliver proactive specialist care and reduce hospital length of stay;
- Makes the department more adaptable and resilient to future pandemics;
- Provides bed capacity for patients requiring assessment and a hospital stay of less than 48 hours; and
- Has immediate adjacency to radiology to ensures timely access to imaging modalities.

The Front Door comparative facility provision is outlined in **Table S1** below:

Current Provision	No.	Future Provision	No.
Emergency Department:		**Emergency Department:**	
▪ Resuscitation bays	5	▪ Resuscitation bays	5
		▪ Major procedure room	1
▪ Majors cubicles	9	▪ Major cubicles	13
▪ Minors cubicles	9	▪ Specialist treatment room	2
▪ REACT triage bays	6	▪ Minor cubicles	7
		▪ REACT consulting room	5
		▪ REACT chair bays	4
		23-hour Observation area:	
		▪ Single bedroom	4
Ambulatory Emergency Care	5	Same Day Emergency Care:	
		▪ Trolley treatment space	2
		▪ Chair treatment space	7
Assessment Unit Beds:		**Assessment Unit Beds:**	
▪ Medical Assessment Unit	19	▪ Medical Assessment beds	56
▪ Acute Medical Receiving Unit	24		
▪ Surgical Assessment	4	▪ Surgical Assessment beds	28
▪ Frailty (Care of Elderly wards)		▪ Frailty Assessment beds	28

[Table S1] Front Door Comparative Facility Provision

2.2.2 Hot Floor

Current service model

Within the existing UHM patients with complex care needs are managed in multiple units which are dispersed across the existing hospital site. The combined Intensive Care Unit (ITU) and Surgical High Dependency Unit (SHDU) has an immediate vertical adjacency to theatres. However, the surgical level 1 ward is located on the 2nd floor of surgical tower, the Medical High Dependency Unit (MHDU) is on the 3rd floor of the medical tower, the Coronary Care Unit is provided in multi-bedded rooms within the MHDU and the Renal High Dependency Unit (RHDU) is located within the Renal Inpatient Unit.

The dispersed location of services for the treatment and management of patients with complex care needs is shown in **Figure S3** below. The current configuration spreads workforce across multiple small units which does not make best use of scarce skills,

is inefficient and, increases the need for higher risk patient transfers between specialist areas.

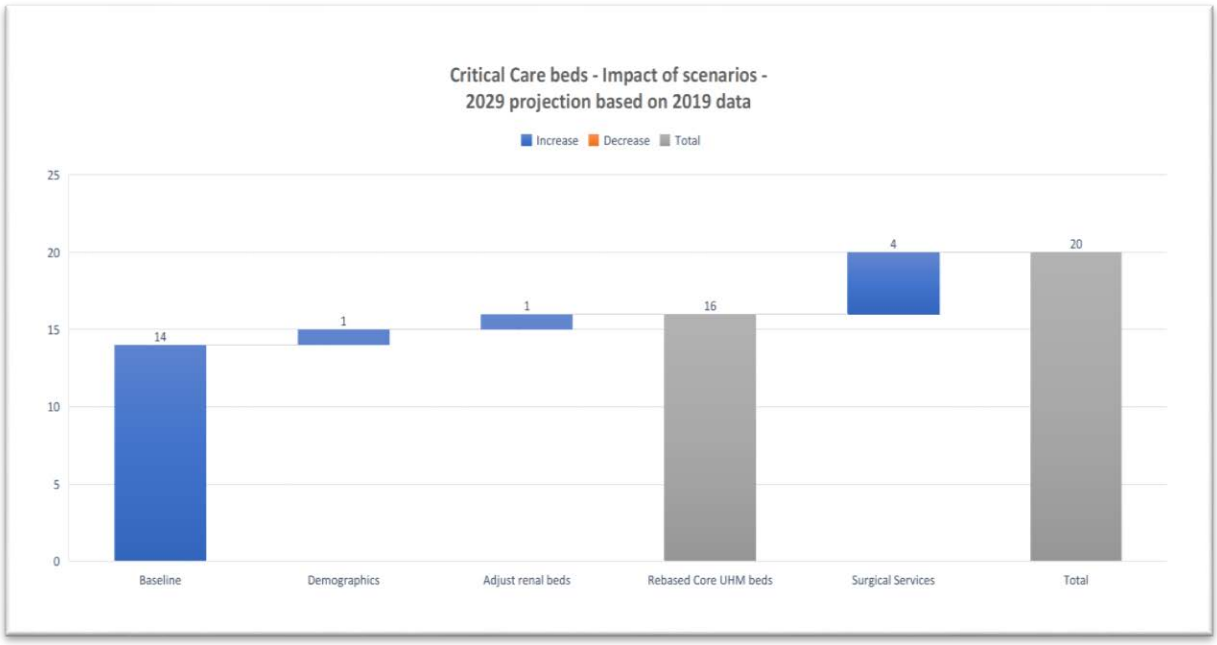
[Figure S3] Location of Specialist Services at UHM

Proposed service model

The 'hot floor' model seeks to accommodate acutely ill patients in a single area of the hospital which are in immediate adjacency to each other. Medical and Surgical Critical Care (Level 2 and 3); Inpatient Renal; Cardiology; Respiratory and Ear; Nose & Throat (ENT) specialties; Operating Theatres; and Endoscopy are located on the same floor.

Critical Care will operate as a single 'closed' unit with patients being managed by a team of intensivists who will have responsibility for admitting and discharging patients against agreed criteria and protocols.

The waterfall chart shown in **Figure S4** below identifies the assumptions that have been used to forecast future Critical Care capacity requirements. A number of variables have been modelled which directly relate to the MRP clinical model.



[Figure S4] Critical Care Capacity Requirements

During the planning phase of OBC development, the following variables were affected by specific scenarios:

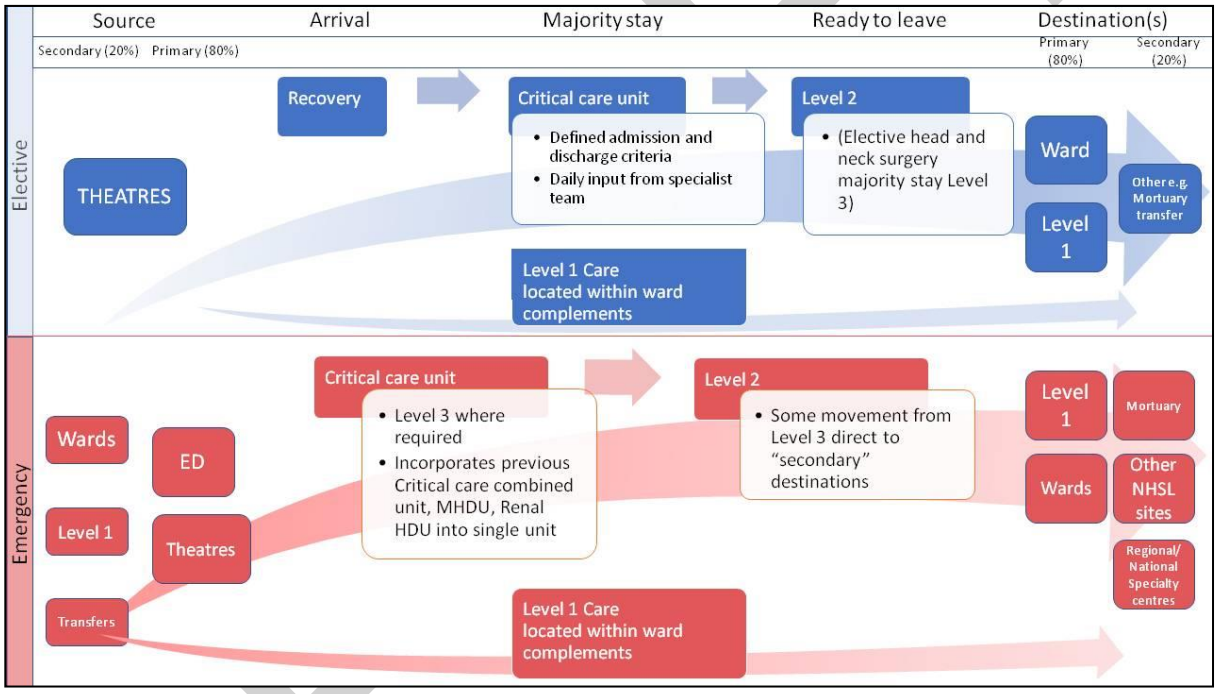
- Critical Care capacity increased by 1 bed as a result of the impact of demographic change between 2019 – 2022. This will support future surge capacity;
- The incorporation of Renal High Dependency care within the centralised critical care department increased bed requirements by 1 bed;
- The working assumption to consider future surgical surge capacity, which although may not be commissioned in the first instance, has increased the required capacity by 4 beds; and
- Each inpatient unit (ward) has been configured to enable a 'high observation' and Level 1 care area. For example, coronary care will be provided in the 'high observation' Level 1 area within the inpatient unit that accommodates the cardiology specialty.

The co-location of complex services on the same floor of the new hospital will significantly improve patient pathways and flows, improve patient safety (particularly

out-of-hours) and optimise the deployment and use of workforce. Importantly, it will ensure that bed capacity is used appropriately.

Furthermore, recent reviews of the design proposals that have taken place following the pandemic have ensured that the Critical Care Unit can be reconfigured to provide 50% of its capacity as a high risk and 50% as low risk pathways in the event of any future pandemic. Similarly, the Operating Theatre suite can operate with discrete high and low risk activity areas, providing significantly greater service continuity resilience should there be a future pandemic.

An outline of the elective and unscheduled flows within the proposed model is provided in **Figure S5** below.



[Figure S5] Elective & Unscheduled Flows

In summary, the 'hot floor' model:

- Provides specialist critical care (Level 2 and Level 3) in a single integrated unit;
- Concentrates the vast majority of acutely unwell patients in one area of the hospital reducing workforce pressures and improving management out-of-hours;

- Improves clinical outcomes through the consistent application of quality standards;
- Reduces delays in access to critical care and transfers between units that deliver complex care;
- Ensures optimal bed utilisation through a uniform process for admission and discharge that is equally applicable to all UHM specialties; and
- Simplifies pathways, improving patient flow.

The Hot Floor comparative facility provision is outlined in **Table S2** below:

**All inpatient units have high observation/Level 1 beds*

Current Bed Provision	No.	Future Modelled Bed Provision	No.
ITU (Level 3 & Surgical Level 2)	10	ITU (Level 3 & Surg/Med Level 2) ▪ Includes Medical HDU beds ▪ Includes Renal HDU beds	20
Medical HDU	4	Within ITU beds	
Renal HDU	2	Within ITU beds	
Coronary Care Unit (Level 1)	6	Level 1* beds within Cardiology	
Surgical Level 1*	6	Level 1* within Surgical units	

[Table S2] Hot Floor Comparative Facility Provision

2.2.3 Specialty care

Current Service Model

UHM is a District General Hospital which manages and treats general medical and surgical referrals for planned admission. In addition, emergency admissions are assessed in the ED prior to being admitted to a receiving unit or directly to a specialty bed. At a pan-Lanarkshire level UHM is the locus for a number of inpatient specialties which includes:

- Infectious Diseases;
- Haematology; and
- Renal Medicine.

Currently, surgical and medical inpatient units are predominantly situated in two 4-floor tower blocks at the UHM. The Renal and Infectious Diseases wards are located at the end of a link glass corridor to the main hospital.

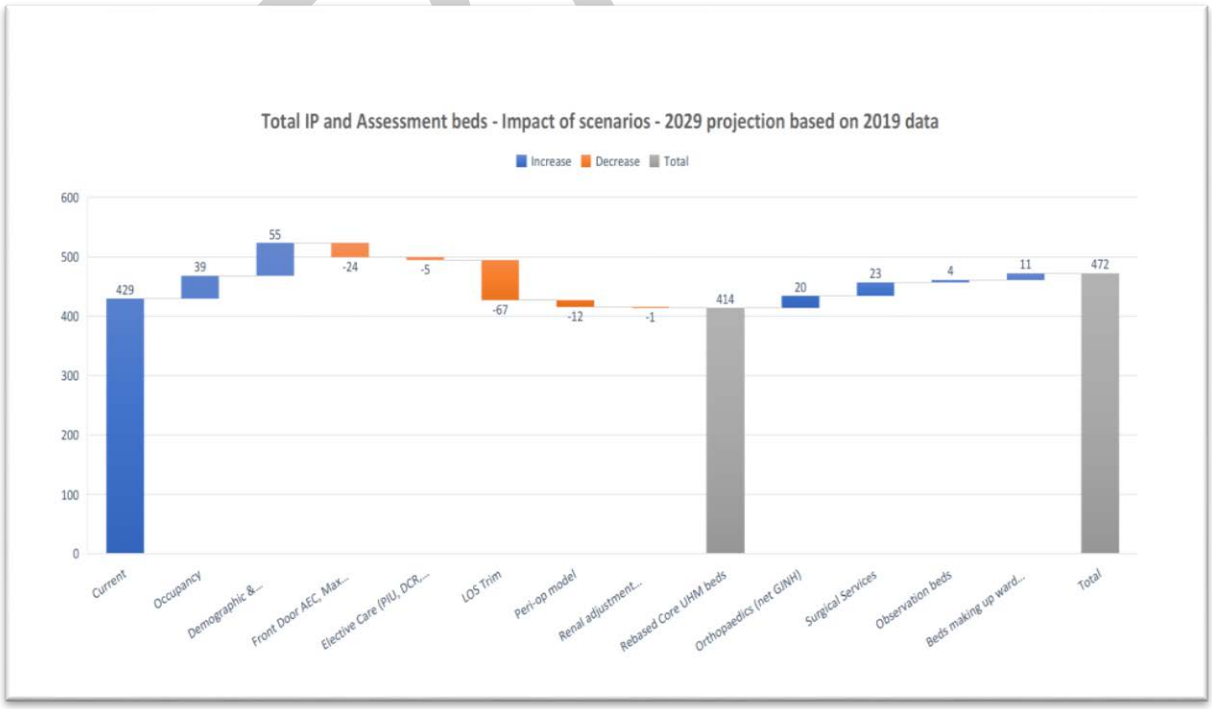
The configuration of existing inpatient units provides only a small percentage of single room accommodation with en-suite facilities. The majority of inpatient care is delivered within multi-bedded rooms which have shared toilet and shower facilities. There tends to be one central staff base in wards and storage capacity is very limited.

Proposed Service Model

Specialty based inpatient care is required to provide patient-centred care for adults in generic wards that may be flexed between medical and surgical care across a wide range of clinical sub-specialties in response to changing patient numbers and need.

The service provides for predominantly adult medical and surgical emergency (unscheduled) and planned (scheduled) admissions. However, the new clinical model will ensure that the majority of emergency admissions are managed within the CAU.

The waterfall chart shown in **Figure S6** identifies the assumptions that have been used to forecast future bed capacity requirements. A number of variables have been modelled which directly relate to the new clinical strategy.



[Figure S6] Inpatient & Assessment Capacity Requirements

During the planning phase of OBC development, the following service delivery, operational and throughput assumptions were agreed which impact the proposed capacity requirements:

- Bed occupancy to be modelled on an average occupancy of 80% for unscheduled care beds in the CAU and 85% for downstream specialty beds. This will ensure that there is capacity to accommodate variations in demand and to enable patient flow through the system; this variable increases capacity by 39 beds;
- Population projections to 2029 to be based on the National Records of Scotland 2018 council area population projections, applied to the Monklands and Lanarkshire activity baseline on an area, gender and age basis; this increases the required capacity by 55 beds from the 2019 baseline year;
- The requirement for downstream specialty beds is reduced as a result of implementing the front door model with a 112 bedded CAU. This assumes that 50% of medical and frailty admissions will be discharged within 48 hours and 60% of surgical admissions will be discharged within 24 hours. Better access to radiology and the SDEC admission avoidance model also contribute to the saving of 24 beds; The discharge assumptions have been agreed through discussion with representatives from North and South Lanarkshire Health & Social Care Partnerships (H&SCPs). Monitoring of what needs to be provided will continue to be reviewed by the Clinical Advisory Group which includes membership from system-wide partners;
- Shifting clinical activities from an inpatient to a day case or outpatient locus through improved day case rates, treatment in the Planned Investigations Unit and Same Day Admission for Surgery enables a saving of 5 inpatient beds;
- Close collaboration between UHM and the two H&SCPs in the planning phase led to agreeing that provision would be put in place in a non-acute setting to allow the discharge of patients earlier in future. The improvement in bed days saved (equivalent to 67 beds) is expected as a result of aligning acute inpatient need to the appropriate care setting; this has been informed by Day of Care

Audits. Regular dialogue at the Clinical Advisory Group (CAG) creates a forum to plan how system-change will enable the efficiencies to be achieved;

- The introduction of the peri-operative room model reduces the number of inpatient rooms by 12 as they are replaced by 23-hour care rooms;
- One renal bed will be saved as a result of Level 2 Renal High Dependency care moving to the Critical Care Unit;
- Since the approval of the IA NHS Lanarkshire have confirmed that elective Orthopaedic surgery will be based at the new UHM. This increases the requirement for inpatient beds at UHM by 20;
- It has been assumed that surgical services will be concentrated on 2 sites in future, one of which will be the new hospital. This increases the requirement for inpatient beds at UHM by 23;
- 4 inpatient beds will be provided within the ED to manage the short-term care needs of patients who are under the influence of drugs and alcohol or who require period of observation following a head injury;
- Generic 28 bedded inpatient units are being planned, an additional 11 beds will be provided to round up the bed numbers to achieve this. The additional beds mean there is capacity for older adult psychiatry should this be required following the outcome of the current psychiatry service review which is expected to conclude in 2023; and
- A key objective is to ensure that patients remain in hospital only when they require access to specialist acute care. A comprehensive patient management system will be implemented to facilitate the availability of information that will support timeous decision-making. For example, digital multi-disciplinary ward rounds will be scheduled at least daily and there will be a consultant presence 7 days per week in all inpatient units.

Following assessment, patients requiring speciality input with an anticipated length of stay of more than 48 hours will be admitted to the most appropriate inpatient unit. Transfers from the assessment units to specialty wards will enable patients to receive specialist care e.g. Cardiology, Haematology, Infectious Diseases and Renal.

Stroke and Care of the Elderly activity will be accommodated in a single combined bed pool. General Medicine will be co-located on medical speciality units or general medical wards as demand and capacity necessitates. Patients who require specialist treatment may be directly admitted to specialty units e.g. Infectious Diseases, Stroke and Renal.

The implementation of the Operational Command Centre (OCC) model will provide real time micro level data and analytics regarding every patient, ward and department at UHM. The adoption of this approach will enable improved coordination of capacity, early identification and management of the sickest patients, improved patient flow and facilitate the turn-around of beds when patients are discharged. At a pan-Lanarkshire level it will assist in identifying bed availability within the Health Boards total resource.

Patients requiring planned surgical care are currently admitted through the Same Day Admissions Unit (SDAU) and, where required, transferred to a specialty bed post operatively. In future, this pathway will be streamlined with patients self-presenting at the theatre department where they will be allocated a peri-op room. The majority of pre and post-operative care will take place in this room with a high proportion of patients being discharged from this space within 23 hours. Where patients require an extended post-operative stay, they will be transferred to a specialty surgical inpatient unit.

Underpinning the clinical model is a multi-disciplinary workforce plan which identifies clear responsibility for leadership and governance within each inpatient unit or department; this includes Medical Consultants and the Senior Charge Nurse. Additionally, an Advanced Practice Model will underpin this approach across a number of specialties combined with a consistent staffing (Nurse / Medical / Advanced Nurse Practitioners (ANP's / AHPs) model. This will allow development of a team ethos; a focus on expertise; enhanced recruitment and retention; and development of staff in each service.

In summary, the 'specialty care' model:

- Ensures patients are looked after by the correct team with the right skills to enable improved outcomes and efficiencies in care delivery;

- Optimises the alignment of the speciality bed-base to demand, to improve timely access to speciality care;
- Improves efficiency through streamlining patient journeys;
- Enhances the ability to discharge medically fit patients from hospital in a timely fashion;
- Allows a greater ability to flex capacity between specialties and patient groups to respond to clinical, seasonal and demographic impacts on demand; and
- Improves the working environment which should have a positive impact on recruitment and retention.

Table S3 outlines bed provision within specialty care (excluding assessment and observation beds):

Current Bed Provision	No.	Future Bed Provision	No.
Infectious Diseases	18	Infectious Diseases	21
Haematology	16	Haematology	20
Renal	17	Renal	17
General Medicine	82	General Medicine	97
Frailty/Geriatric Rehabilitation	48	Frailty/Geriatric Rehabilitation	60
Respiratory	26	Respiratory (within General Med.)	
Cardiology	18	Cardiology	23
Stroke	20	Stroke (within General Med.)	
General Surgery	34	General Surgery	50
Urology	30	Urology	24
ENT/OMFS	30	ENT/OMFS	20
Winter Pressure/Surge Beds	28	Surge Beds	8
		Orthopaedic	20
Total	**367**	**Total**	**360**

[Table S3] Specialty Care – Bed Provision

2.2.4 Ambulatory care

Current Service Model

Outpatient services are currently decentralised across various locations on the UHM site and the majority do not meet current building note area standards. A proportion of outpatient and day case activity is also delivered within inpatient settings which is inappropriate and disruptive to the daily routine. The combined lack of space and flexibility means that services are unable to implement new ways of working that will

deliver efficiencies e.g. one-stop outpatient clinics or optimising day treatment capacity within an appropriately sized Planned Investigation Unit (PIU).

Most outpatient services continue to require patients to travel to UHM for a face-to-face outpatient consultation. A shift to remote working is constrained by a lack of technology, lack of appropriate spaces in which to deliver confidential remote consultations and lack of scalable IT infrastructure across the existing site.

Proposed Service Model

The ambulatory care model focusses on the needs of patients who are not admitted but who attend a hospital, clinic, or associated facility for investigation, diagnosis, or treatment. Care settings within the scope of this service model include:

- General Outpatients;
- Planned Investigations Unit (PIU);
- Outpatient Dialysis, and
- Cancer treatment including Systemic Anti-Cancer Therapy (SACT) and Radiotherapy.

Further details for each of these areas are provided below.

2.2.5 General Outpatients

Secondary care clinical teams will only see patients when this is necessary. Enhanced vetting and the availability of channels to provide informal advice to primary and community care teams will be in place to enable this.

Increasingly, remote appointments (particularly return visits) will be adopted where a 'hands on' physical examination is not required. This will provide a significant benefit to patients in terms of access to services and a reduced requirement to travel. The implementation of this process will also contribute to carbon reduction.

The proposed outpatient service will shift a proportion of activity to a more community based 'out-reach' model which will be augmented by an improved workforce skill mix and an enhanced technology infrastructure. The objective is to reduce unnecessary attendances at the hospital site whilst also ensuring that patients are seen in the most appropriate environment by the right health care professional.

The new facilities will enable more consultations and therapeutic treatments to be delivered in a single outpatient appointment; this will be facilitated by the implementation of an enhanced multi-disciplinary team approach. Specialties such as Urology, Dermatology, Gynaecology, ENT and Orthopaedics are increasingly adopting this ambulatory based, one stop approach to patient management. The development of specialist non-medical roles is resulting in a higher proportion of outpatient consultations being delivered by advanced nurse and physiotherapy practitioners; this is likely to expand further in future.

Design proposals plan to create a negative pressure outpatient cluster that will be aerosol generating procedure (AGP) compliant in a future pandemic. Whilst this will largely serve the ENT specialty under normal circumstances, it will also allow general clinics to see higher numbers of patients during a pandemic.

Comparative consultation and examination room provision in outpatients is illustrated in **Table S4** below:

Current Facilities Provision	No.	Future Modelled Provision	No.
General Outpatients (including sub-specialties)	71	General Outpatients Virtual Clinic	62 12

[Table S4] Outpatients – Comparative Consultation and Examination Room Provision

2.2.6 Planned Investigations Unit (PIU)

The PIU will provide an ambulatory care service that avoids admission or treatment as a day case in an inpatient environment. It will focus on outpatient antibiotic therapy, dynamic investigations, infusion therapy and pre and post interventional radiology procedure care.

Specific benefits of this service model include:

- Delivering more investigations and treatment on a day case basis;
- Reducing disruption to the inpatient ward routine by removing 'ward attenders' and providing treatment in an appropriate ambulatory care environment;
- Enabling more radiology procedures to be undertaken on a day case basis; and
- Improving the patient experience by delivering services in a more person-centred way.

The PIU will be predominantly nurse-led, however the referring consultant maintains clinical responsibility for the patient, and specialist nursing services also provide in-reach services for certain patient groups.

Comparative treatment space provision for PIU is outlined in **Table S5** below:

Current Facilities Provision	No.	Future Modelled Provision	No.
Planned Investigations Unit	11	Planned Investigations Unit	20

[Table S5] PIU – Comparative Treatment Space Provision

2.2.7 Outpatient Renal Dialysis

The Outpatient Renal Dialysis service provides maintenance renal replacement therapy (RRT) to adults with end stage renal failure for whom haemodialysis (HD) is the optimal or chosen modality.

Currently HD is only provided on the UHM site and although primarily an outpatient facility, maintenance dialysis for stable inpatients at UHM and NHS Lanarkshire's other acute hospital of University Hospital Wishaw (UHW) and University Hospital Hairmyres (UHH) will remain a core part of the service delivery model necessitating patient transfer to the unit.

A key MRP assumption is that a proportion of the overall HD capacity will be delivered at an acute site elsewhere in NHS Lanarkshire; it will be important that this is operational prior to the opening of the new UHM. This development of a satellite unit

will allow services to be delivered closer to some patients and provide more resilience across the system.

The service operates a multi-disciplinary team model. In future, the satellite unit will be nurse led supported by renal consultants either virtually or on a visiting basis.

The comparative treatment space provision for Outpatient Renal Dialysis is outlined in **Table S6** below:

Current Facilities Provision	No.	Future Modelled Provision	No.
Outpatient Dialysis	50	Outpatient Dialysis*	36

[Table S6] Outpatient Renal Dialysis – Comparative Treatment Space Provision

** A total of 52 dialysis spaces are required. Plans are being developed to create a satellite unit on an acute site elsewhere in NHS Lanarkshire in advance of the new hospital becoming operational.*

2.2.8 Cancer Treatment including SACT and Radiotherapy

The proposed cancer service model will provide high-quality diagnosis, treatment and care for patients living with cancer. Outpatient activities are currently delivered at UHM, as well as the two other acute sites in Lanarkshire. Systemic Anti-Cancer Therapy (SACT) service delivery and inpatient services for NHS Lanarkshire are concentrated on the UHM site and will continue in future.

The Beatson Oncology Centre (BOC), Glasgow, provides the majority of radiotherapy for the population of the West of Scotland. The Lanarkshire Beatson Radiotherapy Centre, a satellite of the BOC, opened on the current UHM site in November 2015; the MRP will re-locate this service to the Wester Moffat site.

Support for people living with cancer is also provided at UHM through the Maggies centre which opened in 2014. This service is a key part of our cancer service and MRP will continue to provide this facility by re-locating on the service to the Wester Moffat site.

The satellite radiotherapy delivery model is predicated on having access to the full range of acute services required to support patients attending the service; this includes access to the Emergency Department, Radiology, Pharmacy, Chemotherapy, Laboratories and for inpatients to access radiotherapy services where clinically indicated.

The new satellite facility has been designed with the physical capacity to accommodate the future expansion of the fleet of linear accelerators from two to three machines, however this expansion will require the development of a separate business case through the Regional Cancer Advisory Group (RCAG).

The comparative facility provision for cancer treatment is outline in **Table S7** below:

Current Facilities Provision	No.	Future Modelled Provision	No.
Cancer Treatment (inc. SACT)	20	Cancer Treatment (inc. SACT)	28
Radiotherapy Treatment Bunkers	3*	Radiotherapy Treatment Bunkers	4*

[Table S7] Cancer Treatment – Comparative Facility Provision

2.2.9 Clinical Support Services

Current Service Model

The main clinical support services that are to be included in the MRP are Radiology, Laboratories and Pharmacy. Currently, the activities of all three departments are compromised due to inadequate space, overcrowding and poor configuration.

Within the radiology department, demand associated with referrals cannot be met as there is no ability to accommodate new and additional modalities due to lack of space. The imaging capacity across other NHS Lanarkshire acute hospital services is therefore being used to support the needs of the UHM catchment population. This contributes to demand and capacity issues across the system. In addition, the department does not have appropriate patient changing and waiting areas which impacts on privacy and dignity and drainage failures often leads to flooding.

Proposed Service Model

Radiology

There is a requirement to significantly improve access to cross sectional imaging, particularly Computerised Tomography (CT) scanning, to underpin the proposed 'front' door' model where timely access is required to support rapid patient assessment and management. In addition, stroke and cardiology services are increasingly dependent on complex imaging. The need for enhanced CT provision is also driven by an increasing volume of demand for examinations during patient treatment pathways and the expansion of direct referrals from primary care.

The new radiology service will therefore need to respond to changes in the way that clinical services will be delivered and be capable of meeting the needs of a growing and diversifying user base.

In response to these challenges, radiology will be delivered from a single integrated department that includes a comprehensive range of modalities that are easily accessible from both the hospital 'front door' services and the outpatient department. Flows for inpatient, outpatient and emergent patients will be separated.

This service model delivers a range of benefits including:

- Improved emergency flows;
- An ability to support one-stop outpatient and ambulatory care clinics;
- Reduced intra departmental travel time for patients and staff;
- An ability to optimise workforce deployment based on demand;
- No requirement to duplicate modalities in different locations;
- Shared recovery space with the PIU; and
- Improved multi-disciplinary team working within radiology and between clinical specialties.

The use of diagnostic imaging and interventional radiology is increasing and is likely to continue to do so in the future.

Comparative facility provision for Radiology (key modalities) is outlined in **Table S8** below:

Current Facilities Provision	No.	Future Modelled Provision	No.
Plain Film X-Ray	3	Plain Film X-Ray	6
Ultrasound	4	Ultrasound	5
CT Scanner	1	CT Scanner	2
MRI Scanner	1	MRI Scanner	2

[Table S8] Radiology – Comparative Facility Provision

Laboratories and Pharmacy

Both departments will benefit from being configured to the latest space standards and all components of the service will be provided within an integrated and discrete departmental area.

The pharmacy will accommodate pharmacy robotics and an automated dispensing system which will improve safety, workflow, and inventory optimisation.

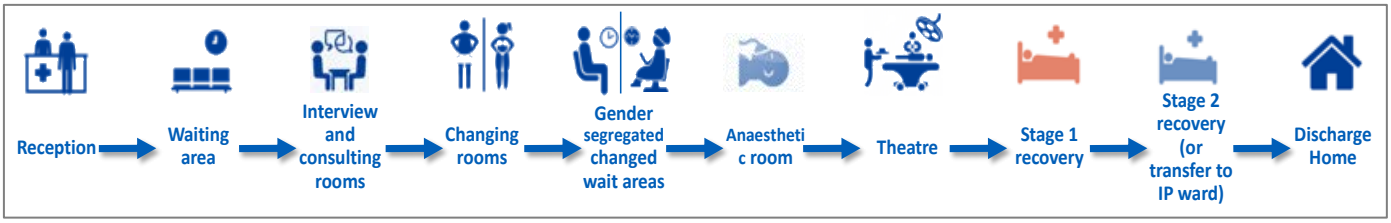
Higher levels of automation will also be incorporated within laboratory services; this will allow more rapid sample processing to support timely clinical decision making.

2.2.10 Operating Theatres

Current Service Model

Since the approval of the IA, a £19m refurbishment and reconstruction of the entire operating theatre department has been completed at UHM. The main theatre suite has 7 operating theatres, one of which is designated as the emergency theatre, a 9 bay recovery room and 2 reception areas.

The current peri-operative service model at UHM is based on a traditional flow as set out in **Figure S7 below**.



[Figure S7] Current Peri-operative Service Model

It shows a series of patient movements through a variety of different spaces involving multiple 'hand-offs' between many members of the multi-disciplinary team.

When reviewing how peri-operative services could be better delivered in future, a number of inefficiencies and improvement opportunities were highlighted. These included:

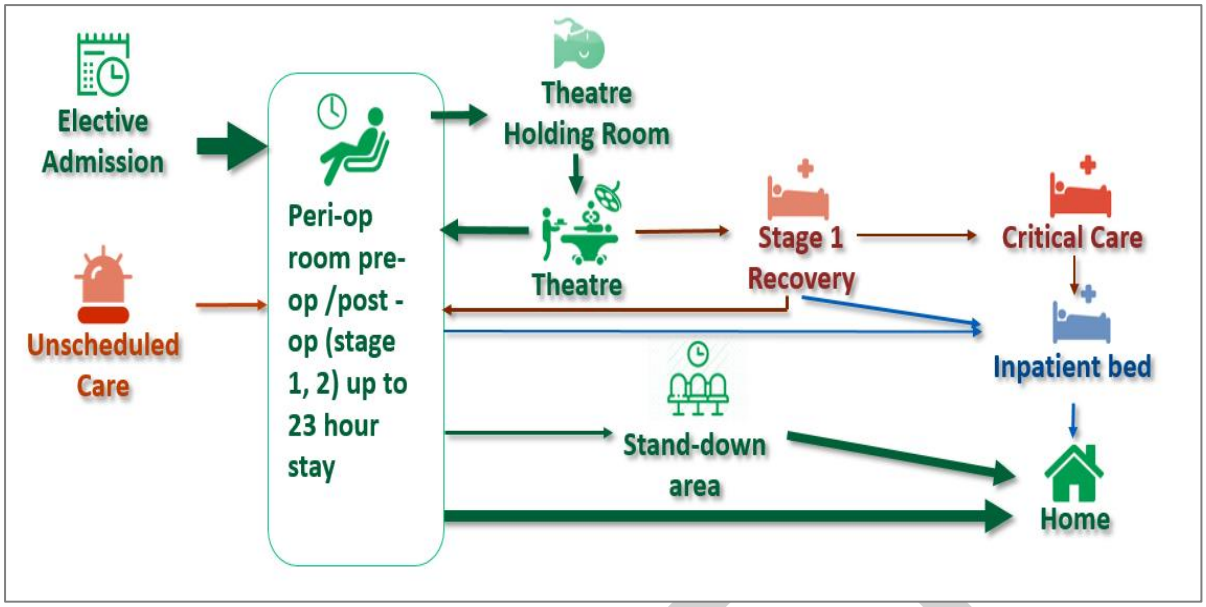
- Enhancements to patient flow and movement;
- Creating a better, more person-centred, patient experience;
- Segregation of patient, visitor, staff and facilities management flows; and
- Increasing the utilisation of individual spaces resulting in an overall reduction in departmental area.

Proposed Service Model

In developing the new model of care for operating theatres and peri-operative care that will be implemented as part of the MRP, the theatre and anaesthetic team at UHM identified a potential new model of care centred on the use of "peri-op rooms."

The central component of the concept concerns the use of a single room by patients for admission on day of surgery, pre-operative care and post-surgery recovery. In evaluating the proposed model, a wide range of professionals from UHM and wider NHS Lanarkshire teams have undertaken direct observation of the system which has been very successfully implemented at Southmead Hospital part of North Bristol NHS Trust.

The Peri-op model will support both elective and unscheduled care pathways and flows. **Figure S8** below sets out how this will work.



[Figure S8] Proposed Peri-operative Flow Model

The elective journey involves the following:

- Patients' arrive on the day of surgery at an agreed "batched" time slot to minimise patient waiting before surgery. Consent for treatment will have been given prior to admission;
- Following check-in, patients make their way to their allocated peri-op room where all admission on day of surgery processes and pre-operative preparation will be undertaken;
- Where possible, patients will walk from the peri-op room to the theatre holding area before progressing to theatre for surgery;
- Following surgery, the majority of patients return to the peri-op room with an anaesthetist who will handover care to a peri-op nurse to manage the post-operative recovery phase;
- Patient's requiring airway support (for example, following an ENT procedure) may be cared for in the separate post anaesthetic care unit;
- Patients remain within peri-op rooms and leave via three routes:
  - Directly home;
  - To an inpatient ward as part of elective care pathway; and
  - To an adjacent "stand down" area – 2 areas proposed to facilitate timely discharge and allow for improved flow;

- Patients may remain in a peri-op room for a maximum of 23 hours and up to 12 of these rooms will be staffed to facilitate 23-hour care and they include en-suite accommodation; and
- A criteria led discharge plan will facilitate timely patient discharge.

The unscheduled care pathway is similar to elective care with the following differences:

- Patients will transfer from the ED or CAU to an allocated peri-op room (unless immediate life-threatening surgery is required);
- Some patients may be discharged from ED or CAU with a date to return for surgery, this group would then follow the elective pathway; and
- Patients requiring immediate life-saving surgery would be treated in the post anaesthetic care unit before progressing to theatre at the earliest opportunity.

In summary, the peri-operative model:

- Delivers a more person-centred approach;
- Improves privacy, dignity and confidentiality;
- Enables family or carers to remain with the patient until transfer to theatre and also attend at an appropriate time post-operatively;
- Improves the ability to segregate patient groups as care can be provided within a single room environment;
- Encourages more streamlined surgical pathways, creating a catalyst for the implementation of new models of care and supporting an increasing shift to day case and 23 hour stay;
- Is more efficient, reducing the number of ‘hand-offs, internal movements and overall time in hospital by combining room functions;
- Better supports scheduling of unscheduled care and improves the emergency flow;
- Negates the need for separate areas to administer regional blocks;

- Improves theatre utilisation – session cancellation is less likely due to the unavailability of beds;
- Improves space utilisation through a reduction in the number of places and spaces required in the pathway;
- Reduces the building footprint by building fewer multi-purpose spaces that are better utilised; and
- Reduces the overall requirement for inpatient accommodation.

The comparative facility provision of Operating Theatres is outlined in **Table S9** below:

Current Theatre Provision	No.	Future Theatre Provision	No.
General Theatres	9	General Theatres	10
		Orthopaedic	4

[Table S9] Operating Theatres – Comparative Facility Provision

2.2.11 Endoscopy

The new Endoscopy service model has clearly defined pathways, minimises repeat scopes and improves facilities for bowel prep prior to the procedure. Facilities will be provided to enhance patient privacy and dignity and will be fully compliant with Joint Advisory Group (JAG) recommendations. The service will be predominantly nurse-led. A central decontamination unit will be located immediately adjacent to the Endoscopy unit and will also provide a service to the PIU and some specialties in the Outpatient Department.

Comparative facility provision for Endoscopy Rooms is illustrated in **Table S10** below:

Current Provision	No.	Future Provision	No.
Endoscopy Rooms	2	Endoscopy Rooms	3

[Table S10] Endoscopy Rooms – Comparative Facility Provision

2.2.12 Clinical Research Facility

Clinical research is a key function of a health authority. Since the approval of the IA, NHS Lanarkshire has recognised that the provision of a definitive research function is an important objective for Lanarkshire's health and social care partners. Collaborative

research sits at the heart of integrated, long-lasting relationships between partner Universities, North and South H&SC Partnerships and NHS Lanarkshire.

NHS Scotland and NHS Lanarkshire's research and development strategies both aim to maximise opportunities for patients to participate in high-quality health research recognising that high-quality research conforms with the ethos of "Achieving Excellence" and our emerging strategy, "Our Health Together".

There are a number of compelling reasons for undertaking research that benefits patients, staff, the organisation and the wider community. In summary terms these are:

- New treatment discovery;
- Early access to treatments for patients;
- Better quality care;
- Attraction and retention of clinical staff and academic partners;
- Financial benefits; and
- Reputation.

NHS Lanarkshire consistently performs well in terms of the level and scope of research undertaken and in participant outcomes. This is testament to a highly motivated team who have applied the principles of a structured research programme and have been able to encourage the participation of patients and clinicians in a number of key research programmes in recent years.

The key challenge that the team continually face is the provision of dedicated accommodation to undertake research activities – this is a rate limiting step, and one that can be addressed through sensible and appropriate infrastructure investment as part of the development of a new hospital.

In summary, the creation of a Clinical Research Facility:

- Gives patients the same opportunities that residents of other Boards have to access cutting-edge treatments through clinical trials;

- Establishes NHS Lanarkshire as an employer-of-choice to attract and retain high quality staff and clinical academics;
- Maximises opportunities to make savings on drug costs and generate income from research;
- Will attract University partners (and, potentially, life-science companies) to the new hospital campus; and
- Transform the Board's research capabilities to make it one of Scotland's leading research-active and innovative organisations.

2.2.13 Elective Care - Orthopaedics

A decision about the preferred location for the elective inpatient orthopaedic surgery service had been under consideration by The NHS Lanarkshire Board for some time. Two options were considered:

- Option 1, the status quo option, which saw the provision of elective orthopaedic surgery provided predominately at UHH as it is at present; and
- Option 2, which saw the incorporation of elective orthopaedic surgery at the new hospital.

At Lanarkshire's NHS Board meeting held in December 2021, Option 2 (the preferred option) was accepted and confirmed that the delivery of elective orthopaedic surgery would be included within the services to be provided at the new facility. The key benefits noted were:

- Purpose-built wards and theatres will allow for higher productivity and improved rehabilitation, reducing patients' length of stay and improving their experience;
- Single-room accommodation for post-operative orthopaedic patients is the "gold standard" for infection prevention and control.
- UHH can't accommodate all current elective activity with a significant proportion being carried out in the independent sector. There will be no inpatient and theatre capacity to accommodate future growth there;
- Future demand for surgery will increase as the population ages and life expectancy increases, and so this "gap" will increase;

- This development will allow the orthopaedic team to grow by eliminating the need for independent sector orthopaedic capacity.

2.3 Workforce changes

2.3.1 Introduction

There is recognition that the workforce will be instrumental in the successful delivery of the new hospital by maximising the use of the skills and capabilities of staff and re-skilling to meet the requirements of new emerging clinical models, developing technology and the wider digital hospital aspirations.

NHS Lanarkshire has developed a robust process for assessing and managing the impact of the changes to staffing to meet these requirements. This includes an assessment of the following drivers underpinning the new clinical model:

- Proposed clinical model,
- Single room design,
- Increase in overall footprint of the facility.

A review of workforce requirements across all job families was undertaken in collaboration with clinical and non-clinical service leads and partnership colleagues to develop an initial approximation of required workforce based on assumptions as they currently stand and as laid out in this OBC. Indicative workforce requirements were then reviewed by NHS Lanarkshire's Chief Executive and Director of Finance leading to further refinement. This has subsequently been costed to demonstrate an affordable model for OBC stage.

This is an initial scenario being worked through with service leads and partnership to refine the models in line with new ways of working, the Scottish Government CEL 27 (2010) – PROVISION OF SINGLE ROOM ACCOMMODATION AND BED SPACING) and The Health and Care (Staffing) (Scotland) Act 2019. This work will continue into the Full Business Case (FBC) stage.

The Financial Case of this OBC includes detail of the costing and increased whole time equivalents (WTE) requirements across all job families identified at this stage. The Management Case outlines early planning on how NHS Lanarkshire can attract, recruit and retain additional workforce whist also training, developing and re-skilling the existing workforce. These plans will continue to be developed.

2.3.2 Is the need for change, or associated investment objectives, different from those confirmed within the IA?

The core features of the need for change have not changed since the IA, although as set out earlier in this Strategic Case, further detailed work has been carried out in to develop the proposed clinical service models. The effect of the need for change, and the associated investment objectives agreed at the IA stage are presented in **Table S11** for reference. These have been reviewed during development of this OBC.

Effect of the need for change on the organisation:	What has to be achieved to deliver the necessary change? (Investment Objectives)
More patients than necessary are admitted to hospital rather than treated in a home / community setting. Therefore, the proportion of resources must shift more towards building community capacity.	**Objective 1** Provision of the necessary clinical environment (diagnostics, clinics and outpatients) and support functions (eHealth, transport) to deliver the necessary shift in the balance of care to achieve the strategic objectives set out in "Achieving Excellence". Successful conclusion to negotiations with Wishaw and Hairmyres PFI providers for long term service provision or provision of additional clinical capacity at new Monklands
Patients are staying in hospital for longer than necessary	**Objective 2** The new facility will be designed to match the new models of service described in "Achieving Excellence". This will ensure we provide facilities which enable a lower proportion of inpatient

Effect of the need for change on the organisation:	What has to be achieved to deliver the necessary change? (Investment Objectives)
	admissions and higher proportion of community, outpatient and day case/treatment facilities. We will develop centres of excellence to provide more effective and efficient services. This will reduce lengths of stay.
Requirement to build pathway, capacity and capability between acute and community care teams	**Objective 3** The new facilities will be an integral element in redesigning those patient pathways where acute admission is absolutely required.
Existing facilities are functionally ineffective and unable to support the proposed service model	**Objective 4** Application of modern technical and environmental standards to the accommodation being used will provide clinical and non-clinical services with functional suitability and improved efficiency.
Poor environment for clinical care and risks to business continuity	**Objective 5** The risks which the current facility place on safe and efficient clinical activity will be removed by the shift to a new facility.

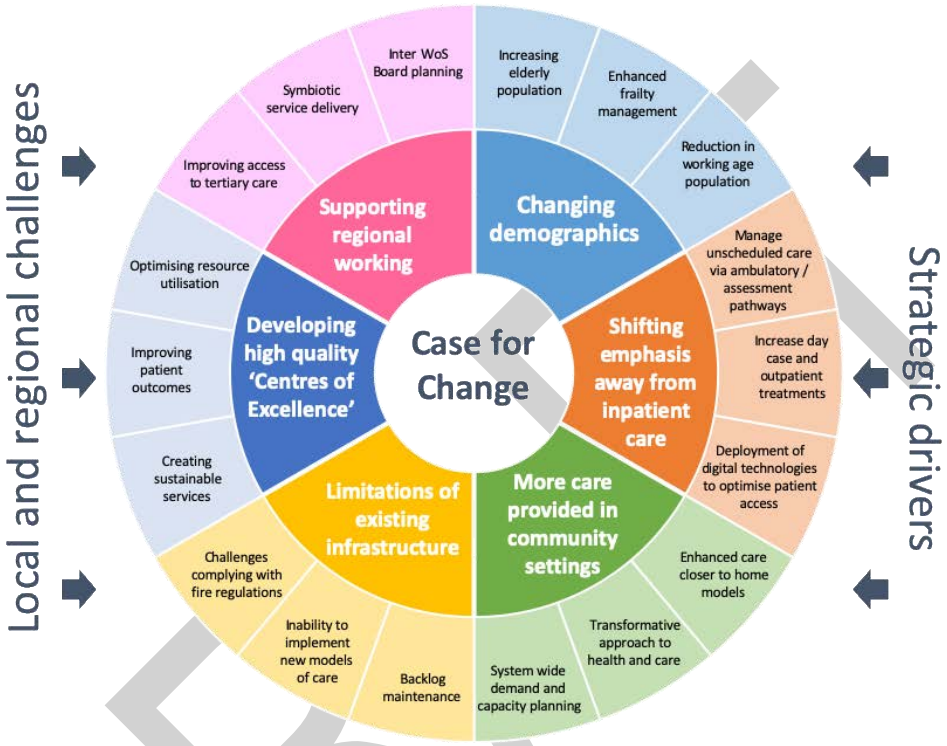
[Table S11] IA Outline Need for Change & Investment Objectives

As shown, significant further work has been undertaken to confirm the need for change, building on what was set out in the IA and expanding on these features considerably to describe in more detail their impact and demonstrate how each can be addressed through delivery of the proposed solution. The review and augmentation of the need for change continues to be shaped around a number of strategic drivers which can be summarised through the following themes:

- Changing demographics;
- Shifting emphasis away from inpatient care;
- More care provided in community settings;

- Developing high quality 'Centres of Excellence';
- Supporting regional working; and
- Limitations of existing infrastructure

Figure S9 provides a visual summary of these six themes whilst also highlighting some of the key factors associated with each.



[Figure S9] Need for Change Themes

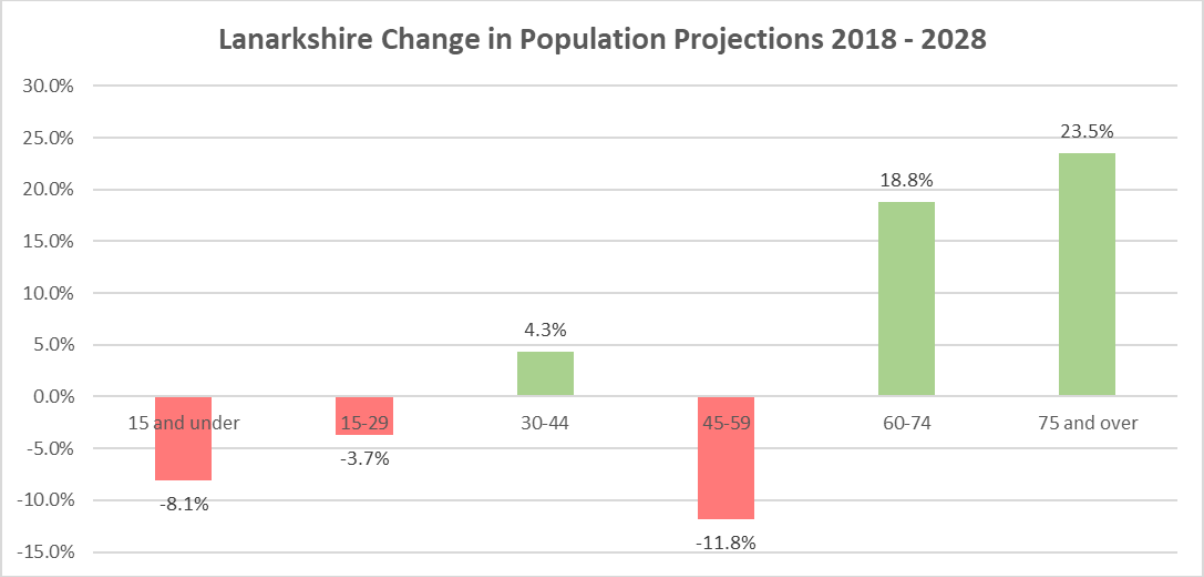
The following sections consider in more detail the strategic themes set out above.

2.3.3 Changing Demographics

<u>Increasing Elderly Population</u>

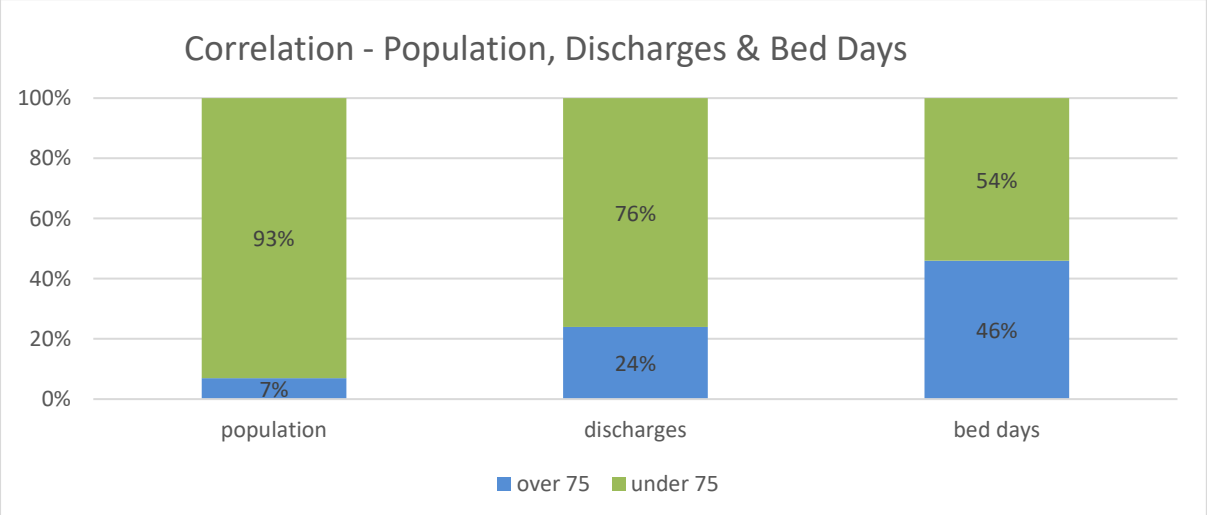
Changes in population and workforce demography are key considerations when reviewing existing workforce demand and forecasting what changes we can expect to see over time as the demographic profile of Lanarkshire evolves.

As illustrated in **Figure S10** below, the largest increase in population is expected to be in those aged 75 and over – 23.5% by 2028. The largest fall in population is expected in age range 45-59, with a projected decrease of 11.8% by 2028.



[Figure S10] Source: National Records of Scotland – Population Projections for Scottish Areas (2018-based)

People aged over 75 account for less than 10% of the population of Lanarkshire, however, around a quarter of people that are discharged from acute hospitals fall within this age group. When this is combined with a longer average length of stay (due to frailty), people aged over 75 use nearly 50% of NHS Lanarkshire's hospital bed days. **Figure 11** shows the correlation between population, discharges and length of stay (LoS). This will have a major impact on the future scope of hospital services and, without making radical changes to the way in which health and care is delivered, will result in the need for significant enhancement of the existing acute service provision across NHS Lanarkshire.



[Figure S11] Correlation - Population, Discharges & LoS

Enhanced Frailty Management

Whilst many of the population can live independently and at home or in a homely setting, we know that a significant proportion of people over the age of 75 that are admitted to hospitals in Lanarkshire are frail. There is a need to improve the management of frailty, particularly as part of the initial patient presentation. The current University Hospital Monklands cannot provide the right environment, resources or configuration to allow many of these patients to return to a homely setting in a timely manner; this results in unnecessary and lengthy hospital stays.

A new hospital presents an opportunity to reconfigure the frailty pathway from the front door, by creating a locus for the 'frailty service' to deliver proactive specialist services and reduce hospital LoS, whilst also designing an inpatient environment that is fit for purpose.

Combining this approach with closer working with the NHS Lanarkshire Hospital at Home (H@H) team there is an opportunity to further improve frailty management to support avoidance of acute admission and earlier discharge from hospital settings.

Reduction in the working age population

As well as increasing the demands placed on health and care services, the changes associated with the working age population will also be reflected in the availability of the NHS Lanarkshire workforce. In future, it is anticipated that there will be an older workforce and a higher volume of retirements year-on-year. Currently, there are ongoing and widespread issues with availability of clinical staffing, particularly within acute medical specialities. With an increasing older population and subsequent increase in healthcare needs, the continuation of clinical services delivery based on the current workforce model, with the same level of reliance on clinical staffing, is unsustainable. This will require different approaches to traditional 'like for like' workforce planning including new roles, upskilling and national / international recruitment initiatives.

Staff recruitment and retention is an ongoing challenge for NHS Lanarkshire. Whilst this is not specific to UHM, this site continues to experience higher vacancy levels within Nursing/Midwifery compared with Hairmyres and Wishaw sites despite all efforts

to support recruitment, as outlined in registered nursing vacancy trend data from 2018 shown in figure below.

In addition, the aging façade and first impression, lack of natural light, compromised clinical adjacencies and limited provision of staff wellbeing spaces neither entice new staff to join the workforce nor encourage existing staff to remain.

[Figure S12] Registered nursing vacancy trend data 2018-2022

2.3.4 Shifting the emphasis away from inpatient care

Management of unscheduled care

The way in which unscheduled care is currently managed and delivered needs to change significantly with a renewed focus on assessment leading to discharge rather than an attendance at the ED being the pre cursor to automatic inpatient admission. This approach will require a major reconfiguration of the bed base and associated resources to provide increased front door capacity immediately adjacent to the ED including the provision of a comprehensive assessment area function that has specific emphasis on frailty management. In addition, increasing the use of ambulatory care pathways to provide SDEC is required to facilitate improved management of unscheduled care on a non-bedded basis.

Increase daycase and outpatient treatments

From a planned care perspective there is potential to deliver more care on an ambulatory and outpatient basis, however, the current hospital configuration limits the extent to which this can be achieved as ambulatory services are dispersed over multiple locations. Planned day cases are often admitted to inpatient beds which can result in delays in initiating treatment and the need for an overnight stay in hospital.

Increased deployment of digital technologies

The use of digital technology is a key enabler in optimising access to services, treatments and avoiding unnecessary patient attendances to hospital. Moving to a greater level of remote based patient interactions places strong reliance on technology infrastructure to connect different parts of the system and their users; this was clearly successful during the Covid-19 pandemic and is now embedded in NHS Lanarkshire's future service delivery model.

Going forward, it is critical that the information required to manage patients from initial assessment through to discharge is available in the right place, by the right person and at the right time. This will necessitate better integration and interoperability between existing and new digital systems, as well as the wider implementation of digital systems and technologies to support the redesign of services.

2.3.5 More care provided in community settings

Enhanced Care Closer to Home

The need to change the way in which care is delivered to the local population requires a solution that looks beyond a sole focus how acute hospital services are provided. The overarching aim of NHS Lanarkshire is to develop a healthcare system that supports the development of an integrated health and social care system which has a focus on prevention, anticipation and supported self-management set within a wider context of co-production. With the appropriate use of health and care services, we need to ensure that patients are able to stay healthy at home, or in a community setting, as long as possible with hospital admission only occurring where appropriate and necessary.

Transformative approach to delivering health and care

It is clear that a radical change in the approach to the provision of health and care services is needed to shift the balance of care away from acute hospitals to one where there is a greater emphasis on prevention and community-based intervention. If service transformation is not delivered, then it is anticipated that demographic and other factors will lead to NHS Lanarkshire requiring significant additional acute hospital beds. In real terms this is not achievable, affordable or desirable. In addition, given that the people of Lanarkshire have clearly stated that, where it is safe to do so, they would like to receive their care at home there is a clear recognition that our plan needs to reflect change at scale in parallel with system-wide improvements.

System wide demand and capacity planning

To best assess service requirements across the system, there is a need for NHS Lanarkshire to work with the Health & Social Care Partners to understand how future demand can be integrated within health and care models so that the right services are provided in settings that are appropriate to users' needs. Taking this joined up approach to how the health and care environment and use of resources is planned, will deliver a more patient focussed and efficient healthcare system.

Modelling assumptions continue to be tested, particularly where there is an impact on the level of activity flowing in and out of hospitals which should ensure that future strategies continue to support enhanced out of hospital models that provide appropriate care in a range of alternative and community settings including people's homes.

2.3.7 Developing high quality Centres of Excellence

Creating sustainable services

The way in which acute care is delivered across NHS Lanarkshire needs to change to address the dual challenges of changing patient and staff demographics. Clinical services delivered at each hospital should be consistent with each hospital's capacity and arranged around 'Centres of Excellence'. Where a specialty delivers care for the

whole of the Lanarkshire population, it should do so at a consistently high level of clinical quality and patient satisfaction.

Improving patient outcomes

By concentrating resources in multi-disciplinary teams, NHS Lanarkshire can ensure that safe, effective, person-centred and sustainable services are delivered through a workforce that has the right skills and competencies and is able to achieve the best possible outcomes for patients.

Optimising resource utilisation

Secondary care organised in 'Centres of Excellence' and networks of hospitals providing specific clinical services (as opposed to all clinical services as at present) should allow NHS Lanarkshire to make best use of skilled staff and specialised facilities and equipment to produce excellent outcomes.

2.3.8 Supporting Regional Planning

Improving access to tertiary care

NHS Lanarkshire recognises that where services are highly specialised, complex and high risk there is a need for some care to be delivered out with the NHS Board area within tertiary centres. It is also acknowledged that there is a need to improve how local services and teams work with colleagues within tertiary centres so that these highly specialised services are available when patients need to access them and that this is part of a wider patient pathway combining local and tertiary provision.

Symbiotic service delivery

In the West of Scotland, joint working across Health Boards and Integrated Joint Boards has taken place to establish a common purpose to planning that respects the importance of local and locality planning within the wider regional context. This means that all stakeholders must develop and deliver services that meet the triple aim of improving the patient experience of care, improving the health of the population and optimising the cost of healthcare delivered.

Since IA NHS Lanarkshire have further expanded their partnership with NHS Forth Valley to support the management and intervention of complex head and neck cases as part of the wider ENT service provision. Opportunities across other specialities are being explored by the service delivery teams to optimise patient pathways whilst balancing demand and capacity.

West of Scotland planning

This approach requires organisations to come together and focus on service planning at a regional level where appropriate. This involves working across and connecting beyond traditional boundaries - across health and social care; professions and disciplines; settings; specialties and across organisations. This will be critical to building a person-centred and sustainable service that is fit for the 21st century.

At IA stage it was noted that in order to support potential service model changes the infrastructure required to deliver this would not be supported on the existing site. An exception to this is the relocation of Lanarkshire's Beatson Oncology Centre (BOC) that provides a satellite Radiotherapy and Cancer unit to support demand across the West of Scotland.

NHS Lanarkshire are part of the established managed clinical network for Cancer Services where opportunities are being sought to test new ways of working that will align to the regional plan. An example of this is the Lung Cancer Specialty Clinic and radiotherapy treatment – additional capacity planning is included within the capacity modelling for the new hospital.

NHS Lanarkshire are also involved in early discussion regarding planning for regional Oral and Maxillofacial Surgery (OMFS) with an aim to accommodating complex OMFS cases at the existing UHM and are part of wider discussions to develop a regional approach to Thrombectomy.

2.3.9 Limitations of existing infrastructure

Backlog maintenance

UHM is an ageing facility that requires significant ongoing and an increasing level of

investment to make safe and improve its infrastructure. Regular recurring failures of the hospital's assets not only have financial implications but have a direct impact on the delivery of clinical services. In addition, the building contains asbestos, increasing the timescale and disruptive nature of any maintenance required to return an asset to an acceptable condition.

In June 2017 Health Facilities Scotland (now NHS Scotland Assure) undertook a review that considered the documented and observational evidence relating to the current and ongoing risks associated with the operational safety, functional suitability, and building & engineering infrastructure at the existing UHM. This review aimed to test the accuracy of risk descriptions that were included in the IA. The report concluded that as one of the oldest major acute hospitals in Scotland, UHM was undoubtedly in need of ongoing substantial investment to continue to provide safe service delivery and confirmed that residual issues relating to vertical fire evacuation, space constraints, drainage issues, poor patient flows, poor clinical adjacency, and noted that other functional suitability issues were likely to remain challenging. These issues have not materially changed since the IA.

A focussed risk led improvement programme is in place at UHM aimed at addressing the highest risks arising from basic building attributes which threaten business continuity such as roof replacements, theatres refurbishments and improved fire compartmentation which fall well below current building standards. As the programme is risk led and subject to finite funding availability in the main it does not and cannot extend to addressing the replacement of the original 1970s fabric. Nor can it resolve core infrastructure issues, such as insufficient space allowances, inappropriate clinical adjacencies, substandard fire escapes & stairs, ventilation, historic sanitary ware and other Healthcare Associated Infection (HAI) related issues.

To illustrate the 'real-time' nature of these issues and their impacts to safety and business continuity, the following recent examples are highlighted:

- The drain outside the nurse's room in the radiology department failed and this caused a sudden surge of water into the following areas – nurses preparation areas, student room, sluice, X-ray Room 1, Ultrasound room 3 and waiting area.

This quickly spread into one of the Ultrasound rooms and as the water continued to travel which began to affect the general area. This resulted in the need for controlled access to these areas and multiple x-ray and ultrasound patients having to be cancelled, some of whom had already travelled to the hospital. In addition, clinics had to limit numbers and inpatient awaiting diagnostics were either sent to the Emergency Department x-ray, adding additional capacity burden, or moved into the evening. Water continued to push up out of the drains at great volume and speed with the drain in the Radiology Consultant corridor soon beginning to do the same and inches of water covering the floor. The volume of water then surged into the Consultant and Registrar rooms as well as the store rooms. In response to the volume of water and flooding it was necessary to evacuate staff and ensuring the image reporting systems were protected.

- The Haematology ward at UHM was identified as having a non-compliant ventilation system. A phased replacement of the ventilation system was planned as a risk assessment had confirmed there was no alternative accommodation across NHS Lanarkshire that could meet the ventilation requirements needed to safely support immune suppressed patients. Unfortunately, air sampling taken during of phase 1 construction activities detected the presence of fungi aspergillus and work was stopped whilst urgent mitigation steps were put in place, delaying completion of this much needed upgrade.

The business continuity programme is [redacted] and has been ongoing since 2009. By the end of the current year the total spend for this programme [redacted]. As the programme is risk led and subject to finite funding availability, in the main it does not and cannot extend to addressing the replacement of the original 1970s fabric and defining aspects of the building, such as insufficient space allocations and inappropriate adjacencies for clinical activity, substandard fire escapes & stairs, ventilation, historic sanitary ware and other HAI related issues. In the same period there has been other significant investment on the Monklands site to provide upgraded operating theatres, a new pathology laboratory and an endoscopy disinfecting unit at a [redacted]

Table S12 below notes the status of the infrastructure based on an assessment through the Estate Asset Management System (EAMS) for UHM:

		GIA (m²)	GIA % Total Area	Area Designation	Physical Condition	Functional Suitability	Quality	Space Utilisation	Total Backlog Cost (£)
L106H	Monklands DG Hospital	[redacted]	19	Clinical	C	D	C	O	[redacted]

[Table S12] Infrastructure Status at UHM

Table S13 below expands on the status and provides a descriptor of the infrastructure based on an assessment above:

	Condition	Descriptor
Physical Condition	C	not satisfactory with significant change needed
Statutory Standards	D	unacceptable in its present condition, major change needed
Environment	G	unacceptable in its present condition, major change needed
Functional suitability	D	unacceptable in its present condition, major change needed
Quality	C	not satisfactory with significant change needed
DDA	C	not satisfactory with significant change needed
Space utilisation	O	overcrowded, overloaded and facilities generally stretched

[Table S13] Infrastructure Status Descriptors at UHM

The Energy Rating for the main hospital and Endoscopy Unit are both G, which is classed as very poor. Whilst some work has been carried out to improve lighting, the rating on the Energy Performance Certificate remains in the very poor classification. The newly proposed climate change targets mean that Public Bodies require to substantially reduce their carbon footprint. Without a major overhaul of every part of the building and structure it will not be possible to significantly reduce the carbon footprint of the existing building.

From an Infection Prevention and Control (IPC) perspective there are a number of issues. The current operational and infection control issues result from insufficient

single bedroom provision to isolate patients and an increased cross-contamination risk due to inadequate bed spacing. Secondly, each four-bed bay shares a single toilet and shower facility; not all single rooms are en-suite. Significant IPC risks have arisen from these limitations which are compounded by the small size of rooms and inadequate ventilation. It is not possible to fully mitigate these risks within the current environment.

The third infection control risk relates to flooding to ground floor accommodation caused by the capacity and design of the underground drainage system. This occurs on a regular basis each month. Whilst works have been carried out to improve this situation it remains an intractable risk.

Inability to implement new models of care

The current UHM configuration is set out in a traditional manner with a podium and twin tower design – the podium houses the emergency department, imaging, outpatients, theatres and critical care departments, with the inpatient areas in the towers. Over time, various areas of the podium have been expanded or extended to accommodate changing health care needs, the resultant configuration can no longer be adapted due to lack of space.

Current models of care are significantly compromised by insufficient capacity, inappropriate clinical environments, poor intra and inter departmental adjacencies and an estate that has responded in a piece meal way, within a fixed and inflexible site, to changes in demand and advances in treatments. Many services are dispersed over multiple locations e.g. Outpatients and Critical Care. Operational delivery models cannot deliver efficiencies due to lack of space or capacity, for example, ambulatory treatment of patients in inpatient wards. Additionally, there are very limited opportunities to implement new ambulatory care models that support day case treatment.

Fire Safety

Whilst considerable investment has gone into improving fire compartmentation and detection across the existing site, of particular note is the fact that much of the estate (especially the two tower blocks) is significantly non-compliant with current Fire Code

and building standards. The most noteworthy issue is the lack of provision for progressive horizontal evacuation with appropriate fire compartment sizes, combined with lower than expected adequacy of ability to escape from fire (by today's standards).

Although major fire events have low probability but high impact, a recent fire at one of NHS Lanarkshire other acute hospital (UHH) during the pandemic serves as stark reminder that they can and do happen. The physical constraints of the narrow stair network at UHM compromise NHS Lanarkshire's ability to evacuate safely and efficiently. This is especially the case when considering the restricted mobility of patients (who in many cases would need to evacuate on mattresses), would face considerable restriction from the narrow-fixed walls of the access stairs, as per the original design.

2.3.10 Investment Objectives

During the Initial Agreement stage of the project, investment objectives were developed in consultation with stakeholders and agreed by the Monklands Replacement Oversight Board, now known as the MRP Leadership Group.

The investment objectives have been reviewed as part of the OBC development process and remain valid. Further details are provided below for each investment objective.

- **Objective 1 - Provision of the necessary clinical environment to deliver the necessary shift in the balance of care to achieve the strategic objectives set out in "Achieving Excellence".**

The clinical model places a much stronger focus on hospital admission avoidance and alternatives to acute presentation and admission into specialty based care. It proposes enhancement to community service provision to facilitate earlier discharge from hospital through the development of a range of out of hospital services which will be provided in collaboration with the two Integrated Joint Boards. This means that

there will be a commensurate reduction in acute bed provision releasing resources that can be redirected to support the alternative models.

- **Objective 2 - Ensure we provide facilities which enable a lower proportion of inpatient admissions and higher proportion of community, outpatient and day case/treatment facilities**

The proposed clinical model and supporting hospital design place a strong focus on inpatient admission avoidance – particularly in relation to unscheduled care. The 'front door' model will allow a significantly greater proportion of patients to have their end to end care provided in an assessment environment thus avoiding the need for specialty based care and potentially extended length of stay in hospital. Increased use of ambulatory emergency pathways will allow some patients to be managed on an outpatient basis avoiding the need to use a bed space. Better frailty management will significantly improve the experience for a group of patients who are often confused and vulnerable and frequently get 'stuck' within acute care when a homely setting would be more appropriate to meet their needs.

In terms of planned care there is a much stronger emphasis on day surgery and planned investigations as alternatives to inpatient care. A significantly higher proportion of outpatient contacts will be provided on a virtual basis, using established digital technology, avoiding the need for patients to travel to hospital for what is often a relatively short and simple consultation. These factors all contribute towards an improved patient experience and outcome, better use of physical (space and staff) resources and improved efficiency and flow through the system.

- **Objective 3 - New facilities will be an integral element in redesigning those patient pathways where acute admission is absolutely required**

Where inpatient admission is required, the proposed model ensures that patients are looked after by the correct team with the right skills to enable improved outcomes and efficiencies in the delivery of their care. It aims to better align the speciality bed-base to anticipated service demand to provide timely access to speciality care and improved efficiency through streamlining patient journeys and flexing capacity. The model also

focusses on the ability to discharge medically fit patients from hospital in a timely fashion ensuring that there are adequate out of hospital resources in place to manage their on-going care requirements.

The development of the 'hot floor' model concentrates the vast majority of acutely unwell patients in one area of the hospital reducing workforce pressures and improving the management of out-of-hours service provision. It also facilitates better patient outcomes through the consistent application of quality standards.

Finally, the proposed peri-operative model aims to deliver an improved patient experience through enhanced privacy, dignity and confidentiality are improved. It also facilitates more streamlined surgical pathways and improved utilisation of theatre resources.

- **Objective 5 - The risks which the current facility place on safe and efficient clinical activity will be removed by the shift to a new facility**

By delivering a new hospital in a new location there is an opportunity to eliminate many of the constraints and risks associated with the current hospital and associated infrastructure. The current site not only poses significant risks in relation to backlog maintenance, infection control and fire but it also places major constraints in relation to clinical service delivery / sustainability and patient safety. Furthermore, functional relationships between services are compromised leading to ineffective and inefficient patient flow and the need to duplicate resources across care settings.

The proposed hospital re-provision and the associated clinical model is aimed at eliminating current risks, optimising the patient experience and delivering the most efficient use of resources from both a physical and financial perspective.

2.3.11 Anticipated Benefits

The strategic benefits identified within the IA are highlighted below:

- Improved safety of patient care – reduced risk to business continuity, through robust infrastructure designed to the most modern standards. Reduced risk of healthcare acquired infection through better use of space. Reduced risk to patients through improved fire protection. Provision of care in buildings where no asbestos is present.
- Improved clinical effectiveness – to “stream” from community to acute services provision as appropriate and reduce pressure on whole system working. Lowering stress levels for patients, staff, and relatives with easier journeys and care in the right place at the right time. Providing the opportunity to created centres of excellence with better clinical outcomes.
- Improving the quality of the physical environment – any facilities being built are a tool for clinical excellence, easy to orientate, to use, and maintain, that are energy efficient and environmentally friendly, and a pleasant environment internally and externally that is conducive to calm, healing, and recovery. Theatres and bed spaces, especially in high dependency areas, designed to accommodate the advancing technology and equipment required to deliver the safest care and best possible clinical outcomes for patients.
- Flexible / adaptable facilities across the health system – future proofed with generic spaces that can accommodate bariatrics, dementia, care of the elderly and other arising demographic trends. Cost effective in services and facilities as well as increasing staff retention and optimising performance. Lower running costs with telehealth and telecare options to be adopted as far as is possible and overall best value.

These remain valid, however, they have been further developed as part of the Benefits Realisation Plan set out within the Management Case. The refreshed benefits list has been developed in alignment with the SCIM Benefits Realisation Guidance and reflect the increased focus on responding to the Climate Emergency and the Project’s ambition to be Net Zero and the wider societal, environmental and employment benefits that the Project will deliver.

The new list of anticipated benefits is summarised below and are fully outlined in the Benefits Realisation Plan within the Management Case.
Summarised new list of anticipated benefits:

1. Person-centred
2. Safe
3. Effective Quality of Care
4. Health of Population
5. Value and Sustainability
6. Net Zero

2.3.12 Is the choice of the preferred strategic service solution still valid?

The preferred strategic solution set out in the IA was for the replacement or complete refurbishment of the existing University Hospital Monklands to deliver the emergent new clinical model. The need was reinforced by the challenges experienced during the Covid-19 pandemic where the lack of space and flexibility within the existing hospital were clearly evident. This preferred strategic solution moving from IA to OBC is the complete replacement of the current University Hospital Monklands.

Following IA approval by the Scottish Government Capital Investment Group (SGCIG) on the 5th of October 2017 [see **Appendix 1**], there has been a significant delay in progressing the OBC. This has been due to a culmination of factors, most notably, the requirement for an Independent Review of the process undertaken at site selection and the impact of the COVID-19 pandemic.

Whilst both events have adversely impacted the programme for delivery and associated costs, the delay has served as a stark reminder of the limitations of the current infrastructure within the existing building and the on-going impact this has on service delivery and NHS Lanarkshire's ability to respond to changing healthcare needs.

In addition, since approval of the IA much has emerged about the urgent need for a worldwide response to the climate emergency. As such, the Energy Efficient Scotland

Route map requires public sector buildings to be zero carbon by 2050 and the Scottish Government has also called a Climate Emergency, committing to become a net zero carbon economy by 2045.

The Net Zero Carbon Public Sector Buildings (NZCPSB) standard ("the Standard") is a new voluntary standard which has been developed by Scottish Government to support the Public Sector in setting ambitious targets to achieve net zero outcomes for new buildings and major refurbishments. The Standard supports a challenging, credible path to net zero carbon materials and energy supplies for all non-domestic buildings. By 2045, projects that adopt the standard will achieve zero embodied carbon during construction and subsequently the whole life of projects, including operational energy.

The Monklands Replacement Project has been selected as a pathfinder project for the new standard which has resulted in the requirement for an all-electric hospital. This demands innovative solutions and a substantial energy centre to accommodate all of the required technology. Whilst this is an exciting opportunity for NHS Lanarkshire, it has been a contributing pressure to delivering the OBC programme and has added cost.

That said, the preferred strategic / service solution remains the most valid delivery option for NHS Lanarkshire to achieve the investment objectives and the Scottish Governments Net Zero ambitions. Although, at this stage there remains some design and delivery risk, such risks are being captured, managed and closely monitored on a master risk register which is set out within the Management Case. Equally, the costs associated with delivery of the proposed solution are being continuously assessed, updated and reviewed to confirm affordability and qualify any variation.

2.3.13 Conclusion

The case for change remains very strong and clear and has been significantly enhanced since the development of the IA through the development of the clinical model and a strengthened need for change. The investment objectives have been reviewed, confirmed and evidenced through an improved analysis of the anticipated benefits associated with their delivery.

The requirement for a new UHM has been reinforced – the current facility is no longer able to provide the accommodation required to support the delivery of clinical services required by the catchment population in terms of capacity, space, configuration and condition. Urgent replacement is now a necessity, and this has been demonstrated, and reinforced, during the response to the Covid-19 pandemic.

The scale, shape and configuration of the new clinical model and associated facilities has been determined and informed by a strong evidence-based methodology. This incorporates many innovative developments to ensure that all proposed accommodation is necessary, meets current regulatory standards or, where appropriate, Health facilities Scotland guidance and has been designed to be sufficiently flexible to be able to respond to changes in future service provision.

3. Economic Case

3.1 Overview

The purpose of the Economic Case within this Outline Business Case (OBC) is to undertake a detailed analysis of the costs, benefits and risks of a short list of options for implementing the preferred strategic/service solution identified within the Initial Agreement (IA). The objective is to set out how NHS Lanarkshire has selected the preferred service solution, demonstrating the relative value for money of the chosen option in delivering the required outcomes and services.

This section of the OBC therefore summarises the processes and procedures that have been undertaken in respect of assessing the main business options identified within the IA and the consequential site selection process which followed. These have been set out in a manner which reflects the Scottish Capital Investment Manual (SCIM).

The option appraisal and subsequent site selection processes took place over a protracted period of time and the financial information used for each is the financial information which was relevant at the time each process was undertaken. Therefore, the price base for the option appraisal was Quarter 1, 2018/19 with the price base for the site selection process being Quarter 4, 2019/20.

It is also recognised that the factors noted below have subsequently impacted pricing since the option appraisal and site selection processes were completed:

- Delay between IA approval (October 2017) and completion of OBC (Winter 2022);
- Requirement to comply with Net Zero Carbon;
- Publication of new guidance on ventilation - SHTM 03/10 (February 2022); and
- Changing external market conditions and impact on construction inflation.

These factors are fully accounted for in the costings taken forward within the Financial Case, however no financial adjustments have been made retrospectively to the option appraisal or site selection process as each option would have been affected proportionally and the outcomes would remain the same.

3.1.1 Development of shortlist of implementation options

The IA was approved by the Scottish Government Capital Investment Group (SGCIG) on the 5th October 2017 granting permission for NHS Lanarkshire to move forward with development of this OBC [see **Appendix 1** for approval letter]. A key part of this stage was to carry out a formal appraisal of all the options identified within the IA which could deliver the stated project objectives, plus a do nothing/do minimum option as a comparator.

A long list of seven potential service solution options was identified within the IA ranging from 'do-nothing' to 'full re-development'. This long list of options was considered against the four criteria set out below:

- Options will be able to deliver NHS Lanarkshire's healthcare strategy "Achieving Excellence" and the project benefits;
- The new clinical strategy will drive the functions and capacities rather than the status quo;
- Continuity of services should be maintained throughout all phases of construction in terms of both facilities and bed numbers; and
- All buildings and facilities delivered as part of the project should comply with current technical and quality standards.

The long list options are shown in **Table E1** below.

Option	Description	Outcome
1	Do Nothing	Discount
2	Do Minimum	Retain (as benchmark)
3	Refurbish existing buildings with current bed numbers	Discount
4	Minimal redevelopment and refurbishment – retaining ward towers	Discount
5	Full refurbishment on Monklands site	Retain
6	New build on Monklands site	Retain
7	New build on new site	Retain

[Table E1] Long List Options

This initial assessment led to options 1, 3 and 4 being discounted as not fulfilling the required criteria, specifically in terms of maintaining continuity of service, developing an environment fit for 21st Century healthcare, and compliance with current standards. This left four options to be considered in more detail. Three of these involved construction of a substantial new building on the existing University Hospital Monklands (UHM) site to provide decant space that would allow refurbishment, to a varying extent, of the existing buildings, while the fourth was to develop a new hospital on a new site.

The short list options are set out in **Table E2** below.

Option	Description
A.	Do Nothing – maintain the status quo
B.	Refurbishment on the Monklands site
C.	New Build on the Monklands site
D.	New Build at a New Site

[Table E2] Short List Options

3.1.2 Option Appraisal

NHS Boards are required to follow national guidance on how to carry out consultation on major service change. This is set out in *CEL 4 (2010) Informing, Engaging and Consulting People in Developing Health and Community Care Services*. In line with this requirement, NHS Lanarkshire conducted two stakeholder events as part of the consultation process for options appraisal. Underpinning these events was a desire to:

- Engage widely with the people of Lanarkshire to ensure stakeholders had an opportunity to understand the option appraisal process and provide informed feedback to the Board;
- Carry out the consultation process in line with CEL 4;
- Select methods that supported effective and meaningful engagement;
- Clearly articulate the benefits of the proposals to stakeholders;

- Clearly set out what stakeholders had the ability to influence through their participation in the engagement process and how their feedback would be used in reaching a decision;
- Involve stakeholders in the planning and delivery of the consultation process; and
- Use insights gained from completion of the Equality and Diversity Impact Assessment (EDIA) to support consultation with hard to reach groups.

The process by which NHS Lanarkshire proposed to carry out the consultation events was agreed with Scottish Health Council (SHC) in advance (now known as Health Improvement Scotland – Community Engagement), and their representatives were in attendance at each event in an observational capacity. Subsequently, this process, along with its associated programme, was approved by NHS Lanarkshire Board in December 2017. Approval to proceed to option appraisal was confirmed by the Chief Executive, NHS Scotland on 12 March 2018.

A key part of the process was to ensure an appropriate and proportionate level of representation was achieved from patients, public representatives, carers, patient interest groups, clinicians and other service providers. The arrangements to select participants were also formally agreed with the SHC in advance of being undertaken.

The option appraisal process was designed to take place in two phases. Phase 1 set out to assess the main business options (A – D) [see **Table E2** above] with scoring of option D based upon a generic off-site solution. Phase 2 was designed as a site specific process that would only be undertaken if option D emerged as the highest scoring option from the phase 1 assessment. The purpose of this arrangement was to ensure that both phases could be undertaken independently and that phase 1 would be concluded prior to identification of a potential alternative site, avoiding any potential for bias.

3.2 Phase 1 – Option Appraisal

Consultation events were held on Monday 4 and Friday 8 June 2018 with stakeholders being issued with a formal invitation to participate on 16 April 2018. Briefing sessions for all participating stakeholders took place at various NHS Lanarkshire locations. The

purpose of the briefing sessions was to provide preliminary information on the event programme and clarify the roles and responsibilities of scoring stakeholders. The sessions were attended by 44 representatives.

In addition, a series of presentations to wider stakeholder groups was undertaken in advance of the formal option appraisal events. The purpose of these events was to provide assurance on the detail of the option appraisal process, confirm the options being considered, confirm the participants and set out the process for participant selection.

The timeline of briefing events is shown in **Table E3** below.

Date	Event
Monday 23 April 2018	Staff Briefing Session held at UHM
Friday 4 May 2018	Presentation to elected members (MP/MSP)
Monday 7 May 2018	Area Partnership Forum briefing session
Wednesday 9 May 2018	Allied Health Professionals briefing session
Monday 14 May 2018	Staff Briefing Session held at UHW
Monday 21 May 2018	Presentation to the elected members of North Lanarkshire Council
Tuesday 22 May 2018	South Lanarkshire Health and Social Care Forum briefing
Wednesday 23 May 2018	Presentation to the elected members of South Lanarkshire Council
Thursday 24 May 2018	Staff Briefing Session held at NHSL HQ Kirklands
Tuesday 29 May 2018	Senior Charge Nurse Forum – UHM
Wednesday 30 May 2018	Presentation to the elected members of South Lanarkshire Council
Thursday 31 May 2018	North Health and Social Care management briefing
Friday 1 June 2018	Presentation to elected members (MP/MSP)
Tuesday 5 June 2018	North Lanarkshire Health and Social Care Forum briefing
Wednesday 6 June 2018	Allied Health Professionals Advisory Committee

[Table E3] Timeline of Briefing Events Supporting Option Appraisal

The Option scoring event took place on the 4th June 2018. Delegates were arranged in small groups to ensure that table discussions could take place during the event and, in particular, during the scoring sessions. Each table comprised an equitable group of delegates representing patients, public, carers, service users and service providers and was facilitated by an experienced facilitator. Facilitators were drawn from NHS Lanarkshire and Buchan & Associates (Healthcare Planners). Table discussions and wider question and answer (Q&A) sessions took place throughout the event to ensure that delegates had the opportunity to seek clarification on any point.

A detailed presentation setting out each of the short list options A-D [see **Table E2**] was given at the event by Keppie Design (Architects). Each option was considered against its ability to:

- Support the new clinical strategy;
- Deliver a high quality patient environment;
- Minimise any potential for disruption to clinical services;
- Potential for impact on Healthcare Acquired Infection (HAI); and
- Timescale for delivery.

Several themes emerged during the presentation and discussions with delegates. In particular, there was a great focus on the challenges associated with maintaining/upgrading the existing hospital or building a new hospital on current site due to the significant space constraints. These constraints, arising from approximately 70% of the site already being built upon, would require existing departments to be re-provided/relocated before any building work associated with a new or decant facility could be started. This significantly impacts on the space available and, in the case of options B & C, would severely restrict the introduction of the new clinical model as the ground floor space required to support co-location and adjacency would not be delivered.

In addition, there were concerns that the operation of a live hospital within a construction site would create major disruption for patients and staff and increase the risk of HAIs for most patient groups with particular concerns in respect of patients that are immunocompromised, for example Haematology, Renal and Infectious Diseases

patients. This point was strongly highlighted by a senior consultant in control of infection.

As well as the disruption to normal operational activities within the current hospital, concerns were also raised with regard to the impact on parking during the period of construction. A Scottish Ambulance Service (SAS) representative noted that this disruption would severely limit site access and egress for an extended period for options A, B & C. It was also noted that all alternative sites would sit within UHM unscheduled care catchment area and would be of a size to fully support the clinical model with the necessary expansion space, as set out in the IA to support strategic objectives.

During phase 1, assessment of option D was based only on its ability to deliver the clinical strategy and not on the specifics of a location. Delegates were advised that location specific issues, particularly in respect of transport, access, drive times, etc. would be considered in further detail if option D emerged as the preferred solution.

The indicative timescales (at June 2018) for delivery of each option are shown in **Table E4** below:

	Option A	Option B	Option C	Option D
OBC approval	July 2019	July 2019	July 2019	July 2019
FBC approval	October 2019	October 2019	October 2019	October 2019
Construction completed	Ongoing	December 2041	December 2029	December 2024
Equipping & Commissioning	Ongoing	July 2042	July 2030	July 2025
Migration	Ongoing	February 2043	February 2031	February 2026
Demolition of existing hospital	N/A	N/A	February 2033	N/A *

[Table E4] Indicative Option Timescales (June 2018)

*note that demolition is not time critical, however the option to demolish could be taken to improve site development prospects.

3.2.1 Option Benefits

Participants undertook an exercise to agree, rank and weight the benefits criteria that would be used to assess the options. A methodology of weighted pairs was adopted to assess the relativity of criterion to each other to identify their importance and to assess the weighting (out of a total of 100) attributed to each to achieve this.

The criteria and rankings were determined by the group as shown in **Table E5** below.

Final Rank	Reference	Benefit Criteria
3	A1	Person centeredness
2	A2	Improved safety of patient care
1	A3	Improved clinical effectiveness
5	A4	Enhance the function and quality of the physical environment
4	A5	Deliver flexible and adaptable facilities across the health system

[Table E5] Options Benefit Criteria and Rankings

This ranking allowed participants to define the weighting apportioned to each criterion. This was undertaken collectively using the paired comparison process with the criterion assessed in pairs – 1v2, 2v3, etc. This allows the relative importance of each criterion to be considered and was confirmed through group discussion.

The outcome of this exercise is set out in **Table E6** below:

Rank Given	Benefit Criteria / Paired Comparisons	1 v 2	2 v 3	3 v 4	4 v 5	Raw Weight	%
1	Improved clinical effectiveness	**100**				**100.0**	**24.7**
2	Improved safety of patient care	**95**	**100**			**95.0**	**23.5**

Rank Given	Benefit Criteria Paired Comparisons	1 v 2	2 v 3	3 v 4	4 v 5	Raw Weight	%
3	Person centeredness		90	100		85.5	21.2
4	Deliver flexible and adaptable facilities across the health system			85	100	72.7	18.0
5	Enhance the function and quality of the physical environment				70	50.9	12.6
	Total					404.0	100.0

[Table E6] Outcome of Paired Comparison Process

Delegates confirmed that this weighting reflected their assessment of the relative importance of each criterion with the top three carrying the majority of the available weighting.

Delegates then undertook the formal scoring exercise of allocating a score on a scale of 0 – 10 per criterion. This was completed individually at each stakeholder table and supported by the facilitator. Members of the presentation team, and the wider Project Team answered individual queries during this session.

The individual score sheets were collated at the end of the event and an analysis was undertaken to determine the final scoring totals.

A summary of the collated weighted scores is shown in **Table E7** below.

WEIGHT %	Option A - Do minimum		Option B - Refurbishment of current hospital		Option C - New build on current hospital site		Option D - New build on alternative site	
W	Score	W x S	Score	W x S	Score	W x S	Score	W x S
24.7	1.7	41.4	2.7	66.7	5.1	126.3	9.5	235.4
23.5	1.5	35.0	2.3	54.7	4.4	102.7	9.5	223.1
21.2	1.5	31.1	2.3	47.9	4.5	95.9	9.3	197.8
18.0	0.7	11.7	1.7	29.7	4.0	71.9	9.5	171.4
12.6	1.1	13.4	2.7	33.7	5.2	65.5	9.7	121.8
100.0		**132.6**		**232.7**		**462.3**		**949.5**
RANK		4		3		2		1

[Table E7] Collated Weighted Scores by Option

The collated weighted scores clearly identified option D as the highest scoring option by a significant margin. The collated scores comprise the summary score of each individual delegate which reflects their own individual assessment of how well each of the options would meet the requirements of each benefits criteria when compared to the other options. In particular, it highlights delegates' views on the significant challenges of options A, B & C to deliver all aspects of the clinical model, their concerns regarding the level of disruption each of these options would face and their views on the protracted timescales for delivery of each option. In summary, option D was confirmed as the highest scoring outcome resulting in delegates triggering the requirement for phase 2 (site selection option appraisal).

3.2.2 Sensitivity Analysis

To fully confirm a leading option and comply with SCIM guidance, a sensitivity analysis was carried out. The sensitivity analysis was broken down into two sections; Scoring on Day 1 and financial sensitivity.

Four sensitivity tests were undertaken to test the validity of the scoring. These tests reviewed the 'sensitivity' of the outcome based on altering an element of the scoring process - this process was used to confirm that the process itself was representative and robust, that the assumptions were appropriate and that the outcomes were not influenced inappropriately by any of the groups scoring.

The four sensitivity tests applied were as follows:

- Sensitivity test 1, reviewed the outcome if all benefit criteria were weighted equally;
- Sensitivity test 2, reviewed the outcome if the scores for the top ranked criteria were ignored;
- Sensitivity test 3, reviewed the outcome if only patient scores were included (with NHS staff scores ignored) (this sensitivity test allowed a review to determine if patients scored the same or different from the overall group); and
- Sensitivity test 4, reviewed the outcome if the scorers from the top 10 scoring staff were removed. This test checked if the overall score was skewed by these scorers.

The sensitivity analysis for Day 1 (shown in the **Tables E8, E9, E10 and E11**) found that in all four sensitivity tests, option D scored the highest by a considerable margin.

For the financial sensitivity analysis [see **section 3.3**], a review was undertaken of the cost differences which would be required to alter the result.

Sensitivity Analysis for Day 1

Benefit Criteria		Weight	Option A – Do minimum		Option B – Refurbishment of Current Hospital		Option C – New build on current hospital site		Option D – New build on alternative site	
		W	Score	WxS	Score	WxS	Score	WxS	Score	WxS
1.	Improved clinical effectiveness	20.0	1.7	33.5	2.7	53.9	5.1	102.0	9.5	190.2
2.	Improved safety of patient care	20.0	1.5	29.8	2.3	46.5	4.4	87.3	9.5	189.8
3.	Person centredness	20.0	1.5	29.4	2.3	45.3	4.5	90.6	9.3	186.9
4.	Deliver flexible and adaptable facilities across the health system	20.0	0.7	13.1	1.7	33.1	4.0	80.0	9.5	190.6
5.	Enhance the function and quality of the physical environment	20.0	1.1	21.2	2.7	53.5	5.2	104.1	9.7	193.5
Total		**100.0**		**126.9**		**232.2**		**464.1**		**951.0**

[Table E8] Outcome - Sensitivity Test 1

Sensitivity 2 – Exclude Benefit Score from Top Ranked Criteria (i.e. Benefit Criteria – Improved Clinical Effectiveness)

Benefit Criteria		Weight	Option A – Do minimum		Option B – Refurbishment of Current Hospital		Option C – New build on current hospital site		Option D – New build on alternative site	
		W	Score	WxS	Score	WxS	Score	WxS	Score	WxS
1.	Improved clinical effectiveness									
2.	Improved safety of patient care	23.5	1.5	35.0	2.3	54.7	4.4	102.7	9.5	223.1
3.	Person centredness	21.2	1.5	31.1	2.3	47.9	4.5	95.9	9.3	197.8
4.	Deliver flexible and adaptable facilities across the health system	18.0	0.7	11.7	1.7	29.7	4.0	71.9	9.5	171.4
5.	Enhance the function and quality of the physical environment	12.6	1.1	13.4	2.7	33.7	5.2	65.5	9.7	121.8
Total		**75.3**		**91.2**		**166.0**		**336.0**		**714.1**

[Table E9] Outcome - Sensitivity Test 2

Sensitivity 3 – Include only patient representative scorers

Benefit Criteria		Weight	Option A – Do minimum		Option B – Refurbishment of Current Hospital		Option C – New build on current hospital site		Option D – New build on alternative site	
		W	Score	WxS	Score	WxS	Score	WxS	Score	WxS
1.	Improved clinical effectiveness	24.7	1.6	32.9	3.4	67.1	5.5	110.0	9.4	187.1
2.	Improved safety of patient care	23.5	1.6	32.9	3.0	60.0	5.1	101.4	9.3	185.7
3.	Person centredness	21.2	1.6	31.4	2.6	51.4	4.5	90.0	9.0	180.0
4.	Deliver flexible and adaptable facilities across the health system	18.0	0.9	18.6	2.0	40.0	4.4	87.1	9.2	184.3
5.	Enhance the function and quality of the physical environment	12.6	1.4	28.6	3.2	64.3	5.6	112.9	9.5	190.0
Total		**100.0**		**144.3**		**282.9**		**501.4**		**927.1**

[Table E10] Outcome - Sensitivity Test 3

Sensitivity 4 – Remove Top 10 Scoring Staff

Benefit Criteria		Weight	Option A – Do minimum		Option B – Refurbishment of Current Hospital		Option C – New build on current hospital site		Option D – New build on alternative site	
		W	Score	WxS	Score	WxS	Score	WxS	Score	WxS
1.	Improved clinical effectiveness	24.7	1.6	40.6	2.8	69.2	5.1	126.3	9.4	232.3
2.	Improved safety of patient care	23.5	1.5	35.0	2.5	59.1	4.3	101.9	9.4	220.0
3.	Person centredness	21.2	1.5	30.9	2.2	46.1	4.3	91.7	9.2	194.2
4.	Deliver flexible and adaptable facilities across the health system	18.0	0.7	12.5	1.7	30.4	4.2	75.2	9.4	169.3
5.	Enhance the function and quality of the physical environment	12.6	1.2	14.5	2.8	34.9	5.3	66.8	9.6	120.7
Total		**100.0**		**133.5**		**239.7**		**461.9**		**936.6**

[Table E11] Outcome - Sensitivity Test 4

3.3 Identification and Quantification of Monetary Costs and Benefits of Options

3.3.1 Financial Appraisal

The option appraisal process described in the previous section considered the non-financial benefits. This section will therefore focus on the financial appraisal of each option. This is in line with SCIM which requires all options to be subject to a detailed cost and benefits analysis to provide objective and substantial information to inform the decision on determination of the leading option. This is to ensure that there is a proper appraisal of value for money and can mean that while an option may not be the least costly option, the benefits it delivers outweigh the cost and render it the leading option. The opposite could also be true whereby the option with the lowest cost may not deliver sufficient benefits to make it the leading option.

All costs incurred in delivering each option were identified and used in the financial appraisal – cost base is Quarter 1 2018/19 which reflects when the option appraisal process and public engagement took place. Updating costs to current cost base would not alter the outcome as the pricing of each option would be similarly affected by inflationary increases in the intervening period.

Costs included:

- The full capital cost of delivering the building net of any land sales;
- Life cycle costs to maintain the building over its economic life;
- Additional recurring revenue costs incurred net of any revenue savings; and
- Any non-recurring revenue cost to support the development of the building.

Fuller examples of what was included are noted below in the following sections.

<u>Capital Costs</u>

- Enabling costs in identifying site, conducting ground condition surveys, demolition etc.
- Land acquisition;
- Construction costs for the building including inflation and risk allowance;

- Planning condition costs e.g. contribution to road access, temporary car parking;
- Architects/Consultant Fees;
- Technical advisor fees e.g. project management, cost advisors, fire safety etc.;
- Legal & financial advisor fees;
- Medical and non-medical equipment;
- Staff costs for dedicated project team; and
- Reduction in respect of land sales.

Life Cycle Costs

- Costs to maintain the fabric of the building e.g.
    - Roof replacement
    - Heating and ventilation renewal
    - Doors and window renewals
    - Electrical systems renewal
    - Fire safety systems renewals

Recurring Revenue

- Additional nursing costs to provide for single room accommodation;
- Additional cleaning costs to provide for single room accommodation;
- Local authority rates; and
- Reduction in costs resulting from any efficiencies from improved clinical adjacencies.

Non-Recurring Revenue

- Decant costs in emptying old facility;
- Disposal of redundant furniture and other equipment;
- Removal costs to move staff and related equipment to new facility;
- Purchase of minor equipment e.g. waste baskets, soap dispensers;
- Double running costs for move to new facility while still running existing buildings;
- Costs to increase nursing levels to the requirements for the new facility;
- Induction training for moving to new building e.g. familiarisation of new layout; and

- Health and safety and fire training.

The above lists were not exhaustive but were provided to inform participants at the option appraisal event of the areas considered when developing a new hospital facility. No costs were allocated for 'embedded accommodation' as there was no significant accommodation allocated to any third party. The economic impact of non-cash benefits was covered in the FSD assessment undertaken within the site selection element of the process. The scale of differentials at this stage (primary business option assessment) was so significant that additional factors (non-cash benefits) were not deemed necessary to include.

3.3.2 Capital Cost

The costs contained within this OBC have been updated to take account of a number of factors which had changed since the IA was approved. This review was undertaken with the support of the project's cost advisors and considered the additional information that is now available in terms of all the options considered. This covered the following main areas:

- Changes to floor area for options B, C and D; and
- Generic site specific information in respect of option D, off-site option; including land purchase, ground conditions, road infrastructure and consideration of other planning requirements.

This resulted in a range of capital costs for each option as noted in **Table E12** below:

Option	Low £000's	High £000's
Option A – Do Minimum	326,221	334,376
Option B - Refurbishment	851,185	872,465
Option C – New Build @ Monklands	613,492	628,829
Option D – New Build @ generic site	567,976	582,176

[Table E12] Capital Cost Review by Option

For the purpose of this appraisal the low costs were adopted - this allowed an objective assessment, as the same cost profile and methodology could be used for each option.

The same outcome would be achieved if using the high costs, as the differentials are consistent.

3.3.3 Life Cycle Costs

The costs contained within the IA have been reviewed to reflect the changed floor areas of options B, C and D. These costs have been profiled over the full life of each option.

3.3.4 Revenue Costs

At IA stage, clinical service costs for the new build were calculated to allow for the increased nursing costs required to manage 100% single bedroom inpatient accommodation, a requirement set out by Scottish Government (DL 27, 2010). This was estimated at 10% of ward based nursing staff in line with increased costs experienced by NHS Greater Glasgow and Clyde in respect of the new Queen Elizabeth University Hospital. This would equate to an increase in nurse staffing costs of £1.9m.

Non-clinical operating costs will increase as a result of the increase in clinical accommodation, the extended working week and the requirement to provide 100% single bed inpatient accommodation. This estimate was primarily to cover increased domestic service costs to provide the additional cleaning requirements resulting from 100% single bed inpatient accommodation with en-suite facilities and an increase in the use of the building over an extended working week.

Building running costs were also anticipated to increase. This was estimated at £1m and covered potential cost increases in local authority rates, utilities, facilities and the requirement to have 100% single bed inpatient provision. Work on producing a more detailed appraisal of these costs is now well advanced with property and support services and finance staff and has been incorporated within the Financial Case of this OBC.

While clinical adjacencies under option D would be optimised to support more efficient working no revenue savings were assumed during the financial appraisal process.

For each option appraisal a calculation of its Net Present Value (NPV) should be included. The NPV is the key summary indicator of the comparative value of an option. It is the name given to the sum of the discounted benefits of an option less the sum of its discounted costs, all discounted to the same base rate. Where the sum of the discounted costs exceeds the discounted benefits, the net figure may be referred to as Net Present Cost (NPC). These costs should exclude VAT and Inflation.

Equivalent Annual Costs (EAC) are used for appraisal of a capital asset, where there is a need to compare alternative options with different lives. This methodology has been used in the financial appraisal of the short list options and a cost per benefit point has been calculated to derive the leading option as shown in **Table E13** below. The capital, life cycle, associated revenue costs and land sales were used to carry out an economic appraisal of the options, using discounted cash flow techniques as outlined in SCIM. In line with this, a discount rate of 3.5% was used in the appraisal.

Applying this methodology resulted in a range of costs for each option recognising that there were a number of factors which impacted upon the development of final costs. In particular, a detailed assessment of the cost of developing and delivering each option was undertaken [see **Appendix 4** for Summarised Capital Costs – Business Options]. It is noted that whilst the capital cost of option B is significantly higher than the others, this does not follow through to NPC and EAC as the majority of spend is in future years and is therefore subject to greater discounting.

A summary of the key costs for each option is shown in **Table E14** below along with the weighted benefit points for each option and the Annual Equivalent Cost (AEC) per benefit point.

	Option A **Do Minimum** **£000's**	**Option B** **Refurbishment** **£000's**	**Option C** **Monklands** **£000's**	**Option D** **Generic** **£000's**
Capital Cost	326,221	851,185	613,492	567,976
Net Present Cost (NPC)	166,976	452,001	467,107	461,809
Annual Equivalent Cost	10,637	17,901	18,132	17,926
Total Benefit Points	132.6	232.7	462.3	949.5
Cost per Benefit Point	80.217	76.926	39.222	18.880

[Table E14] Summary of Key Costs, Weightings and AEC by Option

3.3.5 Financial Sensitivity Analysis

As already highlighted in respect of the non-financial benefits, SCIM guidance requires that in order to finally confirm the leading option a sensitivity analysis should be conducted. This analysis considers the relative level of change to costs which would be required to change the outcome.

- **Option A**
  Do Minimum could not, under any realistic circumstances, have been the leading option as the scale of change in costs is so large that even doubling the capital cost of delivering the leading option would only have increased the cost per benefit point to £37,025 against the £45,437 for Option A.
- **Option B**
  Refurbishment could also not, under any realistic circumstances, have been the leading option as the scale of change in costs is so large that even doubling the capital cost of delivering the leading option would only have increased the cost per benefit point to £37,025 against the £58,845 for Option B.
- **Option C**
  New Build at Monklands could also not, under any realistic circumstances, have been the leading option as the scale of change in costs that would be required is so large that even doubling the capital cost of delivering the leading option would only have increased the cost per benefit point to £37,025 against the £38,921 for Option C.
- **Option D**
  New Build on an offsite location (generic site) therefore clearly emerges as the lowest cost and leading option. The scale of cost increase required, relative to the other options, to alter this outcome is of such a considerable magnitude, estimated at circa £500m, that it was considered highly unlikely to occur and was therefore unrealistic.

It should be noted that Option D still emerges as the leading option for both Capital Cost and NPC per benefit point, as illustrated in **Table E15** below.

	Option A Do Minimum £000's	Option B Refurbish £000's	Option C Monklands £000's	Option D2 Generic £000's
Capital Cost per benefit point	2,460	3,658	1,327	598
Net Present Cost per benefit point	1,259	1,942	1,010	486

[Table E15] Capital Cost & NPC per Benefit Point

In conclusion the sensitivity analysis of both scoring and financial appraisal indicate that:

- There is a significant degree of consistency with the scoring processes;
- Excluding high scoring delegates does not affect outcome;
- Public representatives and clinicians scored the options similarly; and
- The scale of benefits points for Option D eliminates Options A, B and C.

This validates the position of Option D as leading option and provides significant confidence that it demonstrates best value comparatively and is also the lowest capital cost option. In summary this provides a very high level of confidence in the process.

3.3.6 Confirming the Outcome

The cost per benefit point in terms of capital and NPC indicated that option D had the lowest cost per benefit point by a considerable margin and as a consequence was therefore confirmed as the leading option.

This assessment was based upon the application of a rigorous two stage assessment process which ensured the consideration of each of the options against a set of agreed benefits criteria. This process was designed to achieve objectivity and was enhanced by the active involvement of a range of external stakeholders, patients, public representatives, carers and advocates.

The SHC confirmed it was satisfied that NHS Lanarkshire proceed to consultation [see **Appendix 5** for SHC report on the consultation process]. The sensitivity analysis carried out on both the quality scoring and the financial appraisal indicates that the outcome is

robust and would require significant change in scoring and/or costing of one option over another to affect the outcome. The level of cost change required to affect outcome is significant at circa £500m and is therefore deemed highly unlikely to occur. As a consequence, a separate risk appraisal was not completed at the time. Consequently, the sensitivity analyses information confirmed the selection of option D as leading business option.

3.4 Phase 2 – Site Selection (2018)

In June 2018 following the outcome of the initial Option Appraisal (Phase 1) NHS Lanarkshire undertook a comprehensive and detailed exercise to assess potential site options for the development of a replacement for University Hospital Monklands with a range of key stakeholders including members of the public, staff and Scottish Ambulance Service.

During this initial engagement, two alternative sites, namely Gartcosh and Glenmavis (plus the existing site), were assessed. Gartcosh had the higher score when non-financial and financial benefit scores were combined as per the original SCIM guidance. This was followed by a formal process of public consultation which was undertaken between July 2018 and October 2018.

Following the public consultation an independent review was instigated by the Cabinet Secretary for Health & Sport with the stated terms of reference to provide an independent assessment of the site selection process undertaken by NHS Lanarkshire. The independent review which was carried out by the University of Glasgow's Institute of Health & Wellbeing reported in June 2019 made three main recommendations:

1. NHS Lanarkshire should make provision for new independent (external) members to the Monklands Replacement/Refurbishment Project Board.
2. NHS Lanarkshire should re-evaluate the top two scoring options (Gartcosh and Glenmavis).
3. A clear vision for the existing Monklands site should be developed.

In addition, the Cabinet Secretary advised that the existing site should be excluded from further consideration as it was not a practical option. She also directed that NHS Lanarkshire seek to identify further sites which could be considered for the new hospital location.

All of these recommendations were adopted by NHS Lanarkshire, as described below:

1. NHS Lanarkshire established an additional Board of governance committee in November 2019 called the Monklands Replacement Oversight Board (MROB), chaired by a non-executive director, to provide assurance on decision making processes in respect of the Monklands Replacement Project. This comprised non-executive directors, independent external experts and members of the public.

2. NHS Lanarkshire engaged specialist external advisers, the Consultation Institute to provide advice and direction on the completion of the option appraisal process. A methodology was then developed to re-evaluate the top two scoring options (Gartcosh and Glenmavis) plus any additional sites which emerged.

3. A partnership group was established in March 2020 with North Lanarkshire Council, the University of Strathclyde and North Lanarkshire Health & Social Care Partnership to develop plans for the future use of the existing hospital site in conjunction with the local community. This will now be taken forward as a separate project, independent of the Monklands Replacement Project.

In response to the request from the Cabinet Secretary to seek further sites which could be considered, NHS Lanarkshire undertook a comprehensive search for additional sites in 2019 which is described in more detail in the proceeding section.

Oversight of the 2018 site selection process was undertaken by:

- The Consultation Institute, an independent not for profit organisation who advised the Board on engagement.

- Health Improvement Scotland – Community Engagement (HIS-CE), an NHS body whose role is to provide assurance on involvement of people and communities when major service change occurs.

3.5 Phase 2 - Site Selection (2019-2021)

The site selection and option appraisal process undertaken following the outcome of the Independent Review comprised a number of key stages:

- Identify and assess potential additional sites;
- Provide detailed information on all shortlisted sites;
- Process for nomination and selection of public participants in scoring event;
- Process for determining benefits criteria in advance of scoring event;
- Public and staff events;
- People's Hearing;
- Weighting and scoring event to determine non-financial benefit scores;
- Notification of outcome of scoring process (combined best-value scoring for non-financial and economic elements); and
- Feedback on outcome.

Firstly, NHS Lanarkshire invited members of the public and North Lanarkshire Council (NLC) property professionals to identify sites which may be suitable for the development of a new hospital. Sites nominated were considered against the following agreed selection criteria:

- Must sit within the UHM unscheduled care catchment area;
- Must be a minimum of 40 developable acres;
- Must have no detrimental impact on adjoining unscheduled catchment areas of hospitals in Lanarkshire, Glasgow or Forth Valley;
- Must be designated by NLC to permit appropriate development; and
- Must have sufficient road and transport infrastructure to support the development of a major hospital site.

One site consisting of farm-land at Wester Moffat, met these criteria and NHS Board approval was given to add this site to the short list of potential sites in January 2020. The short list of sites was therefore (in alphabetical order):

- Gartcosh
- Glenmavis
- Wester Moffat.

Detailed information on each of the three short-listed sites was published on NHS Lanarkshire's public website and comments on its accuracy and validity invited. This detailed information related to a wide range of areas including transport, travel times, access, transport infrastructure, capital costs, ground contamination, and cross boundary flow, and equality/diversity impact assessments.

Nominations were sought from members of the public and staff to participate in a weighting and scoring exercise. A total of 100 participants were sought. In addition, nominations for benefits criteria to be utilised in the weighting and scoring exercise were invited from the public.

Public events were also held to raise awareness of, and share details about the site selection process and seek feedback from members of the public. These events were held in Airdrie, Coatbridge, Cumbernauld and Gartcosh.

A People's Hearing process was also held on 2 March 2020 to consider any concerns raised on the validity or accuracy of the published site information and to review the nominations submitted for benefits criteria. The People's Hearing panel comprised an independent chair (Consultation Institute associate), two independent subject matter experts plus key members of the external technical adviser team - Currie & Brown (lead adviser), Keppie's (architects) and WSP (transport and contamination/ground condition experts).

The People's Hearing panel concluded that no submissions had been presented which provided evidence to challenge any of the published information relative to each of the

three potential sites. They also recommended that five benefits criteria should be adopted for the weighting and scoring process. The criteria were:

- Travel times by road and public transport – patients;
- Travel times by road and public transport – staff;
- Access/connectivity to regional centres;
- Contamination; and
- Impact of cross boundary flow.

A public and staff weighting and scoring event took place on 10 March 2020, hosted by the Consultation Institute), with formal presentations from the MRP external technical adviser team. The event was attended by almost 90 participants selected at random from those who either self-nominated to take part in the scoring process or who indicated a preference to be further involved through a representative survey.

This event was unsuccessful in reaching an outcome. On review NHS Lanarkshire and the Consultation Institute concluded that there were flaws over the validity of the weighting and scoring due to the failure of the electronic scoring system. There were also concerns that the agreed proportions of participants by locality had not been achieved and the total participant level did not reach the required number of 100. The process was then paused due to lockdown arrangements associated with the Covid-19 pandemic.

3.5.1 Postal Process to determine non-financial benefit scores

Recognising the restrictions on social distancing and shielding following lockdown that were put in place as part of the Covid-19 response, NHS Lanarkshire asked the Consultation Institute to develop a process which would enable a weighting and scoring process to be restarted and taken forward safely.

The process subsequently used was designed by the Consultation Institute with support from the Electoral Commission and was subject to a period of testing and validation prior to proceeding. All members of the public and members of staff who had previously nominated themselves to participate were invited to take part in the process.

The process was a multi-criteria analysis and the elements undertaken to complete the non-financial assessment of options was set out by the Consultation Institute, validated by HIS-CE and approved by the Board of NHS Lanarkshire.

The postal weighting and scoring process was independently conducted by the Consultation Institute during July and August 2020. They have confirmed that they are satisfied that the process was conducted in line with best practice and that they received sufficient responses from members of the public and staff to provide assurance on robustness and transparency.

The process was concluded satisfactorily on 14 August 2020 and the Consultation Institute issued their validated outcomes on 26 August 2020. A total of 174 responses were received for the weighting of benefits criteria and a total of 178 responses were received for site scoring.

The outcome of the weighting part of the exercise is shown in **Table E16** below:

Criterion 1: travel times (public)	**Criterion 2:** travel times (staff)	**Criterion 3:** access / connectivity	**Criterion 4:** contamination	**Criterion 5:** cross-boundary flow impact
31.10%	22.96%	19.27%	14.47%	12.20%

[Table E16] Outcome of multi-criteria analysis (weighting)

The outcome of the postal scoring part of the exercise is shown in **Table E17 below**:

	Gartcosh	Glenmavis	Wester Moffat
Weighted by participant, weighted by criterion	5319.07	4295.15	4808.18

[Table E17] Outcome of multi-criteria analysis (postal scoring)

Within this combined score, it is worth noting that there was significant variation in the scores submitted by the various public and staff groups. A sensitivity analysis of the

scores and elements making up these scores (i.e. splits between the communities and staff groups) is shown in **Appendix 6** Summary of Sensitivity Analysis.

3.5.2 Site feasibility option appraisal to determine financial benefit scores

The SCIM mandates the need to undertake an economic appraisal (including non-financial benefits weighting and scoring –postal process) plus a separate risk appraisal and combine these to inform determination of the preferred option. In order to complete this process both appraisals are converted into scores relative to 100 thus allowing both individual scores to be added together to provide a single score to inform the decision making process.

This process should be adopted to assist site selection in complex projects where site selection is required prior to development of an option. This is referred to as a site feasibility option appraisal and was undertaken for this site selection process.

3.5.3 Economic Appraisal

This appraisal aligned the scores from the weighting and scoring exercise (postal scoring) against the cost of each option to determine a cost per benefit point.

The calculation captured the capital and recurring revenue costs associated with each option and develops a Net Present Cost (NPC) for each option which allows comparison by combining both costs and profiling these over a projected building life. A 60 year building life is typical for this type of building. The capital costs considered include all costs to construct the hospital including purchase of land, design costs, site preparation, equipment and building costs. The revenue costs considered at this stage only include those costs which are expected to differ between the sites – lifecycle costs at each site plus additional emergency department attendances at Gartcosh and Glenmavis resulting from cross-boundary flow. Additional inpatient costs are excluded as these will be recovered separately. The process adopted and the detailed calculations are set out by our cost advisers, Currie & Brown [see **Appendix 7** Summarised Revenue Costs for Site Options].

The capital costs associated with each option were set out in February 2020 for each option [see **Appendix 8** Summarised Capital Costs for Site Options]. The NPC costs were then aligned to the score for each site enabling the NPC per benefit point to be calculated. A final score for each option, relative to 100, was then calculated. The NPC per benefit point outcomes are shown in **Table E18** below:

Economic Appraisal	Gartcosh	Glenmavis	Wester Moffat
Net Present Cost (000's)	£542,800	£521,000	£512,500
Points scored	5,319.07	4,295.15	4,808.18
NPC Cost per benefit point (000's)	£102,047.91	£121,322.89	£106,589.19
Score	100	84.11	95.74

[Table E18] NPC per Benefit Point Outcomes

A sensitivity analysis was undertaken to determine whether the ranking of the options would change by adjusting a number of common cost factors. The cost factors applicable were 'abnormals' which includes contamination and ground condition remediation (for all three sites) and additional revenue (Gartcosh and Glenmavis only) which addresses the cost of additional emergency department attendances resulting from cross-boundary flow.

	Gartcosh	Glenmavis	Wester Moffat
Abnormals +10%	£102,442.72	£122,067.91	£107,213.12
Abnormals +20%	£102,837.53	£122,812.94	£107,837.06
Abnormals -10%	£101,653.11	£120,577.86	£105,965.25
Abnormals -20%	£101,258.302	£119,832.83	£105,341.31
Revenue +10%	£102,461.52	£121,485.86	n/a
Revenue +20%	£102,845.13	£121,625.55	n/a

[Table E19] Sensitivity Analysis Outcomes

The sensitivity analysis confirms the outcome of the initial economic appraisal.

3.5.4 Risk Appraisal

The third element of the scoring process was the assessment of risks for each option to ensure that any further differential elements were fully considered and objectively assessed. This was also completed in accordance with the SCIM.

A number of concerns were raised by participants during the weighting and scoring exercise of factors which could have a bearing on the site selection options.

The factors were:

- Contamination – the risk that there might be more contamination than identified so far;
- Cross-boundary flow - the risk the patient flows for unscheduled care from East Glasgow might be greater than anticipated so far;
- Transport infrastructure – the risk that the planning assumptions for key roads infrastructure may have underestimated the actual requirements of the new hospital; and
- Impact on travel for people on low incomes.

The Consultation Institute reviewed these factors and recommended that the first three be risk assessed by NHS Lanarkshire's expert advisers, with the fourth being considered as part of the Fairer Scotland Duty assessment. This was agreed with HIS-CE. Both of these processes were completed by participants who had no knowledge of the benefit scores. The following expert advisers undertook the required risk assessments:

- Currie & Brown - lead adviser and cost adviser
- WSP – Ground conditions and contamination advisers
- WSP – Transport infrastructure advisers
- Buchan Associates – Healthcare planning and cross boundary flow advisers

The technical risk factors, as noted above, were considered, assessed and scored on 24 August 2020 by the technical advisers [see **Appendix 9** for a Summary of the Site

Options Risk Assessment]. This report was reviewed by the Consultation Institute who validated the approach adopted.

A summary of the risk assessments and score is shown in **Table E20**.

Location	Risk Factor	Likelihood	Impact		Score
Gartcosh	Contamination	3	3		9
	Cross-Boundary Flow	3	2		6
	Road infrastructure	2	1		2
	Total				**17**
Glenmavis	Contamination	4	3		12
	Cross-Boundary Flow	2	1		2
	Road infrastructure	2	4		8
	Total				**22**
Wester Moffat	Contamination	2	3		6
	Cross-Boundary Flow	2	1		2
	Road infrastructure	2	4		8
	Total				**16**

[Table E20] Summary of Risk Assessments and Score

A score, relative to 100, was then determined. This is shown in **Table E21** below.

Risk	Gartcosh	Glenmavis	Wester Moffat
Contamination - What would be the risk of greater than expected levels of contamination?	9	12	6
Cross-Boundary Flow - What would be the risk of greater than allowed for cross-boundary flow?	6	2	2
Transport Infrastructure - What is the risk of infrastructure assumptions being wrong?	2	8	8
Total	**17**	**22**	**16**
Score	**94.12**	**72.73**	**100**

[Table E21] Summary of Risk Assessment Scores Relative to 100

3.5.5 Site Feasibility Option Appraisal Scores

The final option assessment was also carried out in accordance with SCIM by combining the economic appraisal (financial and non-financial scoring including postal scoring) and risk appraisal scores to reach a total combined score. The summary outcomes are set out in **Table E22**.

Evaluation results	Gartcosh	Glenmavis	Wester Moffat
Economic Appraisal	100	84.11	95.74
Risk Appraisal	94.12	72.73	100
Combined Total	**194.12**	**156.84**	**195.74**

[Table E22] Total Combined Scores (Economic/Risk Appraisals)

This provides a clear and objective assessment of the financial and non-financial benefits using a multi-criteria analysis methodology aligned to SCIM.

3.5.6 Conclusions and Next Steps

Option Appraisal

A full report on the site option appraisal process and outcomes is available at https://www.nhslanarkshire.scot.nhs.uk. The report includes independent validation on compliance with the SCIM and on the adoption of best practice from the Consultation Institute. The final scores from option appraisal were:

Evaluation results	Gartcosh	Glenmavis	Wester Moffat
Economic appraisal	100	84.11	95.74
Risk appraisal	94.12	72.73	100
Combined total	194.12	156.84	195.74
Overall Ranking	**2**	**3**	**1**

[Table E23] Final Scores from Options Appraisal

There are three factors which impact upon these final scores**.** The **first** factor is the combined non-financial scoring undertaken by public and staff. The **second** factor is the combined economic appraisal (non-financial and financial scoring) which reflects the cost of building at each site and the cost of additional emergency department

attendances at Gartcosh and Glenmavis due to cross-boundary flow and the **third** factor is the risk appraisal which further considers contamination, cross-boundary flow and transport infrastructure.

Engagement Report

A detailed report setting out the engagement process in full and providing a definitive analysis of comments made by members of the public and other stakeholders concluded that a significant level of engagement had been undertaken and that people who engaged consider that the process taken forward by NHS Lanarkshire was fair.

Health Improvement Scotland – Community Engagement Assurance (HIS-CE)

NHS Lanarkshire worked closely with HIS-CE throughout the development of the option appraisal process and during the engagement process to ensure that all processes adopted were appropriate and conducted in accordance with requirements.

HIS-CE completed a formal report on the engagement process conducted by NHS Lanarkshire and has concluded that NHS Lanarkshire has fully met all necessary requirements [see **Appendix 10** for HIS-CE Confirmation Report]

Fairer Scotland Duty (FSD) Assessment

NHS Lanarkshire has also conducted a detailed FSD assessment to consider the socio-economic impact of relocating the hospital and has undertaken this for each of the potential site options. This information has featured in the final assessment to reach a conclusion on site selection.

Board Members have undertaken a robust process to scrutinise the key factors arising from the process at a series of six dedicated briefing / seminar sessions, during which NHS Lanarkshire Board Members reviewed evidence and discussed impact.

The key points for consideration arising from this process were:

- Wester Moffat scored highest within the Options Appraisal, however this is not decisive in itself and other factors should be considered;

- Our independent cost adviser's financial and economic assessment indicates that Wester Moffat will have a lower building construction cost and lower annual running cost than either Gartcosh or Glenmavis as the facility will be larger at Gartcosh or Glenmavis due to the impact of cross boundary flow;
- Locating the hospital at Gartcosh will have the greatest level of cross boundary flow and the greatest risk of impact should our assessments be conservative.
- In terms of socio-economic impact, the building and operation of a new hospital at the West Moffat site will provide a significant socio-economic stimulus to the Airdrie locality which has the highest number of deprived areas in Lanarkshire, as referenced in the FSD Assessment; and
- Moving the new hospital to Gartcosh will result in an adverse impact on the Airdrie community, as a major employer and as an economic anchor for patients and lower paid staff, as referenced in the Fairer Scotland Duty Assessment.

3.6 Conclusion

Option D new build on an off-site location emerged as the highest scoring business option and notably scored significantly greater points than all other options. Wester Moffat Farm has emerged as the most economically advantageous site option and has demonstrated best value for money in accordance with SCIM requirements. Wester Moffat Farm was therefore recommended as the preferred site option to be taken forward.

The NHS Lanarkshire Board met on 16th December 2020 to consider the site selection process and outcome and approved the recommendation to the Cabinet Secretary for Health & Sport that Wester Moffat was the preferred site for the location of the new University Hospital Monklands. This was subject to the proviso that the land could be secured from the landowner at reasonable market value, and that the North Lanarkshire Councils East Airdrie Link Road scheme proceeds providing the access required to build the new University Monklands Hospital at the Wester Moffat site.

This recommendation was formally confirmed as the preferred option by the Cabinet Secretary for Health & Wellbeing in January 2021 [see **Appendix 2**].

4. Commercial Case

4.1 Overview

The purpose of this Commercial Case within this Outline Business Case is to outline the commercial arrangements and implications for the Project by setting out:

- the procurement strategy and procurement route for the Project,
- the scope and content of the proposed commercial arrangement,
- risk allocation and apportionment between public and private sector,
- the payment structure and how this will be made over the lifetime of the Project,
- the contractual arrangements for the Project.

4.2 Procurement Strategy

4.2.1 Procurement Route

The Scottish Government confirmed to NHS Lanarkshire that the Monklands Replacement Project (MRP) will be capital funded and has subsequently discounted all other options which had been considered. These included the potential for revenue funded options including the use of the Mutual Investment Model (MIM). The procurement strategy for the MRP has therefore been developed on the basis of a capital funded model.

The following are key features of the proposed procurement route for the delivery of this Project:

- To achieve quality and technical compliance in design and construction;
- To provide a structure for supply chain engagement and delivery of community benefits (social values);
- To ensure selection of a construction delivery partner with appropriate experience and capacity to deliver a major new build acute hospital;
- To enable a collaborative approach to delivering benefits;
- To provide a framework for delivering value for money;
- To optimise the balance between programme and cost certainty; and

- To facilitate early contractor involvement to support design and construction principles for modern methods of construction that support sustainability, quality and speed of onsite construction.

Initial Procurement Approach

In December 2016 NHS Lanarkshire undertook a procurement strategy review to consider options and inform the Initial Agreement (IA). The review determined a shortlist of three procurement options as shown below:

1. Design, Develop, and Construct
2. Design and Build
3. Traditional

At that time Design, Develop, and Construct emerged as the preferred procurement route. The approach envisaged at that time comprised the following:

NHS Lanarkshire would develop the reference design to RIBA Stage 2/2+ which would set out employers' requirements:

- A competitive dialogue (CD) process would be undertaken to confirm the project requirements set out in the employers' requirements (it was envisaged that 3 bidders would be taken through dialogue).
- A construction delivery partner would be selected based on a submitted target price for design and construction to complete the project through Full Business Case (FBC) submission to handover; and
- Contract engagement would be under NEC4.

The general principles set out above had been adopted on all recent major healthcare projects in Scotland that were not procured using Health Facilities Scotland contractor's framework, whether capital or revenue funded models. This includes the new Dumfries & Galloway Acute Hospital, Royal Hospital for Sick Children Edinburgh and Queen Elizabeth University Hospital.

Construction Market Capacity

The construction market capacity to deliver a major project [redacted] is limited and it was therefore essential that the procurement strategy not only attracted industry and provided a framework for innovation and competitive tension, but also provided opportunities across the supply chain.

In recognising that the initial procurement strategy was selected more than 5 years ago, and acknowledging the increasing volatility in the construction markets capacity and variable appetite for risk, a formal structured market engagement exercise was undertaken in 2020 to gather industry views to validate whether the original strategy remained valid to market conditions. Primarily this was to ensure that the strategy could achieve the key investment objectives for the Project, establish cost certainty and achieve value for money.

Procurement Questionnaire

Market engagement took place in March 2020 whereby under OJEU a Prior Information Notice (PIN) was published seeking feedback from the market on the potential procurement strategy. The PIN issued a procurement questionnaire and there was a return from nine main contractors and three sub-contractors [see **Appendix 11** for the Procurement Market Engagement Report].

Feedback form the market demonstrated it was not supportive of the proposed competitive dialogue model as this carried too much risk given that the initial investment to bid is high, however there was support for a two stage procurement strategy. The market also recommended that NHS Lanarkshire should develop the design to RIBA Stage 3 or even RIBA Stage 4 prior to appointing a main contractor.

Procurement Options

The output from the market engagement helped to identify viable options that the market would support. The development of viable options was tested with Scottish Government, Scottish Futures Trust and NHS Assure Scotland (formerly Health Facilities Scotland) as part of acquiring independent procurement oversight. Further soft market testing was also undertaken with potential main contractors that were considered to have both the

financial covenants and market capacity to undertake this scale of project, to validate the approaches being considered and ensure they would attract interest. Information on options considered are include in the Procurement Strategy Report [see **Appendix 12**].

The selected procurement option, which is set out in proceeding sections, has been further tested with the construction market through a series of engagement sessions undertaken in January 2022, February 2022 and May 2022 which indicated good support.

Procurement Workshop

Prior to preparing the Procurement Strategy Report a review of the previously discounted procurement options considered as part of the initial 2016 procurement review took place. These included use of Hub, National Frameworks (e.g Crown Commercial Services), and Construction Management, and it was considered they remained unviable options to achieve a competitive procurement competition.

Three viable options were therefore taken forward for review and set out in the Procurement Strategy Report. These were:

1. Design, Develop, Construct (DDC)
2. Two Stage Design and Build
3. Hybrid Two Stage Design and Build

A Procurement Strategy Report was issued to inform key stakeholders in advance of a procurement workshop in order to aid the decision making process to select the preferred procurement approach.

Participants at the procurement workshop included the MRP Senior Responsible Officer, MRP Project Director, members of the MRP project team, Lead Advisor and NHS Assure Scotland (formerly Health Facilities Scotland). To provide an added level of scrutiny and challenge to the procurement options and objectivity in establishing the preferred option, the Director of Construction and Capital Programme, University of Glasgow, who is leading a £500 million major capital investment programme, participated in the

workshop. This market experience for delivery of major capital projects was welcome and supported facilitation of a robust debate on the procurement selection process.

The three options that were considered are set out in more detail below:

Design, Develop, Construct (DDC) – utilising competitive dialogue approach: The DDC model was a variant of the original 2016 procurement route and summarised in the Initial Agreement. Rather than developing the design only to RIBA Stage 2/2+ prior to competitive dialogue and bidders developing their RIBA Stage 3 design, the Board exemplar / reference design would be developed to RIBA Stage 3 by the Board lead advisor team. This change follows recommendations from the Queen Elizabeth University Hospital Independent Review that more design work should be done and retained by NHS Boards prior to formally committing to construction contracts and transferring design works to the construction delivery partner. Bidders would be shortlisted from three down to two following a short period of structured competitive dialogue, with two bidders taken through full structured competitive dialogue. This approach results in a significant element of competition being retained until late in the tendering process. The major benefit of this approach is that the price submitted by the winning bidder would provide the Board with cost certainty at point of contract award and would be the commercial framework within which the construction delivery partner must deliver the scheme (Note: Board accepted risks and changes post contract award could affect the accepted final out turn value). The major downside of this route is that following market feedback, it is not favoured by the majority of likely participants and is not attractive to the market. One potential way of guaranteeing participation based on market engagement exercise, it is likely that Board would require to contribute to the unsuccessful tendering organisations significant bid costs.

Two Stage Design and Build: The two-stage design and build route does not provide cost or time certainty until the final point of contract award at the end of the second stage tender process and until the work package market testing process is completed. Effectively, cost and programme risk remain with the Board under this route until conclusion of the second stage market testing process. This approach follows an initial competitive dialogue stage where three tenderers input to the design, logistics and

buildability. At conclusion of this stage along with fees and preliminaries a target cost plan / works cost limit is submitted, and a construction delivery partner appointed to progress to the 2nd stage. As the engagement with bidders commences during RIBA Stage 3 design key building elements such as substructure, frame, and external envelope will have progressed to a stage where meaningful input can be obtained from bidding contractors to inform the developing cost forecast for the works. On initial appointment of the construction delivery partner approximately 20% cost certainty will be achieved. On appointment after the successful first stage tender the construction delivery partner will then conclude the RIBA Stage 3/4 design and tender each of the remaining packages, resulting in a final stage tender for the whole project which should be within the set works cost limit.

Hybrid Two Stage Design and Build: This option is designed to secure early construction delivery partner at the start of RIBA Stage 3 design process and have the appointed construction delivery partner work alongside the Board lead advisor team to develop optimum solutions that can be delivered within an acceptable cost limit and secure the earliest operational end date. This option introduces clear milestones to validate project costs remain on budget and exit points if the appointed construction delivery partner fails to deliver on cost and programme obligations. This approach follows an initial competitive dialogue stage where a maximum of three tenderers input to the design, logistics and buildability. At conclusion of this stage along with fees and preliminaries a target cost plan / works cost limit is submitted, and a construction delivery partner appointed to progress to the second stage. On appointment of the design and delivery partner following a successful first stage competition approximately 20% cost certainty will be achieved. As the construction delivery partner is appointed early in RIBA Stage 3 design, they will input to the design of key building elements such as substructure, frame and external envelope securing optimum solutions that support delivery within budget, optimum construction period and earliest operational date. These designs will then be progressed to a stage where meaningful tender prices can be submitted as part of achieving progressive cost certainty. This provides for further level of cost certainty of approximately 40% being achieved early in the second stage process. Following this interim stage tender period, the construction delivery partner will then conclude the RIBA Stage 3/4 design and tender each of the remaining packages,

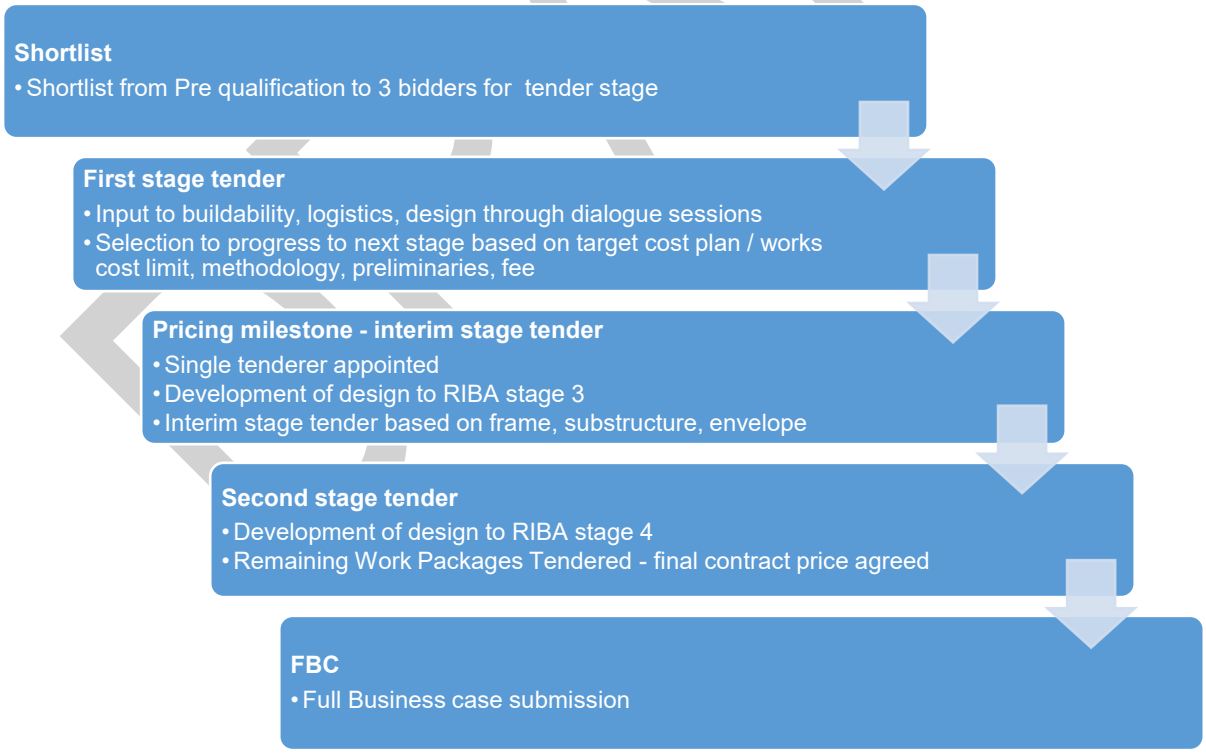
resulting in a final stage tender for the whole project which should be within the set works cost limit.

Recommended Procurement Strategy

The output from the procurement workshop was the recommendation to adopt the Hybrid Two Stage Design and Build procurement approach. The Procurement Workshop Report is included in **Appendix 13**. The recommendation from the Procurement Workshop was approved by the Board of NHS Lanarkshire.

Following an independent review of the project cost and commercial arrangement by NHS Scotland Assure, a recommendation was to undertake a review of the selected procurement strategy. The outcome of this review indicated support for the proposed procurement strategy.

The procurement process to Full Business Case is outlined below:



Shortlisting: this process is now complete and was based on set criteria to down select bidders to arrive at a list of suitable contractors with the correct level of evidenced

experience of major projects, financial standing / covenants for a +£500 million construction project, and approach to delivery of social value.

First Stage Tender: this will include design fees and delivery partner management fees to deliver the Full Business Case design and agreed contract price, design fees to complete the project, construction partner's preliminaries to deliver the works on site. This will achieve approximately 20% cost certainty on award of the contract at end of first stage tender process. The construction delivery partner will also provide an estimated works cost limit to validate the MRP construction budget and support the framework for managing the next stage of the procurement process within budget.

Pricing milestone – interim tender stage: following completion of the design for substructure, frame, and envelope these works will be subject to a market testing process to support increasing the level of cost certainty agreed with the construction delivery partner up to approximately 40%. This interim formal pricing milestone supports progressive build up and agreement of the overall project contract target price, introduces a formal hold point to validate that the project remains on budget (these tendered packages being procured within budget allocation) or address any corrective actions due to poor performance of the construction delivery partner.

Second stage tender: during this stage the design will be completed to RIBA Stage 4 allowing the remaining work packages to be market tested building up the final target price for agreement and inclusion in the Full Business Case.

Full Business Case: on approval of the Full Business Case the target price agreed at the end of the second stage tender process can be formally accepted and the design and delivery contractor instructed to progress with the completion of the design and construction of the new facility.

4.2.2 Contracting Strategy

The form of contract will be the Engineering and Construction Contract (NEC4), with particular amendments. The NEC suite of contracts is a recognised form of contract

within Healthcare sector and promotes the correct engagement ethos on partnering and collaboration.

The pre-construction services will be contracted utilising the NEC4 Professional Services Contract, with main construction works, and any enabling works introduced, contracted utilising NEC4 Engineering & Construction Contract Option C.

The benefits of extended soft landings / maintenance support following successful construction completion will be explored during the competitive dialogue period. Any agreed service will be contracted utilising the NEC4 Term Services Contract.

The contract will include necessary amendments to comply with government policy or recommendations that are current at the time of launching the procurement process for example, cash retention under construction contracts: short life working group final report and recommendations.

The Project will operate a Project Bank Account (PBA), consistent with Scottish Government Guidance for public sector construction projects. A Project Bank Account is a ring-fenced bank account from which prompt payments are made directly and simultaneously to a lead contractor and members of the supply chain. PBA's improve subcontractors' cashflow and ring-fence it from upstream insolvency.

A Trust Agreement will be required to be in place between NHS Lanarkshire and the appointed contractor to operate the PBA. In addition, robust financial governance and contractual arrangements require to be developed to ensure the safeguard of funds and the optimal and efficient delivery of the benefit associated with this arrangement.

The contract will also set out key targets for delivering social values that will be developed with the bidders during the first stage tender process.

4.2.3 European Union Rules and Regulations

The UK has left the EU and the transition period came to an end on 31 December 2020. While this resulted in some technical changes to procurement guidance taking place, the procedures and processes of advertising and awarding public contracts has currently not fundamentally changed.

Whilst public bodies are no longer be required to publish notices in the Official Journal of the European Union (OJEU), the MRP procurement notification will be published on the new UK e-notification system called Find a Tender System (FTS[3]) instead. FTS has been developed to comply with international agreements such as the GPA, which requires relevant procurements in the UK to be advertised through a single point of access available free of charge. To meet this requirement to publish on FTS, the relevant notice of the MRP procurement will be published on the Public Contracts Scotland portal.

4.2.4 Selection Stage

The Contract Notice was published on 13th May 22 via the procurement portal which publishes the notice in the OJEU. The Contract Notice referred to the Prior Information Notice (PIN) which was published in January 2022, so as to link all official procurement documents together. It was accompanied by several procurement documents, including:

- A Pre-qualification questionnaire (for completion by interested parties see below).
- Memorandum of Information (MoI) describing the procurement strategy and next steps in the process.

Following issue of Contract Notice, a Project presentation led by the Lead Advisor, Currie & Brown, was delivered to interested parties via an anonymised TEAMS event on 26th May 2022. Anonymity was maintained throughout to preserve commercial confidence. Attendees were able to post questions throughout the event. The presentation and the Q&A were added to the Contract Notice on the portal so that any interested parties not attending the presentation had equal access to this information.

Formal responses to the Contract Notice from interested parties were received on the 13th June 2022.

An evaluation team was established to evaluate and score the responses received to the Contract Notice. Formal evaluation took place on the 23rd June 2022. The evaluation team comprised the following: MRP Procurement Manager (Facilitator); MRP Project Director (scorer); MRP Senior Project Manager (scorer); Lead Advisor Director (scorer); and Ernst and Young Advisors, (scorers for the financial section). In addition, a representative from the Legal Advisor team was available for advice throughout the evaluation process as required.

The outcome of the evaluation process was accepted by NHS Lanarkshire and letters were issued to all participating parties informing them of this outcome.

4.2.5 Procurement Timetable

As early contractor involvement is a key part of the procurement strategy and elements of the design works will be progressing through RIBA Stage 3 in advance of the OBC submission, the procurement process was initiated to allow align appointment of the preferred construction delivery partner to follow soon after OBC approval.

The key Project milestones are set out in **Table C1** below.

Master Programme	
Activity	**Key Milestones**
Outline Business Case	
Stage 2 Design Complete	September 2022
Planning Submission	January 2023
Key Stage Assurance Review Complete	November 2022
NHSL Board OBC Submission Approval	November 2022
SGHSCD CIG Meeting	January 2023
OBC Approval (provisional)	January/February 2023
First Stage Tender Contract Award	May 2023
Planning Determination	July 2023
Full Business Case	

Commence RIBA Stage 3/4 Design	November 2023
Complete RIBA Stage 3/4 Design for tender	February 2024
Second Stage Tender Commences	Q1 2024
Finalise Second Stage Tender	Q2 2024
KSAR FBC Approval	Q3 2024
FBC Approval	Q3 2024
Stage 4	
Groundworks	Q1 2025
Construction Start - Main Works	Q1 2026
Construction Completion - Main Works	2030
Clinical Commissioning	2030
Bring into Operation	Q2 2031

[Table C1]: Key Project Programme Milestones

4.2.6 Advisors

Several advisor appointments have been made under which the range of services necessary to develop NHS Lanarkshire's requirements, support procurement of the main construction delivery partner, and manage the construction contract and quality during construction phase are provided.

The Healthcare Planning is a separate appointment that was procured utilising Health Facilities Scotland Healthcare Planning Framework and was confirmed in September 2017.

- The Lead Advisor team was selected following a Public Contract Scotland compliant procurement competition with the initial notice advertised 29/11/2017 and appointment confirmed in May 2018.
- Legal Advisors were appointed directly by NHS Lanarkshire in January 2022 providing procurement, contract and other relevant legal advice.
- Financial Advisors were appointed to advise on the commercial aspects of procurement.

The advisors set out above and other organisations working as sub-consultants to the Lead Advisor, are outlined in **[Table C2].**

Services	Organisation
Healthcare Planning	Buchan Associates
Legal Advisor	MacRoberts
Financial Advisor	Ernst & Young
Lead Advisor	Currie & Brown
Project Manager	Currie & Brown
Cost Manager	Currie & Brown
Principle Designer / Health & Safety Advisor	Currie & Brown
Sub-consultants	
• Architect	Keppie Design
• Landscape Architect	Keppie Design / Simon Hirst
• Building Services Design / Sustainability	TUV SUD/Wallace Whittle
• Structural / Civil / Geotechnical Engineering	WSP
• Fire Engineering	WSP
• Ecology	WSP

[Table C2]: Appointed External Advisors

4.3 Scope and Content of Proposed Commercial Arrangements

The purpose of this section is to specify the scope and content of the proposed works/services included within the proposed commercial arrangements.

4.3.1 Scope of Works/Services

Healthcare Planning

The scope of this appointment involves support to develop the clinical model for the new facility and establish the schedule of accommodation and departmental adjacencies in accordance with guidance and best practice. The outputs from the healthcare planner inform the development of the design of the building layout.

The healthcare planner has been involved with clinical output specification development, 1:500 department adjacency planning, 1:200 departmental layouts and 1:50 repeatable

room development supporting clinicians to challenge and develop solutions that meet the clinical model for healthcare services delivery. They have also supported the clinical team develop a room use matrix that recognises clinical delivery is evolving and work practices require procedures to be undertaken in different room settings than was previously considered. These processes have necessitated a full review of ventilation strategies for each room to validate suitable for the required room use function.

The service quality and performance standards are being managed in line with the Heath Facilities Scotland framework arrangements.

Lead Advisor

The scope of this appointment includes the required project management, cost management and design deliverables to develop the design to achieve an OBC solution that meets the clinical brief and schedule of accommodation, addresses the site constraints, and overall represents value for money.

The project management led multi-disciplinary team have delivered the technical outputs required for the OBC which includes the RIBA Stage 2 design, NDAP engagement and interface with NHS Assure Scotland to achieve the design proposals sign off required for OBC.

The NHS Assure Scotland process has a comprehensive list of deliverables for OBC and the MRP project team, and Lead Advisor team have been fully engaging with NHS Assure Scotland throughout the design process in order that the NHS Assure Key Stage Review (KSAR) Authorisation can be achieved.

The Lead Advisor is also engaged to support the Board with a range of project management, commercial management, design, and technical services throughout development of the Full Business Case (FBC), construction, and handover of the completed facilities. This includes further development if the design through RIBA Stage 3 and 4 and design reviews following transfer of design responsibility to the appointed construction delivery partner.

The Lead Advisor appointment has authorisation gateways to move forward to the next development stage that are aligned to the OBC and FBC approval process. The appointment is based on NEC3 Professional Services Contract and has key activities setting quality and performance standards to aid management of the contract.

Construction Delivery Partner

The construction delivery partner will provide early-stage construction advice during RIBA Stage 3 and 4 design, and thereafter be responsible for completion of detailed design and construction of the facilities. A detailed Scope document will be developed during the detailed design process building on the technical, SHTM (and other applicable guidance) requirements and setting the design and build standards to be complied with. This Scope document will provide the framework for managing and monitoring compliance during construction.

NHS Lanarkshire will procure an NEC4 Supervisor and Clerk of Works separately in order to monitor and validate the construction stage compliance with the Scope requirement and quality standards. All Facilities Management (FM) services, maintenance and lifecycle (including soft FM such as domestic, catering, portering and external grounds maintenance) will also be provided by NHS Lanarkshire. The construction delivery partner will support the Board during an extended soft landings period as it embeds into the new operational and maintenance requirements of the new facility.

Responsibility for procurement of equipment is as follows:

- Group 1 items of equipment, which are generally large items of permanently installed plant or equipment, will be supplied and installed by the construction delivery partner and maintained and replaced by NHS Lanarkshire.
- Group 2 items of equipment, which require to be fixed to the building structure, will be supplied by NHS Lanarskhire, installed by the construction delivery partner and maintained by NHS Lanarskhire.
- Group 3 - 4 items of equipment are supplied, installed, maintained and replaced by NHS Lanarkshire.

4.3.2 Project Information

Table C3 provides a checklist of Project information requirements at this stage of the Project's development.

Design Information Requirements	Confirmation that information is available (Yes, No, n/a)
Site Feasibility Studies or Masterplan (≥ 1:1000).	Yes. Completed as part of site options analysis.
Analysis of site option(s) (≥ 1:500, plus 3Ds).	Yes. Completed as part of site options analysis.
List of relevant design guidance to be followed – NHSScotland Technical Standards, HBNs, HTMs, HFNs, including a schedule of any key derogations.	Yes. Available as part of NHS Lanarkshire project brief development, and NDAP and NHS Assure engagement.
Evidence that Activity Data Base (ADB) use is fully utilised.	Yes. Using ADB as a project delivery tool, using ADB codes for production of Room Data Sheets (RDS) and equipment lists.
Geometric models. Proprietary 3D Building Information Modelling (BIM) Requirements with 2D pdf's cut from the models to the above noted levels of definition/scales	Yes. BIM ISO 19560 Maturity Level Stage 2. The Exchange Information Requirements (EIR) and BIM Execution Plan are in place. Refer to section [4.3.6]
Design Statement, with any updates in benchmarks highlighted	Yes. Design Statement is in place and being used to inform the design as part of the NDAP Process.
Evidence of completion of self-assessment on design in line with the procedures set out in the Design Statement	Yes. Assessment using AEDET reviews. Baseline, Target and OBC assessments completed.
Completed AEDET review at current stage	Refer to section [4.3.7].

of design development	
Evidence of Local Authority Planning consultation on their approach to site development and alignment with Local Development Plan	Yes. Monthly meetings have been held with NHS Lanarkshire Planning leads since December 2020. A Planning Application Notice was published on 4th February 2022 with public consultation events held online on 17th and 19th March 2022. Public feedback has been reviewed and will be incorporated where applicable in the formal planning application. The timing of the formal planning application and content is being discussed with North Lanarkshire Council.
Risk Register detailing benefits and risks analysis	Refer to section 6.4 and **Appendix 23**.
Sustainable Design & Construction Guide	Yes
Evidence that relevant Disability Discrimination Act (DDA), dementia, health promotion and equality commitments are incorporated	Yes. Outlined in Project Brief. A dementia and anti-ligature risk assessment is to be completed to inform the detailed design phase.
Developed brief	Yes. Project Brief developed including SOA, Room Data Sheets, Design Statement and clinical briefs.
Outline design study should be co-ordinated and include relevant multi-disciplinary input, including but not limited to: architecture, building services, structural, fire, landscape design concepts; including diagrams and sketches demonstrating the key proposals to assess alignment with brief	OBC designs to RIBA Stage 2, reviewed by Project Team and its advisors, and assessed as part of NDAP. Refer to [4.3.5]. A 'supported' NDAP statement is available.

Design review by NHS Scotland Assure to verify compliance and acceptable derogations from current published HFS guidance and standards.	OBC designs to RIBA Stage 2, reviewed by Project Team and its advisors and assessed as part of NHS Scotland Assure OBC Key Stage Assurance Review process. Refer to [4.3.5]. A 'supported' NHS Assure statement is available.

[Table C3]: Project Information

4.3.3 Design Quality Objectives

The option appraisal analysis has demonstrated that the preferred option is:

- Option D: new build on new site

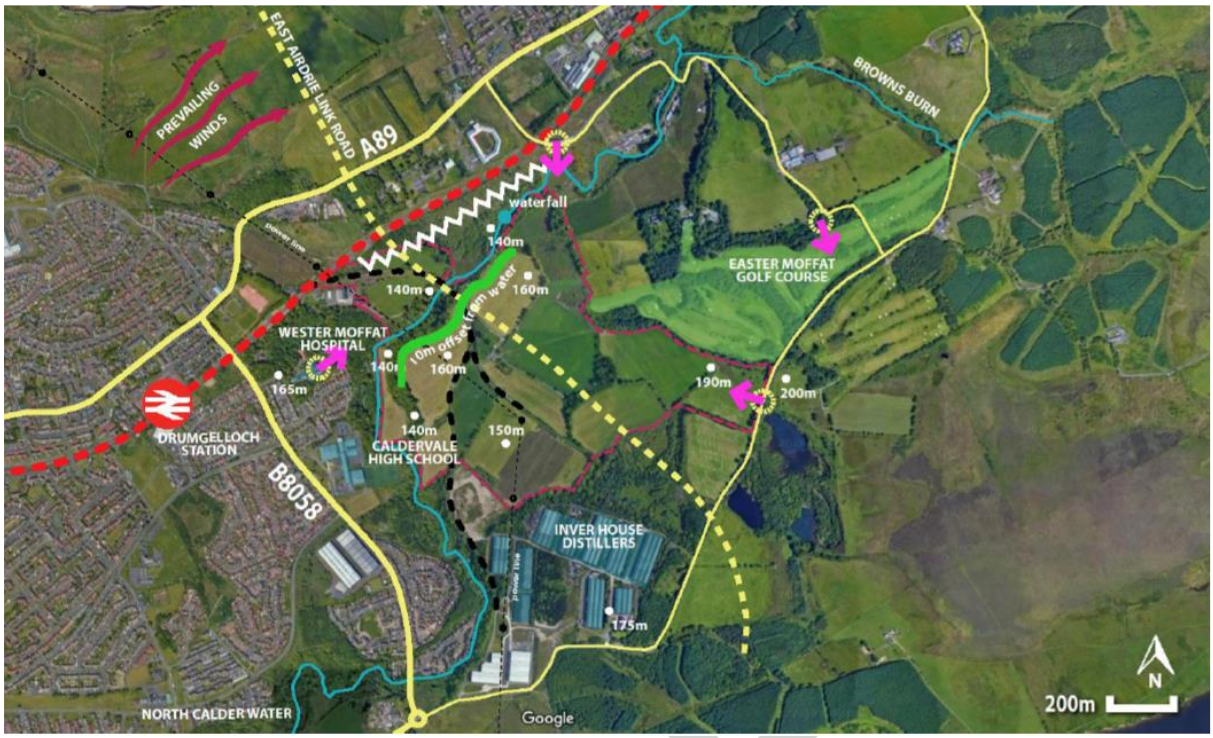
The supplementary site location options appraisal analysis has resulted in the preferred site option being:

- Option D: new build on Wester Moffat site

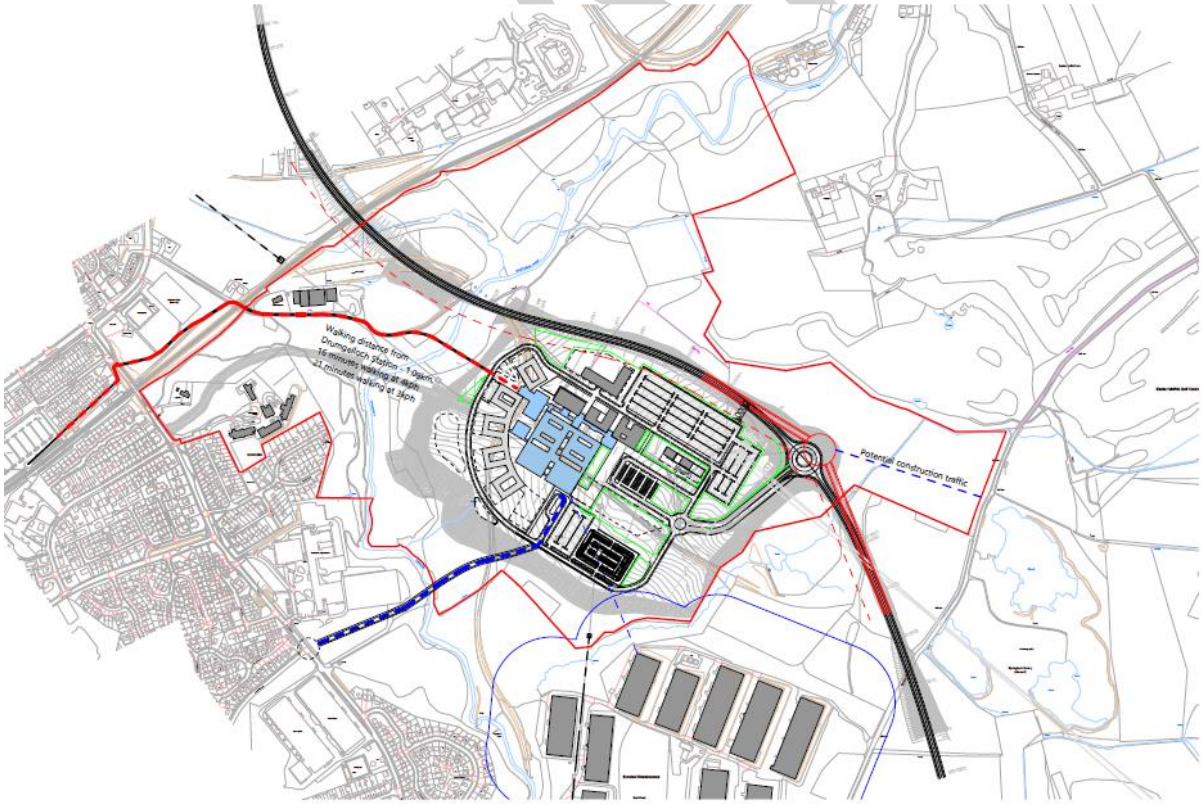
A specific Wester Moffat site options appraisal analysis has resulted in the preferred option for location within the site being:

- Option D: west location, wards facing wooded area to North West.

The Wester Moffat site is greenbelt and is currently utilised as farmland. There is evidence of a historic railway running through part of the site and the natural topography has resulted in both challenges and opportunities for the development of the site-specific layout plan that achieves the clinical model adjacency requirements.



[Figure C1]: The Wester Moffat Site



[Figure C2]: The Proposed Site Plan

The estimated Gross Internal Floor Area (GIFA) for the new facility is **128,699m²**. The new facility provides accommodation to relocate clinical services provided within the existing University Hospital Monklands (UHM) building and the re-provision of elective orthopaedics from Hairmyres.

To meet the net zero aspirations for the facility, significant plant space is required to provide space the required "all electric" engineering solutions. This has driven the need for an approximate 8,000m^2 energy centre and roof space plant room across the majority of the building footprint.

External landscaping is being incorporated to create a sense of place and pleasant environment.

A Multi storey car park and surface car parking is required to meet the anticipated car parking requirements.

4.3.4 NHSScotland Design Assessment Process (NDAP)

The purpose of the NHSScotland Design Assessment Process (NDAP) aims to promote design quality and service. It does this by mapping design standards to the key investment deliverables, including Scottish Government (SG) objectives and expectations for public investment, then demonstrating their delivery via self, and independent, assessments.

The Project Team have had regular dialogue with Architecture Design Scotland (A+DS) and NHS Scotland Assure (formerly Health Facilities Scotland) since the Initial Agreement (IA) stage of the Project. During this early stage of the Project, A+DS colleagues facilitated the development of a Design Statement for the development. This information has formed part of the design brief since the outset of the Project.

During the OBC stage of the Project, the Project Team has worked with A+DS, NHS Scotland Assure, and the Lead Advisor team to participate in the design assessment process as outlined in the Scottish Capital Investment Manual (SCIM) Guidance.

Due to the complex nature of the Project the Project Team, and prolonged process to confimr the preferred site, it was agreed with NHS Scotland Assure and A+DS that the OBC NDAP should commence as early as was practical after confirmation of the selected site to establish key design principles, seeking to avoid the need for redesign later in the process. The process commenced in May 2020 with a meeting involving both A+DS and NHS Scotland Assure where key design principles were agreed to inform the design process for the outset. Follow up workshops were held on the following dates to respond to points raised by the NDAP review team.

- 14 May 2021;
- 19 August 2021;
- 22 March 2022 (combined workshop and site visit);
- 20 May 2022; and
- 6 September 2022

On 6 October 2022 A+DS and NHS Scotland Assure completed an assessment involving the Project Team. The Project achieved a ‘supported’ status.

4.3.5 NHS Assure Scotland Key Stage Assurance Review

The NHS Assure Scotland Key Stage Assurance Review (KSAR) process is new and the full list of deliverables necessary for OBC KSAR were provided to the MRP team in June 2021.

As the MRP was identified as a Next Zero Carbon (NZC) Pathfinder project in May 2021 a meeting was held with NHS Assure in July 2021 to review the NZC requirements, the energy strategy necessary to meet NZC aspirations and clarify level of information to meet the NHS Assure KSAR. There were also follow up meetings through August, with the final meeting on 9th September 2021 to fully clarify and agree the KSAR list of deliverables and level of expectation for design completion for Building Engineering Systems.

The Building Engineering Services design strategy and energy modelling commenced in September and the NHS Assure team have been engaged in workshops with the Board and lead advisor team to provide comment, opinion and input to the emerging design solution [see **Appendix 14** for list of workshops and NHS Assure engagement]. A copy of the 'supported' KSAR report is available.

4.3.6 Building Information Modelling Requirements

Digital, data and technology will be vital to creating a smart and resilient new facility and supporting not just the construction of the new facility but also its operation and service delivery. The MRP offers a unique opportunity to create a modern digitalised hospital in parallel with its physical twin where the value of data can be maximised to create positive impact across the lifecycle and indeed benefit the wider Lanarkshire community.

Building Information Modelling (BIM) is planned to support the Project in achieving more efficient ways of briefing, procuring, creating and maintaining its associated physical built assets (buildings, infrastructure and public realms) throughout its entire lifecycle. The as-built information models will form a digital representation of the physical and functional characteristics of the completed hospital and its grounds.

A BIM Strategy for the project has been developed, and the Exchange Information Requirements (EIR's) and BIM Execution Plan documents have been produced. The EIR document for the Project has been prepared in accordance with the UK BIM Framework and ISO 19650 series and complies with the suite of documents for NHS Scotland BIM projects.

Project Information Requirements (PIR's) have defined and requested as part of the EIR's. The EIR provides an effective platform to communicate NHS Lanarkshire's requirements as part of a Lead Advisor service and the contractor procurement/ appointment process.

The EIR sets out to the Appointed Party, the required level of Information Need (WHAT), described in terms of geometry (levels of detail) and information requirements (levels of

information), the means of information exchange (HOW), and the key delivery stages (WHEN) aligned to SCIM and overall project programmes.

The BIM execution plan (BEP) explains how the information management aspects of the requirements will be carried out by the delivery team. Both the project EIR and the responding BIM execution plan align and ensure conformity with the NHS Scotland BIM strategy.

4.3.7 Achieving Excellence Design Evaluations Toolkit (AEDET)

In accordance with SCIM guidance, the Achieving Excellence Design Evaluation Toolkit (AEDET – HFS Refresh December 2014) is being used throughout the development of the Project to help NHS Lanarkshire evaluate design from the initial proposals through to the detailed design and project evaluation.

The AEDET toolkit has three key dimensions (functionality, build quality and impact) and outlines 10 assessment criteria. Each of the 10 areas is assessed using a series of questions which are scored on a scale of 1 - 6.

At IA stage the AEDET was used to determine a benchmark score for the existing University Hospital Monklands. This was done through a multi-stakeholder workshop carried out on the 16th May 2016. The summary scores are shown in **Table C4** below and demonstrate that the existing facility scored poorly in all 10 categories.

A second AEDET workshop took place on the 16th November 2016 to set the target scores for the new hospital, providing a measure against which to assess progress on the quality of design at each stage. The AEDET guidance suggests that a minimum target score of 3.0 for any section. The target scored for this Project have been set significantly higher than this baseline [see **Table C4**]

On 26th April 2022, an AEDET workshop was held to review the OBC RIBA Stage 2 design against the agreed target scores. This workshop was facilitated by NHS Scotland Assure and had a diverse attendance including clinicians, NHS Lanarkshire

stakeholders, public/patient representatives, Project Team and the Lead Advisor team. The OBC AEDET summary scores are also included in **Table C4** for a progress comparison.

The majority of sections were discussed and scored during the workshop, with the exception of the construction section which could not be scored at this time. The outcome of the AEDET workshop at OBC RIBA Stage 2 showed progress towards achieving or exceeding the target scores identified at IA stage

The next AEDET assessments will be undertaken at FBC stage.

Category	Benchmark	Target	OBC
Use	1.1	4.4	4.5
Access	1.8	4.1	3.5
Space	2.0	4.4	4.2
Performance	1.8	4.4	2.9
Engineering	2.3	3.3	2.8
Construction	2.0	3.5	0.0
Character and Innovation	1.9	4.1	4.4
Form and Materials	1.8	4.3	3.0
Staff and Patient Environment	1.3	4.3	4.1
Urban and Social Integration	2.7	4.1	4.4

[Table C4]: The MRP AEDET Scores

4.3.8 Sustainability

The Energy Efficient Scotland Route Map requires public sector buildings to be zero carbon by 2050 and the Scottish Government has also called a Climate Emergency, committing to become a net zero carbon economy by 2045.

The Net Zero Carbon Public Sector Buildings (NZCPSB) standard ("the Standard") is a new voluntary standard which has been developed by Scottish Government to support

the Public Sector in setting ambitious targets to achieve net zero outcomes for new buildings and major refurbishments. The Standard supports a challenging, credible path to net zero carbon materials and energy supplies for all non-domestic buildings. By 2045, projects that adopt the Standard will achieve zero embodied carbon during construction and subsequently the whole life of projects, including operational energy. To achieve this, the Standard recommends that the principles are included from the very early stages of the project, with a commitment to a net zero building at strategic application stage.

NHS Lanarkshire is committed to delivering world-leading, high quality innovative health and social care that is person-centred, supporting Scottish Government's five strategic objectives of a Scotland that is "Wealthier and Fairer, Smarter, Healthier, Safer and Stronger, and Greener".

NHS Lanarkshire aspire to deliver a sustainable design for the new Hospital, one which seeks to reduce negative impacts on the environment and improve the health and comfort of all building occupants.

Specific project commitments include:

- NHS fleet will require access to EV charging points. The provision of more widely available public charging is under discussion and a national strategy is in development;
- It is not acceptable for any new builds to have the same carbon footprint / energy benchmarks (kWh/m2) as the current estate;
- Value for money makes most sense in health terms when considered as the long-term value to be gained from careful investment in the right areas;
- All options considered must assist NHS Scotland meet the agreed targets dates; and
- An early stage life cycle costing analysis will ensure that whole life value is considered and any LCZ options are not ruled out on the basis of a high capital cost at design stage.

The Net Zero Carbon Public Sector Buildings (NZCPSB) standard ("the Standard") covers net zero requirements across 6 Objectives which cover Place (1), Carbon (2-4) and Environment (5-6).

Objective 1 – Inclusive NZ Economy Outcomes

This objective sets out the Place Based approach requirements to set out and prove the wider inclusive net zero economy benefits of a project. In line with the Scottish Government's Infrastructure Investment Plan 2021 – 2025, the Objective seeks to ensure that the project appropriately applies Place Based principles in the engagement of all necessary Public Sector organisations in the investment decisions and briefing documents of any new build project.

Objective 2 – Construction Embodied Carbon

Objective 2 aims to reduce the embodied carbon to practical completion impact of the project, requiring the use of Life Cycle Assessment (LCA) to assess the Product Stage and Construction Process Stage environmental impacts. In support of best practice waste minimisation, the Objective also considers how circular economy principles have been applied during the design and delivery stages. This Objective further sets out the embodied carbon to practical completion target that must be met in order for a project to be 'Standard compliant'.

Objective 3 – Operational Energy Carbon

Objective 3 covers the operational energy performance of a project. The intention of the Standard is to drive a step change in energy performance of new and major refurbishment projects, whilst supporting the closure of the 'energy performance gap' between building design intent and operational delivery.

Objective 4 – Whole Life Carbon

Objective 4 requires a whole life approach to carbon, recognising that many of the design decisions and product specifications that are made during the early stages will influence the carbon impact at every stage of the building life cycle and beyond, as shown in Figure 4. This requires

objectives to be identified that encourage a Whole Life Carbon (WLC) reduction over the project life cycle.
At this time the Standard is not requiring a specific WLC target to be met, however for a project to be 'Standard compliant' a Life Cycle Assessment (LCA) is required to demonstrate that the established WLC objectives have been achieved.
This Objective further sets out the requirement for circular economy principles to be applied, avoiding waste and optimising materials use.

Objective 5 – Indoor Environmental Quality
Objective 5 requires the project to apply current best practice in respect to Indoor Environmental Quality (IEQ). A balance of IEQ and NZC design is necessary to ensure that the project delivers spaces which are healthy and promote wellbeing and productivity.

Objective 6 – Other Aspects
The last Objective of the Standard allows projects to use the target setting, monitoring and verification regime of Standard with other environmental aspects of project-specific priority to NHSL, the Local Authority area and Scottish Government, for example green infrastructure, biodiversity, landscaping, flood risk management, climate change adaptation and resilience, health and wellbeing and active travel.

4.3.9 Mindful Security

Mindful Security is a core component of the Building Information Management (BIM) Framework where BS EN ISO19560-5:2020 specification for security-minded building information modelling; digital built environments; and smart asset management is a required standard.

The standard outlines the cyber-security vulnerabilities to hostile attack when using BIM and provides an assessment process to determine the levels of cyber-security for BIM collaboration that should be applied during all phases of the site and building lifecycle.

The standard addresses the steps required to create and cultivate an appropriate security mind-set and secure culture within an organisation or project, including the need to monitor and audit compliance.
Mindful security will enable the MRP to identify and implement appropriate and proportionate measures to reduce the risk of loss or disclosure of information which could impact on the safety and security of the built asset and its associated people (staff, patient's relatives).

The sensitivity assessment (triage) process aligned with BS EN ISO19560-5:2020 was carried out by a core group for MRP on 9th March 2021. This identified a security Triage (ST) outcome of ST1 meaning "protect sensitive information regarding initiative, project, asset, product or service as well as third-party sensitive information by applying Clause 5 to Clause 9" set out the standard. Essentially this confirmed that MRP must take a formal approach to mindful security to be compliant and this will be audited for best practice.

In addition, in terms of Security Considerations Assessment (SCA) MRP are applying APPENDIX B - Design, manufacture and construction of a new built asset to audit against ISO19650-5. A SCA auditor has been appointed through the Lead Advisor team and will carry out a minimum of 5 audits aligned with key project stages.

An Information Management Security Lead has been identified within the Project for OBC stage, supported by the formation of a core group with the combined skills and knowledge to satisfy the requirements of ISO19650-5 listed in clause 5.1.3 and the short term appointment of an external consultant (AECOM) to support development of the Built Asset Security Strategy and responding Security Management Plan.

4.3.10 Digital Strategy

The MRP provides an opportunity to create a hospital fit for the challenges of the 2020's and beyond, using modern digital technology to assist in clinical, operational and building excellence.

This digital hospital can be defined as one that will apply Information, Management & Technology (IM&T) to all aspects of care delivery. This will assist the clinical workforce in delivering safe and high quality care within a 100% single room environment, whilst also supporting new ways of working that promote staff health and wellbeing, create an enhanced patient experience and maximise efficiencies to reduce reliance on additional workforce. Additionally, this will enhance existing roles and reduce duplication of work therefore releasing more time for patient care.

A digital hospital vision has been developed for the Project by a core sub-group involving a range of key stakeholders including clinicians, facilities management, eHealth (IT), site management and the project team. This vision has been developed to closely align with NHS Lanarkshire's overarching Digital Strategy 2019-2026 and the emerging strategy refresh 2022-2026.

This digital hospital will aim to release the following key benefits:

- Clinical Quality
- Better access to services
- High quality, safe patient care
- Improved outcomes
- Reduced lengths of stay
- Better patient experience
- Decision support
- Operational Efficiency
- Situational awareness
- Flow optimisation
- Whole system approach (connecting acute and community care teams)
- Higher productivity
- Staff satisfaction, safety & well being
- Intelligent Buildings
- Safer
- Smarter
- Sustainable

- The core characteristics of this digital hospital are categorised as:
- Accessibility & Automation
- Mobilisation & Connectivity
- Patient Empowerment
- Integration, Interoperability & Efficiency

A core group has been formed to progress the Digital Strategy Risk Allocation.

4.3.11 Key Principles

The key principle is that risk has been allocated to the party best able to manage it, with the objective to optimally allocate risk. This will be achieved commercially during the construction stage by the identification of employer risks in the construction delivery partner contract and by the allocation of the costed risks between the employer and the construction delivery partner.

A Risk Register, set out in **Appendix 23** has been prepared and maintained during OBC development. This sets out the owner and manager for each risk. The Management Case set out more detail on the Projects approach to risk management.

The risk allocation shown in **Table C5** indicates the anticipated high level allocation of commercial risk between the parties at contact agreement with the appointed construction delivery partner. This is shown as percentage allocation.

4.3.12 Risk Allocation Table

Risk Category	Potential allocation of risk		
	NHS	Contractor	Shared
Construction inflation to Full Business Case	X		
Construction inflation during construction			X
Ground conditions			X
Changes in building technical standards/legislation	X		
Changes in SHTM's	X		
Design programme to Full Business Case	X		
Securing planning permission	X		
Full Business Case KSAR approval	X		
Construction stage KSAR approval			X
Pylons relocation	X		
Delivery to agreed construction programme		X	
Delivery within agreed target price			X
Financial risk above agreed maximum price payable		X	
Achieving construction stage building warrant approvals		X	
Interface with East Airdrie Link Road construction			X
Completion of design after Full Business Case approval to meet construction programme		X	
Completed construction works to required quality standards		X	

[Table C5]: Risk Allocation

4.4 Payment Structure

The construction delivery partner (CPD) will be appointed under an NEC4 Professional Services Agreement either of an Option A Fixed Price or Option C Target Price contract for the initial services required to support the MRP team through to submission of the FBC.

An NEC4 Option C Target Price contract will also be utilised for the main works and any agreed enabling works which has been specifically structured to provide a more predictable cash flow for NHS Lanarkshire. The agreed Target Price will be based on a submitted Activity Schedule. Under an NEC4 Option C Target Price contract NHS Lanarkshire will only pay the actual cost incurred by the CDP only up to the accepted Target Price ceiling, plus any agreed changes during the construction stage. Any cost beyond this is borne by CDP.

The CDP pre-construction stage payments are linked to milestone achievement to incentivise the CDP to maintain programme and overall estimated costs of the contract within acceptable thresholds.

The CDP Target Price for construction is jointly developed on an 'Open Book' basis during the second stage tender process. The CDP is paid Defined Cost plus Fee Percentage (i.e. actual cost of labour, plant, materials and sub-contract work plus a fixed percentage for overhead and profit) but only up to the ceiling price of the
Target Price. If savings are generated against the Target Price then these are shared between NHS Lanarkshire and the CDP. If prices exceed Target Price here will also be a share of any overspend up to an agreed maximum price beyond which the CDP will take 100% of the financial pain. The share ranges will be subject to discussion during the competitive dialogue procurement period.

The Board will pay for the construction of the facilities by way of regular payments as the construction work proceeds.

4.4.1 Risk Contingency Management

The general risk management process and high level allocation is noted in **Table C5.** A full Project Risk Register has been developed and the risk contingency will be managed under the Compensation Event (CE) process noted in Section 4.5.2. This involves the Project Manager or CDP raising early warnings of potential risks then addressed at the risk reduction meetings.

4.4.2 Contract Variations

As noted, the CDP is to be procured utilising the NEC4 form of contract which manages contract variations by means of compensation events.
The major benefit of this process is that variations are dealt with as soon as they become apparent and are costed and agreed as they arise. The compensation event process enables any variations or employer's risk items which transpire to be reflected in an adjustment to the Target Price and/or an adjustment to the programme reflecting the impact of the variation.

4.4.3 Disputed Payments

The NEC4 form of contract has processes to manage disputed payments and CDP applications for payment may have disallowed costs which are monitored by the project manager at each monthly assessment to ensure that only payments due and fully accounted for are passed.

4.4.4 Payment Indexation

The construction inflation risk is held by the CDP for the Preconstruction Services Agreement period. Inflation indexation for the Main Works that will be developed during the PCSA period will be agreed during Competitive Dialogue period and during Target Price development.

4.4.5 Utilities and Service Connection Charges

As the Project is publicly funded, utilities and service connection charges are paid by NHS Lanarkshire as part of the contract.

4.4.6 Performance Incentives

The proposed NEC4 contract will have a pain/gain incentivisation model as detailed earlier in section 4.5.

4.5 Contractual Arrangements

This section outlines the contractual arrangements for the procurement, including the use of a particular contract, the key contractual issues for the commercial deal and any personnel implications.

4.5.1 Type of Contract

This procurement is structured around several separate contracts intended for a single preferred contractor. These contracts reflect the phases of work that will be undertaken.

The contracting strategy has been proposed by MacRoberts LLP, the Projects legal advisors, and is considered as the most appropriate route to align with the procurement strategy.

- The CDP will be appointed for the pre-construction services up to submission of the Full Business Case (end of RIBA stage 4) under an NEC4, Option C Professional Services Contract.
- The CPD will be appointed appointment for the main construction works and any enabling work packages under an NEC4, Option C, Target Price with Activity Schedule.
- Any agreed extended period of soft landings / maintenance support after completion of the main construction works and handover of the facility to NHS Lanarkshire will be undertaken utilising the NEC4 Term Services Contract.

The Lead Advisor (providing project management, cost advisor)) and Health Care Planners have all been appointed to the Project on a NEC3 Contract Option C Target Price.

4.5.2 Key Contractual Issues

A number of Project specific Z clauses based on lessons learned from other major acute healthcare developments will be developed to provide the required balance between protection of NHS Lanarkshire and attraction of CDP's to bid for the project. The Z clauses are likely to relate to:

- sectional completion
- defects liability
- gain share
- retention
- Project Bank Account
- Insurance arrangements
- Limitation of liability

4.5.3 Personnel Implications

There are no employees who are wholly or substantially employed on services that will be transferred to the private sector under the proposals for this Project, and therefore the Transfer of Undertakings (Protection of Employment) Regulations 1981 (TUPE) will not apply.

4.5.4 Key Commercial Risks

The Risk Register is included as **Appendix 23.** It outlines the current risks being managed by the Project Team. The Risk Register is dynamic and is reviewed and updated regularly by a dedicated Risk Management sub-group [see Management Case].

There are a number of key risks currently being actively managed by NHS Lanarkshire and wider Project Team. These risks are assessed as high, medium and low risk and

the possible financial impact of the risks outlined in the Risk Register have been included in the costed Risk Register included as **Appendix 15**. Risk provision has been included in the cost plan presented in this OBC.

5. Financial Case

5.1 Introduction

The purpose of the Financial Case within this Outline Business Case (OBC) is to demonstrate the overall affordability of the preferred option, both in the context of NHS Lanarkshire's financial plans and in comparison to the short-listed service solution options. The case does this by:

- Setting out financial model for the Project,
- Reviewing the revenue and capital implications of the Project,
- Setting out a statement on overall affordability,
- Confirming stakeholder support.

The preferred option confirmed during the options appraisal exercise was Option D - New Build at a New Site [see Economic Case]. Following a rigorous site selection process, the preferred site has since been confirmed as Wester Moffat. This site was formally accepted as the preferred option by the Cabinet Secretary for Health & Sport in January 2021.

The Wester Moffat Site, a former farm land site, was purchased by NHS Lanarkshire for this development in 2021/22 with funds provided by the Scottish Government. A new primary access road that will service the new facility, will be delivered by North Lanarkshire Council (NLC) through their planned East Airdrie Link Road (EALR) scheme.

An MRP and EALR Project Interface Board (PIB) has been established between NHS Lanarkshire and NLC to provide the required degree of oversight and coordination required between the two projects.

The capital investment required to deliver the Project is summarised in **Table F1** below.

	Total OBC £000's
Construction Costs	[redacted]
Fees Design Team	[redacted]
Roads and Other Enabling Works Costs	[redacted]
Equipment and Furnishings	[redacted]
Decant Costs	[redacted]
Inflation	[redacted]
Risk	[redacted]
VAT	[redacted]
Total MRP Capital Costs	[redacted]
Sources of Funding	
SG Additional Capital Funding	[redacted]
Total Sources of Funding	[redacted]

[Table F1]: Summary of Initial Capital Investment

The investment required to deliver the new facility on the acquired Wester Moffat site is [redacted]. This includes the cost of equipping the new facility, project development costs, construction inflation costs, risk and VAT.

[redacted]

Approval to proceed with the preferred option as specified will be conditional upon confirmation from the Scottish Government that capital funding [redacted] can be made available to support the Project.

Item	Cost Impact £000's
Changes to model of care / clinical strategy including elective orthopaedics/ demographics & epidemiology data forecasts from IA baseline and assumptions (inclusive of inflation to 2022)	[redacted]
Site specific development constraints not known at IA stage – earthworks, mine workings, site access, pylon relocation, East Airdrie Link Road alignment changes (inclusive of inflation to 2022)	[redacted]
Fire strategy changes – requirement for sprinklers to all areas above minimum building technical standards / Firecode requirements (inclusive of inflation to 2022)	[redacted]
Net Zero Carbon Pathfinder Project – all electric hospital and achieve embodied carbon targets (inclusive of inflation to 2022)	[redacted]
Technical guidance changes – implications of new SHTM0 3-01 Ventilation for healthcare premises (inclusive of inflation to 2022)	[redacted]
Inflation impact– programme delay due to site selection process delays (2022 pricing level)	[redacted]
Inflation – UK & Global Economy; war in Ukraine, energy prices, CPI etc. all impacting construction costs; baseline cost estimate base date Q4 2022	[redacted]
Inflation – UK & Global Economy; war in Ukraine, energy prices, CPI etc. all impacting construction costs; future inflation costs beyond IA assumed annual inflation allowances	[redacted]
Reassessment of Risk / OB	[redacted]

[Table F2]: Changes in Capital Cost Estimates

The recurring revenue implications in the first full year of operation are set out in **Table F3**, followed by the non-recurring revenue implications are set out in **Table F4.**

	Total OBC
	£000's
Recurring Revenue Costs	
Depreciation	[redacted]
Additional Clinical Service Costs	[redacted]
Additional Non-Clinical Service Costs	[redacted]
Building Related Running Costs	[redacted]
Total Costs	[redacted]
Sources of Funding	
SG Additional Funding for Depreciation	[redacted]
NHSL	[redacted]
Total Sources of Funding	[redacted]

[Table F3]: Summary of Revenue Implications - First Full Year of Operation (2031/32)

	Total OBC
	£000's
Non-Recurring Revenue Costs	
Excess Travel (Payable for 4 years)	[redacted]
Oil Costs	[redacted]
Contingency	[redacted]
Total Costs	[redacted]
Sources of Funding	
NHSL	[redacted]
Total Sources of Funding	[redacted]

[Table F4]: Summary of Non-Recurring Revenue Implications – First Full Year of Operation (2031/32)

Further details of the capital and revenue elements of the Project and sources of funding are provided in the proceeding sections.

5.2 Revisiting the Financial Case

The IA was approved by the Scottish Government Health and Social Care Department (SGHSCD) on 5 October 2017. No specific conditions were outlined in the approval letter in relation to the Financial Case [see **Appendix 1** for approval letter].

5.3 Financial Model: Costs and Associated Funding for the Project

The following sections set out how the key financial implications of the Project and the assumptions influencing them. They also consider any relevant cost variations in relation to the preferred service delivery option that formed part of the appraisal set out in the Economic Case.

5.3.1 Capital Investment

Construction Costs

The estimated build costs associated with construction of the new hospital on the Wester Moffat site have been developed by the Board's Cost Advisor, Currie & Brown. **Table F5** sets out the anticipated construction costs for the new facilities and a more detailed cost plan is contained in [**Appendix 16**]. The assumptions in preparing these costs are as follows:

- Construction start date: Q1 2025;
- Construction end date: Q4 2030;
- Tender Inflation: current Building Cost Information Service (BCIS) Tender Inflation rates for the relevant period have been applied and Construction Inflation has been estimated from the estimated date of tender return to the mid-point of the construction phase using the BCIS Building Cost Index up to anticipated mid-point of construction;
- Project Team Development costs include staff and other costs in respect of the Project Team for the whole duration of the project up to migration to the new hospital;
- Design team fees are in respect of fees incurred in the design development and also include fee estimates for the main contractor design team;

- Main contractor preliminaries and overheads and profit are included at a level consistent for a project of this scale; and
- Quantified construction risk is based on estimated costed risks at construction;
- Optimism Bias has been applied at a rate of 5%.

	Total OBC
	£000's
Construction Related Costs	
Construction Costs	[redacted]
Fees Design Team	[redacted]
Project Team Development Costs	[redacted]
Roads and Other Enabling Works Costs	[redacted]
Equipment & Furnishings	[redacted]
Decant Costs	[redacted]
Inflation	[redacted]
Risk & Optimism Bias	[redacted]
VAT	[redacted]
Total Construction Costs	[redacted]
Sources of Funding	
SG Additional Capital Funding	[redacted]
Total Sources of Funding	[redacted]

[Table F5]: Construction Costs

The OBC costs reflected in **Table F5** do not include costs incurred between 2016/17 and 2022/23, which includes the acquisition of the Wester Moffat site. As at 31st March 2023 [redacted] and has been funded by capital allocations granted by the Scottish Government. The main areas of spend include:

- Lead Advisors Fees [redacted]
- MRP Staff Costs [redacted]
- Land Purchase [redacted]
- Health Care Planners Fees [redacted]
- Legal and Financial Advice [redacted]
- Other Fees [redacted] and
- Sundry Office Overheads [redacted]

New and Replacement Equipment

The Project has established an Equipment Sub-group which has formed an initial assessment of the level of investment required to equip the new facility. [redacted]. This estimate recognises that there will be a significant level of equipment transfer from the current University Hospital Monklands (UHM) and also takes account of the ability to strategically plan equipment replacement between now and the opening of the new hospital.

This investment will not be affordable within the Board's annual formula capital funding allocation and will require to be funded through an additional capital allocation from the Scottish Government.

Equipment allowances will continue to be developed based on the Schedule of Accommodation (SOA) and will be refined over the course of the Project. An indicative capital cost associated with Group 2, 3 and 4 equipment has been provisionally prepared and analysed, this allows for a working assumption of a transfer of existing equipment of 60%. This is an estimate at this stage of the Project and there will be some variation in the percentage of transfer between different departments. The Board will continue to refine this cost estimate and percentage transfer as the design develops through finalisation of Room Data Sheets (RDS) and the ongoing monitoring of equipment suitable for transfer.

Project Development Costs

A dedicated Project Team is in place to support delivery of this Project [see Management Case]. A number of advisors have also been appointed and have supported development of this OBC including - Lead Advisors this includes the full design team of Architects, Technical Specialists, and Structural/Civils; Health Care Planners; Legal Advisors; Financial Advisors and Equipping Advisor (NHS Scotland Assure).

Table F6 sets out the Project Development Costs. Other professional advisors form part of the Construction Related Costs (Fees).

	Total OBC
	£000's
Project Development Costs	
Project Team	[redacted]
Total Project Development Costs	[redacted]
Sources of Funding	
SG Additional Capital Funding	[redacted]
Total Sources of Funding	[redacted]

[Table F6]: Project Development Costs

Comparison to Initial Agreement Capital Costs

Table F7 sets out a comparison of the capital costs identified at IA and compares to an update.

	Total OBC	Total IA	Difference
	£000's	£000's	£000's
Construction Related Costs			
Construction Costs	[redacted]	273,323	[redacted]
Fees Design Team	[redacted]	35,532	[redacted]
Fees Others	[redacted]	3,250	[redacted]
Project Team Development Costs	[redacted]	7,250	[redacted]
Roads and Other Enabling Works Costs	[redacted]	2,977	[redacted]
Equipment and Furnishings	[redacted]	35,550	[redacted]
Decant Costs	[redacted]	650	[redacted]
Inflation	[redacted]	58,126	[redacted]
Risk & Optimism Bias	[redacted]	54,155	[redacted]
VAT	[redacted]	94,663	[redacted]
Total Construction Costs	[redacted]	**565,476**	[redacted]
Sources of Funding			
SG Additional Capital Funding	[redacted]		
Total Sources of Funding	[redacted]		

[Table F7]: Comparison of Capital Investment against Initial Agreement

At IA stage the capital cost for a new build was identified as £567.976m and this has now [redacted]. The investment required has therefore [redacted] from that reported in the IA. This increase relates to development of the design since the IA approval in October 2017 as outlined below.

The base date for the initial construction costs was September 2017 and the assumed building size was 66,000m^2. The current costs base date is September 2022 and the current floor area is now circa 128,699m$^{2.}$

In addition, since approval of the IA much has emerged about the urgent need for a worldwide response to the climate emergency. The Net Zero Carbon Public Sector Buildings (NZCPSB) standard ("the Standard") is a new voluntary standard which has been developed by Scottish Government to support the Public Sector in setting ambitious targets to achieve net zero outcomes for new buildings and major refurbishments. The Monklands Replacement Project has been selected as a pathfinder project for the new standard which has resulted in the requirement for an all-electric hospital.

The Scottish Government have been fully appraised of these cost increases and NHS Lanarkshire's Cost Advisors, Currie & Brown have prepared a report outlining the background to these increases [see **Appendix 17**]. Additionally, detailed reasons for the cost increase since the IA have been outlined in **Table F2** of this Financial Case.

It should also be noted that costs from 2016/17 to 2022/23 are not included in the Capital Cost tables for this OBC. These costs have been met from funding provided by the Scottish Government [redacted].

Design team fees have increased from initial estimates due to design development work continuing throughout the delays to the project caused predominately from the prolonged site selection process [see Economic Case] and the consequential impact of the COVID-19 pandemic which slowed progress.

Other fees include Healthcare Planners, Traffic Surveys and Ground Condition Reports which are now more than originally estimated largely due to the requirement to carry out exploratory work across three potential sites opposed to the initial two. The requirement for NHS Lanarkshire to consider additional sites for development beyond the initial two of Gartcosh and Glenmavis was directed by the Cabinet Secretary for Health & Sport following conclusion of the independent assessment into the original 2018 site selection

process. Following this exercise, Wester Moffat became the third potential development site [see Economic Case].

Project team development costs are included to cover the resources required to support and deliver a project of this size and are, in the most part, related to staff costs associated with having a dedicated project team comprising of Project Management, Administration Support and Professional Specialists over a range of functions including Finance, Procurement, Communications, Work Force Planning, Medical, Nursing and Facilities Management. Most of these staff work exclusively on the Project and there is a fully staffed office located on the current Monklands Hospital Site. Some of these staff have been working on the Project since development of the IA in 2016/17.

Roads and other enabling costs were initially included at just under £3m, [redacted] to reflect work on a roads infrastructure to serve the new hospital including work being done in conjunction with North Lanarkshire council to progress the new EALR.

Land acquisition costs initially estimated at £2.5m [redacted] the site was finally secured and purchased in 2021/22 with funding provided by the Scottish Government. [redacted]. As previously noted these costs are not included in the detailed costs above.

Equipment costs were based on an allowance [redacted] of the construction costs. It was discussed and decided at the MRP Equipment Sub-Group that as construction costs escalated this should be [redacted], however this figure will be reviewed as the equipment schedule becomes more refined and the level of transferred equipment is finalised. The Project has a Service Level Agreement in place with NHS Scotland Assure Equipping Services to provide support and advise on development of the equipping schedule and have a dedicated representative on the MRP Equipment Sub-group.

As Inflation, Risk and VAT are all factors of the Construction Costs these will all rise in conjunction with increased construction costs. It is worth noting that additional

construction cost inflation is at an exceptionally high level at the time of preparing this OBC.

5.3.2 Recurring Revenue Costs

The Project will deliver a new state of the art facility to replace the current UHM creating an opportunity to deliver services differently and implement better and more efficient ways of working. Some of these service changes will deliver efficiencies, however it is anticipated that cost pressures may occur and the Board is planning to manage these. Areas of potential service cost pressures are primarily resulting from the requirement to have a 100% single bed accommodation and the need for an increase in nursing and support service staffing.

Table F8 sets out the increased revenue cost estimates and assumes that services are in place and available for use in 2031. With 2031/32 being the first full year of operation. These costs will need to be factored into the board's financial plans and Local Delivery Plan (LDP) for these years and beyond.

	Total OBC
	£000's
Recurring Revenue Costs	
Depreciation	[redacted]
Additional Clinical Service Costs	[redacted]
Additional Non-Clinical Service Costs	[redacted]
Building Related Running Costs	[redacted]
Total Costs	[redacted]
Sources of Funding	
SG Additional Funding for Depreciation	[redacted]
NHSL	[redacted]
Total Sources of Funding	[redacted]

[Table F8]: Summary of Recurring Revenue Implications **–** First Full Year of Operation (2031/32)

The annual running costs [redacted] from that reported in the IA. This increase relates mainly to the provision of 100% single room accommodation and the requirement

to have a facility that is built to the Net Zero Carbon Public Sector Buildings (NZCPSB) standard.

Depreciation

The new hospital will be built on land at Wester Moffat which was formerly farmland. This site has now been purchased by NHS Lanarkshire with funding from the Scottish Government.

The NHS Scotland Capital Accounting Manual has been followed in developing the depreciation calculations. The calculations for assets are based on the following lives:

- New build – 45 years
- Equipment – 10 years

The new building is assumed to be depreciated over an expected life of 45 years and equipment over an expected life of 10 years. Annual depreciation is set out in **Table F9** below, and results in an annual depreciation of [redacted].

There will be a requirement for impairment in respect of the existing UHM building. There has been discussion with NLC and the University of Strathclyde about the future use of this site as a facility with the potential to deliver social values and plans are being developed to take this forward. At this stage this does not form part of the OBC.

	Total OBC
	£000's
Depreciation	
Equipment	[redacted]
Building	[redacted]
Total Net Depreciation	[redacted]
Sources of Funding	
SG Additional Capital Funding	[redacted]
Total Sources of Funding	[redacted]

[Table F9]: Total Depreciation - First Full Year of Operation (2031/32)

Building Related Running Costs

As is generally the case with new build projects that replace existing buildings, it is anticipated that there will be an increase in property related running costs of the new hospital. The reason for this is in relation to the modern space standards that new buildings are required to meet. This and the provision of 100% single room accommodation results in an increased floor area will inevitably lead to increased costs for business rates, heating, lighting, cleaning, building maintenance etc. Additionally, the facility has been designed to meet net carbon zero standards and this will impact heavily on utility costs.

The difference between the size of the current accommodation and the New Build Hospital has arisen as a result of achieving these space and accommodation standards and the need for a significantly sized Energy Centre.

Detailed cost modelling of building running costs based on the emerging design has been undertaken and the net costs are summarised in **Table F10**.

	Total OBC
	£000's
Building Related Running Costs	
Rates	[redacted]
Utilities	[redacted]
Cleaning Materials	[redacted]
Property Maintenance	[redacted]
Contingency	[redacted]
Total Annual Costs	[redacted]
Sources of Funding	
NHSL	[redacted]
Total Sources of Funding	[redacted]

[Table F10]: Additional Building Related Running Cost - First Full Year of Operation (2031/32)

Clinical Service Costs

All inpatient ward areas will comprise of single bedded en-suite accommodation and there will be a 112 bed receiving area. This will result in an increase in the associated clinical staff within these areas, in particular nursing staff. A workforce planning exercise has been undertaken to assess the increase in the staffing requirements for all clinical staff groups and the areas where incremental revenue implications have been identified are detailed in **Table F11**.

A full workforce planning report for all staff groups is contained in **Appendix 18**.

	Additional Annual Staff Cost	Other Costs	Total Cost	Additional Staff
	£000's	£000's	£000's	WTE
Medical	[redacted]		[redacted]	[redacted]
Nursing	[redacted]		[redacted]	[redacted]
AHPs	[redacted]		[redacted]	[redacted]
Pharmacy	[redacted]		[redacted]	[redacted]
Total	[redacted]		[redacted]	[redacted]

[Table F11]: Additional Clinical Service Costs - First Full Year of Operation (2031/32)

Non-Clinical Service Costs

The new facility will be designed to meet current healthcare building standards and will operate differently. The additional floor area will lead to an increase in non-clinical service costs principally within support service Hard and Soft Facilities Management Costs. The areas where incremental revenue implications have been identified are set out in **Table F12.**

	Additional Annual Staff Cost	Other Costs	Total Cost	Additional Staff
	£000's	£000's	£000's	WTE
Support Services	[redacted]	[redacted]	[redacted]	[redacted]
Total	[redacted]	[redacted]	[redacted]	[redacted]

[Table F12]: Additional Non-Clinical Service Costs - First Full Year of Operation (2031/32)

Comparison to Initial Agreement Revenue Costs

Table F13 sets out a comparison of the recurring revenue costs identified at IA stage and compares to an update.

	Total OBC	Total IA	Difference
	£000's	£000's	£000's
Recurring Revenue Costs			
Clinical Service Costs	[redacted]	1,900	[redacted]
Non-Clinical Service Costs	[redacted]		[redacted]
Building Related Running Costs	[redacted]	1,000	[redacted]
Total Costs	[redacted]	**2,900**	[redacted]

[Table F13]: Comparison of Recurring Revenue Costs - First Full Year of Operation (2031/32)

There was an assumption that there would be around a 10% rise in Ward Nursing Staff at the IA stage which equated to £1.9m, [redacted].

There was no increase assumed for non-clinical staff, for example Administration, but due to the increase in the size of the building and associated workforce planning there is a requirement for additional support [redacted]

Table F14 sets out a comparison of the non-recurring revenue costs identified at Initial Agreement and compares to the current position.

	Total OBC	Total IA	Difference
	£000's	£000's	£000's
Non- Recurring Revenue Costs			
Excess Travel	[redacted]		[redacted]
Oil Costs*	[redacted]		[redacted]
Contingency	[redacted]		[redacted]
Total Costs	[redacted]	**0**	[redacted]

[Table F14]: Comparison of Non-Recurring Revenue Costs - First Full Year of Operation (2031/32)

The IA made no allowance for Non-Recurring costs [redacted]

- An allowance being made for excess travel costs allowing staff to claim additional costs to travel between their old and new base of work. [redacted].
- Resilience will be a key factor as the new facility will be essentially reliant on electricity. This has led to additional generators and oil tanks to ensure full back up power supply will be provided. The oil costs are in respect of the initial supply of oil to fill these tanks.

**The most resilient solution for backup currently available has been identified as oil. The Project are continuing to investigate more sustainable solutions.*

VAT

Anticipated VAT has been included within the costs presented. The following are the key assumptions:

- Construction Costs: a rate of 20% has been applied on the assumption that no VAT recovery will be achieved on the new build;
- Equipment Costs: a rate of 20% has been applied;
- Project Development Costs: which are principally advisors' fees where applicable, VAT is assumed to be recoverable; and

- Recurring Revenue Costs: where applicable, VAT is assumed to be non-recoverable.

Financial Risk and Dependencies

All of the financial risks and dependencies are identified within the Project Risk Register and it is anticipated that the majority of risks will be closed or mitigated to reduced levels in the period leading up to the FBC submission. Those risks that are financial in nature have been quantified using recognised risk management techniques [see **Appendix 15** for Costed Risk Register].

Those financial risks that relate to the delivery of the Project have been explicitly reflected in the Capital Costs Tables above. The financial risks carrying the greatest impact in relation to the construction element are those that relate to the uncertainty of macro-economic market conditions, unknown site conditions, fire strategy and potential legislative or guidance changes as a result of the Covid-19 pandemic.

Successful equipping of the new hospital assumes a level of transfer of existing medical and other equipment. Achievement of this assumption places reliance on NHS Lanarkshire equipment replacement programme for Monklands University Hospital replacement programme in the years leading to the opening of the new hospital having sufficient funding for the replacement of some essential items of medical equipment prior to commissioning.

These could impact on the Project being able to deliver within the project budget limit. The risks will be managed, monitored and mitigated through the procurement and construction periods to identify and resolve issues at the earliest opportunity.

5.3.3 Costs Not Included

This is a major project and is a key strand in supporting the board's healthcare plan "Achieving Excellence" and in preparing the Financial Case only those costs which increase as a direct consequence of the new hospital have been reflected.

Other clinical and non- clinical costs that relate to service pressures, predicted growth or demographic changes have not been reflected in this case. These will be recognised by the board and will be considered and managed through existing budgeting and financial planning and management arrangements.

5.3.4 External Financial Contributions to the Project

At this point in time there are no other external partner financial contributions. NHS Lanarkshire continue to have discussions with MacMillan Cancer Support to explore financial contributions. In addition to this ongoing discussions will continue with Maggie's in relation to proposed expansion of the Maggie's Centre.

5.4 Statement of Overall Affordability

5.4.1 Statement of the Organisation's Financial Situation

[redacted]

Provision in Financial Plans

The project capital costs [redacted] and progress will be conditional upon confirmation from the Scottish Government that capital funding to this value can be made available to support the Project.

The recurring revenue funding for the business case will form part of the Board's Financial Plan and LDP [redacted]

The costs as set out in **Tables F15** and **F16** below, will be fully accounted for in preparation of future 5 year LDP.

	Total OBC
	£000's
Construction Costs	[redacted]
Roads and Other Enabling Works Costs	[redacted]
Fees Design Team	[redacted]
Project Team Development Costs	[redacted]
Equipment and Furnishings	[redacted]
Decant Costs	[redacted]
Inflation	[redacted]
Risk	[redacted]
VAT	[redacted]
Total MRP Capital Costs	[redacted]
Sources of Funding	
SG Capital Funding	[redacted]
Total Sources of Funding	[redacted]

[Table F15]: Capital Cost

	Total OBC
	£000's
Recurring Revenue Costs	
Depreciation	[redacted]
Additional Clinical Service Costs	[redacted]
Additional Non-Clinical Service Costs	[redacted]
Building Related Running Costs	[redacted]
Total Costs	[redacted]
Sources of Funding	
SG Additional Funding for Depreciation	[redacted]
NHSL	[redacted]
Total Sources of Funding	[redacted]

[Table F16] Summary of Additional Recurring Revenue Implications - First Full Year of Operation (2031/32)

The phase of costs associated with the delivery of the project have been profiled to align with the current programme for the Project.

Tables F17 and **F18** shown on the proceeding pages consolidate the capital and revenue cash flows to support the Project during the first full year of operation. [redacted]

[redacted]

	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	Total
	£000s	£000s	£000s	£000s	£000s	£000s	£000s	£000s	£000s	£000s
Capital										
Fees										
Construction										
Equipment										
Commissioning										
NLC and SPEN contributions										
Inflation										
Risk										
VAT										
Total Capital Costs										
Revenue										
Additional Depreciation										
Clinical Service Costs										
Non-Clinical Service Costs										
Building Related Running Costs										
Total Revenue Costs										
Total Costs										
Scottish Government										
NHS Lanarkshire										
Total Sources of Funding										

[Table F17]: Costs – Cashflow

	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	Total
	£000s	£000s	£000s	£000s	£000s	£000s	£000s	£000s	£000s	£000s
Scottish Government										
NHS Lanarkshire										
Total Sources of Funding										

[Table F18]: Funding – Cashflow

5.4.2 Sensitivity of Affordability

In assessing the affordability of the project, [redacted] together with consideration of specific potential dependencies not outlined in **Table F19**.

Area	Impact £millions	Management
Capital Expenditure - Build	[redacted]	Control of design development and strict monitoring and control of change is in place. These are subject to regular review and it is expected that the appointed Contractor and supply chain in conjunction with the board's Cost Consultant and Technical Advisors will apply innovation to ensure delivery within the project budget.
Capital Expenditure - Equipment	[redacted]	Structured processes of identifying and programming need and managing delivery are in place.
Recurring Revenue	[redacted]	Regular review including significant workforce planning and appropriate service redesign to maximise the benefits of digital technology.
Market Pressures (Inflation as per Table F2)	[redacted]	A procurement strategy has been developed to support the appointment of a contractor. A risk exists around the number of contractors who will be willing to bid for a contractor of this size in the post Covid -19 market.
Equipment (Assumed lower transfer rate of 50%)	[redacted]	Planned equipment replacement progressed through the equipment replacement programme over the period from OBC to date of commissioning.

[Table F19]: Sensitivity Analysis

5.4.3 Value for Money

The construction costs included in the OBC have been prepared by the Board's Cost Advisors (Currie & Brown). To ensure due diligence, the elements making up the total capital costs have been compared with other similar new build projects. Moving toward appointment of a contractor there is an expectation that further value engineering will be applied to reflect competitive market testing.

The stages in cost planning are outlined as follows

- OBC: the construction costs included in this OBC have been reviewed by the bidding contractors as part of the competitive dialogue procurement process. Relevant feedback on cost levels and market impacts has supported the update and final determination of the OBC cost allowances.

- RIBA Stage 3: regular cost checks will be undertaken on the emerging detailed design proposals, cross referencing updated forecasts back to the approved OBC baseline cost estimates, risk and inflationary allowances. The change management process will be utilised to support management and control of project costs. Cost Reports will be prepared monthly for governance group awareness and decision making on any critical matters affecting cost. As part of the two-stage procurement process being implemented the appointed construction partner will be an integral part of the project delivery team. They will fully support control of project costs during the design stages through to FBC as they are incentivised as part of the overall pricing strategy for the project to support management and control of emerging costs within acceptable levels. To aid progressive development of the second stage tender target price and provide increasing levels of cost certainty towards FBC, the market testing of substructure, frame and envelope will be advanced during this stage. This, combined with the cost elements bid during the first stage tender submission, will equate to approximately 40% of the overall estimated target price providing a clear indication of how the costs are being managed against the OBC estimate,

allow early intervention to address cost pressures. At the end of RIBA Stage 3 a formal cost plan update will be issued validating project costs remain in line with OBC limits and the project team can progress to RIBA Stage 4.

- RIBA Stage 4: during this stage in the design the regular cost checks and reporting will continue. The main cost planning effort during this stage is the liked to the procurement and market testing / pricing of the remaining works through second stage work packages to establish the final target price ready for acceptance on approval of the FBC. As each work package is competitive tendered the submission will be reviewed and benchmark against the cost pan allowance. Where cost increases are identified, corrective actions will be implemented to manage the overall cost levels within OBC levels.

As part of the cost development the board's cost advisors and NHS Lanarkshire also reviewed Risk and Inflation allowances in the cost plan to ensure that these were appropriate at this stage in the project.

5.4.4 Agreed Accountancy Treatment

The new hospital and equipment will be accounted for by NHS Lanarkshire as a non-current (fixed) asset.

The annual charge to the Statement of Comprehensive Net Expenditure (SOCNE) will consist of all building related running costs, clinical and non-clinical running costs and depreciation. Depreciation is calculated on a straight line basis.

The existing UHM will be impaired on the Board's balance sheet. Depending on the plan for the vacated site an appropriate treatment of any retained elements of the site will be developed.

5.4.5 Recurring Revenue Costs

Recognising that the potential revenue costs of a major new build are substantial, a comprehensive review of service is being conducted by NHS Lanarkshire. Part of the remit of this review is to manage and mitigate cost pressures that may arise. To assist, cost pressures are broken down into three classifications:

- Project – consequence of new building
- Current – current service pressure
- Growth – anticipated increase in service demand/delivery

Only these identified as Project related are reflected in the OBC.

5.5 Written Agreement of Stakeholder Support

NHS Lanarkshire have held meetings with Scottish Ambulance Service, NHS Forth valley, NHS Dumfries & Galloway, and NHS Greater Glasgow & Clyde to ensure the Project aligns with other Boards. These bilateral meetings did not identify any issues and all Boards are supportive. Following approval by the Board of NHS Lanarkshire, the Regional Planning Group will convene a special meeting to endorse the OBC.

6. Management Case

6.1 Overview

The purpose of the Management Case within this Outline Business Case (OBC) is to demonstrate that NHS Lanarkshire is ready and capable of successfully delivering the Monklands Replacement Project (MRP).

6.2 Governance & Reporting Arrangements

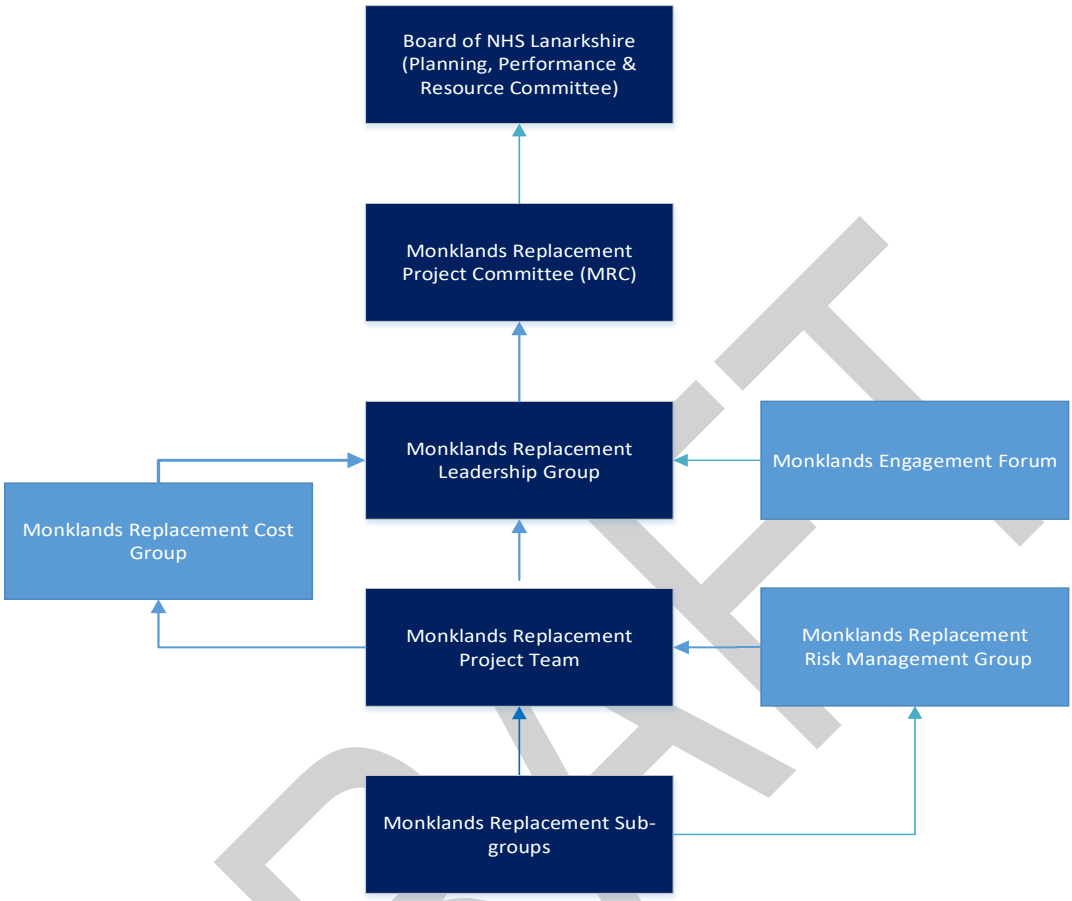
The Monklands Replacement Project is a major capital investment for NHS Lanarkshire that will deliver a new state of the art acute hospital to replace the existing University Monklands Hospital (UHM) in Airdrie. The Scottish Government Capital Investment Group (SGCIG) approved the Initial Agreement (IA) on the 5th October 2017 (See **Appendix 1**) and since then, NHS Lanarkshire has been developing this OBC.

Following the rigorous site selection process detailed in the Economic Case, the Board of NHS Lanarkshire recommended Wester Moffat as the preferred location for the new facility to the Scottish Government. This recommendation was accepted by the Cabinet Secretary for Health & Sport on 29th January 2021 [see **Appendix 1]**.

The reporting and governance arrangements of this Project respond in full to the requirements set out in the Scottish Capital Investment Manual (SCIM) and seek to ensure that the Scottish Government Health and Social Care Directorate (SGHSCD), Capital Investment Group (CIG), NHS Scotland Assure, and the Board of NHS Lanarkshire are kept appropriately informed and involved in the Project as it progresses through key gateways to completion, operation and post-occupancy evaluation.

To align with the SCIM, this Project has implemented a project and programme management approach with the governance and reporting structure shown in **Figure M1**. This structure shows that the Board of NHS Lanarkshire is the investment decision maker and is being supported by several key governance groups who are, and will continue to be, involved in providing oversight and assurance to the Board

throughout delivery of this Project. The robust nature of this structure recognises the scale and complexity of the Project and therefore aims to respond to the level of risk being undertaken.



[Figure M1]: Governance & Reporting Structure

Active sub-groups of the Project team are:

- Assurance
- Procurement
- Workforce
- Infection, Prevention and Control
- Service Redesign
- Facilities Management
- Digital Co-Ordination
- Soft Landings
- Key Decisions
- Equipment

6.2.1 The Monklands Replacement Committee (MRC)

The remit of the MRC is:

1. To ensure system-wide co-ordination and decision making of all proposed asset investment/disinvestment decisions for NHSL, ensuring consistency with policy and the strategic direction of NHSL.
2. To agree the scope of the Project, including the clinical service strategy and the benefits to be realised by the development with appropriate stakeholder involvement.
3. To ensure the project has the appropriate governance in place to support successful completion.
4. To endorse the scope of the Project, including the clinical service strategy and the benefits to be realised by the development and the reference design, with appropriate stakeholder involvement.
5. To ensure that the resources required to deliver the project are available and committed.
6. To ensure appropriate governance as the Leadership Group progress through Business Case approval within defined process and thereafter the Capital Investment Group at Scottish Government.
7. To assure the project remains within the framework of the overall project strategy, scope, budget and programme.
8. To review and report changes to the scope of the project e.g. time, cost and quality.
9. To promote financial governance and monies and report the adherence within the affordability parameters set out by Scottish Government and NHSL.
10. To review the risk management plan, ensuring all risks are identified; that appropriate mitigation strategies are actively applied, managed and escalated as necessary, providing assurance to the NHS Board that all risks are being effectively managed.
11. To ensure that staff, partners and service end users are fully engaged in designing operating policies that inform the detailed design and overall

procedures that will apply. This in turn will inform the project agreement, i.e. ensuring that the facilities are service-led rather than building-led.

12. To ensure that the communication plan enables appropriate involvement of, and communication with, all stakeholders, internal and external, throughout the project from conception to operation and evaluation.
13. To oversee and monitor the projects interaction with the PSCP to ensure that the completed facilities are delivered on programme, within budget and are compliant with NHS Lanarkshire's corporate objectives/ requirements.
14. To ensure appropriate systems of assurance are in place in regard to the functional commissioning of the facilities and operation in respect of the new hospital.
15. To ensure the Project remains aligned with the project evaluation as set out in the business case and the post project evaluation as appropriate.

6.2.2 The Monklands Replacement Leadership Group

The remit of the MRPLG is:

1. To ensure that the resources required to deliver the Project are available and committed.
2. To drive the Project through Initial Agreement (IA), OBC and FBC approval within NHSL and thereafter the CIG at SGHSCD.
3. To approve the project procurement strategy.
4. To monitor and scrutinise the procurement process and appointment of the Principle Supply Chain Partner (PSCP).
5. To ensure the Project remains within the framework of the overall project strategy, scope, budget and programme.
6. To approve changes to the scope of the Project including e.g. time, cost and quality, within agreed authority.
7. To review the Risk Management Plan, ensuring all risks are identified; that appropriate mitigation strategies are actively applied and managed and escalated as necessary, providing assurance to the NHS Board that all risks are being effectively managed.

8. To ensure that staff, partners and service end users are fully engaged in designing operating policies that inform the detailed design, ensuring that the hospital design is service-led rather than building-led.
9. To ensure that the Communication Plan enables appropriate involvement of, and communication with, all stakeholders, internal and external, throughout the Project from conception to operation and evaluation.
10. To commission and ensure Board participation in appropriate external reviews including e.g. Gateway Reviews, NHS Scotland Design Assessment Process (NDAP) and NHS Assure Key Stage Assurance Review (KSAR).
11. To ensure the Project remains within the affordability parameters set out by Scottish Government and NHSL.
12. To ensure appropriate Change Management practices and resources are in place to deliver required change to clinical and non-clinical operations, facilitating the smooth operation of the hospital once opened.
13. To work with the appointed Contractor to ensure that the completed facilities are delivered on programme within budget and are compliant with requirements.
14. To supervise the functional commissioning and bring the facilities post-handover and thereafter completion of the post project evaluation.
15. To ensure the project is adequately prepared for external reviews e.g. Office of Government Commerce, gateway reviews and the Architecture Design Scotland, and National Design Assessment Process.

6.2.3 The Monklands Replacement Project Team

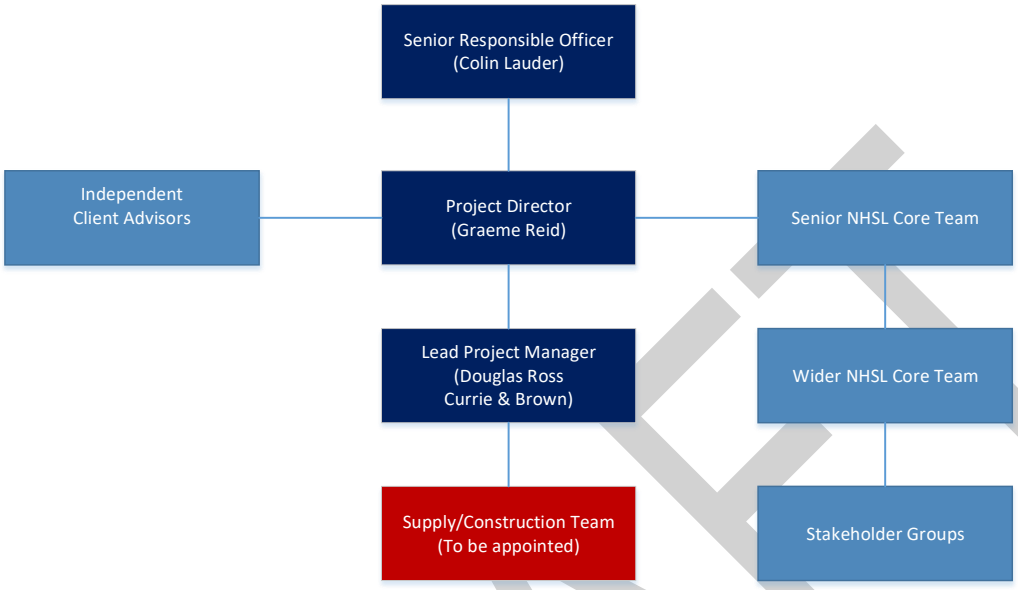
The remit of the MRP Project Team is:

1. To coordinate the production of the Employers Works Information documents for the Project.
2. To coordinate the production of all technical and financial schedules from an NHS perspective.
3. To lead the contractor and advisor procurement process.

4. To participate in external governance reviews including Gateway, NDAP and NHS Assure review.
5. To lead and coordinate the production of the OBC and the FBC.
6. To work with the Lead Advisors to ensure that the Project is delivered to cost, quality and programme.
7. To agree appropriate derogations.
8. To ensure communication with all internal and external stakeholders and appropriate user involvement in relation to design, workforce planning, construction, commissioning and other appropraite areas.
9. To ensure the development of all appropriate policies and procedures (clinical and Facilities Management) to ensure the smooth operation of the building once operational.
10. To commission specific redesign work associated with the redesign of services relocating to the new facilities.
11. To plan for the Project evaluation.
12. To lead the specification, procurement and commissioning of all equipment.
13. To ensure compliance with Employers Works Information requirements.
14. To ensure completion of the soft landings programme in advance of handover.
15. To lead development and implementation of functional commissioning programme, including service relocation, staff orientation and training etc.

6.2.4 Project Structure & Key Roles

Figure M2 sets out the Project Team structure.



[Figure M2] Project Team Structure

6.2.5 Key Roles and Responsibilities

Building the right team with the shared knowledge and skills to deliver this significant capital Project is critical to its success. One of the recommendations resulting from the Review of Scottish Public Sector Procurement in Construction (May 2014) was the production of guidance on Baseline Skillsets for construction projects of different size and complexity, refer to **Tables M1 – 4**. This guidance has been used to assess the complexity level of the Project and to assess the experience and suitability of the lead officers, specifically the Senior Responsible Officer (SRO), Project Director (PD) and Lead Project Manager (LPM).

Project Complexity Criteria:	Level 1	Level 2	Level 3	Level 4
Value:	Up to OJEU threshold	Less than £10 million	Less than £15 million	£40m
Number of Organisations	1	1-2	1-2	Any
Number of User Consultees	1-5	1-5	1-12	13+
Number of Tier 1 Contractors	1	1-2	1-2	Any
Number of Design Teams	1	1-2	1-2	Any
Degree of Technical Complexity and/or Operational Risk	Low	Low or Medium	Low or Medium	Medium/ High

[Table M1]: Project Complexity

Table M1 shows that the outcome of the assessment identified the Project as level 4 in terms of complexity. In line with the 'Baseline Skillset Matrix' from the Scottish Public Sector Procurement in Construction (May 2014) guidance, the following three Tables M2, M3 and M4 outline the experience level of the three lead officers.

The **Senior Responsible Officer** (SRO) for the Project is Colin Lauder, Director of Property, Planning and Performance. The SRO provides executive leadership and is accountable to the Board for the Projects success. Colin reports directly to the Board Chief Executive and is responsible for the delivery of the projects benefits and mobilising the appropriate allocation of resource to ensure its success. Colin has more than 30 years of experience spanning NHS Lanarkshire, Lothian and Greater Glasgow & Clyde Health Boards as well as the Scottish Government. Colin has been a senior member of multiple project teams across the NHS Estate during this time.

Senior Responsible Officer (SRO): Colin Lauder		
Main Responsibilities: The business sponsor who has ultimate responsibility at Board/Executive level for delivery of the Project's benefits and the appropriate allocation of resources to ensure its success.		
Experience and suitability for the role:	**Skillset Expected**	**Skillset of Individual**
Development Management	Experienced	Experienced
Governance	Expert	Expert
Commercial Acumen	Expert	Expert
Project Management	Experienced	Experienced
Stakeholder Management	Experienced	Expert
Procurement Management	Previous Involvement	Experienced
Construction Management	Experienced	Experienced
Resource Commitment	25-75%	50%

[Table M2]: Senior Responsible Office

The **Project Director** (PD) is Graeme Reid, who is responsible for the day-to-day management of the project, ensuring it delivers the objectives set out by NHS Lanarkshire and the SRO. The PD report directly to the SRO and has undertaken a range of similar roles in a variety of major infrastructure projects.

Project Director: Graeme Reid		
Main Responsibilities: Responsible for the ongoing day-to-day management and decision making on behalf of the SRO to ensure that the desired Project objectives are delivered. He is also responsible for the development, progress and reporting of the business case to the SRO.		
Experience and suitability for the role:	**Skillset Expected**	**Skillset of Individual**
Development Management	Experienced	Experienced
Governance	Expert	Expert
Commercial Acumen	Expert	Expert

Project Management	Experienced	Experienced
Stakeholder Management	Experienced	Expert
Procurement Management	Previous Involvement	Experienced
Construction Management	Experienced	Experienced
Resource Commitment	25-75%	100%

[Table M3]: Project Director

The **Senior Project Manager** (SPM) for the Project is, Douglas Ross. Douglas has over 30 years' experience successfully supporting and delivering within budget, a wide range of healthcare schemes.

Senior Project Manager: Douglas Ross		
Main Responsibilities: Responsible for the leadership, management and co-ordination of the technical advisor design team developing the Board design and construction requirements to meet the clinical brief. Supporting procurement activities to select preferred design and construction delivery partner to move forward to conclude design and construct the new facility.		
Experience and suitability for the role:	**Skillset Expected**	**Skillset of Individual**
Development Management	Expert	Experienced
Governance	Previous Involvement	Experienced
Commercial Acumen	Expert	Expert
Project Management	Expert	Expert
Stakeholder Management	Expert	Expert
Procurement Management	Experienced	Expert
Contract Management	Experienced	Expert
Resource Commitment	75%	75%

Table M4: Senior Project Manager (SPM) – Skills Matrix

This Project is complex and involves a large number of services, stakeholders and a significant service redesign agenda to be implemented to align with the new hospital becoming operational. Such a complex project requires an oversight board to oversee

the Project's successful delivery. This oversight board, the Monklands Project Leadership Group (MPLG), which meets monthly and is chaired by the SRO. The PD provides a Director's Report for review by MPLG summarising key areas of progress across the breadth and depth of the Project. Membership of MPLG is outlined below in **Table M5**. The Table also outlines the Project role and main responsibilities of each member including their previous experience of similar project roles.

Name/Designation	Experience of similar Project Roles
Organisation's project leadership representatives	**Representing the organisation's project delivery interests**
Colin Lauder, Director of Planning, Performance and Property (Chair and SRO)	Colin has a wide range of experience in overseeing projects for the NHS. Most recently this has included the theatre refurbishment and new critical care department at Monklands Hospital, as well as a range of other capital and lifecycle works across the estate.
Graeme Reid, Project Director	Graeme has led a number of significant capital and revenue financed infrastructure projects.
Organisation's business and finance representatives	**Representing the organisation's business and finance interests**
Heather Knox, NHS Lanarkshire Chief Executive *NB New incoming Chief Executive Jann Gardner*	Heather has been with NHS Lanarkshire since 2015, becoming Chief Executive in 2020. During this time, Heather has been involved in a range of works across NHS Lanarkshire's 3 acute sites from more minor ward works up to larger scale ward refurbishments and new construction.
Laura Ace, Director of Finance	Laura has been with NHS Lanarkshire since 2009 in her role as Director of Finance, undertaking a similar role in NHS Dumfries and Galloway prior to this.

Organisation's senior service/operational management representatives	Representing the organisation's service/operational management interests
Judith Park, Director of Acute Service	Judith was appointed to the role of Director of Acute Services in 2020, reflecting her extensive range of experience across the acute sector.
Donald Wilson, Director of Information and Digital Technology	Donald has led a range of major IT programmes both within NHS Lanarkshire and wider NHS Scotland. Prior experience includes involvement in the development of the Victoria Hospital in Kirkcaldy for NHS Fife.
Kirsty Orr, Head of Planning & Development	Kirsty joined NHSL as Head of Planning and Development in August 2022. She has worked across a number of Boards in Scotland in nursing, clinical governance, operational management and planning roles. She has experience in leading service re-design and improvement projects across Acute and Health & Social care Partnerships.
Calvin Brown, Director of Communications	Calvin graduated from the University of Strathclyde with a first-class BA Honours degree in Accounting. He went on to study journalism and worked as a reporter in England and Scotland before moving into public relations with South Lanarkshire Council. He started with the NHS in 2003 as Communications Manager for Lanarkshire Primary Care NHS Trust. He worked as Acting Head of Communications for NHS Lanarkshire from June 2016 before being appointed Director of Communications in 2017. He is a member of the Chartered Institute of Public Relations.

	Calvin has provided communications and engagement support and advice to wide range of major capital projects during his time with NHS Lanarkshire.
Organisation's Staff Side representative	
Margaret Anne Hunter	Margaret is a registered nurse and has been a UNISON rep for 25 years. Her clinical background and experience has predominately focused on Critical Care environment. Margaret is currently lead Staff Side Representative for acute services within NHS Lanarkshire and as such, attends key groups such as the Acute Divisional management team as well as holding the Vice Chair position within UNISON Lanarkshire Health Branch.
Organisation's senior clinical professional representatives	
Jane Burns, Medical Director	Dr Burns became NHS Lanarkshire Medical Director in 2018, having undertaken various roles including in teaching and research in addition to her role as an Anaesthetic Consultant. Having been involved in a wide range of service developments and reconfigurations, Dr Burns was also previously Chief of Medical Services at Hairmyres Hospital and Acute Medical Director.
Eddie Docherty, Director of Nursing, Midwifery and Allied Health Professionals	Eddie joined NHS Lanarkshire in 2020, having previously been Director of Nursing at NHS Dumfries and Galloway.

	Prior experience includes being Director of Nursing for Dumfries and Galloway during the opening of the DGRI in 2018.
Health and Social Care Partnership (HSCP) Representative	**Representing the HSCP's interests**
Ross McGuffie, Chief Officer – Health and Social Care North Lanarkshire	Ross has worked in NHS Lanarkshire since 2003, across a range of health and social care areas. Prior to becoming Chief Officer, Ross was Head of Planning, Performance and Quality Assurance within the North Lanarkshire Health and Social Care partnership and was involved in a range of projects including capital works.
Soumen Sengupta, Director of Health and Social Care for South Lanarkshire	Soumen became Director of Health and Social Care for South Lanarkshire in 2021, following an extensive career in public health and in health and social care management. Soumen has led strategic transformation programmes at local, regional and national levels.
University Hospital Monklands Site Triumvirate	
Stephen Peebles, Director of Hospital Services	Stephen began his career in a clinical role before moving to Cambridge University Hospital NHS Trust where he worked in a number of senior management roles. Stephen moved to NHS Lanarkshire in 2016 where he is now the Site Director at University Hospital Monklands. Stephen brings a wealth of senior leadership, service redesign and project management experience to this role.
Marion Devers, Chief of Medical Services	Marion has worked as a Consultant Physician at UHM since 2009, having completed Specialty Training in Endocrinology & Diabetes in the

	West of Scotland, including time spent in Dumfries & Galloway, Tayside and a year of overseas training in New Zealand. She has held positions in Clinical Management for 10 years, initially in the Medical Directorate, then as Deputy Chief and currently Chief of Medical Services.
Karen Goudie, Chief of Nursing Services	Karen is a registered nurse and Chief of Nursing Services at University Hospital Monklands. Prior to joining NHS Lanarkshire Karen was the National Clinical Lead for Improving Care of Older people across NHS Scotland working with Healthcare Improvement Scotland and Scottish Government as the National Clinical Lead for Excellence in Care whilst clinically working as a Consultant Nurse.
Project Team representatives	**Provide reassurance to MPLG on progress in line with brief, quality, programme and cost.**
Dr Jim Ruddy	Jim is a Consultant in Intensive Care Medicine and Anaesthesia as well as Clinical Lead for Medicine on the project. Jim was previously Clinical Lead for the capital projects to refurbish the Monklands Theatres and create a new Intensive Care Unit.
Fiona Cowan	Fiona is a Registered Nurse and Clinical Lead for Nursing on the MRP. Fiona has worked across NHS Scotland and further afield in Scandinavia in both Clinical and leadership roles over the past 25 years. Fiona has previous experience supporting capital projects along with leading service redesign and improvement projects. Fiona has previously represented the Board on national workforce steering and

	governance groups and in particular for peri-operative services.
Organisation's external Joint Consultant Cost Advisor	**Representing the organisation's commercial and cost management interests**
Douglas Ross, Currie & Brown	Douglas has 30 years' experience successfully supporting and delivering within budget a wide range of healthcare schemes. These include the £600 million Queen Elizabeth University Hospital and Royal Hospital for Children, the £130 million programme of works including laboratory, teaching and learning centre, Imaging Centre for Excellence, multi storey car park and office complex on the Queen Elizabeth University Hospital campus and the £200million ACAD hospitals for NHS Greater Glasgow & Clyde. He has also led cost estimating on other major healthcare schemes include £350milion planned new hospital for North Tees and Hartlepool Hospital NHS Foundation Trust and the Royal Liverpool Hospital replacement project. Douglas is also an advisor to the Government of Jersey Scrutiny Panel providing oversight on the Outline Business Case submission for the planned £400 million new hospital project. Outside of health, Douglas provides commercial leadership to the team delivering the £300 million campus expansion programme for the University of Glasgow, which includes teaching spaces and highly complex laboratories and research facilities.

[Table M5]: Monklands Project Leadership Group Membership

6.2.6 Independent Attendance at Monklands Resource Committee (MRC)

The membership of the MRC is made up of executive and non-executive members of NHS Lanarkshire as well as a number of external advisors to support the Committee's governance and decision making when it considers items for the project. The external advisors are as follows:

- Professor Harry Burns: Ex-Chief Medical Officer for Scotland and Professor for Global Public Health at the University of Strathclyde.
- Dr Mike Higgins: Ex-Medical Director of the Golden Jubilee National Hospital.
- Dr Julie Critchley: Director, NHS Assure
- Alan Morrison: Capital Investment Group Chair
- Dr Roddy Yarr: Executive Lead Sustainability, Strathclyde University

6.2.7 Independent Client Advisors

In addition to the key officers outlined above, the project has appointed a number of client advisors to support the Project Team and ensure the successful completion of all Project activities. The advisors are listed in **Table M6**. The advisors were procured via a public procurement competition, with the exception of the NHS Scotland Assure Equipping Services. NHSL has entered into a service level agreement with the NHS Scotland Assure Equipping Services, which is consistent with the approach to previous projects, to support the specification, procurement and deployment of most group 2, 3 and 4 equipment and the specification of group 1 and 1c medical equipment.

Independent Client Advisors	
Lead Advisor	Currie & Brown Lead is Douglas Ross. Douglas was C&B project director on the QEUH.
Architectural & Technical Advisors	Lead Advisor team made up of: Currie and Brown (PM, CDM & cost advisor) Keppie Design (Architects) TUVSUD/Wallace Whittle (M&E)

Independent Client Advisors	
	WSP (Civil and Structural)
Healthcare Planner	Buchan & Associates Lead is Iain Buchan. Iain has provided healthcare planning advice on a number of projects including NHS Dumfries and Galloway and the Baird and Anchor project, NHS Grampian.
Legal Advisor	MacRoberts LLP Lead is Mike Barlow.
Financial Advisors	Ernst & Young Lead is Alan Martin
Equipment Advisor	NHS Scotland Assure Equipping Services (NHS National Services Scotland) Lead is Mike Laidlaw

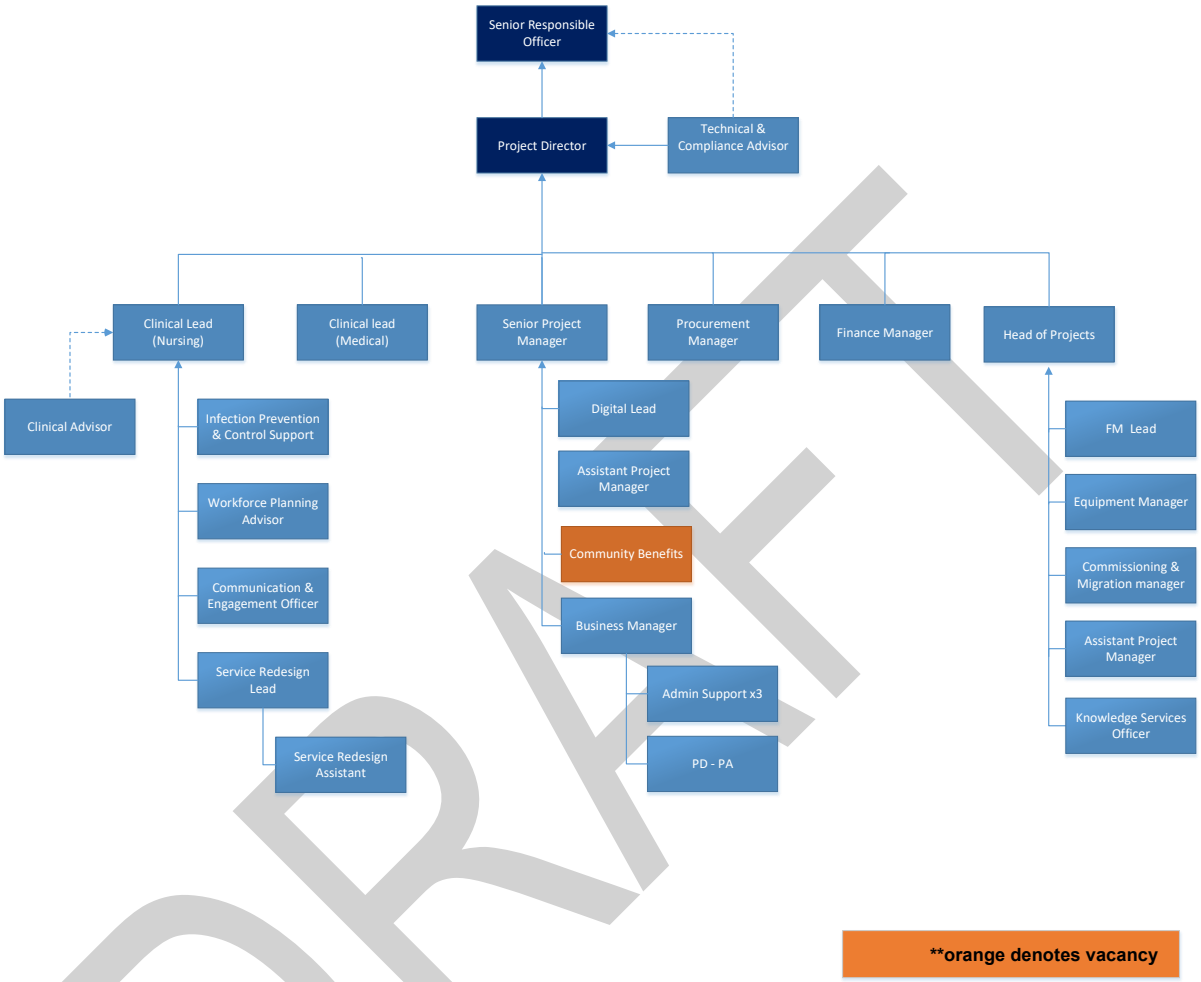
Table M6: Independent Client Advisors

6.2.8 Project Recruitment Needs

The Board of NHS Lanarkshire has invested significant financial and organisational resources in ensuring that it has sufficient capacity and capability to be able to effectively deliver and manage infrastructure Projects across the organisation.

The initial internal project management structure was developed through a combination of external advice, local experience and benchmarking against other similar acute hospital projects in Scotland. As the Project has progressed this structure has been reviewed and refreshed to ensure it continues to set out a clear and appropriate structure with sufficient resource to deliver all aspects of the Project. The core project team organogram is shown in **Figure M3**. This core internal project management and resource structure will continue to be reviewed through each stage.

The cost of the core project team over the life of the Project, including directly appointed project staff, together with external client advisers is being funded from the capital funding allocation for the Project [see Financial Case].



[Figures M3]: Core Project Team Structure

The Community Benefits role is not currently appointed, however the structure recognises that this will be a key resource requirement going forwards and work in and the Project is seeking to recruit early next year. There is also recognition that to deliver the Projects digital and information management needs additional resources may be required relating to Building Information Modelling (BIM) Management, and Information Management going forwards. These potential requirements are being developed and will be aligned to the Programme.

6.2.9 External Reviews

The Project has been and will continue to be subject to a number of external reviews including the Office of Government Commence Gateway Reviews, NHS Scotland Design Assessment Project (NDAP) and NHS Assure Key Stage Assurance Review (KSAR) all of which evaluate different aspects of delivery readiness at specific stages throughout the Project lifespan.

Gateway Review

A Gateway Review 1 was undertaken in January 2017. The report assessed the Project as Amber and suggested a range of actions to be undertaken in advance of OBC submission. The recommended actions focussed on three main areas - risk, project roles and Project governance membership. Each of these recommendations have been addressed in the intervening period. In summary, the project has implemented a robust risk management process with reporting arrangements that align with the Scottish Capital Investment Manual and NHS Lanarkshire's corporate risk management policy. This is detailed further in section 6.5.

The Project structure has been refreshed and each role has been better defined with clear roles and responsibilities that have been articulated through development of a supporting RACI matrix in addition, the supporting governance structures have also been reviewed and refreshed, as set out earlier in this Management Case, to ensure robust oversight of the Project and address duplication of membership across the key governance groups.

A Gateway Review 2 was undertaken in August 2022. The report assessed the Project as Amber with one key recommendation to ensure the Project had adequate internal scrutiny of the plan to complete drafting of the OBC and monitor progress. The Project undertook a further review of the plan that was in place to ensure it remained realistic and reflected the various levels of governance through which this OBC would be reviewed prior to submission to Scottish Government. This has been progressing on programme since this review.

Further Gateway Reviews will be scheduled as shown in **Table M7**.

Gateway Reviews	Programme
Gateway 1 – Business Justification	January 2017
Gateway 2 – Delivery Strategy	August 2022
Gateway 3 – Investment Decision	[redacted]
Gateway 4 – Readiness for Service	[redacted]
Gateway 5 – Operations Review and Benefits Realisation	[redacted]

[Table M7]: Gateway Reviews

NHSScotland Design Assessment Process (NDAP)

The NDAP review led by Architecture and Design Scotland (ADS) and NHS Scotland Assure concluded in November 2022. NDAP aims to promote design quality and service. It does this by mapping design standards to the key investment deliverables, including Scottish Government (SG) objectives and expectations for public investment, then demonstrating their delivery via self and independent assessments. The Project has achieved a 'supported status for OBC.

NHS Assure Key Stage Assurance Review

The Outline Business Case Key Stage Assurance Review (KSAR), delivered through the NHS Scotland Assure was undertaken commencing April 2022 and concluding November 2022. The Project has achieved a 'supported' status for OBC. The recommendation report and supporting action plan are being submitted to the Scottish Government Capital Investment group as separate documents to this OBC.

6.2.10 Project Plan and Delivery Timetable

Master Programme	
Activity	**Key Milestones**
Outline Business Case	
Stage 2 Design Complete	September 2022
Planning Submission	January 2023
Key Stage Assurance Review Complete	November 2022
NHSL Board OBC Submission Approval	November 2022
SGHSCD CIG Meeting	January 2023
OBC Approval (provisional)	January/February 2023
First Stage Tender Contract Award	May 2023
Planning Determination	July 2023
Full Business Case	
Commence RIBA Stage 3/4 Design	November 2023
Complete RIBA Stage 3/4 Design for tender	February 2024
Second Stage Tender Commences	Q1 2024
Finalise Second Stage Tender	Q2 2024
KSAR FBC Approval	Q3 2024
FBC Approval	Q3 2024
Stage 4	
Groundworks	Q1 2025
Construction Start - Main Works	Q1 2026
Construction Completion - Main Works	2030
Clinical Commissioning	2030
Bring into Operation	Q2 2031

[Table M8]: Project Delivery Plan Milestone

6.2.11 Summary of Project Plan

Table M9 outlines some of the key activities to be considered in relation to delivery of the Project, notably the key constraints towards completing these key activities and an overview of planned mitigation measures.

Activity	Resource Plan	Constraints
Resource Recruitment	Recruit of the internal project team and external Advisors is complete for OBC stage with a number of new appointments made since IA stage. Planning for potential future resource requirements is ongoing.	Project resources are, and will continue to be reviewed on a regular basis by the project Director and supporting senior project team. Resources will be measured against the planned Programme activities to ensure the Project continues to have the appropriate resource capacity, skills and capability to deliver a successful Project.
Stakeholder Engagement	Robust and continuous stakeholder engagement is a key focus for the project. A stakeholder matrix has been developed to ensure all stakeholders are identified and considered. The Project has a dedicated communications officer to co-ordinate and support development and delivery of the Project's communication and engagement plan.	NHSL has established a Monklands Engagement Forum which reports to the Project Board, ensuring the communications and engagement plan aligns with NHSL priorities and has adequate resource to deliver. Stakeholder Engagement will continue be reviewed by the Monklands Engagement Forum.
Planning	Significant dialogue was undertaken with North	Scheduled dialogue sessions will continue until such times as

Activity	Resource Plan	Constraints
	Lanarkshire Council during the site selection process to ensure that all sites considered during this process were deliverable. Dialogue has continued since site selection was complete to support the preparation of the formal planning application.	planning is approved. The Planning Department of NLC have confirmed that the project will progress as a major development and joint discussions have confirmed that sufficient surveys and other work have been done to support the submission of a Detailed Planning Application in late 2022/early 2023.
East Airdrie Link Road	The primary access to the site during operation will be via the proposed East Airdrie Link Road (EALR). The EALR is a city deal scheme led by North Lanarkshire Council (NLC). Engagement with NLC has been undertaken to ensure the alignment of the EALR and site access arrangements align with MRP requirements.	The final alignment of the EALR will be subject to public consultation. The progression of the EALR scheme will also be subject to business case approval. NHSL and NLC have established an MRP/EALR Interface Board at Executive level to manage the interface and interdependency between the two projects ensuring there is a coordinated partnership approach to decisions that are in the interests of both projects. To demonstrate partnership working this group is being co-chaired by NLC's Head of Infrastructure and NHSL's Head of Planning, Property & Performance.

Activity	Resource Plan	Constraints
Site Constraints	A suite of site investigations and environmental surveys has been undertaken and considered as part of the design process and construction methodology. The site constraints related to the proposed EALR are covered separately in this Table.	Appropriate surveys will be undertaken throughout the Project and are being done in a phased approach to align with the programme. Due to the close proximity of the proposed EALR scheme, ongoing liaison is taking place with the EALR team to share information or commission joint surveys. A survey tracker is being maintained by the project team to capture all the known surveys information.
Contractor Procurement	The securing of an appropriately skilled and experienced contractor for a large acute hospital build will present challenges to NHSL.	NHSL have undertaken early engagement with potential construction partners and undertaken a detailed review of the preferred procurement strategy taking into consideration feedback from the market (see Commercial Case). The Contract Notice has been issued and the selection process has concluded with selected potential construction partners being taken forward into dialogue.
Construction Phase	NHSL, the project team and the Projects advisors have considerable experience of delivering major construction	The construction of the new hospital will be undertaken on a new site, remote from the existing hospital. This will

Activity	Resource Plan	Constraints
	projects. A well-defined Scope is being developed to clearly articulate NHSL's objectives and requirements during the construction phase.	remove the risk of construction operations interfering with the operation of the hospital.
Equipment Procurement	The Equipping and Commissioning Strategy's for the new hospital are in development and will continue to be detailed as the project progresses. The project has appointed a dedicated Equipping Manager and a Commissioning & Migrations Manager. The NHS Scotland Assure Equipping Service have been commissioned by NHSL to support the process of equipment specification, procurement and the commissioning of all new equipment. They will also support NHSL to define, in due course, what existing equipment will be transferred.	NHSL is considering the long term equipping strategy for the new hospital in current procurements to manage future equipment transfer requirements. An audit of existing and transferable equipment will be undertaken during FBC to further inform requirements.
Hand-over	NHSL will work with the Contractor during the construction phase to deliver a detailed soft landings	A soft landings champion has been appointed for the project to support the delivery,

Activity	Resource Plan	Constraints
	programme which will ensure readiness for commissioning and operation the new facilities.	commissioning and smooth handover of the new hospital.
Operational Change	Change is at the heart of the MRP Clinical Strategy. The Clinical redesign works led by Healthcare Planners, was carried out over a two-year period to ensure that the clinical strategy drove the building design. The redesign works will require continued buy-in from all stakeholders across NHSL and appropriate resource and governance. The project has a dedicated Service Redesign Lead to co-ordinate service redesign activities and priorities.	A service redesign site plan is being developed and co-ordinated through the Service Redesign Lead and support by an established UHM Site Planning Group comprising service managers, operational staff and site management.

[Table M9]: Key Activities

6.3 Change Management Arrangements

6.3.1 Service Redesign Plan

The clinical strategy for the new hospital was developed during 2018/2019 and reviewed during 2020 with the support of the Project ‘s Healthcare Planners. Development of the new service delivery models involved circa 200 clinicians, operational staff and public representatives in over 80 workshops. This work resulted

in the production of output specifications for clinical and non-clinical areas of the proposed hospital and a departmental adjacency matrix which in turn has informed development of a detailed schedule of accommodation.

Further refinement has continued during development of this OBC to respond to emerging lessons learned from the COVID-19 pandemic and to remain aligned with the recovery and remobilisation of services programme. The significant work to develop these clinical output specifications and the resulting new service models is described in more detail within the Strategic Case of this OBC and will result in a significant service redesign agenda which is being delivered in tandem with this capital project so that the new hospital programme is well co-ordinated.

The clinical redesign work is being driven forward by the Service Redesign Lead in collaboration with a UHM Site Planning Group who are developing detailed service transition plans covering the next 1-5 years, informed by the output specifications. These transition plans are at an early stage of development and will continue to be developed through to FBC Stage taking account of the opportunity for services to optimise digitisation. The aim of these plans is to make early progress with service redesign strategies and where possible have them fully or partially implemented in advance of relocation to the new hospital. Working closely with the UHM Site Planning Group will help to drive project and service redesign priorities and will ensure continued alignment with current and future workforce planning.

6.3.2 Workforce Planning Process

A key element of the redesign work being progressed during the OBC stage of the project is the development of an emerging workforce plan that supports the successful delivery of the new clinical model and its supporting operational and maintenance models. This is being done in alignment the new National Workforce Strategy for Health and Social Care in Scotland, published in March 2022, which outlines a number of actions and intentions that will be pursued as opportunities to attract, train and retain a more flexible and sustainable workforce going forward.

NHS Lanarkshire have recently published their integrated three-year workforce plan that articulates and seeks to address the current workforce challenges across NHS Lanarkshire through potential opportunities, including exploring service redesign/different ways of working, accelerating training pathways, widening access to employment, expanding workforce skill base, utilising technology and development of new and existing roles.

A robust review of the workforce requirements has been undertaken across all job families for OBC stage. This has been done through a standardised approach in terms of utilising workforce planning methodology and use of planning tools where they exist. The process has ensured both a professional and operational review of the proposed requirements has taken place with a clear focus on the increased workforce requirements needed to successfully delivery the new clinical and operational models in an environment with 100% single inpatient rooms and a significantly increased footprint.

Workforce requirements have been costed for OBC Stage [see Financial case], however these will continue to be refined through FBC Stage as service redesign work progresses.

6.3.3 Recruitment Strategy

The Project has dedicated workforce planners supporting the development and implementation of a clear and detailed recruitment plan for the new hospital. NHS Lanarkshire recognises that a well-qualified and adaptable workforce will be pivotal to delivering the desired clinical and operational models.

Recruitment and retention of the workforce has been identified as a key priority and as such the project has aligned closely with the wider NHS Lanarkshire recruitment and communication teams to identify opportunities to promote the new hospital as an attractive and accessible state of the art facility where the design and operation will put patients at the centre of their care and staff well-being will be a priority.

The publication of NHS Lanarkshire's Employability Strategy will support the recruitment plan for the new facility, together with the launch of NHS Lanarkshire's new recruitment portal which promotes Lanarkshire as an attractive place to both live and work and includes staff from NHS Lanarkshire sharing their thoughts and experiences.

NHS Lanarkshire has a proven record of being innovative in seeking new roles and developing existing roles, for example the emergence of Advance Practice across the professions including the training and appointment of Critical Care Practitioners and Advanced Clinical Pharmacists. In addition, the Board have an established Assistant Practitioner programme for peri-op staff and Allied Health Professional (AHP) staff as well as supporting medical roles such as clinical development fellows.

Early work has been undertaken to develop a recruitment trajectory over time showing critical time points within which to recruit to posts identified as being required to deliver the clinical model. This trajectory and associated requirements will be agreed by professional and operational leads in advance of FBC submission.

As the Project moves through FBC Stage, the recruitment strategy will be refined and detailed in the developing plan. This will be supported by the Workforce Sub-group that has been established to ensure continued monitoring and progress.

6.3.4 Facilities Change Planning

A non-clinical output specification was developed with the Facilities Management (FM) team concurrently with the development of the clinical strategy and clinical output specifications. This has ensured that the non-clinical redesign work has taken account of changes to the clinical strategy as well as considering key operational and maintenance factors such as the single room design and increased footprint of the new facility.

Further refinement has continued during development of this OBC to respond to emerging lessons learned as a result of COVID-19 pandemic and to maintain

alignment with the recovery and remobilisation of services programme. This work has included meetings with stakeholders from all relevant FM services including estates, logistics, fire & site safety, domestic & portering, waste management and laundry.

It is intended that the operational and building maintenance services for the new hospital will be delivered by the in-house teams that deliver FM services within the existing UHM and wider NHS Lanarkshire estate, which has been a key consideration for workforce planning. This is also being consider as a key part of the wider FM change management plan which will focus on the pre-handover and early operational years of the new hospital. Whilst the details are still being fully defined, the procurement strategy for the Project provides an opportunity for NHS Lanarkshire to include an extended Soft Landings period during which the internal FM teams could have continued support and training from the Contractor for up to 24 months after the hospital becomes operational. This requirement will continue to be developed through FBC and in advance of the second stage tender.

6.3.5 Stakeholder Engagement and Communications Plan

The relocation of the existing UHM poses as both an opportunity and a challenge to the patients, staff and wider population of Lanarkshire and will affect different people in different ways. Since the IA, a considerable number of stakeholders have engaged with the project to contribute to development of the clinical and non-clinical design, the site selection process and wider hospital strategies.

NHS Lanarkshire recognise the importance of continued collaboration with stakeholders and the need to keep people appropriately informed, assured and engaged in the project as it progresses through each stage. To support this, a stakeholder matrix was developed to inform the development of a more detailed Communication & Engagement Strategy for OBC Stage. The Communication & Engagement Strategy [see **Appendix 19**] was the basis for developing a supporting action plan that is and will continue to be implemented by the Project Communications & Engagement Officer.

Additionally, a Project specific stakeholder engagement group, the Monklands Engagement Forum (MEF), has been established to further support the Projects stakeholder engagement activities. The MEF supports and guides the Monklands Replacement Project Team and provides scrutiny in how it informs, engages and consults with people on the MRP and wider Lanarkshire community. The MEF membership comprises public, patients, carers and third sector representatives. Healthcare Improvement Scotland – Community Engagement also participates as an attendee. One of the MEF's primary functions is to advise NHS Lanarkshire on how it informs, engages and consults with patients, carers and the public on MRP as the Project progresses.

6.3.6 Training and Development Plans

The successful delivery of the new service models for the MRP are reliant not only on the new building and its configuration, but also on staff who are capable and trained in the required new ways of working. NHS Lanarkshire acknowledges this will be a significant undertaking that cannot solely rely on on-the-job training. Dedicated time will need to be planned and budgeted for in the months and years leading into the new facility opening.

To achieve this, NHS Lanarkshire has developed an outline Training and Development Plan to support implementation of the service redesign transition plans. This plan has been included as **Appendix 20** and is framed around the following key aims to:

- Support staff to be ready to work in different ways that align with the new clinical model ahead of opening.
- Support the deployment of redesigned services, both as test-of-change, partial or full implementations.
- Support safe and efficient commissioning and operation of the new facilities.
- Set out the time commitment required by the Board to ensure appropriate training of staff ahead of the new hospital opening.

The outline Training & Development Plan will continue to be developed and will be reviewed annually to monitor progress until the hospital is operational.

6.4 Benefits Realisation

6.4.1 Benefits Realisation Plan

In large capital projects the rationale for investment must be reflected in the realisation of demonstrable benefits. These benefits need to be recorded, monitored and realised to provide accountability and clear evidence that confirms the successful delivery of the project.

During IA Stage several benefit themes were identified and set against the key investment objectives to:

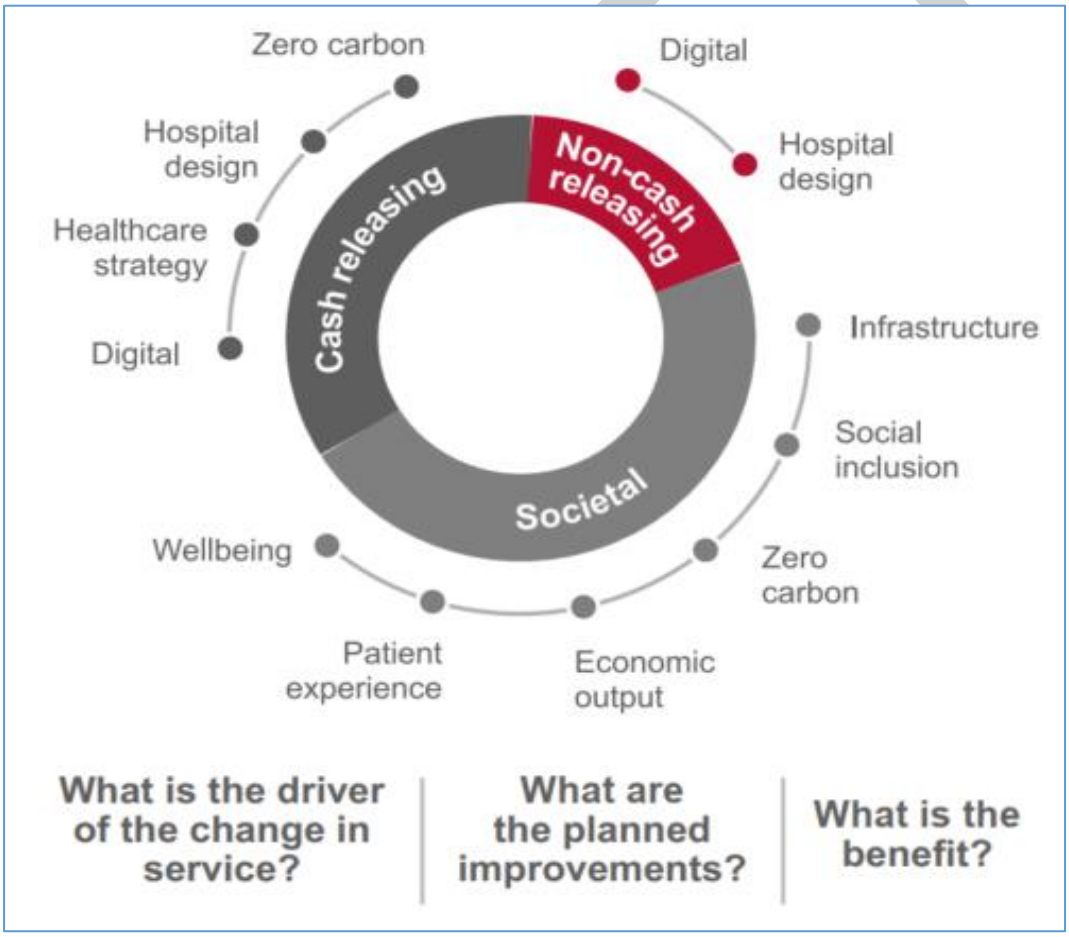
1. Improve person-centred services,
2. Improve the safety of patient care,
3. Improve clinical effectiveness,
4. Enhance the patient experience,
5. Deliver improved clinical outcomes,
6. Improve the quality of the physical environment,
7. Provide flexible and adaptable facilities across the healthcare system.

These remain valid, however they have been refreshed and further developed as part of this Benefits Realisation Plan. This was done in accordance with the SCIM Benefits Realisation Guidance ensuring the importance of identifying any wider societal, environmental and employment benefits for the local community that the project might influence.

Stakeholders have also expressed a strong desire to ensure that the benefits realisation plan includes the focus on staff health and well-being, particularly following the pandemic, and also the opportunity to design a ‘digital hospital’ which will act as the foundation for the new model of care.

The benefit themes were also further developed to reflect the increased focus on responding to the Energy Efficient Scotland Route map which "*requires public sector buildings to be zero carbon by 2050"* and in response to the Scottish Government calling a Climate Emergency, *"committing to become a net zero carbon economy by 2045*". The project aims to exceed these targets with an ambition to be net zero from day one, as an outcome of being a pathfinder Project for the new Net Zero Carbon Public Sector Buildings (NZCPSB) standard.

This refresh of anticipated benefits was guided by the benefits identification model shown in **Figure M4** which seeks to ensure a rounded approach to benefits identification.



[Fig M10] Benefits Identification Model

The refreshed list of benefits criteria is shown in **Table M10** and aligns with both the SCIM Benefits Realisation Guidance and the Project's Strategic Investment Priorities.

The importance of achieving net zero within this project has led to an additional sixth criterion being added to the five suggested in the SCIM guidance. (The SCIM benefits includes a limited range of environmental sustainability indicators in the value and sustainability benefits).

Benefits Criteria & Outputs	Outcomes	Impacts (TBC)
Person-centred	▪ Delivery of patient centred services. ▪ Better clinical adjacencies to support patient flows and staff skill mix. ▪ Rapid clinical assessment at front door to determine most appropriate clinical management and avoid unnecessary admissions into downstream specialist beds. ▪ Focused Frailty pathway for the rapid assessment and treatment of older adults; ▪ Optimised use of ambulatory pathways. ▪ Greater workforce and space efficiency, as well as optimised theatre utilisation through delivery of the Peri-op model.	▪ Increase number of 'emergency' attendances treated via non-inpatient pathways. ▪ Reduced patient travel from virtual outpatient appointments. ▪ Reduced patient travel as a result of avoided outpatient appointments. ▪ Improved patient wellbeing as a result of avoided outpatient appointments Improved wellbeing from reduced length of stay. ▪ Improved dementia patient experience. ▪ Improved wellbeing for surgery patients. ▪ Improved surgical inpatient experience.

Benefits Criteria & Outputs	Outcomes	Impacts (TBC)
	▪ Increased capacity across diagnostic to manage flows. ▪ Adoption of more flexible ways of working supported by technology and telehealth solutions. ▪ Better patient experience through a more joined up approach to care delivery. ▪ Ensure that people who use health and social care services have positive experiences and their dignity respected ▪ improves support to allow people to live independently ▪ Improves support for carers ▪ Improves the Physical condition of the health / care estate ▪ Improves the quality of the healthcare estate ▪ Improves people's opinion of the hospital environment ▪ Reduces the age of the Healthcare Estate	▪ Improved wellbeing for family/friends of patient from patient reduced length of stay ▪ Reduced deterioration of frail patients ▪ Improved cancer patient experience. ▪ Percentage of adults receiving any care or support who rate it as excellent or good. ▪ Reduced patient readmission rate. ▪ Reduced delayed discharge rate. ▪ Percentage of carers who feel supported to continue in their caring role ▪ Proportion of estate categorised as either A or B for the Physical Condition appraisal facet ▪ Proportion of positive responses to the In-Patient Questionnaire on patient rating of the hospital environment. ▪ Percentage of estate less than 40 years old.

Benefits Criteria & Outputs	Outcomes	Impacts (TBC)
Safe	▪ Environment that supports effective prevention and control of infection. ▪ Fully compliant with fire regulations. ▪ Ability to identify and prioritise the early intervention and management of the sickest patients. ▪ Using digital to support delivery of the new clinical, operational and building strategies – prioritising safety and efficiency ▪ Reduces Healthcare Associated Infection ▪ Reduces adverse harmful events ▪ Improves statutory compliance ▪ Reduces backlog maintenance ▪ Reduces significant and high risk backlog maintenance ▪ Reduces C.Difficile Infections ▪ Reduces MRSA/MSSA Infections	▪ Improved infection control resulting in reduced nursing time spent treating infections. ▪ Percentage HAI prevalence in acute hospitals. ▪ Hospital Standardised Mortality rate per 100,000 for people aged under 75 in Scotland. ▪ Overall percentage compliance score from SCART. ▪ Reduction in backlog maintenance costs ▪ Significant & high risk backlog as percentage of total backlog. ▪ Reduction in bed closures due to infection outbreaks. ▪ Number of C.Difficile /MRSA & MSSA cases per 1,000 acute occupied bed days

Benefits Criteria & Outputs	Outcomes	Impacts (TBC)
Effective quality of care	▪ Improved patient flows from assessment to discharge enhanced by the front door assessment model and optimum adjacencies that support new models of care and flexible workforce flows. ▪ Access to training and development to empower staff to carry out their roles supported by access to the research & education centre. ▪ Development of a workforce strategy to support single room accommodation across all job families. ▪ Increased technology enabled support with access to remote clinical decision making. ▪ Meets the requirements of all clinical standards, guidance and legislation ▪ Flexible facility that can adapt to current and future healthcare needs.	▪ Improved wellbeing from reduced length of stay. ▪ Reduction in administration time accessing and updating patient records. ▪ Cost savings will be delivered through a reduction in length of stay that only the new hospital will enable. ▪ Improved digital tracking of patients reducing time spent locating patients when providing diagnostics and treatment. ▪ Rate of emergency admissions per 100,000 population. ▪ Proportion of estate categorised as either A or B for the Functional Suitability appraisal facet. ▪ Patients aged 75+ per 1,000 populations –as a proportion of acute occupied emergency bed days. ▪ Number of discharges that took more than 14 days ▪ Number of unplanned A&E attendances per 100,000 population.

Benefits Criteria & Outputs	Outcomes	Impacts (TBC)
	▪ Access to real-time data and analytics at patient, ward and departmental level improving the co-ordination of resources and patient flows. ▪ Reduces emergency admissions to hospital ▪ Improves the Functional Suitability of the Healthcare Estate ▪ Reduces the rate of emergency inpatient bed days for people aged 75 ▪ Avoids people waiting more than 14 days to be discharged from hospital into a more appropriate care setting, once treatment is complete ▪ Reduces the rate of attendance at A&E ▪ Supports 95% of patients waiting less than 4 hours from arrival to admission, discharge or transfer for accident and emergency treatment	▪ Percentage of people waiting less than 4 hours at ED.
Health of Population	▪ Appropriate range of accommodation to meet	▪ Improved patient wellbeing as a result of increased capacity

Benefits Criteria & Outputs	Outcomes	Impacts (TBC)
	patient, staff and visitor needs. ▪ A variety of landscaped outdoor spaces to aid rest & recovery and support health & wellbeing ▪ Improved whole system visualisation at site level through operational commend model ▪ Using digital to support better health and welfare outcomes for staff and patients. ▪ Using digital to help tackle health inequalities through better access to services. ▪ Supports people in looking after and improving their own health and wellbeing ▪ Supports reduction of premature mortality.	for outpatient and diagnostic procedures ▪ Rate of emergency inpatient days for adults ▪ Death rate among those aged under 75 per 100,000 population.
Value and Sustainability	▪ Improved working environment with well-designed staff and wellbeing facilities to attract a workforce. ▪ Using digital to support delivery of the new clinical, operational and building	▪ Reduced lifecycle costs (per m2). ▪ Reduced maintenance and backlog costs (per m2). ▪ Improved staff wellbeing. ▪ Reduced patient travel from virtual outpatient appointments.

Benefits Criteria & Outputs	Outcomes	Impacts (TBC)
	strategies – prioritising safety and efficiency ▪ Using robotics to drive efficiency and automation. Transforming the way, we do things ▪ Harnessing the digital twin to improve clinical, operational and asset performance. ▪ Meets minimum size guidelines for clinical and non-clinical accommodation optimising function. ▪ Increases level of staff engagemen.t ▪ Optimises resource usage. ▪ Improves accommodation space utilisation. ▪ Optimises overall running cost of buildings. ▪ Optimises cleaning costs. ▪ Optimises property maintenance costs. ▪ Optimises PPP Facilities management costs. ▪ Optimises energy usage costs. ▪ Optimises rent or rates costs.	▪ Reduced sickness (shifts not filled). ▪ Improved medical student satisfaction. ▪ Drugs costs should reduce through less wastage. ▪ Standardised design of ward spaces and single rooms - Reduction in medical time. spent on ward rounds. ▪ Standardised design of ward spaces and single rooms - Reduction in nursing time spent on processes and procedures in a standardised room layout. ▪ Co-location of services and hospital layout - reduce nursing staff time spent walking between hospital areas. ▪ Co-location of services and hospital layout - reduce medical staff time spent walking between hospital areas. ▪ Reduction in patient transfers due to single rooms - in room treatments and procedures previously requiring transfer

Benefits Criteria & Outputs	Outcomes	Impacts (TBC)
	▪ Optimises catering costs. ▪ Optimises portering costs. ▪ Optimises laundry costs. ▪ Optimises waste costs. ▪ Reduces financial burden of backlog maintenance and/or future lifecycle replacement expenditure. ▪ Improves design quality in support of increased quality of care and value for money. ▪ Improves financial performance.	to another room or transfers due to Same Sex. ▪ Increase in virtual appointments. ▪ Reduction in administration time accessing and updating patient records. ▪ BIM CAFM/ Digital twin status reporting of equipment leading to less time spent locating equipment and time equipment spent out of service. ▪ Percentage of staff who they say they would recommend their workplace as a good place to work ▪ Cost of delayed discharge ▪ Cost of end of life care in acute hospital ▪ Cost of emergency admissions ▪ Proportion of estate categorised as 'Fully Used' for the Space Utilisation appraisal facet ▪ Total occupancy cost of building ▪ Cleaning cost £ per sq.m.

Benefits Criteria & Outputs	Outcomes	Impacts (TBC)
		▪ Property maintenance cost £ per sq.m. ▪ PPP Facilities management cost £ per sq.m. ▪ Energy cost £ per sq.m. ▪ Rent or rates £ per sq.m. ▪ Catering cost £ per consumer week or sq.m. ▪ Portering cost £ per consumer week or sq.m. ▪ Laundry cost £ per consumer week or sq.m. ▪ Waste cost £ per consumer week or sq.m. ▪ Backlog maintenance cost ▪ Facilities Condition Index (FCI) ▪ AEDET score
Net Zero	▪ Net Zero pathfinder Project helping to determine the approach for future major infrastructure projects. ▪ First fully designed Zero Carbon Heat Source run Hospital (assuming green grid). ▪ Improved green space factor. ▪ Ambitious Embodied Carbon target	▪ Reduced operational energy costs (per m2) ▪ Carbon savings from energy efficiency measures on site ▪ Improved internal air quality ▪ Improvements to transport network/infrastructure ▪ Recurring revenue budgets ▪ Percentage reduction in CO2 emissions NET ZERO

Benefits Criteria & Outputs	Outcomes	Impacts (TBC)
	▪ Reduces carbon emissions and/or energy consumption	▪ Percentage reduction in energy consumption NET ZERO

[Table M10] Benefits Criteria Outcomes and Potential Impacts.

To ensure continue alignment with the benefits identified during IA, a mapping exercise was undertaken linking the IA benefits to the new benefits criteria at OBC stage. The output of this is shown in **Figure M5**.

[Fig M5] Anticipated benefits from IA mapped on to new benefits criteria based on SCIM Guidance

6.4.2 The Benefits Realisation Plan

The Benefits Realisation Plan outlines:

- Which investment objective the benefit addresses,
- Who will receive the benefit,
- Who is responsible for delivering the benefit,
- Describes any dependencies that could affect delivery of the benefit,
- Defines any support needed from other agencies to realise the benefit,
- Sets target date by which it is hoped the benefit is achieved.

The Benefits Management Plan is a cyclical process with three stages feeding into the economic appraisal of the project as shown below in **Figure M6.**

[Fig M6] Stages of the Benefits Management Plan

Each stage is refreshed at subsequent stages of the investment process to ensure that the projects benefits remain aligned to the investment objectives, therefore this cycle will be repeated at FBC.

Utilising the process of identifying and logic mapping has been helpful in compiling a comprehensive Benefits Register. The process of identifying and logic mapping benefits is based on linking the project's outputs (products or key activities that produce a result) with their subsequent outcomes (the result of the change from the

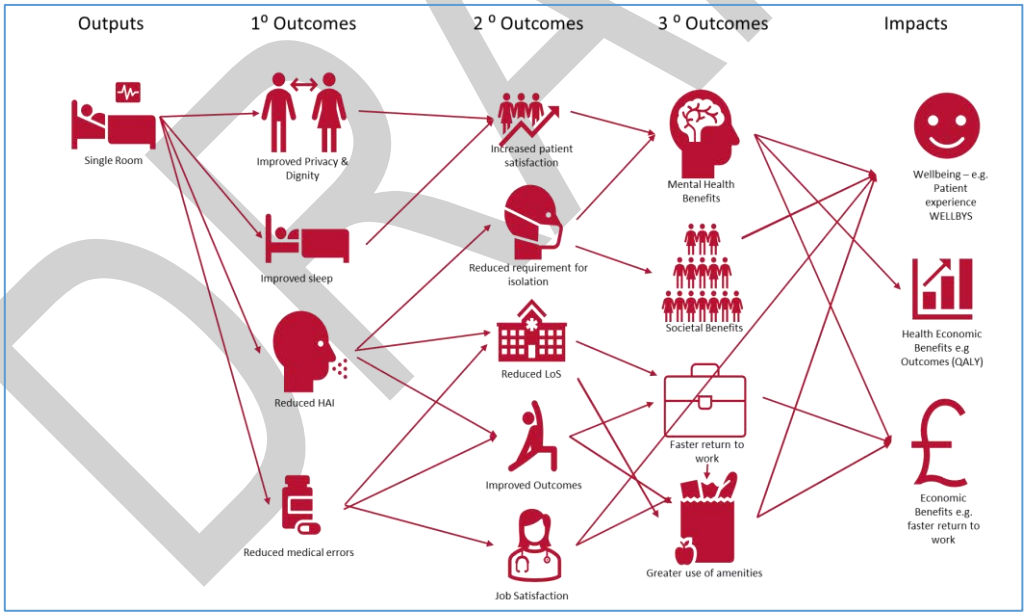
output). Outcomes are then mapped onto the impact of the benefits (the long-term outcomes and economic benefits).

Identifying and understanding outputs can be difficult and for this reason stakeholders found it more manageable to break this task down by firstly considering outputs at a high-level.

Three Project level outputs were agreed:

1. A new location
2. A new hospital building
3. A new model of care

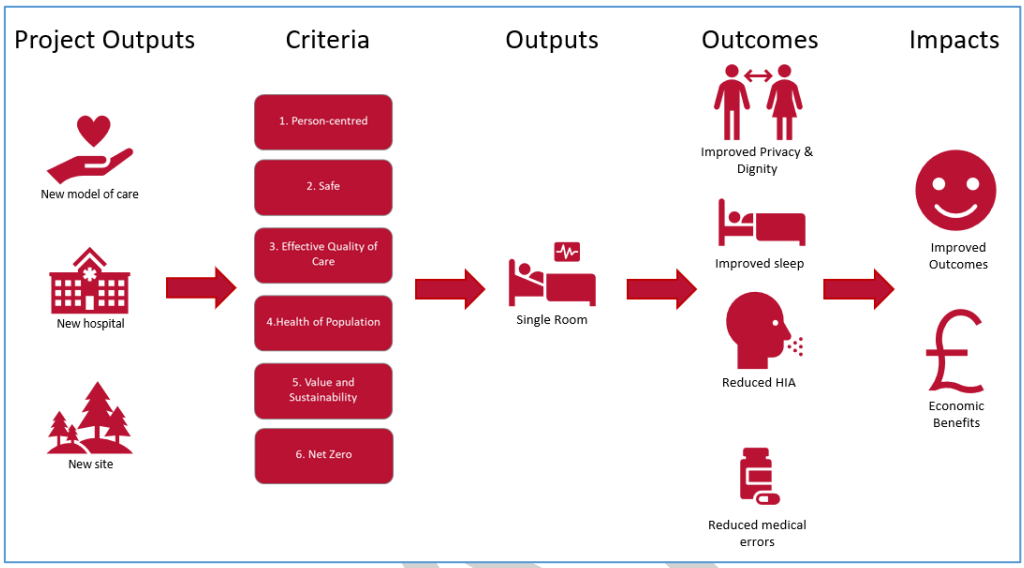
An example of the 'identifying' process being undertaken by the Project is shown in **Figure M7** which reflects a move to 100% single inpatient rooms.



[Figure M7] Benefits Logic Map for Single Room Accommodation

Identifying outcomes can also be difficult, especially when outcomes are linked. With this in mind, the benefits logic map allows for the inclusion of primary, secondary and tertiary outcomes which allows stakeholders to consider multiple interconnected outcomes.

The high-level project benefits logic map is shown below in **Figure M8** and links project outputs to the relevant benefits criteria, then to an individual output and its associated outcomes and impacts.



[Figure M8]: High Level Benefits Logic Map Structure

The anticipated benefits to be achieved through the Project will continue to be established and quantified through the process outlined above and will be done in collaboration with a comprehensive range of stakeholders including patients, carers, clinical teams, operational management, estates & FM, IT and finance staff.

As well as aligning with SCIM, the Benefits Realisation Plan has been developed to align with guidance set out in the HMT Green Book (2020) and reflects the importance placed on ensuring that the investment in a new Hospital will deliver tangible outcomes.

6.4.3 The Benefits Plan – Governance

The Benefits Realisation Plan is one of the key processes/tools that will enable the Board to ensure that the Project is designed and managed in the right way to deliver quality and value to patients and staff. Each benefit that has been identified will be

subject to ongoing monitoring throughout the development of the Project, with the key metrics including the quantification, being reviewed and updated as required.

The Benefits Realisation Plan will also be aligned with the developing change management plan to ensure that the changes required to deliver the benefits are clearly articulated.

Robust benefits realisation is critical to the project success and is therefore an integral part of Projects reporting, approval and governance arrangements. A Benefits Management Group is being established as a formal working group of the Project Team going into FBC. This group will meet bi-monthly to further develop and review the benefits register, consider any new benefits and accept updates from benefit owners. The group will also oversee the successful delivery of the benefits realisation plan escalating any risks or issues through Project governance.

The group will also act as a steering group to the Benefits Realisation Plan ensuring that the identification, logic mapping and quantification of benefits is appropriately resourced with representation from across the project structure. The group will also ensure that all benefits identified are continually aligned with investment objectives and are SMART (Specific, Measurable, Achievable and Time-bound).

Benefits realisation will be ongoing over the life of the Project through all stages. Progress will be reported through the governance structures set out in **Figure M1** earlier in this Management Case at regular intervals and will culminate in the Project Evaluation Report.

6.4.4 The Benefits Register

The projects Benefits Register has been populated with benefits identified, mapped and quantified using the process outlined above over several months as an output of discussions with a wide variety of stakeholders at a series of meetings. This work builds on the anticipated benefits identified during the significant stakeholder engagement work undertaken at the outset of the Project through which the initial themes were identified.

The register is designed to be consistent with the approach and layout suggested in the SCIM Benefits Realisation Guidance and includes:

- A brief description of the benefit
- An indication of how the benefit is to be assessed i.e. qualitatively, quantitatively or financially, e.g.:
    - Cash releasing - Quantified in financial terms, where budgets would be reduced by the value of the benefit. Reduce the costs for organisations and typically means an entire resource is no longer needed for the task e.g. 100 % single rooms – reduced need for isolation facilities.
    - Non-cash releasing - Quantifiable in monetary terms but no money is actually released from a budget. It can represent productivity savings whereby small elements of time are saved. e.g. 100% single rooms – standardised layout may make nursing tasks more efficient but no accompanying headcount saving.
    - Societal - Quantifiable in monetary terms but the benefit is realised by society outside the NHS e.g. 100% single rooms, reduces HAI and medical errors, therefore reducing length of stay, therefore earlier return to work. Quantified by GDP contribution.
    - Unmonetisable - These benefits are of value to society but cannot be monetised e.g. 100% single room model delivers a 5% improvement in patient experience survey scores.
- A description of the benefit measure (or an indication of why it is currently unquantifiable),
- The baseline value of that measure which reflects the current arrangement,
- The target value which indicates the level of improvement expected of that measure once the benefit is realised (this may be indicative at IA stage but needs to be confirmed by OBC stage),
- Information on the assumptions used in setting the baseline and target values should be provided where it is necessary. This will ensure appropriate assessment when monitoring and evaluating the benefits at a later stage,

- Dis-benefits which have a negative impact on beneficiaries,
- The relative importance of each benefit (see below).

The relative importance of each benefit has been assessed as suggested in the SCIM Benefits Realisation guidance and includes three levels of relative importance as outlined in **Figure M9** below.

Scale / RAG	Relative Importance
1	Fairly insignificant
2	↕
3	Moderately important
4	↕
5	Vital

[Figure M9] Prioritisation of Benefits

The full Benefits Register is included as **Appendix 21.**

Establishing baseline values has been challenging following the pandemic as a new baseline emerges from the re-mobilisation programme. To ensure target values are realistic, baseline values will be refreshed using 2022 data and beyond as appropriate. In addition, a number of benefits still require the creation of baseline information, this is particularly in relation to qualitative patient and staff survey work which will be completed well in advance of FBC submission.

6.4.5 Community Benefits

All public sector contracting authorities are required to include community benefit requirements for all regulated procurements where the estimated value of the contract is equal to or greater than £4 million. The value of the Monklands Replacement Project contract will be significantly higher than the £4 million threshold and Community Benefits are therefore be a core part of the procurement for a construction delivery partner.

NHS Lanarkshire recognises the opportunity for the Project to support and contribute to sustainable employment opportunities; education and skills training; environmental sustainability and economic regeneration through the construction and operational stages and have established a working group whose primary remit has been to develop a Community Benefits Plan.

The Community Benefit Toolkit developed by Scottish Future Trust has been used as a supporting framework to underpin the development of this plan recognising that it compliments all Scottish Government statutory guidance whilst setting out a structured approach to defining, procuring, measuring and reporting on community benefits within construction contracts.

Alongside the plan, the Community Benefits Group have developed a comprehensive list of community benefits requirements that have been set out against the following themes:

- Employment: such as opportunities available for new entrants, graduates, apprenticeships, etc.
- Skills and training: such as opportunities available for work placements, curriculum support, school/college visits, educational engagement, etc.
- Environmental: such as opportunities to recycle waste, reduce waste to landfill, reduce site pollution, enhance the local habitat, reduce carbon emissions, etc.
- Economic: such as opportunities to award work (subject to appropriate procurement rules) enhance supplier engagement & training, support community events, etc.
- Community Priorities: such as the opportunity to support a community initiative and keep the community informed and engaged with the construction phase of the Project.

The Project is collaborating with a wide range of stakeholders to develop the plan including North and South Lanarkshire Local Authorises; Supplier Development Programme; Scottish Futures Trust; Construction Industry Training Board (CITB);

University of Strathclyde; Voluntary Action North and South Lanarkshire; community representatives and a range of NHS Lanarkshire stakeholders.

The community benefit requirements are included as **Appendix 22**.

6.5 Risk Management

A robust risk management process is established for the Project which aligns with SCIM guidance and reflects NHS Lanarkshire's corporate risk management strategy with a view to strengthening understanding, oversight, and governance of the Project's level of risk.

On progressing with development of this OBC, the Project Team sought to review the risk register developed at IA stage and update it in line with any known changes in assumptions. This scope was then expanded to include any further risks that had been identified at OBC stage and consider whether common risks identified during other Framework 2 and SCIM projects shared through NHS Scotland Assure, were appropriately reflected on the risk register.

6.5.1 Risk Register

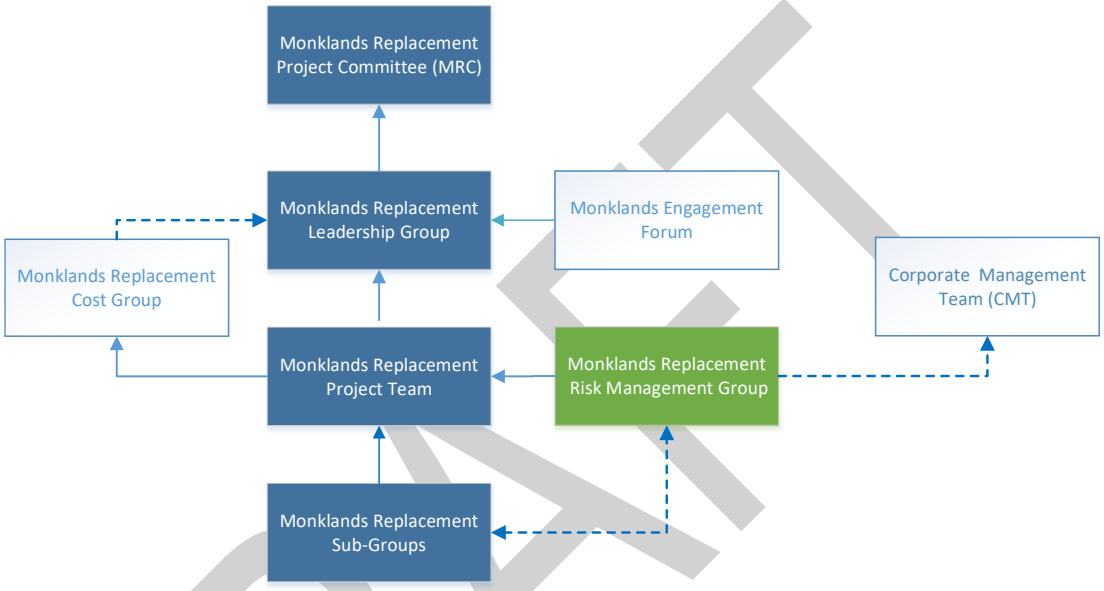
The risk register is being maintained as a single repository for the capture, assessment, management and monitoring of all the Project risks and is being maintained as a dynamic document and updated in line with set risk review periods. The Risk Register, as of November 2022, is included as **Appendix 23**.

6.5.2 Risk Governance

Robust risk management is critical to the Project's success and is therefore an integral part of Projects reporting, approval and governance arrangements. All risks on the current register have a named owner and supporting lead who collectively are responsible for managing those risks on a day to day basis. A Risk Management Group has also been established as a formal working group of the project team which

meets bi-monthly to review the risk register, consider any new risks and accept updates from risk owners.

Figure M10 shows the risk reporting structure that is in place to ensure there is adequate breadth and depth of risk visibility and communication across the Project and its supporting governance structures.



[Figure M10] Risk Management Governance

In line with SCIM guidance, the risk management process and procedures have evolved as the project has progressed from IA to OBC to support the increasing complexity of the project which brings with it an increasing risk profile. Part of this evolved approach is the implementation of three risk management roles that are responsible for the co-ordination and management of the risk register and associated activities. Those roles are:

Role	Organisation	Responsibilities
Risk Manager	MRP, NHS Lanarkshire	▪ Manage the project risk register. ▪ Develop & implement the risk management process.

Role	Organisation	Responsibilities
		▪ Ensure all risks are assessed, controlled, monitored, reported and escalated through the appropriate governance. ▪ Promote a risk awareness culture across the project. ▪ Co-ordinate, manage and chair the Risk Management Group. ▪ Prepare monthly reports to the Project Team. ▪ Promote a risk awareness culture across the Project.
Risk Advisor	Currie & Brown	▪ Advise the Risk Manager as appropriate. ▪ Advise on management of the Project risk register. ▪ Advise on the risk management process and alignment with SCIM. ▪ Develop the costed risk register ▪ Promote a risk awareness culture across the Project.
Risk Facilitator	MRP, NHS Lanarkshire	▪ Provide an administration function to risk management procedures. ▪ Schedule bi-monthly risk workshops. ▪ Co-ordinate updates from risk owners in line agreed risk review periods. ▪ Update the risk register in line with risk workshops/risk owner updates. ▪ Maintain the risk action tracker.

[Figure M11] Risk Management Roles

6.5.3 The Costed Risk Register

Commercial risks identified on the project risk register directly related to capital investment and with the potential to impact the overall capital costs have also been captured on a fully priced risk register that has supported the finalised risk allowance included in this OBC [See commercial case]. Risk will be a constant theme as the project moves through the design stages from OBC to FBC and then into construction, with the modelled risk allowance recalculated at key stages to reflect movement in risk probabilities/risk estimates in order that there is an evolving update to support the forecast final outturn cost position. The retained Board risks will be managed by the project team to minimise potential occurrence and financial impact.

6.5.4 Key Project Risks

There are a number of key risks that are currently present some challenge to the master programme and overall affordability of this scheme:

- **Workforce Recruitment & Retention –** Successful delivery of the clinical and operational strategies is reliant upon the ability to recruit and retain an appropriately skilled workforce. The current workforce deficit across the Board make this an even greater challenge for the Project. NHS Lanarkshire has recently published its refreshed Workforce Strategy which has provided a basis for the developing workforce plan for the Project which will set out early opportunities to work collaboratively with schools, colleges and universities to identify, engage, train and prepare the future workforce. The redesign of digital services will also play be a major contributor to reducing the workforce gap by creating efficiencies across the system through, for example automation, alerting, simplified processes and ease of access to information and decision support. This will be a key element of assessing and evaluating value added from digital intervention opportunities across the Project. The project will also harness the opportunity to attract a new workforce through delivery of Community Benefits by providing opportunities for employment, skilled apprenticeships, placements and training.

- **Planning approval** – The pre-planning Application Notice and formal consultation activities concluded in March 2022, with submission of the planning application expected to follow towards the latter part of the calendar year. This follows an extensive period of dialogue between NHS Lanarkshire and North Lanarkshire Council (NLC) Planning department to determine the scope of the planning application submission and confirm whether there is a requirement for the application to include the East Airdrie Link Road scheme. This dialogue period has been longer than initially programmed and has moved the target submission date by 5-6 months. That said, the period for determination is estimated to be 6-9 months which would currently have no material impact on the Master Programme, however this will need close monitoring through continued dialogue with NLC Planning to identify further risk of slippage early and ensure the Master Programme can respond.

- **Relocation of Electricity pylons –** The site has a number of electricity pylons running through it that require to be relocated to allow earthworks to commence. Prior to this relocation work starting, stabilisation / treatment to the old mine workings requires to be undertaken and completed. A delay in relocating the pylons could impact the Master Programme as it would prevent the earthworks / formation of the development platform from starting. This programme will need to be closely monitored with ongoing dialogue with SPEN maintained throughout to identify further risk of slippage early and ensure the Master programme can respond.

- **Ground settlement -** The Project requires significant earthworks movement to be undertaken to create the development platform. Settlement of the platform is needed to achieve the necessary structural load bearing requirements before any meaningful construction activity can take place on the newly formed platform which impacts the Master Programme Site investigation work is already underway to test the ground performance measures which will help to determine a more accurate timeline around this settlement and the potential for a phased approach to construction is being considered.

- **Inflation/Market Conditions -** The construction industry continues to be impacted by external events such as war in Ukraine and energy crises driving up raw material costs

which flow through to higher construction costs. The Department for Business, Energy and Industrial Strategy (BEIS) Index of Construction Materials Prices for 'all work' increased by 21% year to June 2022, and whilst the interventions by the Government to cap energy costs for a period are welcome it is unlikely costs will reduce in the short to medium term resulting in higher levels of costs of construction materials being maintained. The September 2022 forecast by Building Cost Information Service (BCIS) notes a 6.9% increase in tender prices during 2023, an increase of 2.2% from their June forecast which indicates the volatility in predictions. The BCIS are only predicting a return to more normal levels of inflation below 3% from 2026 onwards.

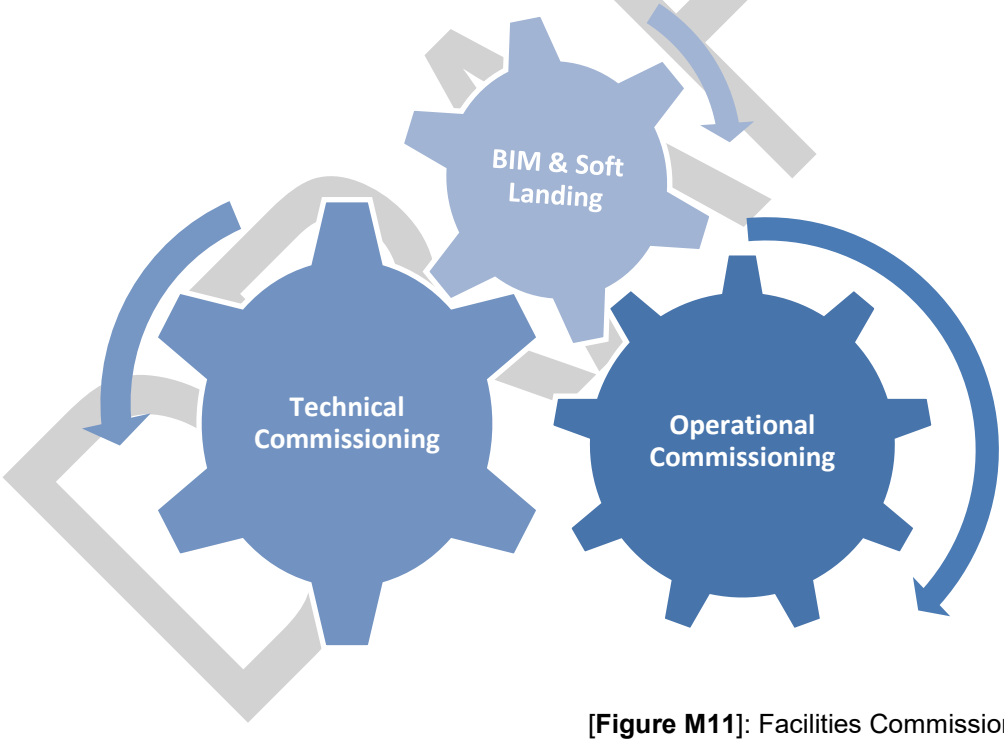
- **Key Stage Assurance Reviews (KSAR's) -** Key Stage Assurance Reviews (KSAR's) are a process ensuring facilities and the teams using them are able to deliver the standards required to provide the best and safest outcomes for patients, staff and visitors in the built environment. This a relatively new process introduced by NHS Scotland Assure in response to lessons learned from other recent healthcare projects. Whilst acknowledging the importance and value that an independent peer review brings to assuring the overall success of the Project, it is a relatively resource intensive process that adds some months to each stage of the Programme. The Project team intends to maintain dialogue with the NHS Scotland Assure KSAR team during progression of FBC and will use learning from the OBC KSAR process to systematically gather the required evidence throughout to reduce effort at the point whereby all deliverables for FBC are complete in order to support the most efficient KSAR programme.

- **Alignment of East Airdrie Link Road/ MRP Programmes -** The primary access road for the new hospital will be the East Airdrie Link Road The EALR is a Glasgow City Region City Deal and North Lanarkshire Council funded scheme to connect the M8 with Cumbernauld by way of a 9.5km single carriageway routed to the east of Airdrie, as part of the Pan Lanarkshire Orbital Transport Corridor. Both projects are complex and are further complicated by the fact that the projects will physically overlap at locations and that delivery of works phases are likely to take place at the same time. Developing and constructing an acute hospital and infrastructure project adjacent to each other with overlapping earthworks, construction accesses and timescales is a

complicated process. An extensive period of dialogue has already been undertaken between NHS Lanarkshire and North Lanarkshire Council NHS and a joint Project Interface Board (PIB) has now been established to provide the required degree of oversight and coordination to the two projects. The PIB will consider proposals to ensure the interface and integration of these projects is carefully managed, with any integration issues considered and addressed appropriately and for the betterment of the people of Lanarkshire.

6.6 Commissioning

The importance of the commissioning process cannot be under-estimated, as failure to adequately consider this process is likely to cause increases to project costs and failure to deliver agreed service benefits and project outcomes.



[**Figure M11**]: Facilities Commissioning Diagram

Figure M11 establishes how the commissioning process is organised and outlines the key tasks to be addressed. The best practice principles of Building Information Modelling (BIM) and the Soft Landings Programme will be embedded at every stage to deliver a high quality, safe, and efficient care facility. The four key elements of a successful commissioning plan include:

- Building Information Modelling (BIM)
- Soft Landings Programme
- Technical Commissioning
- Functional (Operational) Commissioning

BIM

Building Information Modelling (BIM) is planned to support the Project in achieving more efficient ways of briefing, procuring, creating and maintaining its associated physical built assets (buildings, infrastructure and public realms) throughout its entire lifecycle. The as-built information models will form a digital representation of the physical and functional characteristics of the completed hospital and its grounds.

The Project has already been graded using the Scottish Futures Trust BIM Grading Tool, the result of which was BIM Level 2 maturity. On this basis the Project will necessitate achieving a minimum of BIM Level 2 constructs and standards during the delivery and subsequent operation of the hospital. BIM is described in more detail within the Commercial Case section 4.3.6. In management terms BIM is being addressed at the monthly Soft Landings Programme meetings.

Soft Landings

The term 'Soft Landings' refers to a strategy adopted to ensure the transition from construction to occupation is 'bump-free' and that operational performance is optimised. This transition needs to be considered throughout the development of a project, not just at the point of handover.

A Soft Landing Strategy for the Project has been developed and the associated delivery plans for both IA and OBC activities are complete. The Strategy was developed collaboratively with stakeholders and details information required for areas such as commissioning, training, facilities management and BIM.

The Project has identified a Soft Landings Champion to work with the Senior Responsible Officer and Project Director to deliver the Project's Soft Landings strategy. This is in line with the recommendations set out within the NHS Scotland Soft

Landings Guidance, 2019 which has been used as a supporting framework. Once the main Contractor has been appointment, the Soft Landings Co-ordinator role will also be fulfilled. These officers are responsible for co-ordinating and facilitating successful delivery of this important programme of work through to handover and during the immediate post-handover period. Delivery of the Soft Landing programme will ensure the readiness for the functional commissioning, led by NHS Lanarkshire to commence, post-handover.

A Soft Landing Group is well established within the Project with membership covering a range of key stakeholder representatives. This membership is reviewed at each key stage. The Soft Landings Group reports to the Project Team in line with the reporting structure shown in **Figure M1**.

A Lessons Learned Register has been developed by the Soft Landing group for the Project encompassing 20 themes, taking account of findings and recommendations from a number of reports produced following major health infrastructure projects in Scotland over recent years as well as feedback from colleagues involved in other infrastructure Projects across NHS Scotland. The Soft Landings Champion also attends the NHS Scotland Assure Fortnightly Soft Landings Champions Meeting where best practice and lessons learned are shared from all Boards in NHS Scotland currently undertaking major capital projects.

Technical Commissioning

Detailed technical commissioning is critical to the successful commissioning of any building. The Project has appointed a Commissioning & Migrations manager who is developing the outline technical commissioning plan. Technical commissioning of the new facility will be supported by the appointed Contractor, who have considerable experience on leading commissioning for complex hospital developments. Given the procurement strategy will appoint a preferred bidder early, this collaboration will commence during FBC Stage with a series of technical commissioning workshops which will inform further development of detailed technical commissioning plan.

Functional (Operational) Commissioning

Functional commissioning of the facility will commence following handover to NHS Lanarkshire from the Contractor. That said, Functional Commissioning planning will commence early in the construction phase and will be co-ordinated by the Commissioning & Migration and the Service Redesign Lead, supported by the project team and in close collaboration with appropriate operational management teams.

The Commissioning Programme, once developed in detail, will cover the period from FBC approval until three – six months after the facilities have been brought into operation. This will ensure that all activities are planned, co-ordinated and delivered and that all functional commissioning settling issues are resolved post-occupation in discussion with operational management teams and the construction partner, as appropriate.

The Commissioning Manager will be responsible for:

- Liasing with operational colleagues, planning for revised operational procedures to reflect changes to ways of working associated with the new building and redesign agenda;
- Liasing with operational colleagues, preparing staff to work differently to deliver new procedures (including formal training, job shadowing etc);
- Confirming with the NHS Scotland Assure Equipment Service, Medical Physics, the Equipment Manager and operational colleagues the new equipment to be specified and procured, the equipment to be transferred and ensure its successful implementation;
- Producing a comprehensive commissioning programme with clinical and logistics colleagues and to ensure its successful delivery;
- Developing a detailed occupation plan with clinical colleagues to ensure the safe continuation of appropriate clinical services throughout the commissioning period;

- Working with the security team to ensure that the facilities are safe and secure after handover from the Contractor and that appropriate operational procedures are implemented;
- Agreeing a service reduction plan with operational teams to facilitate the smooth relocation to the new facilities with as little disruption as possible to patients and staff;
- Ensuring a comprehensive plan to clean the buildings is in place and agreed with the domestic team and the Infection Prevention and Control Team;
- Planning to procure a removal company and supervise the removal of all equipment, furnishings and goods agreed to transfer;
- Planning and organising with the clinical colleagues the safe relocation of all patients, as appropriate, to the new facilities;
- Ensuring with the Public Involvement Officer and the Clinical Redesign Manager that the public, staff, patients and visitors are briefed and clear about the relocation and occupation plan and what their role is in relation to it;
- Arranging the production of all printed material required to facilitate the move e.g. patient information booklets, staff information booklets, phone book;
- Arranging and hosting opens days for the public to see the facilities before they are in use;
- Arranging staff orientation and training for all staff who will work in the buildings, issue of security enabled badges and key statutory training e.g. fire and security;
- Producing a comprehensive IT and telecommunications plan to make sure that all phones and computers etc are operational in advance of staff and patient moves;
- Co-ordinating the installation of any complex equipment post-handover e.g. imaging equipment, as agreed, with the Contractor; and
- Planning for the accommodation being vacated to be emptied ready for reuse or demolition, as appropriate.

6.7 Project Evaluation

Project evaluation is a key element of any project that must be well planned and executed. Evaluation of MRP Project will have two main strands:

- Monitoring - the systematic review of the project progress.
- Evaluation - the process of evaluating the realisation of the expected benefits.

6.7.1 Project Monitoring

The process for project monitoring evaluation being adopted by the Project aligns with the SCIM and is therefore based upon the four stages of:

1. Planning – how the evaluation will be carried out
2. Monitoring – How well is the Project progressing
3. Evaluation – was the project successful
4. Learning – what lessons can be learned

A range of project staff and advisors will contribute to, or produce the various monitoring reports. The reports will consider the following themes:

- Project costs
- Project programme
- Health & safety performance
- Project scope changes
- Design and technical aspects
- Risk management issues

The key aims of monitoring the Project are to:

- gaining a better understanding of whether the Project is running efficiently and to programme so that any corrective action can be taken early
- enabling service transition plans to be implemented at an appropriate pace that ensures change is safe, efficient and can be embedded

- gaining a better understanding of the risk profile status at any given time
- better understanding of the impact of Project scope changes on costs and programme

6.7.2 Service Evaluation

The benefits from service change will be evaluated at set milestone dates aligned to the transition plans that are being developed with each service as part of the wider service redesign programme.

The Service Benefit Evaluation will be undertaken once the new hospital is operational and, staff and patients have moved in and had sufficient time to allow the redesigned services to have been fully implemented. It will cover the impact of the Project on service change and benefits realisation.

6.7.3 Timescales

The project monitoring, will be ongoing throughout the project lifecycle and report at appropriate milestones as set out in the Project Monitoring and Evaluation Plan [see **Appendix 24**].

The Service Evaluation will take place once the hospital has opened and will likely report 1-2 years following full opening and commissioning of the new hospital. Indicative dates are presented in the Project Monitoring and Evaluation Plan.

6.7.4 Resource Requirements

The resource requirements to support the evaluation process have not been fully determined, although a level of monitoring is already in progress for OBC stage through regular reporting of the Project sub-groups and Advisors to the Project Team and oversight groups. A more detailed plan that will include any future resourcing requirements is being developed.