

Public Board Meeting - Supplementary Papers

23 September 2020, 09:30 to 13:30

Agenda

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|----|---|---|
| 1. | Item 4.2 - Radiotherapy Satellite Centre Outline Business Case | Director of Planning, Digital and IT |
| |  4.2 RSC OBC public.pdf (160 pages) | |
| 2. | Item 4.3 - Medi Park Strategic Outline Case | Director of Planning, Digital and IT |
| |  4.3 a Medi Park SOC.pdf (140 pages) | |
| |  4.3 b AECOM Grange MP Utility Report.pdf (51 pages) | |
| 3. | Item 4.4 - Newport East Health and Well Being Centre Outline Business Case | Director of Primary, Community and Mental Health Services |
| |  4.4 a NEHWBC OBC.pdf (89 pages) | |
| 4. | Item 4.5 - Tredegar Health and Well Being Centre Full Business Case | Director of Primary, Community and Mental Health |
| |  4.5 a Tredegar HWBC Draft FBC.pdf (50 pages) | |

Transforming Cancer Services In South East Wales

Radiotherapy Satellite Centre
(RSC)

Outline Business Case



Ymddiriedolaeth GIG
Prifysgol Felindre
Velindre University
NHS Trust



GIG
CYMRU
NHS
WALES

Bwrdd Iechyd Prifysgol
Aneurin Bevan
University Health Board

Outline Business Case: 2020

Radiotherapy Satellite Centre (RSC)

Executive Summary

EXECUTIVE SUMMARY

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1 INTRODUCTION

- 1.1 Velindre Cancer Centre (VCC) is a centre of excellence for the non-surgical treatment of cancer. It is one of the ten largest regional clinical oncology centres in the United Kingdom and the largest of the three centres in Wales.
- 1.2 VCC serves the 1.5 million people who live in South East Wales, providing services at Velindre Cancer Centre in Cardiff and at a number of other sites in its catchment area and in patients' own homes. The Centre, however, is fast approaching the point where our skilled workforce will be unable to meet the needs of patients
- 1.3 To ensure that Cancer Services meets the needs of the population into the future, the Welsh Government requested that Commissioners and Velindre University NHS Trust (VUNHST) develop a Transforming Cancer Services (TCS) Programme Business Case for South East Wales. This work, that commenced in 2015 and provided a PBC in 2017 established a Clinical Model for Cancer Services in South East Wales. This was actioned through extensive engagement and consultation with partner organisations including Third Sector and, importantly, patients and their families.
- 1.4 After significant stakeholder and patient engagement, the Clinical Model within the PBC required the development of Regional Radiotherapy Satellite Centre to serve the North of the South East Wales catchment population. An option appraisal, independently led, was undertaken and Nevill Hall Hospital in Abergavenny as the preferred location for the Regional Radiotherapy Satellite Centre (RSC).
- 1.5 In parallel with this work on the RSC OBC, an nVCC OBC has been developed, approved by Commissioners and submitted to Welsh Government on 8th July 2019. In this context, the Trust has received Outline Planning Permission to build the new Velindre Cancer Centre (nVCC) in Whitchurch, Cardiff. The nVCC Project Approval timeline is shared below:

Table 1-1: nVCC OBC Approval Timelines

Description	Planned Completion Date	Status
nVCC OBC approved by commissioners	April 2018	Completed
nVCC OBC approved by Trust Board	July 2019	Completed
Submission of nVCC OBC to the Welsh Government	July 2019	Completed
nVCC Commercial Approval Point (CAP) 1	TBC	Ongoing
Ministerial approval of nVCC OBC	TBC	Ongoing

- 1.6 There is a key relationship between the nVCC and RSC Project, and between both these Projects and the Integrated Radiotherapy Solution (IRS) procurement. These relationships relate to demand management, workforce development, clinical effectiveness and commissioning optimisation. The rationale for an RSC has been made in the TCS PBC and the selection of Nevill Hall Hospital as the preferred site in a separate option appraisal. The OBC focuses on the deliverability, affordability and VFM of that solution as compared to the expansion of the nVCC beyond the SOA contained within its current OBC.
- 1.7 Further, the Welsh Government approved resources in August 2019 to enable the development of an OBC for the RSC. The Project Advisors were appointed in October and November 2019 and support the RSC Project Board and Project Team established by Aneurin Bevan University Health Board (ABUHB) and Velindre University NHS Trust (VUNHST) to develop the OBC. The RSC OBC was approved by both VUNHST and ABUHB on 24th September and 23rd September respectively.
- 1.8 The OBC identifies that the preferred RSC option is deliverable, affordable and offers VFM.
- 1.9 It should be noted that significant additional revenue costs will be required in excess of the revenue cost of the preferred option to provide additional Radiotherapy capacity to meet forecast demand if the proposed satellite unit does not progress. The majority of that activity will need to be provided via other Providers.

2 OVERVIEW OF THE OBC

- 2.1 The provision of a Radiotherapy Satellite Centre (RSC) has been identified within the Transforming Cancer Services (TCS) Programme as a key development to facilitate timely and effective services to the South East Wales population.
- 2.2 The case for an RSC is further articulated within the Strategic Case. The Strategic Case also sets the policy context within which the RSC Project is being undertaken and the role of the Project in improving cancer services for the people of South East Wales in the years' ahead. Specifically, the Strategic Case clearly sets down the deficiencies of the current Model of Service and the capacity limitations to meeting service demand.
- 2.2 The Economic Case identifies a Preferred Option. The Preferred Option develops an RSC on land under the ownership of the Health Board. The Preferred Option provides a modern, fit for purpose, environment that can evolve to meet future demands and developments as they emerge. The Economic Case sets down the Economic Appraisal that has been undertaken to identify the Preferred Option that offers the best Value for Money to NHS Wales.
- 2.3 The Commercial Case sets down the approach to the procurement of the solution and the commercial approach to be adopted within the Project. The Partnership arrangements between ABUHB and VUNHST are also presented. Shared Services Technical Team have contributed to the Commercial Case, given the importance of the RSC to the TCS Programme.
- 2.4 The Financial Case demonstrates the affordability of the Preferred Option. The Case sets down the Financial Framework used for the development of the OBC. The Financial Case also sets down the approach to the establishment of the revenue and capital costs set down in the Business Case. It presents the methodology for capital cost development, identified by our Technical Advisors, and scrutinised by NWSSP Shared Services Property Division. The methodology for revenue cost development, identified by the Financial Scrutiny Group (FSG), is also presented, along with the agreed model for cost distribution between Health Boards and Welsh Government.
- 2.5 The Management Case provides assurance to decision makers on the arrangements in place to support the effective delivery of the Project. It sets down the governance and management processes identified to effectively deliver the Preferred Option. The RSC Project Board and the RSC Project Team, established to deliver the procurement and associated commercial arrangements, and the supporting Project Management arrangements are presented. In addition, the External and Internal Advisors, that are integral to the delivery process, are described along with the mechanisms to be deployed for their effective utilisation and management. The Management Case also addresses the governance interface between the Health Board and the Trust.

3 STRATEGIC CASE

- 3.1 The Strategic Case sets out the case for the development of an RSC. It does this by articulating the deficiencies of the current Clinical Model and Service Capacity. The RSC OBC can be viewed as a partner Business Case to the nVCC OBC in terms of the sizing of the nVCC. It is important, however, to emphasise that the RSC OBC also stands alone and separate from the nVCC OBC in terms of the Solution proposed. The case is made for local provision regardless of the nVCC being progressed.
- 3.2 The limitations and challenges related to the current Clinical Model and Service capacity are impacting the Trust's ability to deliver effective high quality, patient centred services are presented.
- 3.3 It is widely accepted that the current patient travel distances are sub-optimal and does not sufficiently promote access, patient well-being and recovery. It is also widely accepted that improving the Clinical Interface and relationship between VCC and Local Cancer Services will improve patient care.
- 3.4 As well as the sub-optimal patient model, it is evidenced within the Strategic Case that the current Radiotherapy Service capacity (8 treatment machines) does not meet current and projected patient demand.
- 3.5 To demonstrate the level of future demand at the existing VCC, the Trust has undertaken a detailed demand modelling exercise. This involved comparing the current hospital capacity to meet demand in any new infrastructure. This analysis has been presented to, and supported by Commissioners, NHS Wales Shared Services and WG Officers.
- 3.6 There is also no space to expand on the existing VCC site. This represents a high risk to patients given the anticipated growth timeline in demand for services. While planning is underway to mitigate as far as possible capacity limitations in the short term, it is imperative that a substantive term solution is urgently established. The timeline for the nVCC, currently being projected to open in 2025 is a significant concern.
- 3.7 Essentially, the Strategic Case presents the case for additional capacity to be built at the RSC in support of the following Project Spending Objectives:

Table 3-1: RSC Project Spending Objectives

Project Spending Objective	Description
Project Spending Objective 1	To build new hospital infrastructure that supports quality and safe services.
Project Spending Objective 2	To provide sufficient capacity to meet future demand for services.
Project Spending Objective 3	To improve patient, carer and staff experience.
Project Spending Objective 4	To provide capacity and facilities to support the delivery of high quality education, research, technology and innovation.

- 3.8 The overall objective is to deliver an RSC that will provide excellent care for cancer patients from across the North of the region, closer to their homes. The RSC will provide a range of radiotherapy services for patients across South East Wales. In addition the RSC will support the VCC, and in due course the nVCC, to be an international focal point for research and education.

4 ECONOMIC CASE

- 4.1 The purpose of the Economic Case is to identify and appraise the potential options for the delivery of the RSC Project and identify the option (the Preferred Option) that provides the best value for money.
- 4.2 The RSC Project Board followed the Options Framework approach, as recommended in the Welsh Government's Better Business Case guidance, to identify the options for delivering the nVCC Project. These options were set in the context of the previous work of the TCS Programme in identifying the preferred location for any Regional Satellite Centre. This earlier work was approved by the TCS Programme Board and the sponsoring Commissioners, in 2017. Accordingly, the identified options for the OBC were agreed with the Welsh Government at the outset of the process. The options were evaluated and appraised by the RSC Project Board against the Project Spending Objectives (PSOs) and CSFs. The RSC Project Board used the outputs of this evaluation to identify the Preferred Way Forward for the Project.
- 4.3 The options appraised by the RSC Project Board are presented below:
- **The Status Quo Option 'Do Nothing':** This option provides a benchmark for assessing the value for money of all options. It is limited to the Operational Optimisation of existing arrangements as far as possible in order to improve the organisation's capability to meet current demand for core services and the provision of outsourced capacity to meet forecast additional demand.
 - **RSC Option (Preferred Way Forward) 'Intermediate':** This option provides the development of a purpose built RSC. This option offers an early implementation which increases radiotherapy capacity in South East Wales and will be funded through NHS Capital.
 - **nVCC Expansion 'Do Minimum':** This option offers the same capacity solution as the RSC Option with the feature of incorporating this capacity within an expanded nVCC. This option requires a delayed implementation which will be funded through a mix of private and public funding. It will also maintain the 'Status Quo' in terms of service location for the residents of the Northern catchment of South East Wales
- 4.4 The shortlisted options were then subjected to a robust Economic Appraisal. Table 4-1 summarises the output of this Appraisal.

Table 4-1: Net Present Cost of the Short Listed Options

Expenditure Heading	Do Nothing	Do Minimum (nVCC Extension)	RSC
Initial capital costs	0	-2,299	-27,086
Lifecycle capital costs	0	0	-3,349
Total capital costs	0	-2,299	-30,435

Transitional costs	0	-712	-712
Outsourcing during transitional period	0	-14,488	0
Recurring revenue costs	-616,664	-199,563	-144,520
Total revenue costs	-616,664	-214,763	-145,232
Quantified risks - capital costs	0	0	-1,707
Optimism bias	0	0	-1,358
Revenue expected risk value	0	-5,569	-3,147
Total risk costs	0	-5,569	-6,212
Total costs	-616,664	-222,632	-181,880
Benefits	0	0	582,733
Total benefits	0	0	582,733
Net Present Cost (undiscounted)	-616,664	-222,632	400,854
Total costs (discounted)	-242,925	-96,158	-83,589
Total benefits (discounted)	0	0	374,190
Net Present Cost (discounted)	-242,925	-96,158	290,601
Rank	3	2	1
Benefit Cost Ratio (discounted)	0.00	0.00	4.48
Rank	2	2	1

- 4.5 The Economic Appraisal demonstrated that the RSC Option offered the lowest Net Present Cost (NPC) of the two *'do something'* options and offers best value for money in terms of whole life costs.
- 4.6 It also offered the best benefit cost ratio at 4.48 suggesting that it offers best value for money in terms of the relationship between benefits and costs.
- 4.7 The Intermediate RSC Option, is, therefore, identified as the Preferred Option for the Project.

5 COMMERCIAL CASE

- 5.1 The Commercial Case sets out the basis on which the Project will deliver a commercially viable procurement and deals with:
- The procurement strategy for construction and equipment, and intended procurement route;
 - The key project specific contractual arrangements and risk apportionment between the public and private sector;
 - The funding mechanism for services over the duration of the Project;
 - Any anticipated personnel implications; and
 - The accountancy treatment of the Project.
- 5.2 The Commercial Case outlines the Welsh Government intention to deliver funding from NHS Capital.
- 5.3 The Commercial Case describes how the Project is a design and build Project. Project operated by the Health Board and the Trust in partnership. The clinical service and equipment will be provided, managed and maintained by the Trust.
- 5.4 The Health Board will be required to provide Hard FM services for planned building maintenance (including lifecycle replacement), reactive building maintenance and hard landscaping. The cost of providing these services will be charged to the Trust as part of the agreed Service Payment. All Soft FM services will be provided by the Health Board.
- 5.5 The Commercial Case confirms the expected accountancy treatment and the Project will be accounted for as “on balance sheet” for the Health Board.

6 FINANCIAL CASE

- 6.1 The purpose of the Financial Case is to demonstrate the affordability of the Preferred Option.
- 6.2 A Financial Framework has been developed to support the RSC Project. The scope of the Financial Framework is focused on costs directly attributable to this investment decision.
- 6.3 The Financial Case has been constructed and scrutinised in partnership with the Collective Commissioning Group (CCG) on behalf of the Commissioning Health Boards. The Financial Case provides detail on the costing methodology employed and reflects a professionally and technically recognised approach to determining OBC cost information.
- 6.4 The Financial Case outlines the capital requirements of the RSC Project. These costs are to be funded from the All Wales Capital Programme. These capital costs are presented in the table below.

Table 6-1: Capital Requirements

Cost category	Funding requirement £	Source of Funding
Project capital expenditure	30,285,532	Welsh Government

- 6.5 The Financial Case identifies the capital requirements of the Preferred Option for radiotherapy treatment machines and digital resources that are being procured via the Integrated Radiotherapy Solution (IRS) procurement currently going through Competitive Dialogue managed by the TCS Digital and Equipment Project Board.
- 6.6 The Financial Case outlines the recurring revenue costs requirement of the Preferred Option.

Table 6-2: Recurring Revenue Costs

	NHH RSC Preferred Option £
Workforce	
Radiotherapy Delivery	1,276,039
Medical Physics Delivery	526,394
Facilities	72,858
IT	16,223
Pharmacy	8,738
Pay	1,900,252
Non Pay	
Utilities	95,276
Hard FM	69,207
Rates	62,536
Soft FM	9,137
Consumables	75,000
Patient Transport	5,000
Equipment Maintenance	264,390
IM&T Maintenance	27,097
Pharmacy	708
Travel	38,005
Non Pay	646,355
TOTAL COST	2,546,607

- 6.7 The Financial Case outlines the Balance Sheet impact of the arrangements for the Trust and the Welsh Government as “on balance sheet”. It also provides details on the annual depreciation requirements of the Project which are planned to be resourced by the Welsh Government in the usual way.
- 6.8 The Financial Case outlines the agreed methodology for the distribution of revenue costs between Commissioners. It also outlines the approach to risk sharing and cost inflation. The table below sets down the agreed Commissioner shares and the distribution of the recurring revenue costs of the Project over Commissioners.

Table 6-3: Indicative Split of Commissioner Costs

Commissioners	Split %	Recurring Revenue Costs £
Swansea Bay UHB	0.64%	16,298
Aneurin Bevan UHB	39.25%	999,543
Cardiff & Vale UHB	28.69%	730,622
Cwm Taf Morgannwg UHB	27.78%	707,447
Hywel Dda UHB	1.51%	38,454
Powys THB	2.14%	54,497
WHSSC	0.00%	0
Total Recurring Revenue Costs	100%	2,546,607

- 6.9 The Financial Case outlines the non-recurring revenue requirements for Project pre-commissioning that will be funded by Commissioners. These non-recurrent costs total £0.712m in 2022/23.
- 6.10 The Financial Case also outlines the new approach to LTA arrangements, that will support the Projects financial arrangements which have been recently agreed by the Trust and Commissioners.

7 MANAGEMENT CASE

- 7.1 The Management Case describes the Project Governance, Assurance and Management Arrangements to successfully deliver the RSC Project, to time, cost and quality. It describes the role of the TCS Programme Delivery Board, Project Board, Project Team, the External and Internal Advisors and how their contribution will be integrated within the delivery of the RSC Project.
- 7.2 The Project Structure will ensure the RSC Project has the ability to seek timely approvals, can be effectively reported on, and has the effective escalation of risks and issues leading to effective decision making.
- 7.3 The Management Case further describes how it will use Project Management methodologies to effectively manage the Project. This also includes the effective oversight and management of benefits and risks.
- 7.4 Given the NHS capital route for the Project, the Management Case sets out how it will manage the procurement of the RSC. This includes the specification of the role of External and Internal Advisors that will also contribute to the process.
- 7.5 The proposed approach to change control, procurement and contracts management is also presented.
- 7.6 The Management Case also sets out important estimated timelines, for the procurement and the construction of the RSC, based on industry benchmarks. These are summarised in Table 7-1.

Table 7-1: Project Plan Key Milestones

Milestone	Dates
Submission of OBC to Commissioners and Welsh Government	September 2020
Welsh Government Approval / FBC Commencement	January 2021
Enabling Works Commencement	January 2021
Submission of FBC to Welsh Government	September 2021
Welsh Government Approval / Start-on-site	November 2021
Completion	August 2023 (subject to confirmation of IRS Preferred Partner and commissioning period)

8 PREFERRED OPTION

- 8.1 The Preferred Option delivers an RSC at Nevill Hall Hospital, Abergavenny. The ambition is to deliver a world-class facility that will provide specialist care for cancer patients from that locality. The RSC will provide a range of radiotherapy services for patients across the northern catchment population of South East Wales. In addition the RSC will support the nVCC to become an international focal point for research, learning, technology and innovation. A summary of the key requirements and features of the Preferred Option are provided below.

Activity

Table 8-1: Activity Casemix

Treatment Type	No of Fractions
Prostate Fractions	7,434
Breast non-DIBH	3,234
Breast DIBH	3,234
Palliative Treatment	1,699
	15,600

Footprint

- 8.2 The proposed ‘footprint’ of the new Preferred Option is 2,528m². The proposed current ‘footprint’ of the Preferred Option has been sized in line with Health Building Notes, best practice guidance and statutory compliance requirements. In addition the RSC will be able to accommodate forecast activity projections.

Flexibility for Future Expansion

- 8.3 It is important to highlight that there is planned expansion space (equivalent to accommodation for 2 additional treatment machines plus supporting equipment) on the identified site for the RSC. This expansion capacity is important to the TCS Programme Risk Management Strategy in the event that the clinical growth assumptions prove to be understated.

Major Medical Equipment Requirements

- 8.4 The delivery of non-surgical Cancer Services is dependent upon having access to two treatment machines which will be essential to support the safe

and effective delivery of patient treatments. These treatment machines are being procured via the Integrated Radiotherapy Solution (IRS) Project.

Cost

- 8.5 The RSC costs of £30.28m in Capital and £2.547m in Revenue on a recurring basis is in addition to £0.712m of transitional costs.

Benefits

- 8.6 For the purposes of the economic appraisal, we have quantified benefits which differentiate between the options, are measurable and evidence-based, and can be monetised using recognised methodology. This includes the following:
- Additional capacity available to meet forecast demand
 - Reduced travel time for patient and carers
 - Improved access to treatment and clinical trials leading to better clinical outcomes
- 8.7 In addition, there are a number of benefits which are relevant to the case but are difficult to quantify in monetary values and/or do not differentiate between the options and so have not been incorporated within the economic appraisal. These include:
- Patients have access to seamless pathway of care in a single place
 - Improved patient and carer experience
 - More resilient and flexible workforce
 - Improved staff satisfaction (although may be disbenefit for some staff members - additional travel)
 - Improved safety and compliance with standards
 - Better sustainability, resilience and future proofing
 - Opportunities to attract further investment

9 CONCLUSION

- 9.1 The Case for a nVCC has been made within the OBC. The deficiencies and challenges of the current infrastructure in supporting the delivery of high quality patient care have been clearly presented. The constraints of the current site to meet future demand and technological change have also been clearly set down.
- 9.2 A rigorous Economic Appraisal, following HM Treasury guidance and Welsh Government Better Business Case guidance, has been undertaken and this robust and transparent appraisal process has identified a clear Preferred Option. The Preferred Option has been approved by the Velindre University NHS Trust Board and Aneurin Bevan University Health Board.
- 9.3 The delivery of the Preferred Option is to be executed through the Commercial arrangements set down in the Commercial Case, as required by the Welsh Government. The development of the RSC supports the VCC and the development of a nVCC which is a key commitment in the Welsh Government's Programme and will be delivered as one of three pathfinders' Projects under the Welsh Government's innovation MIM Programme which has been established to support investment in capital infrastructure in Wales
- 9.4 The Financial Case has been developed in partnership with Commissioners, taking the advice of the Welsh Government, and the Financial Framework adopted has delivered a robust assessment of the overall capital and revenue consequences of the Preferred Option. The Financial Case clearly demonstrates the affordability of the Preferred Option and presents the distribution of cost shares between Commissioners.
- 9.5 The Management Case provides assurance on the delivery process for the Preferred Option. It describes the clear Project Management arrangements developed to deliver the RSC Project. The role of External and Internal Advisors have been clearly established. Change Control and Risk Management has been detailed and set down. The Project Plan to deliver the RSC by August 2023 meets the objectives set by the TCS Programme. The capital costs of Project delivery are to be resourced by the Welsh Government.
- 9.6 The Preferred Option, and the delivery approach described within the RSC OBC is presented to the Welsh Government for support and approval.
- 9.7 It should be noted that significant additional revenue costs will be required in excess of the revenue cost of the preferred option to provide additional Radiotherapy capacity to meet forecast demand if the proposed satellite unit does not progress. The majority of that activity will need to be provided via other Providers.

Outline Business Case: 2020

Radiotherapy Satellite Centre (RSC)

Strategic Case

STRATEGIC CASE

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1 INTRODUCTION

1.1 The scope of the Project is limited to the building of a Radiotherapy Satellite Centre (RSC). In taking forward this scope, Aneurin Bevan University Health Board (ABUHB) and Velindre University NHS Trust (VUNHST) will be seeking formal approval from Partner commissioners and from the Welsh Government in relation to the Outline Business Case (OBC) for an RSC. In seeking approval, the OBC must provide assurance in relation to:

- The need for an RSC;
- The Preferred Option identified within the OBC;
- The building footprint of the RSC;
- The additional costs directly attributable to the RSC; and
- The Project Management and Governance arrangements for delivering the RSC Project.

1.2 The purpose of this strategic case section is to:

- Provide an overview of Aneurin Bevan University Health Board (ABUHB) and Velindre University NHS Trust (VUNHST) and their relevant Service Hospitals
- Provide an overview of Cancer Services in South East Wales and the whole system leadership arrangements
- Provide an overview of the Transforming Cancer Services (TCS) Programme
- Describe the Project partnership arrangements between ABUHB and VUNHST
- Describe the existing arrangements and the business needs for this business case
- Set out the project scope including objectives, benefits and risks
- Describe how the Project will support the delivery of sustainable radiotherapy services across South East Wales

2 BACKGROUND

- 2.1 Radiotherapy is the use of ionising radiation, usually high energy x-rays to treat disease and is usually used to treat malignant disease (cancer) and some benign indications. It has an important role in treatment of cancers as 50% of all cancer patients will benefit from receiving radiotherapy as part of their cancer management. Developments in radiotherapy techniques and the increasing incidence of cancer indicate that the demand for radiotherapy will continue to rise and require sufficient and resilient capacity to be made available. Work to date by VUNHT indicates the service will be unable to deliver a high, quality, reliable and sustainable service without an expansion in capacity.
- 2.2 This need to meet the demand of non-surgical cancer services, together with the poor condition of the estate at Velindre cancer Centre (VCC) led to the Transforming Cancer Services program (TCS), which developed with partners a clinical model for non-surgical cancer services. This model included a satellite Radiotherapy centre (RSC) and this business case focuses on the RSC and its role to secure radiotherapy capacity for the population of South East Wales. The capacity needs to be in place ahead of the new VCC as demand is already exceeding capacity but also to enable medical physics staff to be available to commission the equipment in RSC but also in the new VCC.
- 2.3 In addition to the lack of capacity, a key factor supporting the case is the benefit of care being delivered closer to home, especially as there is evidence that uptake of radiotherapy in Wales is below best practice and there is evidence that availability of services closer to patients leads to increased uptake of treatments – which in turn will lead to improved outcomes and better experiences for patients.
- 2.4 Following agreement on the TCS clinical model, the process for determining the best site for the RSC was established with partner organisations through an evaluation exercise. This led to the selection of Nevill Hall Hospital as a site for the RSC and as such this is a joint project between the 2 organisations.
- 2.5 The remainder of this Strategic Case will provide more detail on the above issues to support the case for change for this service development.

3 ORGANISATIONAL OVERVIEW

- 3.1 This section will provide an overview of Aneurin Bevan University Health Board (ABUHB) and Velindre University NHS Trust (VUNHST) and their relevant Service Hospitals and an overview of Cancer Services in South East Wales and the whole system leadership arrangements.

Aneurin Bevan University Health Board (ABUHB)

- 3.2 Aneurin Bevan University Health Board was established in October 2009 and achieved 'University' status in December 2013.
- 3.3 It serves an estimated population of over 639,000, approximately 21% of the total Welsh population.
- 3.4 With a budget of **£1.281 billion the HB** delivers healthcare services to people in Blaenau Gwent, Caerphilly, Monmouthshire, Newport, and Torfaen and also provide some services to the people of South Powys.
- 3.5 The Health Board covers diverse geographical areas and had to take account of a mix of rural, urban and valley communities. The valleys experience high levels of social deprivation, including low incomes, poor housing stock and high unemployment.
- 3.6 The Health Board employs over 11,000 staff and is the largest employer in Gwent.

Services

- 3.7 The Health Board provides a comprehensive range of acute hospital based, Community based, Mental Health and Primary Care services via a large and complex estate consisting of the following:
- Acute Hospitals - Royal Gwent, Neville Hall, Ysbyty Ystrad Fawr
 - Community Hospitals - County, Ysbyty Aneurin Bevan, St Woolos, Chepstow and Monnow Vale
 - Mental Health Hospitals - St Cadoc's, Llanfrechfa, Maindiff Court, Ysbyty'r Tri Chwm
 - 8 Locality based Mental Health Units and 1 Residential Unit on LGH site, 4 unoccupied units across Gwent.
 - 30 Locality based Community clinics
- 3.8 In addition to the above the new Grange hospital, Specialist Critical Care Centre (SCCC) is due to open in November 2020.

Velindre University NHS Trust (VUNHST)

- 3.9 The Trust has evolved significantly since its establishment in 1994 and is operationally responsible for the management of the following two divisions:
- Velindre Cancer Centre; and
 - Welsh Blood Service.
- 3.10 The Trust is also responsible for hosting the following organisations on behalf of the Welsh Government (WG) and NHS Wales:
- National Wales Information Services (NWIS)*;
 - NHS Wales Shared Services Partnership (NWSSP); and
 - Health Technology Wales (HTW).
- * NWIS will be transferred to a SHA 2020/21*

Velindre Cancer Centre (VCC)

- 3.11 Velindre Cancer Centre is located in Whitchurch on the North-West edge of Cardiff and is one of the ten largest regional clinical oncology centres in the United Kingdom and the largest of the three centres in Wales. The Trust is the sole provider of non-surgical specialist cancer services to the catchment population of 1.5 million across South East Wales, from Chepstow to Bridgend and from Cardiff to Brecon. Additionally it provides more specialist radiotherapy services across the whole of South Wales. Velindre Cancer Centre employs around 700 members of staff and has approximately 70 volunteers who provide a range of 'added value' roles across the centre. The Trust also works in partnership with a wide range of third sector, charities, Higher Education Institutions (HEIs) and Industry/Commercial Partners to deliver high quality cancer care and undertake clinical research.
- 3.12 Velindre Cancer Centre is responsible for the delivery of non-surgical treatment including Radiotherapy and SACT, recovery, follow-up and specialist palliative care. Following their specialist cancer treatment, Velindre Cancer Centre supports patients during their recovery and through follow up appointments.
- 3.13 Specialist teams provide care using a well-established multi-disciplinary team (MDT) model of service for oncology and palliative care, working closely with local partners and ensuring services are offered in appropriate locations in line with best practice standards of care. The range of services delivered by Velindre Cancer Centre includes:
- Radiotherapy
 - Systemic Anti-Cancer Therapies (SACTs) and chemotherapy
 - Inpatients
 - Ambulatory care
 - Outpatient services
 - Pharmacy

- Specialist radiology/imaging
- Nuclear Medicine
- Specialist Palliative care
- Acute Oncology Service (AOS)
- Living with the impact of cancer
- Education and Learning
- Research, Development and Innovation.

3.14 The following patient services are delivered in outreach settings in Health Board (HB) locations across South East Wales from Velindre Cancer Centre:

- SACT delivery;
- Outpatient appointments;
- Inpatient reviews; for patients receiving care and treatment in HBs
- Health Board MDTs; and
- Research and Education.

3.15 However, all Radiotherapy activity is currently delivered at the Velindre Cancer Centre.

Overview of Cancer Services in South East Wales

3.16 The planning and delivery of cancer services in South East Wales is the responsibility of the four Health Boards (HBs) as part of their statutory responsibility to meet the health needs of the populations they serve. The HBs are supported by the Welsh Health Specialist Services Committee (WHSSC) which commissions specialist cancer services on their behalf.

3.17 The four HBs in South East Wales are:

- Aneurin Bevan University Health Board;
- Cardiff and Vale University Health Board; and
- Cwm Taf Morgannwg University Health Board.
- Powys Teaching Health Board

Figure 3-1: Map of Local Health Boards across South East Wales



- 3.18 The HBs also work in partnership with the All Wales Cancer Network, NHS Trusts, Community Health Councils, Voluntary and Charitable Organisations and Public Health Wales.
- 3.19 The four Health Boards, in conjunction with VUNHST and other stakeholders e.g. Wales Cancer Network (WCN), have formed the South East Wales Collaborative Cancer Leadership Group (CCLG). The purpose of the *South East Wales CCLG* is to provide effective system leadership for Cancer Services across South East Wales and deliver improvements in outcome and service experience for the catchment population. It aims to achieve this through the building and nurturing of a sustainable, collaborative cancer community across the region to align change across the whole cancer system.
- 3.20 The CCLG oversees all Collaborative Cancer Programmes of work within the region, ensuring clear leadership and coordination with a focus on benefits delivery for patients, putting into practice the national policies, standards and procedures for the benefit of patients. The CCLG functions at a regional level

in support of the work of the CIG, other groups including the SCP Strategic Groups, on an All Wales level.

- 3.21 The CCLG also looks beyond health to ensure its ways of working embed the Well-being and Future Generations (Wales) Act 2015 and contribute to the seven Well-being goals and the sustainability principles.
- 3.22 The CCLG's remit is also to coordinate commissioning decisions and investments and facilitate the realignment of pathway resources within and between organisations. As such the CCLG will oversee the scrutiny and approval of the RSC OBC and its alignment with other regional developments.

The Cancer Pathway

- 3.23 The delivery of cancer services across Wales generally conforms to a well-defined pathway of care which includes the following five key stages:

Table 3-1: The Cancer Pathway

Cancer Prevention: Enhancing public awareness and education to make informed decisions about lifestyle choices that promote a healthy, cancer free population.
Cancer Diagnosis: Cancer can be identified through a National Screening Programme or where cancer symptoms are identified by the patient/health care professional. If cancer is suspected the patient is assessed by a multi-disciplinary team in the Health Board (often supported by Velindre Cancer Centre staff) and cancer may be diagnosed.
Treatment: The treatment options for every patient are discussed and considered by multi-disciplinary teams (MDTs). The treatment options include surgery, non-surgical treatment e.g. Radiotherapy or Systemic Anti-Cancer Therapy (SACT), a combination of these treatments and supportive care. Care often straddles organisational boundaries.
Recovery/Follow Up: Regular follow up appointments are important to monitor recovery, manage and reduce the after effects of treatment and to ensure any signs of cancer relapse/recurrence are identified at their earliest stage.
End of Life Care: Sadly, not all patients survive cancer – openness about the need to plan end of life care is essential. A focus on living and dying well, early identification of needs and access to fast, effective palliation are important to reduce distress for both the patient and their family.

The Single Cancer Pathway (SCP)

- 3.24 The Single Cancer Pathway (SCP) Strategic Leadership Group has been established to co-ordinate and align the all Wales activities of partners, and align the needs of local organisations, to drive the transformation of patient outcomes through the implementation of a SCP.
- 3.25 The SCP will replace the current Urgent Suspected Cancer (USC) and non-Urgent Suspected Cancer (nUSC) pathways. The aim of the new pathway is to ensure that patients begin a first definitive treatment no later than 62-days after

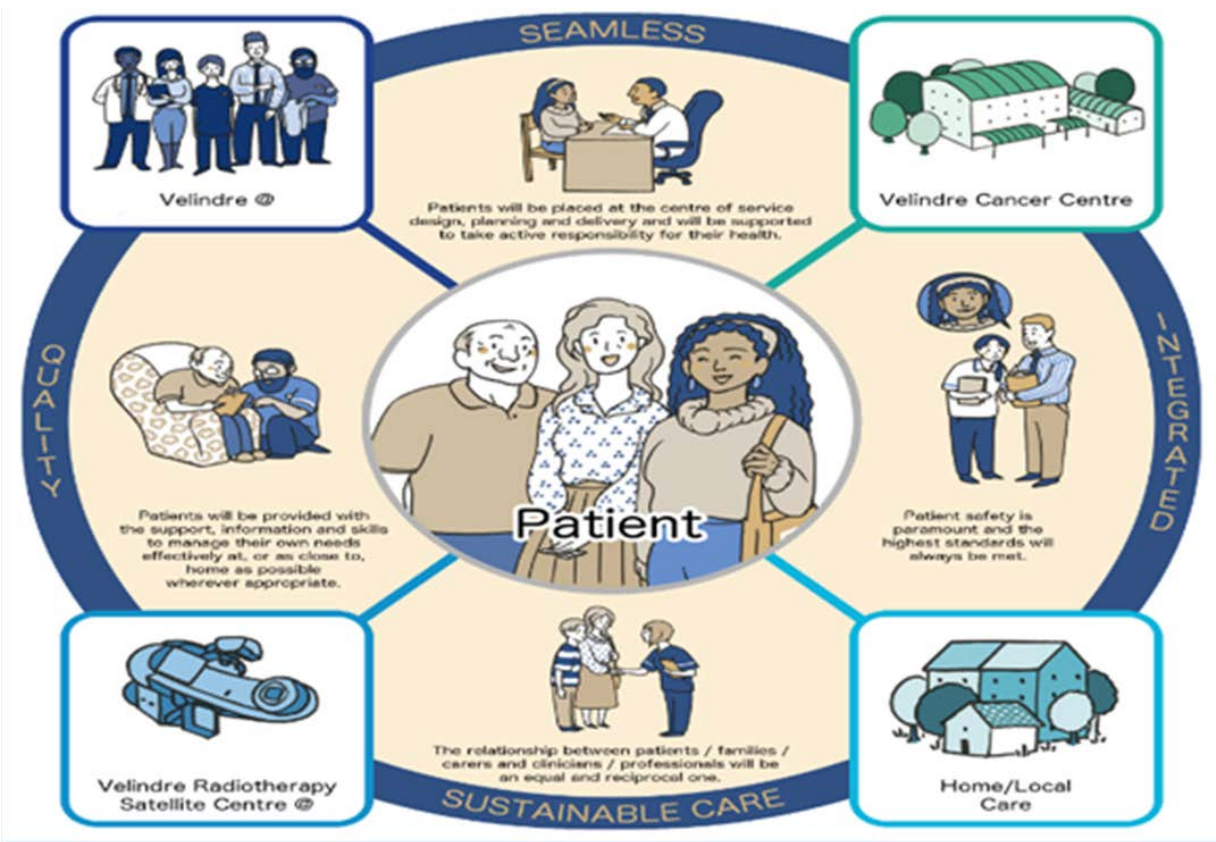
the point of suspicion of cancer. Such an ambition necessarily presents capacity challenges at all points of the patient pathway, not least in relation to treatment delivery.

- 3.26 The Wales Cancer Network's (WCN) Cancer Site Groups (CSGs) have developed a suite of optimal, site-specific, pathways describing road maps for how the SCP might be successfully implemented. The optimal pathways which are currently available, which include those for all common cancers, almost exclusively allow a maximum 21-day period for post-diagnosis planning and scheduling before treatment must begin.
- 3.27 Currently, time to radiotherapy performance at VCC and the other Welsh cancer centres is monitored relative to a series of targets previously recognised as defining best practice standards by the Joint Collegiate Council for Oncology (JCCO), the co-ordinating, inter-collegiate body for non-surgical oncology in the United Kingdom. These measures require that the large majority of patients undergoing treatment with radiotherapy begin that treatment within 28-days of referral. This is at odds with the ambition of the SCP and it is inevitable that the development of revised treatment pathways locally will pose further capacity management challenges for VCC.
- 3.28 A related development in the field of radiotherapy, more specifically, will see the adoption of a revised suite of time to treatment measures in the near future in Wales. These measures, developed by the Clinical Oncology Sub-Committee (COSC), will replace the extant JCCO measures. The COSC performance measures are supported by definitions which better reflect the ever increasing complexity of radiotherapy planning and will require the great majority of patients referred for radiotherapy treatment to begin their treatment within 21-days of referral. This is in step with the overarching ambition of the SCP, but again will pose significant capacity challenges.
- 3.29 It is obvious that efforts to support the implementation of the SCP and the adoption of the new COSC time to radiotherapy measures will exacerbate issues associated with the availability of treatment capacity at VCC due to rising demand.

Transforming Cancer Services (TCS) Programme

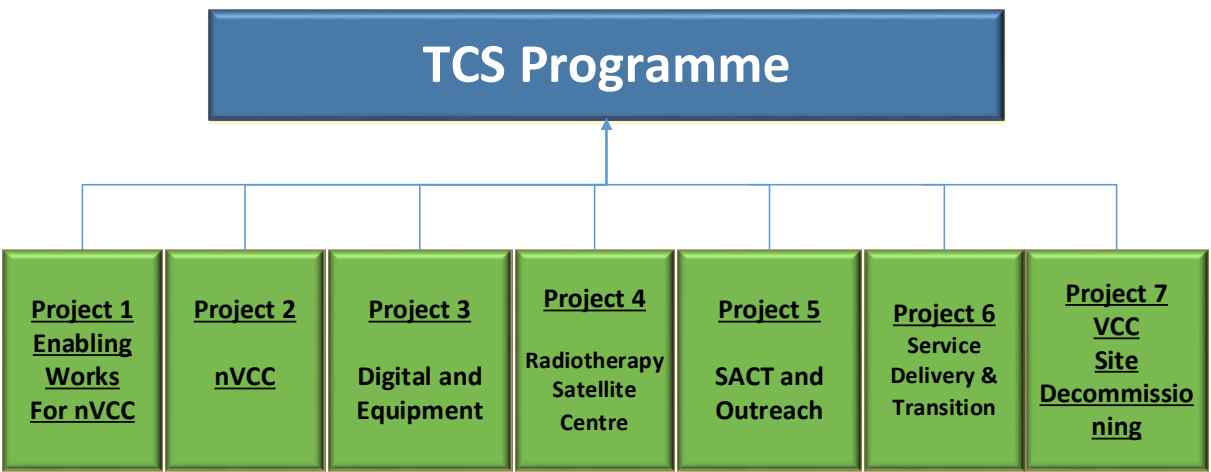
- 3.30 It is important to understand where this OBC sits in the context of the overall TCS Programme. The TCS Programme is an ambitious Programme which aims to deliver transformed Tertiary non-surgical Cancer Services for the population of South East Wales.
- 3.31 The detailed clinical model was developed through over 70 workshops/events/meetings involving more than 1000 people – professionals, patients and public from a range of organisations including HBs, Third Sector, and CHC. The clinical model is shown below:

Figure 3-2: Clinical Model



3.32 Following agreement on the proposed clinical model 7 programmes of work/projects were developed to deliver the TCS programme:

Figure 3-3: Seven Programmes of Work

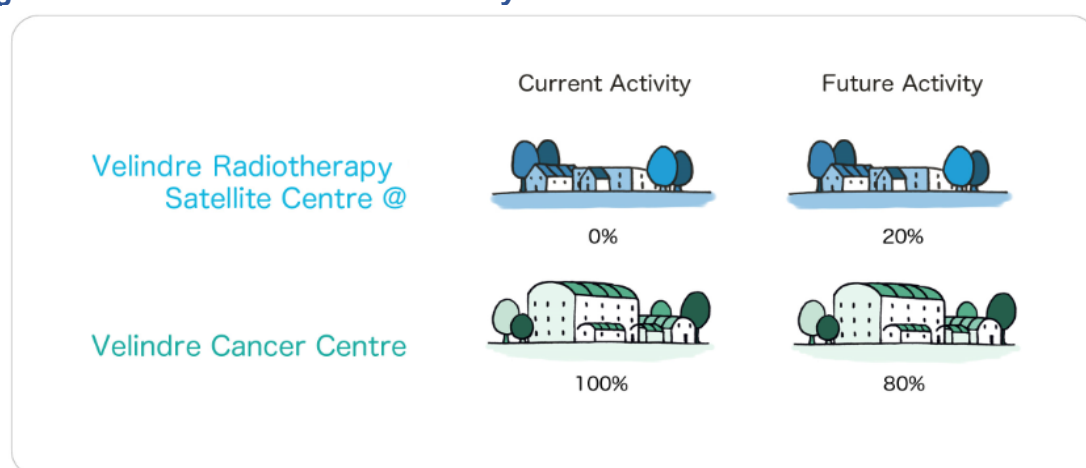


- 3.33 The Strategic Case for the TCS Programme, its links to Welsh Government Strategy and Velindre's own Cancer Strategy, are made in the TCS Programme Business Case (PBC). It is not the intention of this OBC to restate these, more to show alignment with this wider Programme's aims and objectives.
- 3.34 This OBC is also related to the Outline Business Case (OBC) for the new Velindre Cancer Centre (nVCC) and the OBC for the Integrated Radiotherapy Solution (IRS). The latter project aims to deliver the Trust decision to seek one prime vendor to deliver a fully integrated Radiotherapy solution and move away from the current situation of dual vendors of Radiotherapy equipment. The Integrated Radiotherapy Solution Procurement OBC is being developed from a Digital and Equipment Procurement De-coupling PBC submitted to and approved by the Welsh Government on 5th June 2019.
- 3.35 The Clinical Model within the TCS PBC, and as outlined in diagram above describes how services will be delivered in the future and is predicated on the following principles:
- The service model seeks to promote a new set of relationships which work in partnership to improve the way we collectively design and deliver services around patients' needs and to achieve these improvements in a truly sustainable way
 - The patient will be central to plans with an integrated network of services organised around them. The organising principle seeks to 'pull' high quality care towards the patient that is accessible in their preferred location and will support them achieving their personal goals during treatment and subsequently living with the impact of cancer
 - Patient safety is paramount and the highest standards will always be met;
 - The relationship between patients / families / carers and clinicians / professionals will be an equal and reciprocal one.
 - Patients will be provided with the support, information and skills to manage their own needs effectively at, or as close to, home as possible wherever appropriate
 - Patients will be treated at their closest centre where appropriate and safe to do so (removal of HB boundaries)
 - Optimising information technology, quality improvement systems, patient involvement, education and embracing innovative approaches to healthcare will all be essential to achieve high levels of service quality in a sustainable way
- 3.36 To deliver the principles of the new clinical model, care will be delivered differently and at different locations. This will require a number of infrastructure and technology projects as well as service change projects to be established.
- 3.37 These locations and their functions are described briefly below:
- **Health Boards:** A range of cancer care occurs within the Local Health Boards (LHB's), with a proportion of patients having all their care

delivered by the Local Health Board (LHB) teams. For other patients who need non-surgical treatment, their care needs to be seamlessly planned with the non-surgical aspects of the pathway, as patient care can often transition from one team to another. The **Velindre@ Outreach facilities** and collaborative working will support this approach

- **Velindre Outreach Centres:** These facilities will provide SACT, outpatient services, education and information provision and ambulatory care procedures within HBs
- **New Velindre Cancer Centre:** The new Velindre Cancer Centre will provide specialist and complex cancer treatment including SACT, radiotherapy (including brachytherapy and unsealed sources) and specialist palliative care, inpatient facilities (being open for admission 24 hours/day, 7 days/week), a specialist acute oncology assessment unit and outpatient services, radiology and nuclear medicine. Due to its geographical location (i.e. within the Cardiff and Vale University Health Board area) it will also form part of the system providing local care to patients for whom it forms the nearest non-surgical cancer facility. Patients will only have to travel to the nVCC if we cannot deliver their care more locally
- **Radiotherapy Satellite Centre:** The Radiotherapy Satellite Centre (RSC) will provide radiotherapy treatment for approximately 20% of our patients (provided by 2 new linear accelerators).

Figure 3-4: Current & Future Activity



- 3.38 This means better access for patients, reduced travel for patients, associated improved outcomes, and less use of transport services. This will mean that fewer patients need to travel to VCC for their radiotherapy. These Benefits are the focus of this business case.

Preferred Operational Model

- 3.39 The TCS Programme undertook an appraisal of a wide range of operational delivery models for all its services. The primary objective of this appraisal was to identify the option which provided best value for money.

- 3.40 Eight different operating scenarios, including extended working hours as well as five, six and seven-day operational models, were evaluated by a multidisciplinary group which was externally facilitated. The assessment was undertaken based upon:
- A non-financial assessment of options against the Projects Spending Objectives and Critical Success Factors; and
 - A financial (capital and revenue) assessment of options.
- 3.41 The preferred operating scenario (Scenario 8) scored the highest based on a combined non-financial and financial score. This scenario included the following components for radiotherapy services:

Table 3-2: Preferred Operating Scenario

<div>Radiotherapy Service</div>	<div>5 days a week, 9.5 hours a day at both NVCC and RSC</div> <div>7-day Radiotherapy service for emergency patients and for urgent palliative patients who are treated at VCC</div>
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- 3.42 Following the determination of the clinical model and the preferred operating model it was necessary to determine an appropriate location for the satellite center.

Process for Identifying a Preferred Site

- 3.43 In determining the preferred location of the Velindre RSC the TCS Programme requested all Health Boards in South East Wales in 2017 for expressions of interest in hosting the RSC. This resulted in two University Health Boards, Aneurin Bevan and Cwm Taf (now Cwm Taf Morgannwg University Health Board), expressing an interest and subsequently offering up a range of possible locations on the Nevill Hall Hospital and Prince Charles Hospital sites respectively. Following an estate-based assessment, two potential sites for each Health Board were identified and subjected to more detailed scrutiny.
- 3.44 To assist the Trust in undertaking the evaluation, support has been provided from a range of specialist sources with the overall process being overseen by Capita Business Services Ltd who were appointed by the TCS Programme to provide Health Care Planning advice for the RSC Project.
- 3.45 The approach, criteria and weightings within the evaluation methodology were developed by Velindre in partnership with each Health Board and CHCs through the establishment of joint planning groups. There has been positive engagement between Velindre and the Health Boards throughout the process.

The methodology was approved by the Velindre Trust Board in April 2017; and it was agreed at the Joint Planning Group with Aneurin Bevan and Cwm Taf UHBs on 26th April and 20th April respectively.

3.46 Subsequently, on 20th June 2017 the Transforming Cancer Services Programme Evaluation Panel met to review all elements of the “Radiotherapy Satellite Site Selection Evaluation Review” taking into consideration all the evidence received during the evaluation process. The Evaluation Panel:

- Approved the evaluation report;
- Approved the key findings and results outlined within the report;
- Approved the ‘preferred’ site location option to host the Radiotherapy Satellite Centre as being Nevill Hall Hospital (site 8) based upon the analysis presented.

3.47 This OBC is based on this Site Selection Evaluation as set down by the Joint Leadership Team at the IIB Meeting 24 July 2019 and the Projects response to the Welsh Government approval letter to proceed dated 28th November 2019.

Project Partnering Arrangements

3.48 Following the selection of ABUHB as the site for the RSC the 2 organizations developed project partnering arrangements:

3.49 ABUHB and VUNHST are proposing to develop and operate the RSC as a partnership with clearly defined roles and responsibilities for each organization within the partnership agreement

3.50 ABUHB will build and provide the landlord services and facilities for the RSC building.

3.51 VUNHST will provide the clinical services and own the associated clinical equipment within the RSC

4 STRATEGIC POLICY CONTEXT

Introduction

- 4.1 This section of the Outline Business Case (OBC) summarises the strategic context for the Radiotherapy Satellite Centre (RSC) Project.

Strategic Context in Wales

- 4.2 The Welsh Government has published a wide range of national strategies which provide the framework for the planning and delivery of public services in Wales. These are supported by a range of policies, frameworks and guidance which relate more specifically to health and social care.
- 4.3 In addition, the TCS Programme and its partner organisation continually scans the environment at a population, national, regional and local level to develop our knowledge and intelligence on key issues which we need to take account of in the strategic planning and delivery of services. We use the Sustainable Development Principles as the basis for our horizon scanning.

Figure 4-1: A Summary of the Strategic Context for the TCS Programme



- 4.4 The core themes running through the strategic framework within NHS Wales are summarised as:
- Sustainability as the fundamental principle of public services;
 - Putting citizens and patients at the centre of service design and delivery;

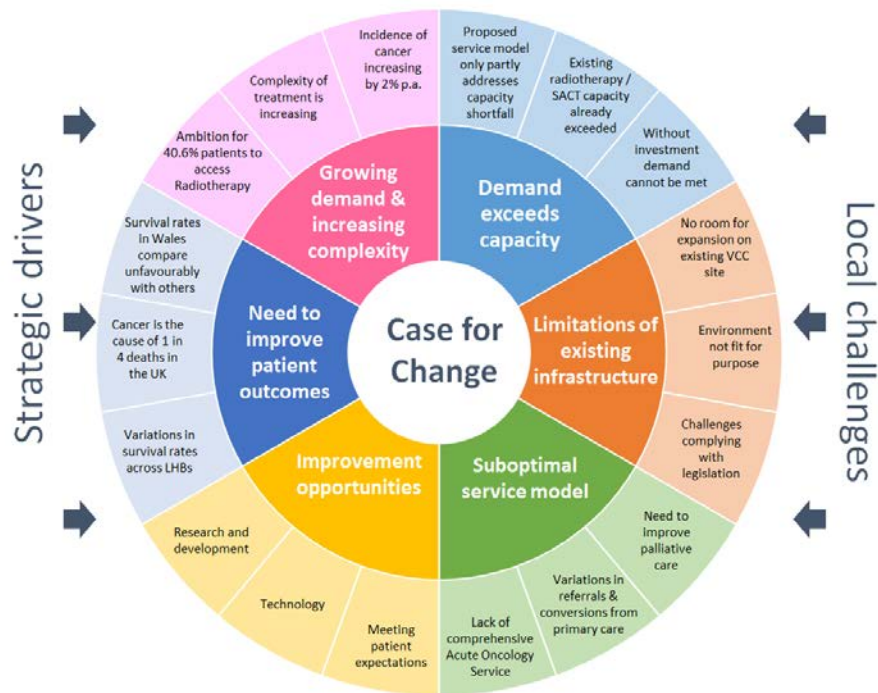
- Developing a new relationship with citizens and patients based upon the principles of prudent health and co-production;
- Providing services of the highest quality which meet the needs of individuals consistently;
- Improving the quality of services;
- Delivering outcomes which are comparable with the best elsewhere;
- Reducing all avoidable waste, harm and variation;
- Providing care at home or within the local community wherever and whenever possible;
- Using resources in a sustainable way;
- Treating people individually with dignity and respect;
- Ensuring that every Welsh pound is spent efficiently and effectively; and
- Providing a first-class experience for everyone who uses services.

4.5 The TCS Programme Business Case (PBC) outlines the strategic context for the Transforming Cancer Services Programme and describes how the Programme is central to VUNHST's ability to deliver key national and local strategic objectives, especially in relation to those outlined in the following strategic documents:

- Well-being of Future Generations (Wales) Act (2015);
- A Healthier Wales: Our Plan for Health and Social Care;
- Prudent Healthcare: Securing Health and Well-being for Future Generations;
- Together for Health – Cancer Delivery Plan;
- The Velindre University NHS Trust Cancer Strategy; and
- Velindre Cancer Centre Strategy for Radiotherapy

Note: It has been agreed with commissioners, through the collaborative scrutiny process, that the PBC is extant and for contextual understanding only. However, the PBC will remain a 'live' document which will be updated at key milestones in the Programme and is currently being updated.

Figure 4-2: Strategic Drivers and Local Challenges



National context Together for Health – Cancer Delivery Plan 2016 – 2020

4.6 Clinical outcomes for cancer patients in Wales compare unfavourably with other countries.

4.7 The Welsh Government's '*Together for Health – Cancer Delivery Plan*' provides a clear strategy for cancer care in Wales and sets out the key drivers for improvement between 2016 and 2020:

- **Preventing cancer:** people to live a healthy lifestyle, make healthy choices and to minimise risk of cancer;
- **Detecting cancer earlier:** cancer is detected earlier where it does occur or recur;
- **Delivering fast, effective treatment and care:** people receive fast, effective treatment and care so they have the best chance of cure;
- **Meeting people's needs:** people are placed at the heart of cancer care with their individual needs identified and met so they feel well supported and informed, able to manage the effects of cancer;
- **Caring at the end of life:** people approaching the end of life feel well cared for and pain and symptom free;
- **Improving information:** providing improved analysis and information which is available at the right time to the right person; and
- **Targeting research:** to support improvements in cancer treatment.

4.8 All the HBs within SE Wales, and within the remit of this business case, along with VUHNST have used these pillars as the basis for their local Cancer Delivery plans to meet the needs of their local population. The key, and consistent, themes from these documents are:

- Improve cancer outcomes in Wales through improved prevention, early detection and better treatments
- Work across the whole healthcare systems to deliver seamless and integrated care for cancer patients
- Deliver care closer to home where safe and appropriate to do so
- Address inequalities for cancer patients
- Equitable access to radiotherapy
- Improve Research, development and learning
- Improve patient experience through patient centred model

Local Strategic Context in VUNHST and ABUHB

4.9 As mentioned above both VUNHST and ABHB have Cancer Strategies and delivery plans which have shared ambitions.

4.10 ABUHB Cancer Strategy *Cancer Services: Delivering a Vision 2020-2025* has the following ambition:

Figure 4-4: ABUHB Vision

ABUHB Vision:

Improve prevention, optimise treatments, patient outcomes and reduce health inequalities for our population and those we serve.

4.11 Velindre cancer strategy - '*Shaping our Future Together*' sets the following vision for cancer services for the next ten years:

Figure 4-4: VUNHST Vision

VUNHST Vision:

To lead in the delivery and development of compassionate, individualised and effective cancer care to achieve outcomes comparable with the best in the world

4.12 At the heart of the TCS Programme is the delivery of a patient centred service model that will allow Commissioners to provide sufficient capacity to deal with growing and changing demand for services, whilst improving clinical outcomes for the population of South East Wales.

4.13 Both ABUBH's Cancer Strategy and its plans for Nevill Hall Hospital (NHH) after the opening of the Grange include the development of the RSC as a key

driver to deliver its ambitions. In the HB's plan the RSC at NHH will operate alongside key other cancer services including local SACT treatments, Acute Oncology Services (AOS) and specialist palliative care.

- 4.14 This Outline Business Case (OBC) will provide the case for the RSC to support the existing, and in due course new, Velindre Cancer Centre in its provision of Radiotherapy services for the population of South East Wales. The nVCC will provide a hub to deliver the many of specialist non-surgical cancer services for South East Wales but with radiotherapy services closer to home for a proportion of the catchment population delivered via a Satellite Centre. As such it is critical to the delivery of the overall TCS Programme and is therefore aligned to the wider healthcare strategic context, at both a local and national level.

5 EXISTING ARRANGEMENTS RADIO THERAPY

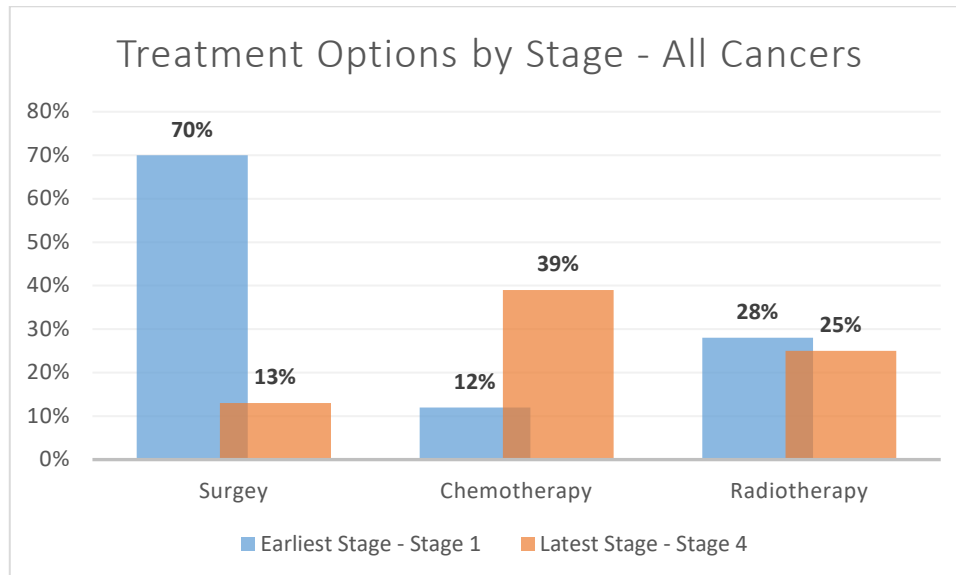
- 5.1 The purpose of this section of the business case is to describe the current service delivery arrangements for the services covered within the scope of the RSC Project;

Service Delivery Arrangements, including equipment

- 5.2 VUNHST delivers specialist non-surgical cancer services to a catchment population of 1.5million people using a hub and spoke service model. For some specialist Radiotherapy treatments the catchment population is all of Wales.
- 5.3 Services are currently provided across South East Wales from one of two main treatment locations:
- **Velindre Cancer Centre:** The hub of the Trust's specialist cancer services is a specialist treatment, training, research and development Centre for non-surgical oncology; and
 - **Outreach Centres:** outpatient and SACT treatments are delivered on an outreach basis within facilities across South East Wales, including District General Hospitals and from patients' own homes.
- 5.4 Currently all radiotherapy treatments are provided at VCC hub.
- 5.5 Patients are referred to Velindre Cancer Centre for treatment by the following routes:
- Following referral by a GP to the relevant HB; or
 - Following presentation as an emergency at an A&E department.
- 5.5 Prior to referral to Velindre Cancer Centre, all patients will have been investigated and diagnosed with a solid tumour. Some patients may have already undergone surgery. Velindre Cancer Centre's role is to deliver specialist and tertiary cancer treatment, including Radiotherapy, until the patient can be referred back to their host Health Board for ongoing treatment, management, and follow-up.
- 5.6 Radiotherapy plays a vital role in the treatment of cancers with:
- 40% of all patients cured of cancer are cured by radiotherapy
 - It also can offer patients the choice of organ preservation and avoid the need for major or disfiguring surgery.
- 5.7 With rapid developments in the technology the role of Radiotherapy continues to expand in the treatment of cancers.

5.8 Radiotherapy is a flexible treatment modality which is used with a curative or palliative intent, at a consistent rate, regardless of cancer staging as shown by the following graph:

Figure 5-1: Treatment Options by Stage



5.9 Overall the Radiotherapy service has a number of specific functions:

- Supports diagnosis
- Undertakes pre-treatment planning
- Outlining – identifying what should be treated
- Undertakes on-going treatment planning and review
- Delivers external radiotherapy using Linear Accelerators (Linacs) and a superficial treatment area as well as Brachytherapy.
- Supports training and education (undergraduate and post graduate) including medical and radiologist training
- Supports the wider VCC and LHB cancer teams and specialists through participating in multi-disciplinary, multi-agency meetings and discussions at a patient and service-wide level.
- Undertakes radiotherapy research

5.10 The current radiotherapy department is based on a single site at the Velindre Cancer Centre (VCC) with the following facilities and equipment include:

- 8 x Linear accelerators;
- 1 x superficial treatment area;
- A brachytherapy suite (with theatre area);
- Pre-treatment planning areas which is supported by 2 CT Simulators, each with a small number of consulting rooms to support on-treatment review and consultation.
- Physics planning areas;
- An electronics and computing workshop that supports the medical physics function i.e. basic repair and PAT testing.

- An engineering workshop/machine shop, electronics workshop, dosimetry & metrology laboratories

- 5.11 Recent years has seen an increase in the complexity of linear accelerators which impacts on repair, QA and maintenance time to safeguard the reliability and high accuracy of the machines, which is particularly important given the increasing trend of higher doses over less fractions.
- 5.12 The life expectancy of a Linac is 10 years and it is important that the linacs are fit for purpose and not beyond their life expectancy which leads to increased risks about breakdowns and failures, which in turn affects the sustainability of a safe and reliable radiotherapy service.
- 5.13 The linacs at VCC are ageing with an average age of 9.6 as at 2020; with a peak age of 15 years which is well beyond the expected lifespan. The table below show the aging profile of machines at VCC:

Table 5-1: Aging Profile of Machines at VCC

		Planning Scenario - No Early Replacement of linacs - No RSC - Wait to nVCC																												
	Type	Location	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2020	2021	2021	2022	2023	2023	2024	2024	2025	2026		
																		Transition YR	Transition YR			Transition YR	Transition YR							
LA10	Std	VCC / nVCC																												
LA9	Std	VCC / nVCC																												
LA8	Std	VCC / nVCC								0	1	2	3	4	5	6	7	8	9	9	10	10	11	12	12	13	13	0	1	2
LA7	Std	VCC / nVCC						0	1	2	3	4	5	6	7	8	9	10	10	11	11	12	13	13	14	0	1	2		
LA6	Std	VCC / nVCC	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	15	16	16	17	18	18	19	0	1	2		
LA5	Std	VCC / nVCC							0	1	2	3	4	5	6	7	8	8	9	9	10	11	11	12	12	0	1	2		
LA4	Stereo	VCC / nVCC									0	1	2	3	4	5	6	6	7	7	8	9	9	10	0	1	2			
LA3	Std	VCC / nVCC			0	1	2	3	4	5	6	7	8	9	10	11	12	13	13	14	14	15	16	16	17	0	1	2		
LA2	Stereo	VCC / nVCC											0	1	2	3	4	4	5	5	6	7	7	8	8	0	1	2		
LA1	Std	VCC / nVCC				0	1	2	3	4	5	6	7	8	9	10	11	12	12	13	13	14	15	15	16	0	1	2		
Total											6	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8		
Avg Age											4.17	4.43	5.43	5.63	6.63	7.63	8.63	9.63	9.63	10.63	10.63	11.63	12.63	12.63	13.63	0.00	1.00	2.00		
Peak Age											8	9	10	11	12	13	14	15	15	16	16	17	18	18	19	0	1	2		

- 5.14 The RSC is an important development to ensure VUNHST is able to continue to deliver safe and effective Radiotherapy services.

Benchmarking

- 5.15 As part of the development of TCS programme we have taken the opportunity to benchmark the efficiency of our service. Whilst benchmarking data is routinely captured in many sectors of the health service there is no established benchmarking framework within UK for tertiary cancer services which has made it challenging for VCC to routinely benchmark its performance against other cancer centres. Similarly, in light of fact that operating models, adherence to practice guidelines, etc., vary greatly outside the UK a comparison with non UK radiotherapy centres is not the most appropriate benchmark. In recognition of this, VUNHST has undertaken benchmarking itself.
- 5.16 Benchmarking exercises were undertaken during 2016/17 and 2019/20 with a number of leading Cancer Centres from across the UK including:

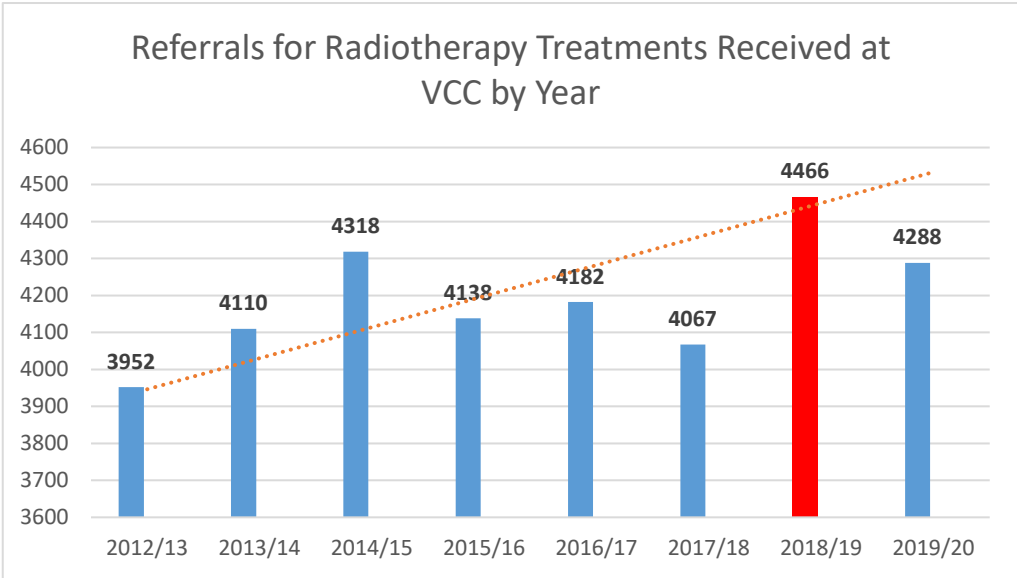
- The Beatson West of Scotland Cancer Centre;
- The Clatterbridge Cancer Centre NHS Foundation Trust;
- Leeds Teaching Hospital NHS Trust; and
- The Royal Marsden NHS Foundation Trust.

5.17 These benchmarking exercises indicated that VUNHST compares favourably with other UK Radiotherapy centres in respect of throughput and efficiency and, therefore, additional capacity cannot be fulfilled by improved efficiency with the current service.

6 BUSINESS NEEDS

- 6.1 This section will review the clinical growth assumptions and demonstrate that additional capacity is required to meet the forecast increases in demand for Radiotherapy.
- 6.2 Earlier sections outlined the role radiotherapy plays in the treatment of cancers. Regardless of the future delivery of systematically more rapid diagnosis, increased screening capacity and public health initiatives, radiotherapy will remain a valid and effective clinical option for the treatment of a large proportion of all patients with cancer.
- 6.3 There are challenges inherent in attempting to forecast future demand for radiotherapy services given changes in clinical indications, incidence and changing treatment complexity. The TCS Programme has developed clinical growth assumptions which in turn have informed the development of this Outline Business Case. It is estimated that demand for radiotherapy services in south-east Wales will increase at a rate of 2% per annum to 2030/31.
- 6.4 It is apparent that demand for specialist cancer treatment is increasing. This demand is represented in the most immediate sense by the receipt of increasing numbers of patient referrals. Such an increase has been observed by the radiotherapy service at Velindre Cancer Centre in recent years.

Figure 6-1: Referrals for Radiotherapy Treatments



- 6.5 The graph above details the number of individual patient referrals for treatment with radiotherapy received at Velindre Cancer Centre from 2012/13 to 2019/20, inclusive. The dotted line overlaid on the graph describes an increase in referrals of 2% per annum from a base in 2012/13. Although there are year on year fluctuations, the graph serves to illustrate that the actual historical growth in referrals has been in step with the 2% clinical growth assumption for radiotherapy within TCS plans.

- 6.6 The 4,466 referrals received in 2018/19 represent the largest number of referrals received for the radiotherapy treatment at Velindre Cancer Centre in any given year. This follows an earlier peak in 2014/15 (4,318 referrals). Such marked increases in demand present stark capacity challenges which will become more acute as the clinical growth assumption underpinning the TCS Programme materialise.
- 6.7 There are a number of factors that influence the demand for Radiotherapy including:

1) Increasing incidence of cancer

It is recognised that the rate of cancer incidence in the United Kingdom and Welsh populations has been increasing over time. Cancer incidence in the United Kingdom increased by 12% between the early 1990s and the late 2010s and is expected to increase by a further 40% by 2035. This would represent 514,000 new cases of cancer in the United Kingdom compared to the 359,960 reported in 2015. Within Wales it is forecast incidence will increase by 2% pa over the next 10 years.

As mentioned earlier in this case the Wales Cancer Delivery plan has a focus on earlier detection and diagnosis of cancer. These patients will then require treatments including Radiotherapy. It is also likely to shift the balance towards a higher number of radical treatments as cancers get detected earlier.

2) Increasing population

The increased rate of incidence is driven, in part, by the fact that the population is growing and ageing. Welsh Government's most recent *Future Trends Report* forecasts that the population of Wales will increase by 5% between the mid-2010s and the mid-2030s. Although population level estimates of future changes in incidence take some account of forecast changes in population level and demographic, the anticipated increase to the population of certain areas in south-east Wales in the coming decades are marked. For example local authority population projections, prepared by *Statistics for Wales* on behalf of Welsh Government in 2016, indicate that the population of Newport will increase by approximately 12,000 by 2039 and that of Cardiff will be 26% larger in 2019 than in 2014, an increase which would represent more than 90,000 extra residents.

It is acknowledged that cancer incidence is higher among the over 65s and the same report predicts that the overall proportion of the Welsh population aged 65 and over will increase from 20% to 25% over the same period.

3) Increasing complexity of treatments

New techniques and developments are impacting on cancer treatments, including radiotherapy.

New techniques in the planning and delivery of Radiotherapy are improving accuracy of treatments for example to avoid critical organs which helps reduce long term side effects which can be debilitating, but also improves survival.

Developments continue to lead to growth in complexity and create an increase demand on resources including pre-treatment and treatment capacity, increased time to plan, treat and an increase in the rate of re-planning.

One new technique is hypo fractionation which involves high volumes but over shorter fractionation regimes. Whilst this enables fewer visits by patients it requires an increase in accuracy and specification of planning and dosimetric delivery of treatments. This demands more high quality treatment planning but also longer set up time and imaging at the time of treatments. Thus it is predicted that the throughput of treatments per hour will reduce. These, together with the commensurate increase for Quality assurance checking to ensure treatments are delivered in an optimum and safe manner, are having an impact on demand for radiotherapy.

Another example of developments is in chemo radiation with the potential for combination drug therapies that may provide opportunity for enhanced uptake of radiation by cancer cells or to protect healthy tissues during Radiotherapy.

4) Current uptake levels of RT

Analysis of the uptake rates of Radiotherapy in Wales show it to be about 37% against best practice of approximately 41% which suggest there are people in Wales who could benefit from Radiotherapy that are not currently receiving it.

It is acknowledged that the proximity of the population to specialist services assist in ensuring greater access and uptake of these services. There is evidence that the uptake of RT treatment by patients diminishes with the distance travelled by patients to reach radiotherapy centres. The provision of a satellite will provide improved access to patients as their travel time will be reduced. The Royal College of Radiologists indicate a journey time of less than 45 minutes is appropriate

Previous work analysing potential sites has shown that a satellite centre will improve the number of patients who live within 45 minute drive of a radiotherapy treatment centre in SE Wales. As the population ages too this should ensure that as many patients as possible can access the relevant treatments. Therefore it is anticipated that a Radiotherapy satellite centre in South East Wales will also lead to an increase in the uptake of Radiotherapy treatments.

5) Rapid developments in techniques

Velindre Cancer Centre has always had an excellent reputation for delivering high quality radiotherapy to its patients. It has been instrumental in delivering practice changing clinical research and has always been an early adopter of new technologies such as IMRT and stereotactic radiotherapy. The pace of innovation, clinical and technological change and complexity in cancer services is rapid. It is important that the radiotherapy service at Velindre Cancer Centre be at the forefront of cancer treatment, delivering a range of high quality, people centred services, which can benefit the Welsh population, whilst balancing innovation and research with accurate, timely, effective, efficient use of resources.

- 6.8 Within these demand increases it is projected that the most prevalent tumour types will remain as now. In 2035, approximately a third of all cancers reported in men are anticipated to be cancers of the prostate and a similar proportion of all cancers reported in women will be cancers of the breast.
- 6.9 These drivers and demographic developments strongly indicate that over the coming years the demand for RT will continue to rise and require sufficient and resilient capacity to be made available. The need for this increased capacity for Radiotherapy services in South East Wales is shown in graphs below and it is this which underpins the development of this OBC.

Figure 6-2: Radiotherapy Activity

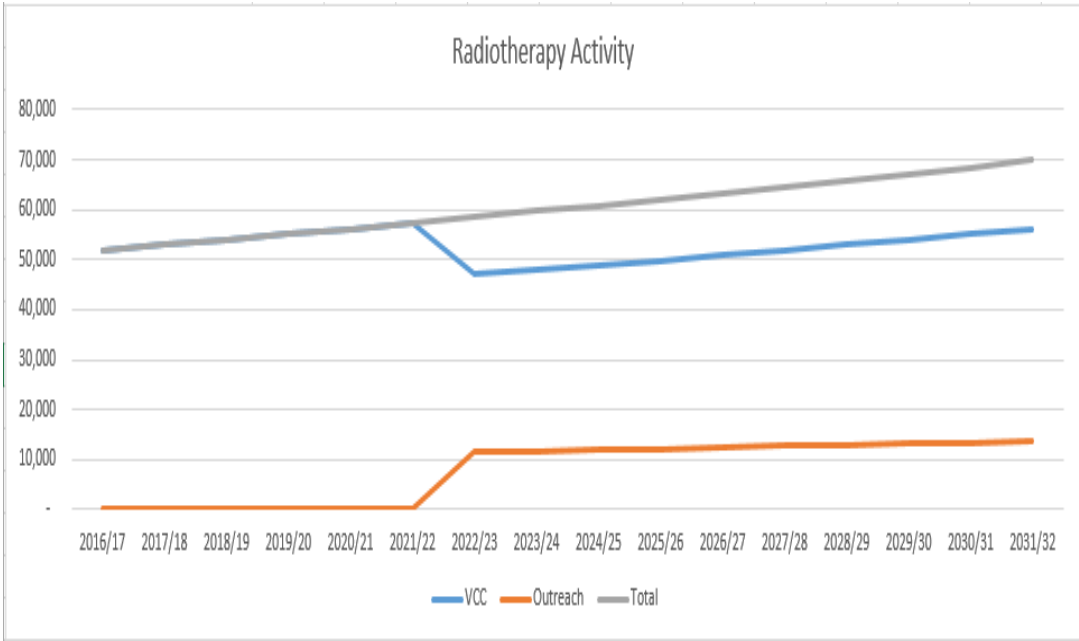
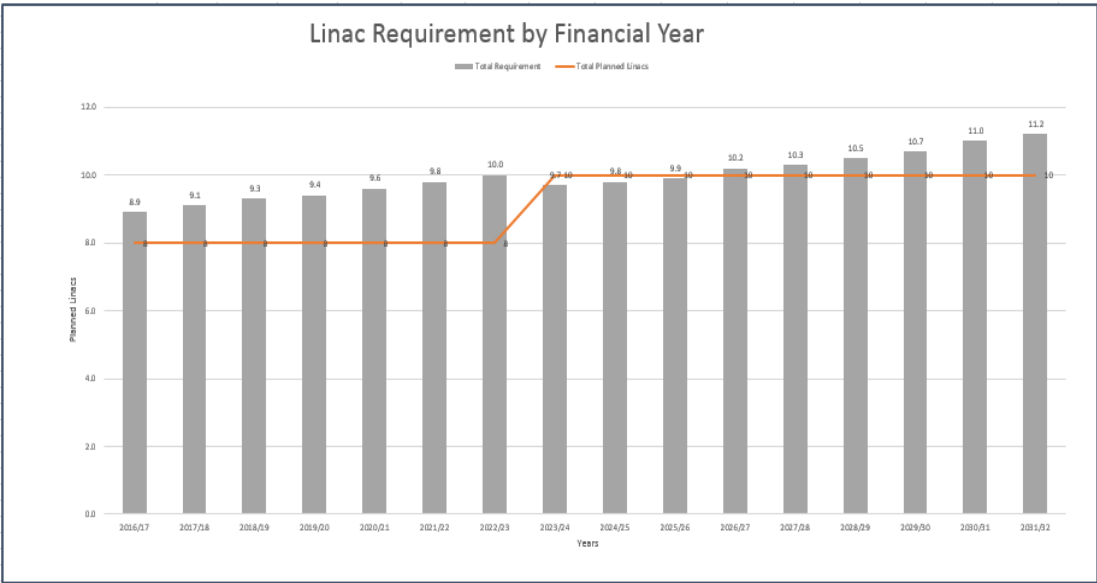


Figure 6-3: Linac Requirement by Financial Year



6.10 In summary the key drivers for the drivers for a RSC are:

- Improve access rates for Radiotherapy treatments, as rates are low in Wales compared to best practice and 50% of all cancer patients will benefit from receiving radiotherapy as part of their cancer management and in 40% of cases it contributes to a cure.
- Currently there is a poor patient experience for patients who travel significant distance for radiotherapy, often every weekday for many weeks.
- A RSC will contribute to the National policy: Healthier Wales –as it delivers care at home/locally where possible
- This type of networked model is used by leading cancer centres around the world delivering good outcomes
- Both Organisations are keen to increase access to research and trials and it is planned that local access to radiotherapy will increase availability and update of Radiotherapy trials

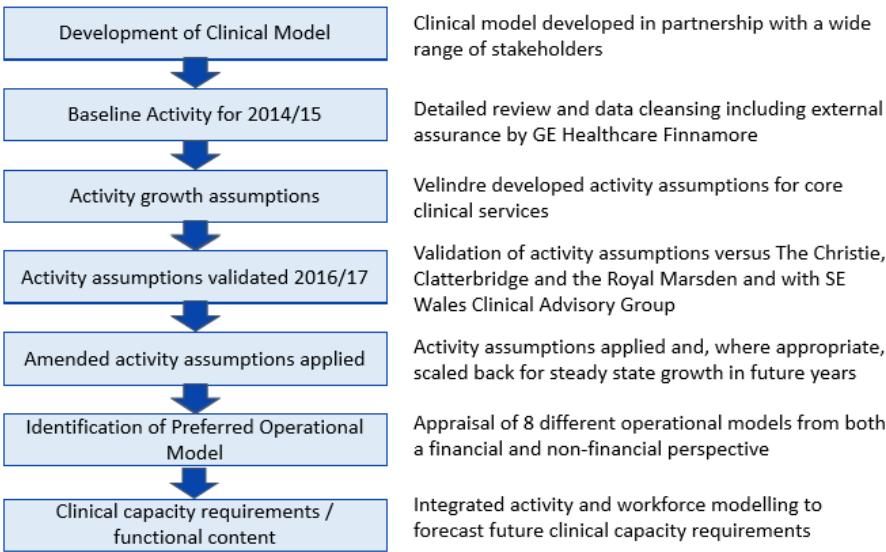
7 KEY RADIO THERAPY SERVICE AND CAPACITY REQUIREMENTS

- 7.1 The purpose of this section is to:
- Summarise the methodology which has been applied for forecasting future capacity requirements of South East Wales Cancer Services;
 - Provide an overview of the service and capacity requirements and functional requirements; and the Major Medical equipment requirements.
- 7.2 It is important to highlight the relationship between the nVCC OBC and the RSC OBC in terms of whole system capacity and delivery.

Modelling Future Capacity Requirements

- 7.3 The TCS Programme has developed a comprehensive activity model to forecast future capacity requirements for as set down in the nVCC OBC South East Wales Cancer Services. 2016/17 has been used as the baseline activity year for the model. The 2016/17 data set has been subject to rigorous review, including external validation, to ensure the accuracy of the data.
- 7.4 The functionality of the model has been subjected to quality assurance tests by the Trust's Technical Advisors, by GE Healthcare Finnermore and by the TCS Programme Team.
- 7.5 A summary of the process followed in forecasting future capacity requirements is shown in Figure 7-1.

Figure 7-1: Methodology for Forecasting Future Capacity Requirements



Clinical Growth Assumptions

- 7.6 The TCS Programme has developed a set of clinical growth assumptions for its core services. These clinical growth assumptions have been developed in partnership with clinical colleagues from across South East Wales and are informed by cancer incidence projections provided by the Welsh Cancer Intelligence and Surveillance Unit (WCISU).
- 7.7 The assumptions, following the availability and validation of 2016/17 activity data, have been reviewed by the VCC Senior Management Team and by the VCC service and clinical leads respectively. The main output of this review was a reduction in assumed growth rate for Radiotherapy from 4% to 2% between 2016/17 and 2030/31.
- 7.8 The clinical growth assumptions have been approved by the TCS Programme Management Board and by the TCS Programme Clinical Advisory Board.

Table 7-1: Clinical Growth Assumptions for Radiotherapy Services

Service	Annual Clinical Growth Assumption
	2016/17 – 2030/31
Radiotherapy	2%

- 7.9 In addition a validation exercise has been undertaken to compare the Trust's clinical growth assumptions against the following Cancer Centres from across the UK.
- The Beatson West of Scotland Cancer Centre;
 - The Clatterbridge Cancer Centre NHS Foundation Trust;
 - The Christie Cancer NHS Foundation Trust;
 - Leeds Teaching Hospital NHS Trust; and
 - The Royal Marsden NHS Foundation Trust.
- 7.10 This validation exercise demonstrated that the clinical growth assumptions were in line with those from other Cancer Centres across the UK, where comparable data is available. It can also be that radiotherapy services at Velindre Cancer Centre has observed growth in recent years in keeping with the assumption.

Forecast Capacity Requirements

- 7.11 Following the activity and capacity modelling process outlined above, the TCS Programme has been able to establish its core capacity requirements. For Radiotherapy these equate to 10 Linear Accelerators by 2022.
- 7.12 Given the above activity projections, and based on the agreed operating model referred to above the following planning assumptions were developed for the RSC:
- Radiotherapy Satellite with 2 x operational Linacs. However, there is expansion space to support the installation of two more linacs if required in the future.
 - 2 x Operational bunkers on day of opening
 - On-treatment review and education
 - 1 x CT Simulator
 - Good effective and integrated radiotherapy and clinical information systems, for example to enable panning and delivery of treatments.
- 7.13 There will be a phased clinical implementation at the RSC:
- Phase 1 – Less complex / high volume tumour sites
 - Phase 2 – Transition to a wider range of tumour sites

Table 7-2: Phased Implementation

Initial Activity	Proposed Activity	Exclusions
Breast Prostate & SABR Planned & unplanned Palliative Emergency	Urology Upper & Lower GI Lung & SABR Gynae Lymphoma Head & Neck Thyroid Neuro Electrons Chemo-radiation Research	Stereotactic Paediatrics Superficial (DXR) Brachytherapy TBI Sarcoma Benign Conditions Whole CNS Research (Early Phase)
Research (subject to risk assessment)		

- 7.14 To deliver the required service model the RSC will requires access to service provided by ABUHB including pharmacy to enable the delivery of chemo-

radiation treatments and emergency medical cover. An SLA will be established for the delivery of these.

Workforce

- 7.15 A workforce plan to deliver the service outlined above at the Satellite centre has been developed.

8 SPENDING OBJECTIVES

8.1 The purpose of this section is to outline the Spending Objectives for the RSC Project. The Project Spending Objectives (PSOs) provide a basis for appraising potential options and for post-project evaluation.

Project Spending Objectives

8.2 The following RSC PSOs were developed in partnership at a stakeholder workshop, which was attended by representatives with a broad range of service views. In presenting the RSC PSOs it is important to emphasise that:

- The scope of the OBC is limited to the development of the RSC to support the existing, and in the future, a new VCC; and
- The OBC for the RSC will focus on the additional infrastructure costs directly attributable to the RSC and the variable clinical and facilitate costs that result of a step up in radiotherapy capacity to meet modelled demand.

Table 8-1: Project Spending Objectives

Project Spending Objective	Description
Project Spending Objective 1	To provide access to quality and safe radiotherapy services that optimises patient outcomes .
Project Spending Objective 2	To provide sufficient capacity to meet future demand for services.
Project Spending Objective 3	To improve patient, carer and staff experience .
Project Spending Objective 4	To provide capacity and facilities to support the delivery of high quality education, research, technology and innovation .

8.3 The PSOs were approved by the RSC Project Board who provided assurance to the Health Board and Trust Board that they were:

- Aligned with the national context for healthcare developments in Wales;
- An alignment with the TCS Programme;
- Aligned with the scope and strategic context of the nVCC Project;
- Specific, measurable, achievable relevant and time-constrained (SMART); and
- Focused on business needs and vital outcomes rather than potential solutions.

Performance Metrics

- 8.4 To support the delivery of these objectives a number of key performance metrics have been developed and mapped against the five drivers for investment outlined within the Welsh Governments Business Case guidance.

Table 8-2: nVCC OBC Project Spending Objectives – Key Performance Metrics

Project Spending Objective	Performance Metrics
PSO1 - To provide access to quality and safe radiotherapy services that optimises patient outcomes	<ul style="list-style-type: none"> • Percentage compliance with Health Building Notes • Compliance assessment against BREAM • Percentage assessment against WHTM Estate Code (Category A Condition of Buildings) • PROM outcome measures • Access rate to Radiotherapy treatments
PSO2 – To provide sufficient capacity to meet future demand for services	<ul style="list-style-type: none"> • Percentage of patients receiving radical radiotherapy treated within 21 days • Percentage of patients receiving palliative radiotherapy treated within 7 days • Percentage of patients receiving emergency radiotherapy treated within 2 days • Percentage utilisation of equipment / accommodation: <ul style="list-style-type: none"> ○ Linear accelerator utilisation ○ Non-clinical accommodation utilisation
PSO3 – To improve patient, carer and staff experience	<ul style="list-style-type: none"> • Percentage of patients rating their experience as excellent • Percentage staff satisfaction • Percentage recruitment of workforce • Percentage retention of workforce • PREM measures • Reduced travel times for patients and carers with resultant better experience and reduction in carbon footprint
PSO4 - To provide capacity and facilities to support the delivery of high quality education , research , technology and innovation	<ul style="list-style-type: none"> • Percentage of patients who have the opportunity to participate in clinical radiotherapy research trials • Percentage of patients for each cancer site entered into radiotherapy clinical trials each year • Increased integrated and cross organisation MDT learning and education

9 SCOPE OF THE RADIOTHERAPY SATELLITE CENTRE PROJECT

9.1 As previously described the scope of the Project is limited to the building of an RSC and the following is outside of the scope of the RSC Infrastructure Project:

- All other variable clinical costs of modelled demand growth (excluding radiotherapy which is included within the OBC) which will be considered through the commissioning LTA framework and, therefore, excluded from the RSC OBC;
- All other service development Projects e.g. Prehabilitation which will be subject to separate Business Cases and therefore excluded from the RSC OBC;
- All other outreach capital Projects e.g. SACT services, which will be subject to separate Business Cases and therefore excluded from the RSC OBC; and
- All Digital Projects which the Trust needs to complete irrespective of the RSC Project. These will be the subject of separate Business Cases.

Potential Business Case Options

9.2 The scope of the Project is well defined. There are two potential options for delivering the objectives of the Project apart from the Status Quo:

- Do Nothing;
- Option 1: 10 Linear Accelerators at nVCC
- Option 2: 8 Linear Accelerators at nVCC and 2 Linear Accelerators within the RSC.

9.3 As outlined earlier, the location of the RSC has been previously determined through an independently led options appraisal.

Capacity and Functional Requirements

9.4 As outlined earlier the activity and capacity analysis has demonstrated the following Functional Content requirements is 10 linacs i.e. 2 additional linacs from current levels and when compared to the planned nVCC.

Building Footprint for RSC

9.5 The activity and capacity analysis has demonstrated that the required building footprint for the RSC, is based on the clinical model plan that 2,528 m².

10 PROJECT RISKS, CONSTRAINTS, DEPENDENCIES AND ASSUMPTIONS

Risks

- 10.1 Identifying, mitigating and managing the key risks is crucial to successful delivery. Without effective management of the key risks it is likely that the Project would not deliver its intended outcomes and benefits within the anticipated timescales and spend.
- 10.2 A full risk register for the RSC Project has been developed which includes the following categories:
 - 11 **Business risks:** Risks that remain 100% with the Health Board and Trust and include political and reputational risks;
 - 12 **Service risks:** Risks associated with the design and build and operational phases of the Project and may be shared with other organisations; and
 - 13 **External Non System risks:** Risks that affect all society and are not connected directly with the proposal. They are inherently unpredictable and random in nature.
- 10.3 The RSC risk register is managed by the Project Team. The role of the Project Team in managing risks is described within the Management Case.

Constraints

- 10.4 The main constraints in relation to the RSC Project are outlined in Table 10-1.

Table 10-1: Main Constraints of the RSC Project

Constraint	Overview
Financial Constraints	The infrastructure solution for the RSC must be deliverable within the (including VAT but excluding equipment) capital funding agreed with the Welsh Government and the revenue resources agreed with Commissioners.
Timescale Constraints	The RSC must be operational in line with the Programme requirements and as agreed with the Welsh Government.
Service Continuity	Delivery of patient services must be maintained during the period of construction.
Compliance with Statutory Requirements	The RSC must be fully compliant with all relevant statutory compliance requirements.

Dependencies

- 10.5 A number of dependencies have been identified in relation to the RSC Project. These are provided in Table 10-2.

Table 10-2: Main Dependencies of the RSC Project

Dependency	Overview
Capital Funding Availability	Access to capital funding is critical to deliver the Project, including the procurement of Major Medical equipment and IM&T and essential Enabling Works.
Revenue Funding Availability	Access to revenue funding is essential to support the recurring revenue implications associated with the RSC Project.
Welsh Government Approval	The Outline Business Case must be approved by Commissioners and the Welsh Government.
Partnership Working	Co-production in the design and implementation of the Project that involves all stakeholders is essential to the Project's success.
Wider Health Strategy and Governance	It is important that general health strategy and governance in Wales, that underpins the RSC Project remains broadly consistent over the period of change.

Assumptions

- 10.6 The key assumptions underpinning the RSC Project are provided in Table 10-3.

Table 10-3: Main Assumptions for the RSC Project

Assumption	Overview
Implementation of the wider TCS programme	<p>It is assumed that the following capital Projects identified within the TCS Programme are funded and the RSC has been 'sized' on the basis of this assumption.</p> <ul style="list-style-type: none"> • VCC (and nVCC) at Whitchurch; and • Non-surgical cancer Outreach centres across South East Wales delivering SACT and Outpatient services.
Clinical Growth Assumptions	The RSC has been 'sized' on the basis of a number of clinical growth assumptions (in conjunction with the nVCC OBC), summarised below:

Assumption	Overview
	<ul style="list-style-type: none"> Radiotherapy activity will increase by 2% per annum through to 2031

Flexibility for Expansion on the Site of the Radiotherapy Satellite Centre

- 10.7 It is important to highlight that there is planned expansion space (equivalent to accommodation for 2 additional linear accelerators plus supporting equipment etc.) on the identified site for the RSC. This expansion capacity is important to the TCS Programme Risk Management Strategy in the event that the clinical growth assumptions prove to be understated.

11 CONCLUSION

11.1 The Strategic Case has demonstrated the compelling case for investment to support the development of an RSC. The key factors supporting the case for investment are:

- Demand for Radiotherapy is forecast to increase over the forthcoming years and there is currently insufficient capacity to meet this demand;
- There is no expansion space on the existing Velindre Cancer Centre to, for example, install any additional linear accelerators, which limits the Trust's ability to expand its capacity in response to increasing demand for clinical services;
- Patient access to radiotherapy services in Wales is lower than in the rest of the United Kingdom and location of radiotherapy centres have been identified as a contributing factor; and
- The new Velindre Cancer Centre, has been sized on the basis that an RSC would be delivered in advance of its opening in accordance with the TCS Clinical Model.
- The RSC provides additional radiotherapy service capacity to the patients of South East Wales to meet demand significantly in advance of any other potential service development.

12 APPENDICES

For Information

No appendices are detailed to support this chapter.

Outline Business Case: 2020

Radiotherapy Satellite Centre

Economic Case – Redacted Version

ECONOMIC CASE

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1 INTRODUCTION

- 1.1 The case for a Radiotherapy Satellite Centre (RSC) has been clearly articulated within the Strategic Case.
- 1.2 The purpose of the Economic Case is to identify and appraise the potential options for the delivery of the Project Spending Objectives (PSOs).
- 1.3 The Economic Case outlines the option appraisal undertaken to identify the Preferred Option by the following Processes:
 - Identification of the Critical Success Factors (CSFs) for the Project;
 - Development of a shortlist of options in response to the case for change and the proposed clinical service model;
 - Evaluation of the shortlist of options against the CSFs and the PSOs;
 - An economic appraisal of the shortlist of the options; and
 - A recommendation of the preferred way forward in the form of a Preferred Option.
- 1.4 The outcome of the option appraisal supports and justifies the decision to proceed with the Project. It does this by identifying a Preferred Option which is expected to demonstrate that the Project will deliver the benefits required and provide the best value for money.

Context

- 1.5 The Welsh Government approved the Trust's Strategic Outline Programme (SOP) in 2015 for the delivery of Cancer Services in South East Wales.
- 1.6 The SOP was followed by a Transforming Cancer Services (TCS) Programme Business Case in October 2017 that developed the clinical model underpinning service development in South East Wales.
- 1.7 The Project parameters set out above are important as they restrict the range and scope of options which could be considered as part of the Economic Case.

2 CRITICAL SUCCESS FACTORS

- 2.1 As outlined in the Welsh Government’s Better Business Case Guidance, the Critical Success Factors (CSFs) are the attributes essential for successful delivery of the Project.
- 2.2 The Project Group developed the CSFs for the Project and in doing so considered the Welsh Government priorities as outlined in the NHS Infrastructure Investment Criteria. The criteria is outlined below:

Table 2-1: NHS Infrastructure Investment Criteria

<ul style="list-style-type: none">• Health gain: improving patient outcomes and meeting forecast changes in demand;• Affordability: given the long term revenue assumptions, there should be an explicit reference to reducing revenue costs;• Clinical and skills sustainability: reducing service and workforce vulnerabilities, and demonstrating solutions that are flexible and robust to a range of future scenarios;• Equity: where peoples highest health need are targeted first; and• Value for money: optimising public value by making the most economic, efficient and effective use of resources.
--

- 2.3 The CSFs that were identified are as follows:
- Strategic fit;
 - Potential value;
 - Supplier capacity and capability;
 - Potential affordability; and,
 - Potential achievability.
- 2.4 The CSFs are used to assess each option and they have also been aligned to the infrastructure investment criteria, as outlined in the table overleaf.

Table 2-2: Critical Success Factors

Critical success factor	The option will be assessed in relation to how well it:	Alignment to infrastructure investment criteria
Strategic fit	<ul style="list-style-type: none">• Meets agreed Project Spending Objectives, related business needs and service requirements; and• Provides holistic fit and synergy with other strategies, programmes and projects.	<ul style="list-style-type: none">• Health gain
Potential value for money	<ul style="list-style-type: none">• Optimises public value (social, economic, environmental) in terms of potential costs, benefits, and risks.	<ul style="list-style-type: none">• Value for money• Equity
Supplier capacity and capability	<ul style="list-style-type: none">• Matches the ability and capacity of potential suppliers to deliver the required services; and• Is likely to be attractive to potential suppliers.	

Critical success factor	The option will be assessed in relation to how well it:	Alignment to infrastructure investment criteria
Potential affordability	<ul style="list-style-type: none"> Can be funded from available sources of finance; and Aligns with sourcing constraints. 	<ul style="list-style-type: none"> Affordability
Potential achievability	<ul style="list-style-type: none"> Is likely to be delivered given the Health Board and Trust's and partner organisations' ability to respond to the changes required; Matches level of available skills required for successful delivery; Facilitates the continued delivery of services throughout the duration of the project; and Delivers an operational RSC in line with the Programme agreed with the Welsh Government. 	<ul style="list-style-type: none"> Clinical and skills sustainability

2.5 The CSFs are used alongside the PSOs and the infrastructure investment criteria to evaluate possible options for the delivery of the Project.

2.6 The possible options for the delivery of the Project will be identified using the Options Framework presented in the next section.

3 THE OPTIONS FRAMEWORK

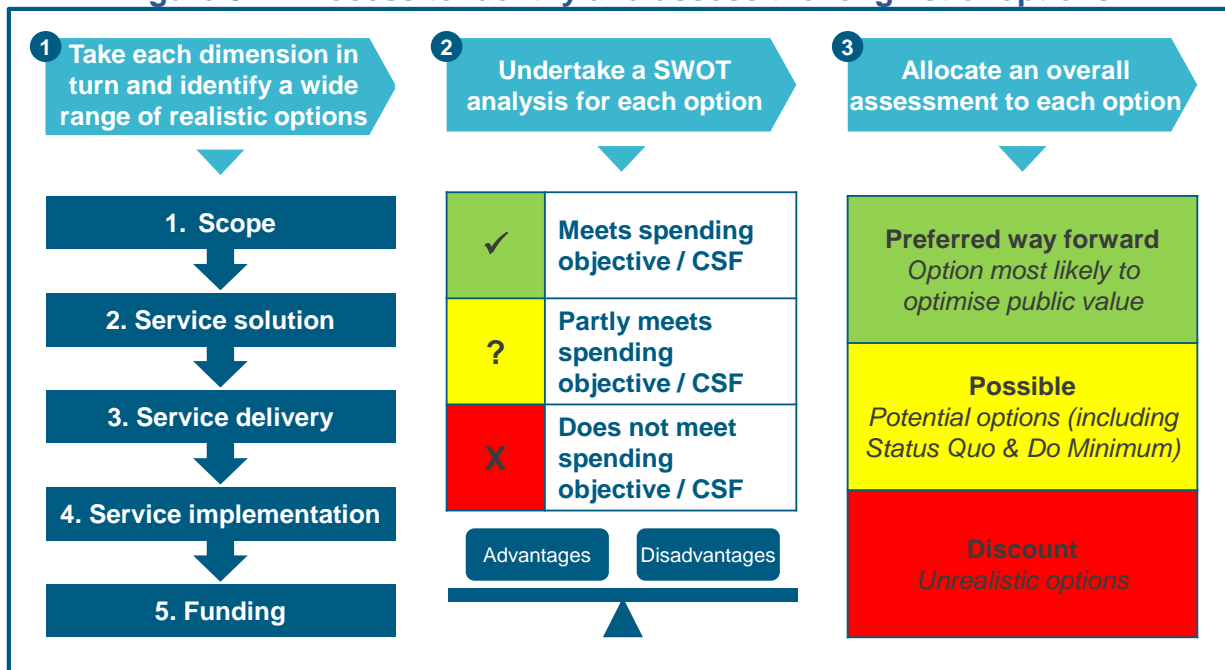
- 3.1 The Options Framework, as outlined in the Welsh Government's Better Business Case Guidance, provides a systematic approach to identifying and filtering a broad range of options for operational scope, service solution, service delivery, implementation and the funding mechanism for a Project. An overview of these key dimensions is provided in the following table:

Table 3-1: Options Framework

Dimension	Description
Scope	What is the potential coverage of the project?
Service solution	How the preferred scope of the project can be delivered?
Service delivery	Who can deliver the preferred scope and service solution for the project?
Implementation	The timing and phasing of project delivery in relation to the preferred scope, service solution and delivery arrangements for the project.
Funding	Potential funding requirements for delivering the preferred scope, solution, service delivery and implementation arrangements for the project.

- 3.2 The process for identifying and assessing options takes each of the key dimensions in turn and undertakes the following steps (as illustrated in Figure 3-1):
- Identification of a wide range of realistic potential options within that dimension.
 - An analysis for each option to:
 - Assess how well the option meets the Programmes spending objectives and CSFs; and to
 - Identify the main advantages and disadvantages of the option.
 - Using the outputs of the analysis to determine whether the option will be carried forward as the preferred way forward, carried forward as a possible solution, or discounted at this stage.

Figure 3-1: Process to identify and assess the long list of options



3.3 The Programme Delivery Board has identified a wide range of realistic and possible options for the delivery of the project using the options framework.

3.4 A range of potential options were identified in relation to the range of services that the Trust is required to deliver. These options are presented below in Table 3-2:

Table 3-2: Project scope options

Ref	Option	Description
1.1	Do Nothing	Continue with existing arrangements
1.2	Do minimum	Provide additional capacity at nVCC (increase nVCC LINACs from 8 to 10) with no satellite provision
1.3	Intermediate	Develop a new satellite radiotherapy unit at Nevill Hall with 2 LINACs

3.5 The advantages and disadvantages of each of the longlisted options were identified. A summary of this is provided in Table 3-3.

Table 3-3: Project Scope- advantages and disadvantages of options

Advantages	Disadvantages
1.1 Do Nothing	
<ul style="list-style-type: none"> Does not require any capital investment 	<ul style="list-style-type: none"> Service will be unable to accommodate forecast demand in the future

Advantages	Disadvantages
	<ul style="list-style-type: none"> • Does not increase access closer to home so reduces programme benefits associated with reduced patient travel and improved uptake of services • Does not align with the TCS strategy concerning improving the overall cancer pathway and so will impact on delivery of programme benefits
1.2 Do minimum: Provide additional capacity at nVCC with 2 LINACs	
<ul style="list-style-type: none"> • Potentially reduces capital costs by negating the need to develop an additional facility 	<ul style="list-style-type: none"> • Does not increase access closer to home so reduces programme benefits associated with reduced patient travel and improved uptake of services • Physical challenges of accommodating 2 additional LINACs on nVCC site • Reduces expansion capacity on nVCC site • Does not provide additional capacity during development of nVCC so significant risk that demand will exceed capacity during this time • Does not mitigate risks associated with recruiting and retaining staff in one geographical location • Requires an increase in revenue service payment cost.
1.3 Intermediate: Develop a satellite radiotherapy unit at Nevill Hall with 2 LINACs	
<ul style="list-style-type: none"> • Improves access to care closer to home, leading to increased uptake of treatment which will result in improved patient outcomes • Ability to provide additional capacity during the nVCC transitional period. • Flexibility of workforce working, larger recruitment pool and flexibility between sites 	<ul style="list-style-type: none"> • Increased capital due to the introduction of an additional building

3.6 Each option was assessed against the spending objectives and CSFs. The results of this, including the overall assessment of each option, are presented in Table 3-4 overleaf:

Table 3-4: Project Scope - Assessment of Options

		1.1 - Do nothing	1.2 - Additional capacity at nVCC	1.3 - Develop SRU at Nevill Hall
SO1	To provide access to quality and safe radiotherapy services that optimises patient outcome	X	?	✓
SO2	To provide sufficient capacity to meet future demand for services	X	?	✓
SO3	To improve patient, carer and staff experience	X	✓	✓
SO4	To provide capacity and facilities to support the delivery of high quality education, research, technology and innovation	?	✓	✓
CSF1	Strategic fit	X	?	✓
CSF2	Potential value for money	X	?	✓
CSF3	Supply side capacity / capability	✓	✓	✓
CSF4	Potential affordability	✓	✓	✓
CSF5	Potential achievability	X	?	✓
Assessment		Baseline	Possible - Carry forward	Preferred way forward

3.7 Following the assessment of the longlisted options associated with the scope of services to be delivered, it is concluded that:

- Development of a Satellite Radiotherapy Unit at Nevill Hall (Option 1.3) is identified as the preferred way forward because it best meets the spending objectives and the critical success factors, by providing increased capacity, greater workforce resilience and access to care closer to home which will lead to improved patient outcomes. This option offers a significant advantage in terms of providing additional capacity in advance of the nVCC opening.

- Option 1.1 – Do nothing is carried forward as a baseline only to allow comparison of the options. It is not a feasible option as it does not provide enough capacity to meet growing demand and since it will not achieve spending objectives, is not likely to represent value for money.
- Option 1.2 – Providing additional Radiotherapy capacity at nVCC only partly meets spending objectives in terms of additional capacity but creates some risks in terms of timescales and access to care closer to home. It is carried forward as a possible option for evaluation as part of the economic appraisal.

- 3.8 The outcome of this process determined the longlist of options for the Project. These options were then evaluated and appraised by the RSC Project Board against the PSOs and CSFs.
- 3.9 The detailed exercise of identifying and assessing the longlist of options is outlined in Appendix OBC/EC1.

4 THE SHORTLISTED OPTIONS

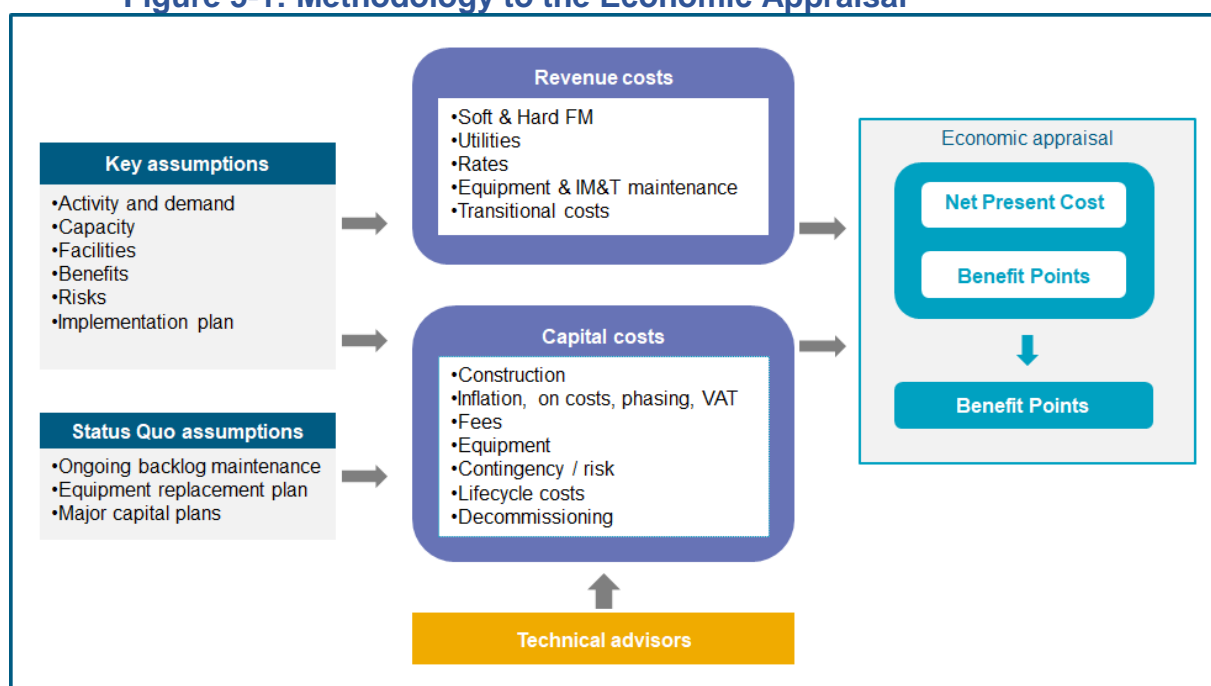
- 4.1 As outlined in the previous section, the TCS Programme Delivery Board determined the shortlist of possible options that would be appraised.
- 4.2 The RSC Project Board reviewed the shortlist of options by testing the following:
- Was the option likely to deliver the spending objectives and CSFs?
 - Was the option likely to deliver sufficient benefits?
 - Was the option practical and feasible?
 - Was the option deliverable within the constraints of the project?
 - Was the option deliverable without incurring an unacceptable degree of risk?
- 4.3 Following this review, the shortlist of options were approved by the RSC Project Board and notified to Welsh Government in a letter to Rob Hay dated 28th November 2019.
- 4.4 The final shortlist of **three** options are presented below:
- **The Do Nothing Option:** This option provides a benchmark for assessing the value for money of all options. It attempts to optimise existing arrangements as far as possible in order to improve the organisation's capability to meet current and some future demand for core services. It requires investment in outsourcing services to meet demand beyond that available from internal capacity.
 - **The Do Minimum Option:** This option offers a realistic way forward to meet future demand for core services through the expansion of a purpose built nVCC. This option requires single stage implementation which will be funded through a Public Private Partnership (Building) and NHS Capital Funding (Equipment).
 - **The Intermediate Option (Preferred Way Forward):** This option requires the development of a purpose built RSC operating in partnership with Aneurin Bevan University Health Board. This option offers a phased implementation which will be funded from NHS Capital Funding (Building and Equipment).
- 4.5 The appraisal, in financial and non-financial terms, of the shortlisted options is presented in Sections 5 to 8.

5 FINANCIAL COSTS AND QUANTIFIED BENEFITS

Estimating Costs for the Economic Appraisal

- 5.1 The treatment of costs and benefits within the Economic Appraisal is in line with current Welsh Government's Better Business Case Guidance.
- 5.2 The Economic Appraisal process utilises key outputs from other parts of the OBC process, in particular the required outputs and Project Plans, in establishing the capital and revenue (recurring and non-recurring) implications of each option.
- 5.3 The general approach to the economic appraisal is summarised below:

Figure 5-1: Methodology to the Economic Appraisal



Capital Costs

- 5.4 The Health Board and the Trust, and their Technical Advisors, in partnership with NHS Wales Shared Services (Shared Services), has prepared the capital costs based on an appraisal of the capital requirements of each option.
- 5.5 These are derived primarily from the Schedules of Accommodation (see Appendix OBC/EC2) with appropriate adjustments to reflect the costs of delivering the options at the time when the new facilities become operational. The capital requirements differ for each of the three shortlisted options and include:
- **Do Nothing Option:**
 - Requires some outsourcing of services to address demand requirements;
 - Assumes the nVCC will be built be commissioned in 2025.

- **Do Minimum Option:**
 - Construction of an extended nVCC to replace the existing Velindre Cancer Centre and meet the additional capacity required across the South East Wales Region.
 - nVCC designed and sized in line with additional service scope and in line with relevant Health Building Notes; and
 - Expansion zones identified through the design of the nVCC to facilitate the potential future introduction of new services.
- **Intermediate Option (The Preferred Way Forward):**
 - Construction of a RSC to supplement the existing (and new) Velindre Cancer Centre;
 - nVCC designed and sized in line with existing service scope and in line with relevant Health Building Notes; and
 - Expansion zones identified through the design of the RSC and nVCC to facilitate the potential future introduction of new services.

5.6 The capital cost calculations and assumptions have been developed by the Health Board and Trust and their Technical and professional Advisors, and have been shared and agreed with NHS Wales Shared Services. For further details refer to the Capital Cost Forms (Appendix OBC/EC3). The assumptions used to calculate the costs are provided below.

Table 5-1: Main Capital Cost Assumptions

- Construction costs have been calculated by the Project's Technical Advisors (Kier) and the nVCC Project Team based on PUBSEC 250.
- Capital cost forms (OBC forms) are completed using Departmental Cost Allowances Guides (DCAGs), using the Schedule of Accommodation information that outlines the clinical and non-clinical areas in sqm. These costs reflect the detailed Technical costs stage 1.
- The phasing of the capital costs is based on the Project plan.
- Appropriate on-costs have been applied to cover capital expenditure associated with utilities, communications, external building works, and auxiliary buildings.
- Appropriate fees have been determined by the Trust's technical advisors, based on industry norms.
- Equipment estimates cover IM&T, medical and non-medical equipment as provided by the technical advisors. Other equipment (Group 3 and 4 items) has been determined, by the technical advisors based on industry norms.
- Contingencies reflect the capital risks within each of the shortlisted options and are based on an assessment by the Project and their Technical and Professional Advisors. These have been quantified either based on a detailed risk quantification exercise.
- VAT is allowed for at the 20% rate. However, there has been an element of VAT reclaim assumed in developing the construction costs which has been informed by the Trust's VAT advisors.

- It is assumed that the Do Minimum option (nVCC extension) will be delivered via the MIM funding model and so only equipment related costs are included within capital (all building-related costs included within revenue costs).

5.7 The total capital costs for the Project are at 2019/20 prices and include VAT. At this stage they do not include an allowance for optimism bias. The breakdown of capital costs for each option is outlined in the following table:

Table 5-2: Breakdown of Capital Costs (£'000)

	Do Nothing	Do Minimum (nVCC Extension)	RSC
Construction costs	0	0	15,338
Fees	0	0	2,752
Non works costs	0	0	2,859
Equipment costs	0	2,299	2,723
Quantified risk	0	0	1,707
Total costs excl. VAT	0	2,299	25,379
VAT	0	0	4,907
Total costs incl. VAT	0	2,299	30,286

5.8 The capital costs (exc. VAT) have been phased in accordance with the profile of costs as outlined in the Capital Cost Forms (Appendix OBC/EC3). An analysis of the phasing of total capital costs for the Project is outlined in the following table:

Table 5-3: Capital Costs by Financial Year (£'000)

Financial year	Do Nothing	Do Minimum (nVCC Extension)	RSC
2019/20	0	0	529
2020/21	0	0	3,863
2021/22	0	0	4,392
2022/23	0	0	12,432
2023/24	0	2,299	3,933
2024/25	0	0	231
Total capital costs excluding VAT	0	2,299	25,379

5.9 Following the upfront capital investment, the Trust will continue to require an annual capital allocation to finance new and replacement items of equipment. These costs are not included within the cost summarised in Table 5-4.

5.10 In addition to the upfront capital investment, the Trust and its appointed Technical Advisors have estimated the lifecycle cost associated with each of the shortlisted options. The assumptions used to calculate the costs are provided below.

Table 5-4: Lifecycle Cost Assumptions

- Lifecycle costs are calculated over the full 60 year appraisal period in line based on average cost per m2 in line with similar projects. It is assumed to commence in 2023/24 following completion of the project.
- All lifecycle costs for the Do Minimum option (nVCC extension) are assumed to be included within the annual MIM charge.

- 5.11 An analysis of the annual lifecycle costs of the project is provided in the following table:

Table 5-5: Total Lifecycle Costs (£'000)

Cost category	Do Nothing	Do Minimum (nVCC Extension)	RSC
GIFA m2			2,533
Annual lifecycle costs			59

- 5.12 The figures provided in this section are consistent with the Capital Cost Forms prepared by the Health Board and Trust's Technical Advisors provided in Appendix OBC/EC3. For the purposes of the economic appraisal these will be adjusted to:

- Include an allowance for optimism bias;
- Exclude VAT; and
- Re-base to a consistent price base where required.

Non-Recurrent Costs

- 5.13 The Trust requires non-recurring revenue funding to ensure the delivery of the Project and to cover the commissioning phase.

- 5.14 The Trust has calculated commissioning costs based on the assumptions set out as follows:

Table 5-6: Main Transitional Cost Assumptions

- Non-recurring costs are to be incurred to facilitate Pre Commissioning in 2022/23

- 5.15 The resulting Project running costs and commissioning costs are outlined in the table below:

Table 5-7: Transitional Costs (£'000)

Cost category	Do Nothing	Do Minimum (nVCC Extension)	RSC
Pre-commissioning costs	0	712	712
Total Costs	0	712	712

Recurring Revenue Costs

- 5.16 The recurring revenue costs reflect the investment that will be required for each of the options.
- 5.17 Costs will differ for the three shortlisted options in relation to the operational requirements of each, the main elements of which are described below:
- **Do Nothing option:** Includes the costs to source additional demand outside of the capacity of the facility;
 - **Do Minimum (nVCC Extension) option:** Includes the costs associated with operating additional capacity within an extended nVCC;
 - **RSC option:** Includes the costs associated with operating the service remotely from the VCC.
- 5.18 The assumptions used to calculate the costs associated with these features are outlined below:

Table 5-8: Recurring Revenue Cost Assumptions

<ul style="list-style-type: none"> • Costs are at 2019/20 prices with no inflation included. • Costs are based on forecast workforce and operating requirements to provide Radiotherapy services for the level of demand that is expected to exceed current/future nVCC capacity, depending on the option: <p>Do Nothing</p> <ul style="list-style-type: none"> – Since this option does not address the capacity constraints, costs to outsource unmet demand to an external provider have been estimated. <p>Do Minimum</p> <ul style="list-style-type: none"> – For the nVCC Extension option, costs have been estimated for the additional workforce and operating costs required to provide increased capacity on the nVCC site. – In addition, an estimate has been made of the increased annual charge associated with the MIM delivery vehicle. This has been calculated based on the estimated capital costs of nVCC extension, on a proportional basis (i.e. the estimated annual charge for the main nVCC scheme in relation to estimated capital costs) and is on a like-for-like basis (including quantified risk but excluding Groups 2, 3, and 4 equipment). <p>RSC Option</p> <ul style="list-style-type: none"> – For the RSC option, costs have been estimated based on the workforce and operating costs required to deliver services from a Radiotherapy Satellite Centre at Nevill Hall.
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- 5.19 Annual recurring revenue costs have been estimated for each of the options from 2023/24 onwards following the commissioning of the new facilities under the RSC option. It is anticipated that costs will continue at these levels from that point forward.
- 5.20 The summary of the annual recurring revenue costs from 2023-24 are outlined in the following table:

Table 5-9: Future Recurring Revenue Costs 2023/24 (£'000)

Cost category	Do Nothing	Do Minimum (nVCC Extension)	RSC
Pay costs	0	1,716	1,900
Non-pay costs	0	648	646
Cost of outsourcing	10,866	0	0
Additional MIM charge for nVCC extension	0		0
Annual recurring revenue costs	10,866		2,547

- 5.21 In addition, the Do Minimum option includes the cost of outsourcing unmet demand has been included for the period from July 2023 to October 2024 to reflect the capacity constraints during the additional construction period required to deliver this option.

Assessing the Cost of Risk

- 5.22 A range of risks have been identified for the Project, some of which can be quantified and a financial value determined. Other risks are either qualitative or cannot be attributed to specific aspects of the Project, such as revenue risks, the impact of which is excluded from this economic appraisal.
- 5.23 For the purposes of assessing the costs of risk for the Project the following capital risks have been calculated including:
- Quantified capital risks: which are included in the capital cost contingencies; and
 - Optimism bias: the approach used to calculate this is outlined below.

Optimism Bias

- 5.24 The Health Board and Trust and their cost advisors have calculated an adjustment for optimism bias. This is a requirement of HM Treasury guidance and is intended to redress the demonstrated and systematic tendency for Project appraisers to be optimistic when estimating costs, benefits and timings.

- 5.25 The optimism bias adjustment is in addition to the calculation for Project specific risk and reflects the current level of uncertainty within the Project. Adjustments for optimism bias will be reduced as more reliable estimates of relevant costs are built up.
- 5.26 The optimism bias calculation has been prepared in accordance with current HM Treasury guidance following the steps below:
- **Step 1** decide which Project type to use;
 - **Step 2** start with the upper limit;
 - **Step 3** consider whether the optimism bias factor can be reduced; and
 - **Step 4** apply the optimism bias factor to the NPV calculation.
- 5.27 Given the degree of complexity associated with the construction elements of the Project, it was agreed that a 'non-standard' Project type will be used.
- 5.28 In line with current guidance, the upper bound level for optimism bias for this type of construction Project is 24%. This was therefore used as the starting point for the optimism bias calculation.
- 5.29 An analysis is provided below of the main factors and how they contribute to the upper bound level before and after mitigation.

Table 5-10: Optimism Bias Contributory Factors

	% contribution to upper bound	% after mitigation
Procurement	40.0%	6.0%
Project specific	5.0%	1.2%
Client specific	37.0%	10.7%
Environment	4.0%	1.4%
External factors	14.0%	3.0%
Total	100.0%	22.3%

- 5.30 Applying this mitigation to the upper bound level of optimism bias results in an optimism bias factor of 5.35% for the RSC Option.
- 5.31 No optimism bias has been included for the nVCC option.
- 5.32 The resulting optimism bias factor has been applied to the capital costs within the Economic Appraisal. Further details of the optimism bias calculations is provided at Appendix OBC/EC5.

Expected risk value

- 5.33 In addition, an expected risk value has been calculated to reflect the risk of delays to the programme for each of the option.
- 5.34 The impact of any delay is increased outsourcing costs which is estimated to cost £10,866k p.a.

Table 5-11: Expected risk value assumptions

	Do Nothing	Do Minimum (nVCC Extension)	RSC
High impact	N/A	12-month delay (25% probability)	9-month delay (25% probability)
Medium impact	N/A	6-month delay (40% probability)	4.5-month delay (25% probability)
Low impact	N/A	3-month delay (25% probability)	1-month delay (10% probability)
No impact	N/A	No delay (10% probability)	No delay (45% probability)
Expected risk value (£'000)	-	5,569	3,146

Estimating the Value of Benefits

- 5.35 As outlined in the Strategic Case, the Project delivers benefits in a variety of areas some of which can be quantified and valued financially.
- 5.36 For the purposes of the economic appraisal, we have focused on quantifying benefits which differentiate between the options, are measurable and evidence-based, and can be monetised using recognised methodology. This includes the following:
- Additional capacity available to meet forecast demand
 - Reduced travel time for patient and carers
 - Improved access to treatment and clinical trials leading to better clinical outcomes
- 5.37 The approach used to calculate a monetary value for each of these benefits is outlined below.

Additional capacity

- 5.38 The additional capacity provided in both the Do Minimum (nVCC extension) and the RSC options, avoid the need to outsource activity to external providers in the long term, resulting in lower revenue costs when compared to the Do Nothing option. The RSC option also avoids the need to outsource activity to external providers in the short term as this can be delivered 16 months earlier than the Do Minimum option.
- 5.39 Since these costs and savings are accounted for within recurring revenue costs they are not stated as separate benefits in the table below.

Reduced travel time

- 5.40 It is estimated that around 6,343 attendances p.a. will benefit from closer proximity to the RSC at Nevill Hall, saving patients and carers around 2,957 hours of travel time each year.

- 5.41 Applying a value of time travelled of £6.26 per hour (Based on Department for Transport's (DfT) Transport Appraisal Guidance (TAG) – specifically, other travel not related to business or commuting at 2020 price base) results in a societal benefit equivalent to £18.5k p.a.
- 5.42 In addition, the reduced travel time will result in a reduction in carbon dioxide emissions. Assuming an average speed of 30-miles per hour and based on the forecast emissions associated with average fuel consumption and vehicle type applying the economic value of carbon emissions of £75.38 per tonne (Using DfT's TAG 2023 assumptions at 2020 price base), this creates a societal benefit equivalent to £12.8k p.a.

Improved access

- 5.43 It is estimated that current uptake of Radiotherapy services in Wales is 37% (Based on MALTHUS modelling). Given that best practice guidance is uptake of 41% and there is evidence to suggest that distances of over 45 minutes to access services is a barrier to treatment, it is reasonable to assume that the introduction of a satellite radiotherapy centre at Nevill Hall will increase uptake to at least 39%, equating to an estimated 231 referrals each year (based on average referrals for the last 3 years and ignoring any impact of growing demand related to demographic growth or increased incidence rates).
- 5.44 The increased uptake of treatment is expected to have a direct impact on clinical outcomes, including cancer survival rates. Applying current survival rates of 49.9% (Based on assumptions within the TCS Programme Benefits Paper) would result in 115 additional cancer survivors each year. It should be noted that this is likely to increase in line with improvements to survival rates, for instance if the target survival rate of 71% was achieved (as outline in the TCS Programme Benefits Paper), this would equate to 164 additional cancer survivors. However, for the basis of the RSC business case, current survival rates have been applied.
- 5.45 The social value of the life years gained by cancer survivors as a result of the improved access can be quantified by using the concept of Quality Adjusted Life Years (QALYs). QALYs are widely used in health, transport and welfare policy domains. Although there is a limited evidence-base to draw on reasonable assumptions can be made as follows:
- Average QALY for cancer survivors is difficult to establish but the TCS Programme Benefits Paper identified a paper which suggested that a reasonable assumption is 0.3 per year of survival.
 - Based on TCS Programme Benefits paper it is estimated that average 5 life years gained for each survivor.
 - Value of QALY is based on standard NHS assumption of £60k per QALY.
- 5.46 This results in a societal benefit equivalent to £10,375k p.a.
- 5.47 The resulting values of the quantified benefits expressed in cash terms is summarised below for each option. These have been subsequently been incorporated within the Economic Appraisal over the 60-year appraisal period.

Table 5-12: Quantified annual benefits value (£000)

Benefits category	Do Nothing	Do Minimum (nVCC Extension)	RSC
Reduced travel time	0	0	18
Reduced carbon emissions	0	0	12
Improved access	0	0	10,375
Total annual benefits	0	0	10,406

- 5.48 The approach and methodology used to estimate the monetary value of these Project benefits are outlined in Appendix OBC/EC6(a).
- 5.49 An analysis of quantified Programme Benefits is provided in Appendix OBC/EC6(b).
- 5.50 In addition, there are a number of benefits which are relevant to the case but are difficult to reasonably quantify in monetary values and/or do not differentiate between the options and so have not been incorporated within the economic appraisal. These include:
- Patients have access to seamless pathway of care in a single place
 - Improved patient and carer experience
 - More resilient and flexible workforce
 - Improved staff satisfaction (although may be disbenefit for some staff members - additional travel)
 - Improved safety and compliance with standards
 - Better sustainability, resilience and future proofing
 - Opportunities to attract further investment

6 ECONOMIC APPRAISAL

- 6.1 A discounted cash flow for each of the options has been undertaken over 60 years using a discount rate of 3.5% for years 0 to 30 and 3.0% for the remaining period in line with the requirements of HM Treasury. The key assumptions used in this analysis are summarised below:

Table 6-1: Key Assumptions Used in the Economic Appraisal

<ul style="list-style-type: none"> Costs and benefits are calculated over a 60 year appraisal period. Baseline (Year 0) will be 2019/20 Costs and benefits use real base year prices – all costs are expressed at 2019/20 prices in line with the baseline costs. The following costs are excluded from the economic appraisal: <ul style="list-style-type: none"> Exchequer 'transfer' payments, such as VAT; General inflation; Sunk costs; and Non-cash items such as depreciation and impairments. A discount rate of 3.5% is applied to the economic appraisal for years 1-30 and 3.0% for years 31 onwards, with the exception of QALY benefits which are discounted at 1.5% in line with HMT Green Book guidance. No financial benefits are incorporated. Quantified risks including Quantified Capital Risk and Optimism Bias are included based on the approach outlined above.
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- 6.2 The results of the discounted cashflow are outlined in the following table:

Table 6-2: Net Present Cost of the Short Listed Options

Expenditure Heading	Do Nothing	Do Minimum (nVCC Extension)	RSC
Initial capital costs	0	-2,299	-27,086
Lifecycle capital costs	0	0	-3,349
Total capital costs	0	-2,299	-30,435
Transitional costs	0	-712	-712
Outsourcing during transitional period	0	-14,488	0
Recurring revenue costs	-616,664		-144,520
Total revenue costs	-616,664		-145,232
Quantified risks - capital costs	0	0	-1,707
Optimism bias	0	0	-1,358
Revenue expected risk value	0	-5,569	-3,147
Total risk costs	0	-5,569	-6,212
Total costs	-616,664		-181,880
Benefits	0	0	582,733
Total benefits	0	0	582,733
Net Present Cost (undiscounted)	-616,664		400,854
Total costs (discounted)	-242,925		-83,589
Total benefits (discounted)	0	0	374,190
Net Present Cost (discounted)	-242,925		290,601

Rank	3	2	1
Benefit Cost Ratio (discounted)	0.00	0.00	4.48
Rank	2	2	1

- 6.3 The Economic Appraisal demonstrates that the RSC option offers the lowest Net Present Cost (NPC) of the two 'do something' options, suggesting that it offers best value for money in terms of whole life costs.
- 6.4 It also offers the best benefit cost ratio at 4.48 suggesting that it offers best value for money in terms of the relationship between benefits and costs.
- 6.5 The Intermediate Option is therefore identified as the Preferred Option for the Project.
- 6.6 The detailed analysis of the Generic Economic Model (GEM) is provided in Appendix OBC/EC7.

7 SENSITIVITY ANALYSIS OF PREFERRED OPTION

Decision Analysis

- 7.1 The Economic Appraisal demonstrates that the Preferred Option has the lowest overall cost per benefit point, indicating this option delivers the best value for money of the shortlisted options.

Sensitivity analysis and switching

- 7.2 The results of the Economic Appraisal above have been subject to a sensitivity analysis to examine the impact of movements in capital and revenue costs.
- 7.3 Switching value analysis has been applied to areas of material cash flows to identify the extent that costs must change in order for the Net Present Cost to equal that of the preferred option. The results of the analysis are presented in Table 7-1:

Table 7-1: Switching Values

Costs	Do Minimum
Revenue costs	-290.3%
Net Present Cost	-280.1%

- 7.4 The results above demonstrate that for the Do Minimum Option to rank as the Preferred Option its NPC would need to reduce by 280%. The only way this could feasibly happen would be a for revenue costs to reduce by a similar amount.
- 7.5 The Do Nothing option has been excluded since it delivers no benefits and is not a feasible option.
- 7.6 In addition to the switching analysis, alternative scenarios have been used to consider how options may be impacted by future uncertainty and provide an assessment of risk in the ranking of options including:
1. Increase optimism bias to from 5.35% to 15.0%.
 2. Exclude optimism bias
 3. Revenue costs of RSC increase by 25%
 4. Benefits excluded
- 7.7 The results of the sensitivity analysis are shown in the table below:

Table 7-2: Results of sensitivity scenario analysis

Scenario	Revised NPC		
	Status Quo	Do Minimum	Intermediate
NPC	-242,925		290,601

Optimism bias increases to 15%	-242,925		293,535
Exclude optimism bias	-242,925		289,359
Revenue costs increased by RSC	-242,925		276,368
Exclude benefits	-242,925		-83,589

7.8 This analysis demonstrates that while each of these scenarios change the NPC, none of them have any impact on the ranking of options and therefore this analysis supports the identification of the Preferred Option.

7.9 The results of the Economic Appraisal are analysed below:

- **Do Nothing Option:** This option has the highest Net Present Cost (NPC) over a 60-year appraisal period of £242.9m. It does not deliver any financial or qualitative benefits and furthermore is not a feasible option as it does not provide sufficient capacity to meet demand without outsourcing activity to external providers and will not achieve the project spending objectives.
- **Do Minimum (nVCC Extension) Option:** This option has a Net Present Cost of [REDACTED] over the 60-year appraisal period which although significantly lower than the Do Nothing option, does not any quantifiable benefits. This option does not therefore offer the best value for money.
- **RSC Option (Preferred):** This option delivers the lowest discounted Net Present Cost at £83.6m over the 60-year appraisal period. In addition, it delivers £374.2m of monetised benefits over the appraisal period resulting in an overall Net Present Value of £290.6m and a benefit cost ratio of 4.48.

7.10 This analysis confirms the selection of the RSC Option as the Preferred Option.

8 CONCLUSION

- 8.1 Following a robust Option Appraisal process involving a wide range of stakeholders, the Trust has identified its Preferred Option for developing a Radiotherapy Satellite Centre.
- 8.2 The Preferred Option delivers a wide range of benefits which are complementary with local and national priorities as well as the delivery of a range of short and long term objectives to support the improvement of specialist non-surgical cancer service delivery across South East Wales.
- 8.3 In terms of infrastructure the Preferred Option provides a new purpose-built Radiotherapy Satellite Centre at Nevill Hall Hospital, Abergavenny; and

9 APPENDICES

For Information

The following appendices are available in support of this chapter.

Appendix Reference	Title

Outline Business Case: 2020

Radiotherapy Satellite Centre

Commercial Case

COMMERCIAL CASE

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4 PROPOSED CONTRACT MECHANISMS	C7
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1 INTRODUCTION

- 1.1 This section of the OBC sets out the Commercial Case for the Radiotherapy Satellite Centre (RSC) Project which is being delivered through NHS Wales Capital Resources.
- 1.2 It sets out the basis on which the Project will manage commercial matters and deal with:
- The key Project specific contractual arrangements and risk apportionment between the public and private sector;
 - The construction procurement strategy, implementation, timescales and intended procurement route;
 - The equipment, major medical equipment and ICT equipment, procurement strategy;
 - The management of services over the duration of the Project;
 - Any anticipated workforce implications, e.g. TUPE; and
 - The accountancy treatment of the Project.

2 POTENTIAL FOR RISK TRANSFER

- 2.1 The general principle is that risks should be passed to “the party best able to manage them”, subject to value for money (VFM). ABUHB has carefully considered those risks best placed with the SCP and those it will bear itself. This has been achieved at OBC stage through a series of structured risk workshops involving the Health Board, SCP, Project Manager and Cost Advisor. Further information on the proposed Risk Management Strategy for the project, together with the quantified risk register has been included in the Estates Annex.
- 2.2 Under the Designed for life: Building for Wales Framework, which is described in the following section of the Procurement Strategy, the NEC 3 Engineering & Construction (ECC) form of contract is used. The Engineering & Construction contract is a “collaborative” contract that requires each project to include a Risk Register with risk allocated to the party best able to deal with it. The early involvement of a Supply Chain Partner means that they are fully briefed about risks in the project and are better placed to accept ownership and suitably mitigate and manage risks than what would normally be the case under a more traditional form of contract.
- 2.3 The table below shows how the project risks might be apportioned under a predominantly Public Capital Funded Procurement.

Table - Risk and Potential Allocation

Risk	Potential Allocation		
	ABUHB / VUNHST	SCP	Shared
Design			Y
Site Availability	Y		
Planning	Y		
Approval and Funding	Y		
Construction		Y	
Technical Commissioning		Y	
Operational Commissioning	Y		
Availability of Building		Y	
Operating Risk	Y		
Revenue Risk	Y		
Technological and Obsolescence	Y		
Legislative Change	Y		

- 2.4 The final risk allocation to be agreed for Stage 4 and will be developed between all parties during the Stage 3 FBC period.

3 REQUIRED SERVICES

- 3.1 The OBC states a requirement for the delivery of a Radiotherapy Satellite Centre (RSC) at Nevill Hall Hospital, Abergavenny under the NEC3 Engineering & Construction (ECC) Form of Contract (Option C) and Designed for Life: Building for Wales Framework.
- 3.2 A Schedule of Accommodation is available to support the functional content, based on Health building notes and latest available guidance. A full copy of the latest version of the Schedule of Accommodation is included as an appendix to the Estates Annex.

Design Considerations

- 3.3 A comprehensive Schedule of Accommodation has been prepared to inform the concept design for the RSC.
- 3.4 To this end 1:200 layout plans have been prepared in full consultation with the Velindre University NHS Trust (VUNHST)/Aneurin Bevan University Health Board (ABUHB) users and relevant stakeholder groups. The 1:200 plans illustrate the critical operational adjacencies in order to set the building footprint requirements and size and massing of the building for planning purposes.
- 3.5 In addition a site plan and elevations have been developed to inform the planning process. Further details relating to the specific design proposals are included in more detail within the Estates Annex.

ICT Infrastructure

- 3.6 ICT infrastructure requirements have been considered within the building with provision allowed for 2Nr IT hub rooms. This has been informed via an ICT Infrastructure Brief which has been prepared by ABUHB/VUNHST and shared with the design team. This is included within the Estates Annex. ICT design proposals will be further developed into a detailed design solution at Full Business Case Stage.

Equipment

- 3.7 The procurement of all Groups 2, 3 and 4 equipment, major medical equipment and ICT equipment for the RSC Project will be funded through Welsh Government capital funding and procured via the assistance of Shared Services Procurement Services.
- 3.8 Equipment costs have been calculated based on equipment lists provided by VUNHST. These will be developed in more detail at FBC stage as will the split between equipment which will be owned and maintained by VUNHST and that which will be owned and maintained by ABUHB.

- 3.9 VUNHST/ABUHB, supported by NWSSP Procurement Services, will procure all Group 2,3,4 equipment, medical and non-medical, through the IRS Contract or existing NHS frameworks. Where appropriate frameworks are not available, VUNHST/ABUHB will follow standard NHS and Trust procurement procedures and guidelines in line with the organisations respective SFI's.
- 3.10 VUNHST will be responsible for the specification, procurement, installation, commissioning, maintenance, replacement and disposal of all major medical equipment for the RSC. Table 3-1 provides a summary of the major medical equipment required for the RSC:

Table 3-1: Summary of the Major Medical Equipment Requirements

Department	Equipment	Number Required
Radiotherapy	Linear Accelerator	2
Radiotherapy	CT Simulator	1

- 3.11 VUNHST has previously developed a Programme Business Case to enable the effective procurement of an Integrated Radiotherapy Solution (IRS) for both nVCC and RSC which was presented to the Infrastructure Investment Board on the 24th of April 2019. This was approved and Welsh Government allocated resources to the Trust to take forward the procurement and OJEU was issued on 30th October 2019. The procurement is proceeding to plan with the issue of the ITPD on 30th March 2020 and Competitive Dialogue commencing on 15th June 2020.
- 3.12 The Integrated Radiotherapy Solution (IRS) procurement has commenced ahead of the approval of the nVCC and RSC OBC's to support vendor identification and specification information being fed into the Competitive Dialogue process of the nVCC and to inform the FBC of the RSC.
- 3.13 VUNHST will seek to procure an Integrated Radiotherapy Solution (IRS) utilising a competitive dialogue process. The solution will be delivered by a Prime Contractor arrangement and a robust goods and services contract of a minimum of 14 years is being developed. The procurement programme for major medical equipment has been set out to ensure the design interface risk is mitigated.

4 PROPOSED CONTRACT MECHANISMS

- 4.1 For the RSC development there will be no ongoing service and, therefore, no recurring charges by the SCP following completion of the hospital building.

Proposed Contract Length

- 4.2 The overall programme is designed to allow the building to be completed by the Summer of 2023.
- 4.3 In terms of programme management for Stage 3, the SCP will submit a draft programme to the Employer and Project Manager for consideration in relation to the programming of the works for stage 3 / FBC. The SCP will also submit an overall programme for the provision of the works at Stage 4, 5 and 6. It is noted, however, that this will still be indicative at this stage and subject to further development during the FBC period.
- 4.4 The programme will fully comply with the requirements of the NEC3 ECC contract and contain a reasonable programme of activities with a Completion Date for Stage 3/FBC identified. The accepted programme will be required to be issued by the SCP to the Project Manager on a monthly basis for acceptance. It will need to include a mark-up of actual progress achieved in the month, in order to monitor progress as work proceeds.
- 4.5 The above process will be replicated at the Stage 4 Contract Stage In order to robustly manage the programme to ensure timely delivery of the Project.

Proposed Key Contractual Clauses

- 4.6 The contract will be in accordance with the All Wales Designed for Life 4 Building for Wales Framework. The contract will be the NEC 3 Form of Contract. The conditions of contract are the core clauses and the clauses for main Option C: Target Contract and Secondary Options – X1, X2, X4, X5, X7, X15, X16, X18, Y(UK2), Y(UK3) and Z of the NEC Engineering and Construction Contract (April 2013), The additional Z clauses comprise the standard Designed for life: Building for Wales Framework amendments.
- 4.7 This contract is based on the following key principles:
- Clarity – The Contract is written in plain language
 - The Risk Register is a key project and contract management tool
 - Foresight and Early Warning Notifications
 - A Target Cost and Cost not to be exceeded
 - Timely two-way communication
 - Compensation Events
 - Monthly Accepted Programme is used as a key project and contract management tool

- 4.8 Key external professional roles appointed on behalf of the Employer include, direct client appointments for the Project Manager and Supervisor. A Cost Advisor will also be appointed to support the Project Manager and Health Board.

Personnel Implications (including TUPE)

- 4.9 It is anticipated that TUPE (Transfer of Undertaking and Protection of Employee) will not apply to this investment as there is no change to the employing organisation. However there may be an implication for some staff in terms of change in location of employment. This will be managed using the VUNHST management of Change Policy.

5 PROCUREMENT STRATEGY

- 5.1 The [SJR5] RSC development, post OBC approval, will fall within the terms of the new All Wales Designed for Life 4 Building for Wales Framework.
- 5.2 Shared Services – Facilities – Estates Development Framework managers have participated in the development of the Outline Business case and have also facilitated an AEDET review of the design.
- 5.3 ABUHB has appointed External Project Managers and External Cost Advisers.
- 5.4 In terms of procurement, getting to the Target Price agreement is the most difficult stage of the whole Designed for Life: Building for Wales Framework process. There are conflicting objectives and the process requires firm management and significant negotiation.
- 5.5 The Target Price will be established towards the end of the FBC stage. Prior to this “a price not to be exceeded” will have been agreed between ABUHB and the SCP and will be included in the FBC submission to Welsh Government. While approval to the FBC is awaited, the total of the prices for the Stage 4 Contract will be finalised and agreed and all necessary contractual documentation drawn up in readiness (once approval is received) for a speedy exchange of contracts and start on site.

Design Completion

- 5.6 It is a requirement of the Designed for Life Framework that 70-80% of the design (for each element including engineering services) should be progressed and completed at FBC. This has been clarified to mean the achievement of RIBA Stage 4. It does not mean 70-80% cost certainty as this should have been achieved earlier in the process. It is expected that good co-ordination of the building enclosure, structure and engineering services are part of this requirement.
- 5.7 The purpose of the requirement for 70-80% design completion is to ensure that robust market testing of works packages can take place to ensure that the “price not to be exceeded” in the FBC is sound and that everyone can have confidence in it. This level of design should also ensure there are no delays to construction activity because of incomplete or uncoordinated design proposals.
- 5.8 It is difficult to measure design completion. However, to assist this, the SCP will be required to provide detailed design sub-programmes linked back to the Accepted programme and the RBA plan of Work Stages showing design activities carried out by the design team within the supply chain. The supply chain comprises: architects, Civil and Structural Engineers and Building Service Engineers. The provision of such programmes will assist in identifying the key deliverables in achieving 70-80% design completion. In addition, an assessment of the design fee expended at completion of FBC as a proportion of the total fee will provide a supplementary “rule of thumb” guide as to whether the targeted level of required design completion has been achieved.

Target Price

- 5.9 The key to compiling the Target Price / total of the Prices is clearly stated in Clause 52.1 of the NEC3 Engineering & Construction Contract, which states that Defined Cost includes only amounts calculated using:
- Rates and percentages stated in the Contract Data
 - Competitively targeted prices
 - Other amounts at open market rate
- 5.10 With deductions for all:
- Discounts
 - Rebates
 - Taxes which can be recovered
- 5.11 The percentages stated in the contract Data would be:
- Direct Fee
 - Subcontracted fee
 - Working Area overheads
 - Manufacture and fabrication overheads
 - Design overheads

NEC Contract Data Rates and Percentages

- 5.12 At framework level, rates for the following cost centres have already been agreed:
- All pre-construction staff involved in taking forward the design to approval of Full Business Case. These rates will be adjusted annually in accordance with the Average Earnings Index, as confirmed by NWSSP-FS.
 - All working Areas based staff – These rates will be used to cost Preliminaries. These rates will be adjusted annually in accordance with the Average Earnings Index, as confirmed by NWSSP-FS.

Competitively Tendered Prices

- 5.13 The elements essential to the successful conclusion of this process are dependent upon sufficient time being allowed for:
- Design to advance to a minimum of 70-80% completion;
 - Comprehensive and complete tender documentation to be prepared;
 - Tenderers to prepare their bids;
 - Proper evaluation and negotiation with tenderers.

Open Market Rates

- 5.14 It is widely accepted that there will be elements of the work that are not competitively tendered. However, the extent of elements not competitively tendered will be limited to no more than 30% of the total target price. The SCP will be required to demonstrate to the Cost Advisor that “open market rates” are comparable to those that could be obtained in competitively tendered circumstances. This can be clearly demonstrated by benchmarking against other SCP’s or projects or by demonstrating how best value for money will accrue to the project.

Procurement Procedure

- 5.15 At commencement of FBC stage, a procurement strategy will be produced by the SCP and agreed with the Project manager. This will identify how the project is to be broken down into work packages and how each is to be procured. The Procurement Procedure or Strategy will be required at commencement of FBC. This is especially important where in-house organisations are to be utilised that may not be subject to market testing. Failure to follow this procedure may result in Disallowed Cost being levied upon the SCP.
- 5.16 The Project Cost Plan will also be re-cast at this stage, to reflect the cost of the work packages (identified in the procurement procedure) from the previous elemental breakdown. Dependent upon the number of work packages subject to market testing the Project Risk Register may also need to be revised to suit.
- 5.17 Each of the works package elements in the Cost Plan should reflect the total expected cost of the works package aftermarket testing. They should not include any SCP design costs but may include subcontract design costs.
- 5.18 Sufficient time will be required to be built into the Accepted Programme for design to be advanced to a stage where clear and meaningful tender documentation can be drawn up to allow robust market testing to take place.
- 5.19 A minimum of three bids per works package should be obtained as part of the market testing process. The Health Board may insist on increasing the minimum number of bids in order to comply with their own procurement procedures. Bids will be opened jointly by the SCP and the Cost Advisor.

Evaluation

- 5.20 When the bids have been received they will be comprehensively evaluated, by the SCP and Cost Advisor, to ensure that like for like comparisons between tenders are being made. All bids will be “levelled” to achieve this and any adjustment will be made for any stated omissions or exclusions. The adjustments will be agreed with each works package subcontractor.
- 5.21 In the tender documentation the SCP will identify those “attendances” that it expects the bidding subcontractors to provide. All other attendances that are expected to be provided by the SCP to the subcontractors will be required to be priced for in the Contractors Preliminaries and not against the works

packages.

- 5.22 SCP Risk in respect of work packages should be allowed for in the risk register and quantified in the SCP quantified Risk build-ups. There will be no SCP Risk in Work Package Costs. Subcontractor risk assessments will be required to be covered in their bids.
- 5.23 It is accepted that some work packages may still require further design development to be undertaken after bidding. The design fees for this portion of work will need to be allowed for by the subcontractor in his bid submission or, if the work is to be designed by the SCP, suitable provision will alternatively be made in the SCP fees.
- 5.24 The cost of the outstanding work will also need to be assessed. Theoretically it should be no more than the difference between the Works package element cost and the bid submission received from the subcontractor. If more funding is required it should be drawn from the Cost Plan Design Reserve or from savings made elsewhere. Unless previously agreed with the Cost Advisor, the cost effect of Design development should not amount to more than 5% of the value of an individual works package or 2.5% of the total of all work packages.

Post Target Price Re-Tendering of Works Packages

- 5.25 On occasions it may be the case that some work packages are required to be re-tendered after the Target Price has been agreed (i.e. in the event of subcontractor insolvency). If a packages has to be re-tendered then it will be required to be undertaken in full agreement with the Project manager and under the same process and implications as Pre-Target Price market testing.

Pain/Gain Share

- 5.26 In term of the framework, Pain Share rest 100% with the SCP at all stages.
- 5.27 During Stages 2 (OBC) & 3 (FBC), there is no Gain Share.
- 5.28 In terms of Stage 4 onwards (Construction and Project Closure), the Gain Share will be limited to the first 5% of any savings between the total of the Prices and the Price for Work Done to Date arising during Stages 4, 5 and 6 and will be equally apportioned 50:50% between the Health Board and the SCP. Savings over this amount (i.e. less than 95% of the) will accrue 100% to the Health Board. To summarise:

The *Contractor's* share percentages and the *share ranges* are:

<u>Share Range</u>	<u>Contractor's Share Percentage</u>
Less than 95%	Nil
From 95% to 100%	50%
Greater than 100%	100%



GIG
CYMRU
NHS
WALES

Ymddiriedolaeth GIG
Prifysgol Felindre
Velindre University
NHS Trust



GIG
CYMRU
NHS
WALES

Bwrdd Iechyd Prifysgol
Aneurin Bevan
University Health Board

Outline Business Case: 2020

Radiotherapy Satellite Centre

Financial Case – Redacted Version

FINANCIAL CASE

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1 INTRODUCTION

- 1.1 The case for a new Radiotherapy Satellite Centre (RSC) has been clearly articulated within the Strategic Case.
- 1.2 The Economic Case has identified the Preferred Option. Aneurin Bevan University Health Board (ABUHB) and Velindre University NHS Trust (VUNHST) has developed a proposal to develop an RSC on land under the ownership of the Health Board at Nevill Hall Hospital, Abergavenny. The Preferred Option provides a modern, fit for purpose environment that can evolve to meet future demands and developments as they emerge and support a process of continued clinical improvement.
- 1.3 The Commercial and Management Cases sets out the approach to the procurement processes, the partnership approach and the governance and management processes to deliver the Preferred Option.
- 1.4 The Financial Case demonstrates the affordability of the Preferred Option. The Case initially sets out the Financial Framework used for the development of the Financial Case. The Financial Case continues by setting out the approach to the establishment of the revenue and capital costs. It presents the methodology for capital cost development, identified by our Technical Advisors, and scrutinised by Shared Services Estates Division. The methodology for revenue cost development agreed with the Collective Commissioning Group (CCG), is also presented.
- 1.6 The Balance Sheet impact is also presented along with the modelled implications for capital charges.
- 1.7 The financial appraisal establishes the financial costs and funding requirements of the Preferred Option and demonstrates the affordability of the Project.
- 1.8 It should be noted that significant additional revenue costs will be required in excess of the revenue cost of the preferred option to provide additional Radiotherapy capacity to meet forecast demand if the proposed satellite unit does not progress. The majority of that activity will need to be provided via other Providers.

2 FINANCIAL FRAMEWORK

- 2.1 A Financial Framework has been developed for the RSC that focuses on the investment dependent costs in order to facilitate decision making. This Financial Framework has been developed and agreed with the Financial Leadership of Commissioners through the Collective Commissioning Group (CCG). The role and function of the CCG is presented in Sections 6 and 10. The Financial Framework is set out below.
- 2.2 Specifically, the RSC focuses on the investment decision to expand radiotherapy capacity in South East Wales. The Financial Framework established to support the investment decision has clarified that only the costs that are driven by this investment decision should be considered. Costs that are driven by demand for other services, and other factors, are a constant for all options and are, therefore, not presented.
- 2.3 The Collective Commissioning Group has agreed the baseline cost methodology for this element of the work. The costs produced from this methodology and proposed contractual arrangements were scrutinised at the CCG meeting on the 28 July 2020.
- 2.4 The approach the NHS Wales Finance Community has adopted has enabled a transparent and credible Financial Case to be developed and collaboratively endorsed.
- 2.5 The Financial Case highlights the cost impact over the following areas of expenditure within the Project:
- Capital costs;
 - Recurring Revenue costs;
 - Transitional (Non-recurring) Revenue costs; and
 - Depreciation.
- 2.6 Fundamentally, the Financial Case outlines the full financial costs of the Project and the sources of funding, from the Trust's Commissioners and the Welsh Government, to meet them.
- 2.7 The next section of the Financial Case, Section 3, sets down the costing approach deployed in the development of the Project's Costs.

3 COSTING METHODOLOGY

3.1 This section of the Financial Case provides detail on the costing methodology employed to develop the cost estimates for the following areas:

- Construction and Equipment Capital Costs;
- Recurrent Revenue Costs;
- Transitional (Non-Recurring) Revenue Costs; and
- Depreciation.

3.2 The methodology is fundamental to support both the Health Board and the Trust in ensuring robust cost information is determined to underpin the RSC.

3.3 The costing methodology reflects a professionally and technically recognised approach to determining OBC cost information. The costings have been derived using the best available information and, in some instances, reflects current market prices. The costing methodology reflects an approach that is acceptable to Welsh Government and Shared Services.

3.4 The Trust has appointed Technical and Professional advisors to assist in the calculation of aspects of the costs relating to healthcare facilities at the different stages of cost planning. Further, the Revenue costs have been fully scrutinised by the CCG (see Section 6). The cost models described will continue to be reviewed and refined as further detailed work is undertaken to inform the Full Business Case.

Capital Costs

3.5 The preferred option is Option 3 the construction of a Radiotherapy Satellite Centre on the Nevill Hall Hospital site. The estimated outturn costs for the preferred option is £30.285 million excluding inflation, the detail of which is set out below:

	Option 3 - New Build (£)
Works Cost	15,337,624
Fees	2,751,814
Non-Works	2,859,000
Equipment	2,723,009
Contingency	1,707,310
<u>Total Option Costs</u>	<u>25,378,758</u>
VAT (net of reclaim)	4,906,774
<u>Total Option Costs (including VAT)</u>	<u>30,285,532</u>

*** Equipment costs exclude both Treatment Machines as these are being approved for procurement via a separate business case.**

- 3.6 A more detailed breakdown of the capital cost calculations is contained within the OB Forms in the Estates Annex. The costs shown exclude optimism bias which was calculated in line with HM Treasury Guidance for the Economic Case only.
- 3.7 In terms of design status BREEAM workshops have been undertaken and will continue to be reviewed and assessed throughout the project lifecycle. In the case of the preferred option, the project will be required to achieve a BREEAM 'Excellent' rating for industrial as a minimum, which remains within the acceptable benchmark standard for a new build project.
- 3.8 A risk register has been prepared for all of the options and developed in detail for the preferred option in order to inform the level of planning contingency required. The format of the risk register is consistent with the standard Designed for Life and the latest guidance for preparing Business cases. This will be further developed in due course for the Full Business case Stage by the External Project manager in conjunction with the Supply Chain Partner, Cost Advisor and Client Team.
- 3.9 Submission of the OBC to Welsh Government is currently programmed for the end of September 2020. Commencement of the Full Business Case (FBC) is currently planned to start in early 2021, concurrent with the Welsh Government OBC scrutiny and approval period.
- 3.10 The detailed cash flows for the preferred option is contained with the OB forms in the estates annex and is summarised below:

2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
£0.625	£4.544	£5.238	£14.984	£4.709	£0.277

- 3.11 The OBC assumes all capital costs and inflation will be funded by Welsh Government in each of the years as per the above, in accordance with current Welsh Government policy.
- 3.12 The following key assumptions have been made in the capital case:
- Capital costs are reported at BCIS Pub Sec Index Level 250
 - Costs included for Fees are based on typical rates assuming the scheme is procured through the Designed for Life: Building for Wales procurement programme
 - Non-Works Costs are based on estimated capital costs that will be incurred in developing the scheme through to Operational Completion and include Enabling Works, Planning Fees, IT infrastructure, Artworks and Commissioning costs

- Equipment costs are based on a detailed schedule of equipment provided by VUNHST and exclude the two treatment machines, the procurement of which is currently being progressed as part of a much larger procurement for both the existing Velindre site and potentially the proposed new Velindre Cancer Centre. More information on this is provided in 3.13 to 3.16 below.
- A Contingency allowance of £1.707m has been included based on a quantified Risk Register. The Risk Register is included in the Estate Annex.
- VAT has been applied at the rate of 20% to all cost components. A modest reclaim of £169k has been assumed based on 100% recovery of professional fees only at this stage. Further advice on the VAT reclaim on supply chain partner costs will be sought as the FBC progresses.

3.13 Capital costs reflect the capital requirements of the Project that will be funded from a Capital Resource Allocation. In this instance the capital resource will flow to both organisations, VUNHST and ABUHB. The former will own and be responsible for the ongoing maintenance and replacement of almost all of the proposed equipment. ABUHB will own and be responsible for the proposed new building and associated site infrastructure works.

3.14 It is important to note that the VUNHST developed a Programme Business Case (PBC) to commence the procurement (via the use of a competitive dialogue procedure) of an integrated Radiotherapy Solution ahead of the approval of both the nVCC and RSC Outline Business Case. The PBC was approved by Welsh Government in August 2019 and includes:

- Treatment Machines;
- Radiotherapy Informatics Solution;
- Oncology Information System (OIS);
- Dosimetry; and
- Ancillary equipment, IT and infrastructure.

3.15 This PBC confirmed the need for VUNHST to deliver a modern Radiotherapy Solution that is more resilient and has greater capability and capacity to enable the Trust to continue to treat increasing numbers of referrals from secondary care. These referrals often require increasingly more complex Radiotherapy Treatments. The procurement is also needed as part of the nVCC's normal equipment replacement cycle.

3.16 This PBC explored a range of options to identify a solution that both supports the urgent need to commence a procurement to mitigate service delivery risks, whilst supporting the key dependencies of the TCS Programme; specifically, the nVCC OBC and the Radiotherapy Satellite Centre (RSC) OBC.

3.17 In addition to the resource identified above, Cognitive by Design will require further investment to fully deliver the digital benefits for Cancer Services

patients. This will be done through the usual NHS Wales Capital Investment process.

Recurring Revenue Costs

- 3.18 Revenue costs reflect the revenue requirements of the project associated with the infrastructure and relevant clinical costs.
- 3.19 Costs have been determined using appropriate baseline information 2019-20; financial information from Technical and Professional advisors and the professional knowledge of the in-house hard and soft facilities management (FM) team(s).
- 3.20 Hard and Soft Facilities Management costs reflect the requirements of the services the Health Board is expected to provide, the various contractual and healthcare related standards requirements and on the additional sqm of the Preferred Option.
- 3.21 Rates costs have been based on the information in the 2017 Rating List for hospitals provided by the Valuation Office Agency.
- 3.22 The estimated Rateable Value (RV) is multiplied by the multiplier, which is an estimate currently linked to September's Retail Price Index (RPI) figures, which is due to switch to Consumer Price Index (CPI) figures.
- 3.23 Equipment maintenance has been costed using baseline financial information projected using professional advice and in the context of Advisor input. This will be further informed by the FBC by the IRS (Integrated Radiotherapy Solution) Procurement.
- 3.24 Information Management & Technology (IM&T) and maintenance has been assessed on the 'hospital building related' requirements of the Project and mainly covers the hospital digital infrastructure.
- 3.25 All the costs have been identified and verified using assumptions generated from the input of external advisors as well as Trust personnel and scrutinised by the CCG.

Transitional (Non-Recurring) Revenue Costs

- 3.26 Costs associated with the delivery of the Project have been established using information from the in-house team and Specialist Advisors.

Depreciation

- 3.27 Depreciation has been determined using the equipment bill of quantities and the estimated useful life of the asset in accordance with NHS Finance guidance.
- 3.28 The detailed costs derived from this costing approach are set down in Sections 4 to 10.

4 RECURRING REVENUE COSTS

Methodology & Approach

- 4.1 The section outlines the recurring revenue costs associated with the operation of the Preferred Option.
- 4.2 As discussed earlier in the Financial Framework Section (Section 2), recurring revenue costs cover the infrastructure related costs and includes the financial impact of the increases in demand and growth of Radiotherapy services and clinical services that are met by the RSC.
- 4.3 The following options considered were as follows
- Outsourcing of activity to English Providers
 - Activity delivered as part of an expansion of the new Velindre Cancer Centre
 - Development of a Radiotherapy Satellite Centre at Nevill Hall Hospital, Abergavenny (Preferred)
- 4.4 Each option is predicated on the delivery of the following level of activity:

Table 4-1: Activity Case Mix

Treatment Type	No of Fractions
Prostate Fractions	7,434
Breast non-DIBH	3,234
Breast DIBH	3,234
Palliative Treatment	1,699
Total	15,600

- 4.5 The activity assumptions are consistent with the activity growth projections in the new Velindre Cancer Centre OBC.
- 4.6 To aid transparency the cost of the options are presented initially with the additional revenue costs of the 'Preferred' option being subsequently presented. The total Recurring Revenue costs of the Preferred Option are then presented.
- 4.7 The revenue cost assumptions are outlined below:

Table 4-2: Revenue Cost Assumptions

Revenue cost assumptions
<ul style="list-style-type: none">• Recurring revenue costs associated with the services within the scope of the project are presented at 2019/20 prices.• Inflation has been excluded.• Transitional Revenue Costs are excluded from this section and presented in Section 5.• Depreciation is excluded from this section and presented in Section 7.

Recurring Revenue Costs

4.8 The recurring revenue costs of each of the options is as follows

Table 4-3: Recurring Revenue Costs

	Option - Outsource	Option - nVCC	Option - NHH RSC (Preferred)
	£	£	£
Workforce			
Radiotherapy Delivery		1,140,166	1,276,039
Medical Physics Delivery		509,208	526,394
Facilities		66,554	72,858
IT		0	16,223
Pharmacy		0	8,738
Pay		1,715,928	1,900,252
Non Pay			
Utilities		62,209	95,276
Hard FM		49,505	69,207
Rates		62,536	62,536
Soft FM		62,901	9,137
Consumables		75,000	75,000
Patient Transport		10,000	5,000
Equipment Maintenance		264,390	264,390
IM&T Maintenance		27,097	27,097
Pharmacy		0	708
Travel		34,319	38,005
Non Pay		647,955	646,355
Cost of Outsourcing	10,866,325		
Financing - TCS MIMs			
TOTAL COST	10,866,325		2,546,607
Remove TCS MIMS (see note)			
TOTAL COST (COMMISSIONERS)	10,866,325	2,363,884	2,546,607

4.9 Note: MIMs costs have been removed from the costs attributed to commissioners as these would be borne directly by Welsh Government.

4.10 A full cost analysis of each option is set out in Appendix 1

4.11 For the nVCC and RSC options, recurring revenue costs reflect expenditure which the Trust and ABUHB will incur on an on-going basis to maintain the infrastructure and deliver the clinical services at point of commissioning. The

Financial Case assesses these costs associated with the implementation of the proposed project. It is important to note that the revised expenditure reflects the requirements to meet the forecast level of activity upon the opening of the RSC in June 2023.

- 4.12 The following tables analyse the costs over the major cost headings for the preferred option:

Table 4-4: Recurring Revenue Costs

	NHH RSC Preferred Option
	£
Workforce	
Radiotherapy Delivery	1,276,039
Medical Physics Delivery	526,394
Facilities	72,858
IT	16,223
Pharmacy	8,738
Pay	1,900,252
Non Pay	
Utilities	95,276
Hard FM	69,207
Rates	62,536
Soft FM	9,137
Consumables	75,000
Patient Transport	5,000
Equipment Maintenance	264,390
IM&T Maintenance	27,097
Pharmacy	708
Travel	38,005
Non Pay	646,355
TOTAL COST	2,546,607

- 4.13 The Baseline Recurring Costs have been agreed with the CCG.

Table 4-5: Recurring Pay Costs

	£
Workforce	
Radiotherapy Delivery	1,276,039
Medical Physics Delivery	526,394
Facilities	72,858
IT	16,223
Pharmacy	8,738
Pay	1,900,252

- 4.14 The proposed Radiotherapy and Medical Physics staff are to be employed by VUNHST with the skill mix provided at Appendix 1.
- 4.15 The proposed facilities staff will be employed by ABUHB and represent the cost of portering, domestics, security and other facilities support staff.
- 4.16 The proposed IT staff will be employed by ABUHB and will support the operation of the IT systems in the RSC.
- 4.17 The proposed pharmacy staff will be employed by ABUHB and represent the staff costs to support the RSC onsite Omnicell.
- 4.18 The pay costs above and the Recurring, Non-Pay Costs below have been agreed with the CCG as fair and reasonable.

Table 4-6: Recurring Non Pay Costs

	£
Non Pay	
Utilities	95,276
Hard FM	69,207
Rates	62,536
Soft FM	9,137
Consumables	75,000
Patient Transport	5,000
Equipment Maintenance	264,390
IM&T Maintenance	27,097
Pharmacy	708
Travel	38,005
Non Pay	646,355

Utilities, Hard FM and Soft FM Costs

- 4.19 The total costs of utilities, Hard FM and Soft FM are presented in the table below:

Table 4-7: Utilities, Hard FM and Soft FM Costs

	£
Non Pay	
Utilities	95,276
Hard FM	69,207
Soft FM	9,137
Total	173,620

- 4.20 The costs have been calculated with reference to the proposed floor m2 and EFPMs benchmarks and have been agreed with the CCG as fair and reasonable.

Equipment Maintenance and IM&T Maintenance

- 4.21 The total costs of Equipment Maintenance and IM&T Maintenance are presented in the table below:

Table 4-8: Equipment Maintenance and IM&T Maintenance

	£
Equipment Maintenance	264,390
IM&T Maintenance	27,097
Total	291,487

- 4.22 The Medical Equipment Maintenance costs have been calculated based on the schedule of Equipment set down in Economic Case. These costs reflect the requirements associated with the additional Medical Equipment with new infrastructure. The costs will be refined when the IRS procurement provides actual costs.
- 4.23 The maintenance costs for IM&T have been calculated based on the schedule of equipment set down in Economic Case.
- 4.24 IM&T costs relate to the support required for the infrastructure to support the clinical services, major clinical equipment and the RSC.
- 4.25 This approach has been agreed with the CCG as fair and reasonable.

Other Non-Pay Costs

- 4.26 The total costs of other Non-Pay costs are presented in the table below:

Table 4-9: Other Non-Pay Costs

	£
Rates	62,536
Consumables	75,000
Patient Transport	5,000
Pharmacy	708
Travel	38,005
Total	181,249

- 4.27 Business rates are determined based on the rateable value of the premises. This is independently assessed by the Valuation Office Agency, who maintains a hospital framework in place for 2017 Rating list.
- 4.28 The forecast rates have been established using the estimated rateable value. It was highlighted that this cost head is beyond the direct control of ABUHB and VUNHST.
- 4.29 Other non-pay costs have been agreed with the CCG as fair and reasonable.

Other Costs

- 4.30 Section 7 provides more detailed analysis of the key areas of expenditure for the cost heads of:
- Buildings and equipment depreciation (Section 7)

5 TRANSITIONAL REVENUE COSTS

Overview

- 5.1 Non-recurring revenue costs reflect expenditure that the Health Board and Trust will incur in order to deliver the Project but will not recur over time. They are largely one off, up-front costs. Non-recurring costs are to be incurred to facilitate Pre Commissioning.
- 5.2 Velindre has discussed the profile of pre-commissioning costs, specifically on the 3-6 month maximum lead in time for recruitment of posts. The proposed costs remain on a staggered basis based on market availability of staff, associated programmes and procurements that enable the Satellite Centre and lead in training times. This position will continue to be scrutinised as part of the commissioner review and internal Velindre Project management review. The estimates, however, at present remains the OBC proposed costs.
- 5.3 The table below sets out the pre-commissioning costs (in year charges described), assuming a 23/24 commencement:

Table 5-1: Transitional Revenue Costs

	2022-23
	£
Phasing	712,000

6 SCRUTINY PROCESS

Overview of Scrutiny Process

- 6.1 In order to enable constructive financial consultation and engagement during the process, the case was considered by the Collective Commissioners Group (CCG).
- 6.2 The work of the CCG has dovetailed into the Collaborative Cancer Leadership Group (CCLG) that has brought together representations from Chief Executives, Directors of Planning and Directors of Finance to develop seamless cancer services across South East Wales and improve cancer outcomes for our collective catchment population.
- 6.3 The narrative below presents the scrutiny process undertaken by CCG.

Collective Commissioning Group

- 6.4 The CCG built on existing collective commissioning arrangements to lead the financial scrutiny of the OBC for the RSC.
- 6.5 This group consisted of senior finance officers and commissioners from the stakeholder Health Boards.
- 6.6 As stated previously, the OBC for the RSC will focus on the additional infrastructure and clinical costs directly attributable to the RSC.
- 6.7 The main objective of the CCG is to confirm the financial affordability settlement in relation to the additional costs in relation to the RSC and its distribution across commissioners.
- 6.8 The key agreements to date include:
- Agreement of the Financial Framework to enable the construction of the OBC Financial Case
 - Gaining a shared understanding of the need for a RSC;
 - Discussing the OBC options;
 - Sharing the approach to the Financial Case;
 - Discussing the Preferred Option
 - Approach and methodology for finalising and agreeing a financial affordability settlement in relation to the RSC OBC
 - The cost headings (and their presentation) to be included in the OBC, ensuring transparency and agreement of the financial investment set down:
 - Velindre clinical costs
 - Health Board service costs
 - Facilities Management (Soft FM/Hard FM/Utilities);
 - Medical and other equipment;
 - IM&T;
 - The cost baseline relating to the agreed cost headings;

- Inflation mechanism;
- Approach to risk;
- Approach to rates; and
- Agreement of a methodology to distribute the additional cost across Local Health Boards.

7 DEPRECIATION

- 7.1 Depreciation reflects the recurring annual impact of capital expenditure over its assumed useful life. The costs described earlier in the capital section of this chapter will require to be recorded as assets and, therefore, the depreciation impact of each is considered.
- 7.2 The 'asset lives' for the up-front capital expenditure are outlined in the table below:

Table 7-1: Asset Life Assumptions

Asset type	Estimated useful life for depreciation
Buildings and infrastructure	60 years
Treatment Machines	10 years
Other radiotherapy equipment	7 – 10 years
Diagnostics equipment	7 years
IM&T equipment	5 – 6 years
Other equipment	10 years

- 7.3 The funding for depreciation costs is planned to be sourced from the Welsh Government.

8 BALANCE SHEET IMPACT

Accounting Treatment

- 8.1 Under the proposed funding arrangements the RSC will be 'on balance sheet' from a Health Board and Trust perspective.

9 DISTRIBUTION OF COMMISSIONER REVENUE COSTS

Distribution of Recurring Revenue Costs

- 9.1 The Collective Commissioning Group have considered and agreed the approach to the distribution of revenue costs to inform the OBC process.
- 9.2 The methodology was developed through the following stages
- Identification of recurring revenue costs in the establishment of the RSC
 - ABUHB costs to be recharged to Velindre under a Service Level Agreement.
 - Velindre to charge HBs under LTA arrangements
 - Identification of the proposed activity casemix at the RSC
 - Calculation of the income to Velindre of the proposed activity casemix using the new Velindre Contractual LTA Framework.
- 9.3 The key assumption used is activity undertaken at the RSC will be chargeable as any other Velindre activity.
- 9.4 On this basis the new Velindre Contractual LTA Framework would generate a full cost tariff of £2,846,378 to Velindre from commissioners using the agreed casemix.

Table 9-1: Activity Casemix

Treatment Type	No of Fractions
Prostate Fractions	7,434
Breast non-DIBH	3,234
Breast DIBH	3,234
Palliative Treatment	1,699
	15,600

- 9.5 When the full cost tariff is compared to the RSC cost proposal, it shows that the cost proposal is 89% of the full cost tariff.

Table 9-2: Tariff Income compared to RSC costs

	Recurring Revenue Costs £000
RSC Cost proposal	2,546,607
Tariff Income at Full Cost Rates using activity casemix	2,846,378
Comparator as % of Full Cost Tariff	89%

- 9.6 Actual costs are to be charged under the LTA Framework mechanism on activity residency with the costings underpinning the Velindre Contractual Framework being updated to reflect the 89% stepped cost.
- 9.7 On a notional basis, the RSC cost proposal split by commissioners using the percentages shares in current LTA arrangements would result in the following

Table 9-3: Indicative Split of Commissioner Costs

Commissioners	Split %	Recurring Revenue Costs £
Swansea Bay UHB	0.64%	16,298
Aneurin Bevan UHB	39.25%	999,543
Cardiff & Vale UHB	28.69%	730,622
Cwm Taf Morgannwg UHB	27.78%	707,447
Hywel Dda UHB	1.51%	38,454
Powys THB	2.14%	54,497
WHSSC	0.00%	0
Total Recurring Revenue Costs	100%	2,546,607

- 9.8 To ensure full cost recovery by VUNHST under the LTA contractual framework, the full and marginal rates in the LTA mechanism would need to be re-costed to include the RSC development.

Transitional Revenue Costs

- 9.9 The commissioner shares have been utilised to distribute the transitional (non-recurrent) revenue costs of the Project over Commissioners.

Table 9-1: Transitional Costs

	Split %	2022-23 Costs £
Swansea Bay UHB	0.64%	4,557
Aneurin Bevan UHB	39.25%	279,460
Cardiff & Vale UHB	28.69%	204,273
Cwm Taf Morgannwg UHB	27.78%	197,794
Hywel Dda UHB	1.51%	10,751
Powys THB	2.14%	15,237
WHSSC	0.00%	0
Total Transitional Revenue Costs	100.00%	712,000

Cost Inflation and Risk Sharing

- 9.10 The CCG has agreed an approach to risk sharing where the cost base will be reviewed prior to commissioning the RSC.
- 9.11 The CCG has agreed to an appropriate inflation mechanism, whereby the agreed commissioner quantum will be uplifted using CPI.
- 9.12 It was agreed that further scrutiny of the costs base will be required over the Project life and finally prior to commissioning of the new Centre. At this time, any costs that have increased outside of ABUHB and VUNHST's control would require separate discussion.
- 9.13 The CCG has agreed that the costs identified and scrutinised are appropriate indicative costs and the assumptions are fair and reasonable. As identified above, it is recommended that the costs be reviewed at FBC stage and prior to commissioning. It is acknowledged that OBC approval will result in the risks being borne by VUNHST and/or ABUHB as appropriate (unless a case is made otherwise as identified below).
- 9.14 In that regard, Commissioner funding for professionally supported cost increases, outside of Velindre's control, should not be unreasonably withheld. It was agreed that rates should be specifically mentioned as areas for review given they are beyond the ability of the Trust to control. Further, cost drivers such as pay awards, mandated standards and unavoidable external policies would also be accepted as reasonable factors for post approval support. The revenue costs flowing from the IRS Procurement are also identified in this regard.
- 9.15 It has been agreed that the cost distribution will apply to these, and any future variant of the OBC cost, unless Commissioners collectively agree to the application of another method at some point in the future.
- 9.16 The preferred option results in an NHS saving of £1.2m costs for MIMs financing payments. Commissioner Health Boards will appreciate Welsh Government consideration of a proportion of this avoided cost be made available to mitigate the recurrent revenue costs of the preferred option.

10 FUTURE COMMISSIONING ARRANGEMENTS

Collective Commissioning Group

- 10.1 The Financial Framework, presented in Section 2, identified that the RSC OBC has focused on the additional costs of this new building and service at a projected level of activity outlined in Section 9. The actual level of activity and casemix required will be addressed through the commissioning and planning cycle irrespective of the provision of a new building.
- 10.2 It is necessary to highlight that, although not a decision dependent factor, the additional variable clinical costs of demand, and the associated approach to provide further additional resources through a new Commissioning LTA Framework, are important business factors that require determination and collaborative commissioning agreement. This process will be managed through the Collective Commissioning Group (CCG).
- 10.3 The OBC is predicated on the implementation of the new VCC contractual framework which is currently being implemented with commissioners.

11 SUMMARY OF FUNDING REQUIREMENTS AND SOURCES

- 11.1 The Health Board and Trust has had active dialogue with other Health Board commissioners and the Welsh Government regarding the funding arrangements for the Project.
- 11.2 It is assume the preferred option capital costs of £29.577 million will be funded by Welsh Government from public sector capital.
- 11.3 The table below provides an overview of total recurring revenue costs for the Project of **c£2.546m** in 2023/24, the first full of operation for the RSC.

Table 11-1: Summary Recurring Revenue Requirements

	£	Funding Source
Workforce	1,900,252	Commissioners
Non Pay		
Utilities	95,276	Commissioners
Hard FM	69,207	Commissioners
Rates	62,536	Commissioners
Soft FM	9,137	Commissioners
Consumables	75,000	Commissioners
Equipment Maintenance	264,390	Commissioners
IM&T Maintenance	27,097	Commissioners
Other	43,713	Commissioners
TOTAL COST	2,546,607	

- 11.4 Recurring revenue costs will be funded by Commissioners on an actual usage basis under the new contractual mechanism. However, it is planned that the Welsh Government will fund the increased buildings and equipment depreciation.
- 11.5 Pre-commissioning transitional costs (in year charges described), assuming a 23/24 commencement have been identified as follows:

Table 5-1: Transitional Revenue Costs

	2022-23
	£
Transitional Costs	712,000

12 CONCLUSION

- 12.1 In developing the Financial Case, ABUHB and VUNHST has worked closely with its specialist advisors, Commissioners and the Welsh Government to agree the Financial Framework to be adopted and present a robust assessment of the overall capital and revenue consequences of the proposed Project.
- 12.2 In assessing affordability, the Health Board and Trust has carefully considered the timing of expenditure up to 2023/24 and how this will impact on commissioners and other stakeholders, including the presentation of the professionally agreed approach to the distribution of the agreed revenue costs.
- 12.3 It should be noted that significant additional revenue costs will be required in excess of the revenue cost of the preferred option to provide additional Radiotherapy capacity to meet forecast demand if the proposed satellite unit does not progress. The majority of that activity will need to be provided via other Providers.

13 APPENDICES

For Information

The following appendices are available in support of this case. Information in support of the capital costs is included in the Estates Annex

Appendix Reference	Title
OBC/FC1	Recurring Revenue: Pay Costs

Appendix 1

OBC/FC1 Recurring Revenue Pay Costs

Costings	Option - nVCC		Option - NHH SRU	
Radiotherapy Delivery	WTE	£	WTE	£
Consultant	1	110,359	1	110,359
Medical Sec	1	26,805	1	26,805
Senior Leader	0	0	1	65,883
Advanced Practitioner	2	97,052	2	97,052
Superintendent Radiographer	1	57,119	1	57,119
Senior Therapy Radiographer	6	291,156	7	339,682
Treatment Radiographer	8	324,224	8	324,224
Treatment Radiographer	5	162,230	5	162,230
Radiotherapy Helpers	1	21,464	2	42,928
Review Assistant	1	26,805	1	26,805
Clerical Officers - Booking Clerk	1	22,952	1	22,952
	27	1,140,166	30	1,276,039
Medical Physics				
Senior Leader	1	79,877	1	79,877
Clinical Scientist	1	57,119	3	171,357
Treatment Machine or Computer Engineer	6	291,156	4	194,104
Dosimetrist	2	81,056	2	81,056
	10	509,208	10	526,394
Facilities Staff				
Porters	0	0	1	28,656
Domestics	0	0	2	32,978
Linen	0	0	0.1	3,098
Administrative Support	0	0	0.1	4,253
Security	0	0	0.2	3,872
	0	66,554**	3.4	72,858
IT				
Staff to Provide SLA	0	0	0.5	16,223
Pharmacy				
Pharmacists		0		8,738
TOTAL		1,715,928		1,900,252

Note : ** nVCC apportioned cost

Outline Business Case 2020

Radiotherapy Satellite Centre

Management Case

MANAGEMENT CASE

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1 INTRODUCTION

Approach

- 1.1 To achieve an effective implementation and full benefits realisation the Project must manage, co-ordinate and oversee the delivery of all Project activities and key deliverables over the lifecycle of the Project. The Radiotherapy Satellite Centre (RSC) is a crucial pillar of the Transforming Cancer Services (TCS) Programme and is essential in order to meet projected demand and deliver care closer to home.
- 1.2 In response to this need, Aneurin Bevan University Health Board (ABUHB) and Velindre University NHS Trust (VUNHST) have developed, in partnership, a Project Management capacity and capability to effectively facilitate the delivery of the RSC Project. This has included appointing and integrating a number of skilled and experienced project officers to meet the current and future demands of the RSC Project.
- 1.3 The RSC Project has not only developed its Project Management capacity and capabilities, it has also developed governance structures and processes, partnership arrangements and identified key deliverables to facilitate the delivery of the RSC Project.
- 1.4 This OBC Management Case therefore sets out the management arrangements which will successfully deliver the RSC Project to time, cost and quality. The Management Case will outline the following arrangements:
 - Project Management Arrangements;
 - External Advisors;
 - Use of Specialist Advisors within NHS Wales;
 - Project Partnership Arrangements;
 - Procurement and Contracts Management;
 - Change Control;
 - RSC Project Plan;
 - Benefits Realisation;
 - Communication and Engagement;
 - Risk Management Plan; and
 - Arrangements for Post Project Evaluation.
- 1.5 The Management Case will provide assurance on the capacity and capability of the Project Management arrangements to deliver the Projects objectives.

2 PROJECT MANAGEMENT ARRANGEMENTS

Project Roles and Responsibilities (The People)

- 2.1 The Health Board and Trust have invested in developing an effective Project Leadership Team (that form the core of the RSC Project Management Arrangements). The RSC Project Board, and the associated Project Team Management capacity and capability, will facilitate the effective delivery of the RSC Project operationally.
- 2.2 The key individual roles and responsibilities required to support the delivery of the RSC Project are set out in table 2-1 below:

Table 2-1: RSC Project Leadership Team

Role	Name/Status	Responsibility
Senior Responsible Owner (SRO) ABUHB	Nicola Prygodzicz	The SRO is accountable for the success of the RSC Project. The SRO is responsible for enabling the organisation to exploit the new environment resulting from the RSC Project, meeting the business needs and delivering the required levels of performance, benefit, service delivery and value. The SRO owns the vision for the RSC Project and is required to provide clear leadership and direction and secures the investment required to set up and run the Project throughout its lifecycle and beyond.
Project Director ABUHB	Andrew Walker	The Project Director reports to the SRO and is operationally accountable for project delivery of the RSC including the operational delivery of the RSC Procurement through the appropriate processes which he will lead. The Project Director will provide leadership and positive team working to create an environment that facilitates effective project delivery.
Director of Commercial and Strategic Partnerships VUNHST	Huw Llewellyn	The Director of Commercial and Strategic Partnerships is the Project Director for the TCS Digital and Equipment Project and along with the RSC Project Director will ensure that the interface between the RSC Project and the TCS Digital and Equipment Project is effective. The Director of Commercial and Strategic Partnerships will advise on the commercial, partnership, management, financial and economic aspects of the Project process and provide strategic advice to the RSC Project and on its interface with the nVCC Project.

TCS Service Director VUNHST	Andrea Hague	<p>The Trust Director of Service Improvement will be responsible for leading a group of operational managers in order to ensure that a service and operational focus is maintained in all aspects of the RSC project.</p> <p>The post holder will be responsible for identifying, developing, agreeing and delivery of all operational and clinical aspects of the Velindre Service at the RSC. This will include workforce, operational procedures and processes, facility requirements for interface management and commissioning.</p>
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- 2.3 Senior Clinical Leadership is provided to the Project through two key posts; one from each of the partner organisations.

Table 2-2: RSC Project - Clinical Leads

ABUHB Clinical Lead	Ian Williamson	The Health Board will appoint a clinical lead who will be responsible for leading a group of clinicians to ensure that a 'local' clinical focus is maintained in all aspects of the RSC project and that patient experience and quality is always a primary consideration.
VCC Clinical Lead	Tom Crosby	The Trust will appoint a clinical lead who will be responsible for leading a group of clinicians to ensure that a 'specialist' clinical focus is maintained in all aspects of the RSC project and that patient experience and quality is always a primary consideration.

- 2.4 These officers will comprise of the RSC Project Board along with other colleagues from the Health Board and Trust as set down below:

Table 2-3: RSC Project Board

Name	Role
Nicola Prygodzicz	Executive Director of Planning, Digital and IT, ABUHB (Chair)
Andrea Hague	Director of Service Improvement, VUNHST (Deputy Chair)
Andrew Walker	Strategic Capital and Estates Programme Director, ABUHB
Huw Llewellyn	Director of Commercial and Strategic Partnerships, VUNHST
Ian Williamson	Lead Clinician, ABUHB
Prof. Tom Crosby	Lead Clinician, VUNHST

Robert Holcombe	Assistant Director of Finance, ABUHB
Lorraine Morgan	Programme Manager – Strategic Capital and Estates, ABUHB

- 2.4 The Officers above will be supported by a Project Team including a range of “Technical” ABUHB and Velindre Clinical and Technical Leads, as set out below, as well as a team of External Advisors (see Section 3).

Table 2-4: RSC Project Team

Name	Role
Andrew Walker	Strategic Capital and Estates Programme Director ABUHB (Chair)
Andrea Hague	Director of Service Improvement, VUNHST (Deputy Chair)
Lorraine Morgan	Programme Manager – Strategic Capital and Estates, ABUHB
David Osborne	Finance Lead, VUNHST
Phil Meredith	Finance Lead, ABUHB
Robert Holcombe	Assistant Director of Finance, ABUHB
Jacqui Couch	Clinical Transformation Manager, VUNHST
Bernadette McCarthy	Radiotherapy Services Manager, VUNHST
Kelly Jones	Capital Accountant, ABUHB
Steve Gardiner	Assistant Project Director nVCC (Technical), VUNHST
Glenn Evans	Strategic Estates Manager, ABUHB
Phil Richards	ITC Lead VUNHST
Tony Millin	Head of RT Physics, VUNHST
Mark David	Operations Manager, VUNHST
Jane Williams	Workforce Lead, VUNHST
Chris Lines	Comms Lead, VUNHST
Claire Harding	Comms Lead, ABUHB

Project Management (The Methodology)

- 2.5 The delivery of the Project will be managed in accordance with the PRinCE2 ('Projects in a Controlled Environment') methodology suitably adapted for local circumstances in order to meet the needs of this Project. The Project management arrangements will therefore be driven by outputs, or in the PRINCE2 terminology, "Products". All products will be formally signed off by the RSC Project Board before being approved (if appropriate) by the TCS Programme Delivery Board or the Health and Trust Boards as appropriate.
- 2.6 The Infrastructure Project Execution Plan (PEP) includes all the management controls required to ensure the RSC Project, and its contracted firms, meet their fiduciary obligations with respect to the development of the Business Cases, the implementation of the Project, and the management of the Project within a framework of acceptable risk.
- 2.7 The RSC Project is predicated on the following principles:
- Decisions on the strategic direction and future needs of health care are only made after appropriate consideration;
 - The views and interests of patients, staff and all stakeholders are considered;
 - Appropriate behaviour with respect to the codes of corporate governance and policy;
 - Guidance and good management practice; and
 - Open and regular reporting of Project progress and performance.
- 2.8 To ensure the quality of the outputs are maintained and the objectives are met, the Project Execution Plan will be managed and undertaken on the basis of:
- Proven methodologies and standards;
 - Effective monitoring procedures;
 - Effective change/issues/problem management;
 - Review and acceptance procedures; and
 - Appropriate documentation and record keeping.

Project Governance and Management

- 2.9 Key to the success of the RSC Project is the Project Governance and Management inputs required for the co-ordination of sub projects and their outputs, reporting progress against plan, approvals and escalations of risks and issues. The Governance and Management processes have been designed to allow for key approvals to occur at the most appropriate level.
- 2.10 Of particular importance is the dovetailing of the TCS Programmes, and its constituent Projects, governance arrangements, with both ABUHB's and VUNHST Corporate Governance arrangements and that of Welsh Government's

sponsorship, scrutiny and approvals process. In particular, this will allow for rapid approvals and the effective escalation of risks and issues to a level where senior sponsors can intervene as necessary to support the delivery of this important project.

- 2.11 This section provides an overview of all aspects relating to the Project Management structure and individual roles and responsibilities.
- 2.12 The Project Governance Arrangements are organised over three levels, namely:
- ABUHB and VUNHST Boards (Corporate) – **Level 1**
 - TCS Programme Delivery Board – **Level 2**
 - RSC Project Board – **Level 3**
- 2.13 The Project structure ensures clear accountability and also deploys mechanisms to facilitate decision making, communication and alignment. The Governance Arrangements are set down within the TCS Programme Board, TCS Programme Scrutiny Committee, RSC Project Board and RSC Project Team Terms of Reference.

Project Management: Roles and Responsibilities

- 2.14 The shared Project Management and Administration roles and responsibilities for the RSC Project are set out in Table 2-5 below.

Table 2-5: Project Management and Administration Specific Roles and Responsibilities

Role	Responsibility
Project Manager (PM)	<p>The Project Manager has overall responsibility for the delivery of all sub projects within the identified portfolio. To ensure that they are delivered to time, cost and quality.</p> <p>Key to the success of this role is the efficient and effective use of project resources, and the identification and management of, interdependencies, risks and issues, and benefits delivery.</p>

Role	Responsibility
Project Co-ordinators (PC)	The Project Co-ordinator(s) will provide high quality Project support and administration services to the Project. This will include co-ordinating meetings, capturing issues, decisions and actions. To act as a configuration management librarian and to oversee all document control during project delivery.
Project Administration (PA)	The Project Administration duties include all aspects of facilitating a project: scheduling meeting times and locations, taking meeting minutes, capturing action points and arranging training for project staff. In addition, the project administrators participate in budget administration, providing analysis and maintaining project records and facilitating procurement.

- 2.15 The costs of the Project Management have been included within the RSC Project capital costs.

3 EXTERNAL ADVISORS

- 3.1 The preparation of the OBC will be supported by an External Project Manager and External Cost Advisor both of which have been appointed from the All Wales Designed for Life: Building for Wales Framework.
- 3.2 The Project Manager (Gleeds Management Services) will perform the role in accordance with the Outline Schedule of Duties for Project Managers, as defined at Framework level, unless otherwise amended and agreed with the Health Board. This role encompasses a project management role of the technical aspects of the business case process and subsequent design, procurement, construction and project closure stages under the NEC3 Form of Contract.
- 3.3 The Cost Advisor (Lee Wakemans) will oversee the financial management of the capital expenditure, in conjunction with the Health Board Finance Directorate. They will monitor project costs, implement rigorous verification and checking of all costs presented by the SCP, and deliver a project from a Health Board perspective which is affordable and provides value for money.
- 3.4 In addition to the above a Health Care Planner (Archus) has been appointed to lead the preparation of the OBC Economic Case. Capita will fulfil this role, they have been appointed via the All-Wales HCP Framework. In May 2020, the Project were informed that Capita were unable to provide Business Case Support from the middle of June 2020. Alternative arrangements with Archus have been made to maintain continuity to this important role.
- 3.5 The RSC Project Director will provide lead and co-ordinate the Trust Advisors.

4. USE OF SPECIALIST ADVISORS WITHIN NHS WALES

- 4.1 The RSC Project utilises the advice of a number of specialist advisors provided via the NHS Wales Shared Services Partnership (NWSSP) and other areas of the NHS in Wales.
- 4.2 These include the following:
- NWSSP – Specialist Estates Services;
 - NWSSP – Procurement Services;
 - NWSSP – Legal and Risk Services;
 - Health Education and Improvement Wales (HEIW); and
 - NHS Wales Informatics Service (NWIS).
- 4.3 Discussions have been held with NWSSP – Procurement Services and the NHS Specialist Estates Services regarding the professional relationship, and management processes, required to support the Project. It is important that these two key National Services are fully aligned with the RSC Project. The quarterly TCS briefings and advisory sessions with Shared Services are intended to continue throughout the process to ensure appropriate engagement with the TCS Programme and their constituent projects.
- 4.4 Processes have been included within the TCS Programme and RSC Project to enable these important relationships to be managed and co-ordinated.

5 PROCUREMENT AND CONTRACT MANAGEMENT

- 5.1 The delivery process is a 'team' effort with the RSC Project Team leading the operational processes. The Project Team will co-ordinate the External Advisory Teams.
- 5.2 The roles and responsibilities of each of the elements of the Project Team are set out below:
- ✓ **The RSC Project Team:** responsible for leading the process on behalf of the Project Board. The Team consists of both Health Boards and Trust decision-makers who will be responsible for shaping the scheme within Project Scope and Brief and have delegated authority to take key operational decisions during the process.
 - ✓ **The External Advisory Team:** responsible for providing technical / specialist knowledge and "specialist" expertise to the Trust team to enable them to secure the optimal solution.
 - ✓ **Trust and Health Board Service Representatives:** responsible for providing the Team with professional and operational information, advice and guidance. The Health Board Service Advice is pivotal in providing consolidated views on the various solutions put forward by the SCP. For example, different design solutions that may impact patient flows, clinical adjacencies, infection control etc.
 - ✓ **Trust Clinical Assurance Representatives:** The Trust Clinical Assurance Representatives will ensure that a clinical focus is maintained in all aspects of the RSC project. Thus, ensuring that patient experience and quality of care is always a primary consideration in the planning of the RSC.
- 5.3 Details of roles and staff likely to be involved in the dialogue process are set out in Figure 5-1 overleaf:

Figure 5-1: Project Governance Arrangements

RSC PROJECT TEAM

Andrew Walker: Strategic Capital and Estates Programme Director, ABUHB
Andrea Hague: Director of Service Improvement, VUNHST
Lorraine Morgan: Programme Manager – Strategic Capital and Estates, ABUHB
David Osborne: Finance Lead, VUNHST
Phil Meredith: Finance Lead, ABUHB
Robert Holcombe: Assistant Director of Finance, ABUHB
Jacqui Couch: Clinical Transformation Manager, VUNHST
Bernadette McCarthy: Radiotherapy Services Manager, VINSHT
Kelly Jones: Capital Accountant, ABUHB
Steve Gardiner: Assistant Project Director nVCC (Technical), VUNHST
Glenn Evans: ITC Lead, VUNHST
Phil Richards: ITC Lead, VUNHST
Tony Millin: Head of Radiotherapy Physics, VUNHST
Mark David: Operations Manager, VUNHST
Jane Williams: Workforce Lead, VUNHST
Chris Lines: Comms Lead, VUNHST
Claire Harding: Comms Lead, ABUHB

EXTERNAL ADVISORY TEAM

Gleeds Management Services
Lee Wakemans
Capita
NHS Shared Services

CLINICAL ASSURANCE

Dr. Jaz Abraham: Medical Director
Ian Williamson: Project Clinical Lead
(ABUHB)
Prof. Tom Crosby: Project Clinical
Lead (Trust)

PROJECT SUPPORT

Project Manager
Project Co-ordinator(s)
Project Administrator

HEALTH SERVICES “SPECIALIST” TEAM

Andrea Hague: Director of VCC
Bernadette McCarthy: Radiotherapy
Tony Millin: Physics and Equipment
Arnold Rust: Radiation Protection
Karen Jones : Infection Control
Technical Support Managers
Mark David: Operations Manager
Phil Richards: ITC Lead
Steve Gardiner: Assistant Project Director
nVCC (Technical)
Jayne Williams: Workforce Lead

6 CHANGE CONTROL

Introduction

- 6.1 This section of the Management Case sets out the approach to Project change control.

Change Control

- 6.2 The Change Control process is managed by the Project Management Team. The Change Control comprises of:

- Change Control Management Document - which gives guidance of version control in regards to documents and the change control procedure;
- Change Management Log - captures all version controlled Project documents/products;
- Change Form - formal process staff are required to follow to request change to a version controlled document/products; and
- Change Log - this captures all change requests.

- 6.3 The Project Team, and external contractors, are expected to comply fully with the Change Control Procedure.

Change Control Principles

- 6.4 The Change Control and Management principles of the framework agreed to date are, to:

- Recognise the need to maximise the benefits of the change for patients, who should be at the heart of the changes made;
- Take advantage of the time required to complete the development to start the change process immediately and avoid risks related to a 'big bang' approach;
- Test and prove the changes through careful piloting of any aspects of the new models and processes that can be implemented before the new facility is finally commissioned;
- Work in partnership with staff and other stakeholders both within and outside RSC to engage all those involved in the delivery of care in the change process; and
- Focus on staff skills and development required so staff are both capable and empowered to deliver healthcare effectively and to a high-quality standard in the new facility through new models of care.

- 6.5 Once the RSC OBC has been approved, these principles will be revisited and confirmed. The Change Control Principles will be communicated to all staff as part of the launch of the change control management process.

The Project Change Management Approach

- 6.6 The Project Management Team has designed a change management approach that encompasses the framework and principles outlined above.
- 6.7 The implementation of a change management process will progress well in advance of FBC approval.
- 6.8 Where proposed changes to service impact on the workforce the NHS Wales, Organisational Change Policy will apply. This national document makes clear the onus upon the service to consult with staff affected and their individual employment rights.

The Change Control Plan

- 6.9 A Change Management Plan will be developed. Once the OBC has been approved three actions will occur:
- The Core Plan will be reviewed to identify other relevant areas that need to be included;
 - Detailed plans will be set up for each of the tasks in the Core Plan; and
 - An overall timetable will be developed and the high level milestones communicated as part of the launch of the Change Management Plan.
- 6.10 The table overleaf sets out the core plan and the main tasks identified to date.

Table 6-1: Change Management Plan

Area	Planned tasks
Planning phase	<ul style="list-style-type: none"> ✓ Appoint key Project roles and Change Managers, confirming responsibilities and leadership ✓ Confirm stakeholders and interested parties both within and outside ABUHB and VCC ✓ Develop core plan in more detail, identifying high level milestones for the Change Management Plan, mapped to the overall Project Plan ✓ Confirm involvement of HR, managers and other individuals/groups in the process
Communications and stakeholder engagement	<ul style="list-style-type: none"> ✓ Confirm communications lead and protocols (route and timing of approval of communications) ✓ Develop communications routes, including face to face briefings bulletins, intranet pages ✓ Formulate and agree key communications messages against high level milestones ✓ Set up stakeholder map and engagement plan ✓ Launch change Programme ✓ Ongoing communications work
Training and development	<ul style="list-style-type: none"> ✓ Complete detailed workforce planning to identify 'shadow' structures, roles and competencies for those roles ✓ Work with staff through workshops and other training to clarify the workings of the new Service Models and how these will impact in practice ✓ Identify training and development required to fulfil roles and competencies ✓ Develop training plan, aligned to pilot work and overall milestones in implementation plan ✓ Link training and development into communications plan
Piloting	<ul style="list-style-type: none"> ✓ Identify and confirm areas where piloting of new models and practice will be implemented ✓ Confirm schedule of pilot work, mapped against high level project and change management milestones ✓ Agree feedback arrangements from pilots and how this links into training/development, communications and overall change management plan ✓ Execute pilots, feedback and report progress
Full Implementation	<ul style="list-style-type: none"> ✓ Identify scheduling/phasing of full implementation at VCC ✓ Using results of piloting and training work, develop detailed implementation and transition plan, mapped to project phasing ✓ Discussion and agreement with key staff ✓ Execute implementation and transition plans

7 RSC PROJECT PLAN

7.1 The project plan key milestones are set out in the following table, the Estates Annex includes the detailed programme:

Table 7-1: Project Plan Key Milestones

Milestone	Dates
Submission of OBC to Commissioners and Welsh Government	September 2020
Welsh Government Approval / FBC Commencement	January 2021
Enabling Works Commencement	January 2021
Submission of FBC to Welsh Government	September 2021
Welsh Government Approval / Start-on-site	November 2021
Completion	August 2023 (subject to confirmation of IRS Preferred Partner and commissioning period)

7.2 Discussions are ongoing with Welsh Government regarding this Project Plan and the key tasks required to be achieved in order to deliver it.

8 BENEFITS REALISATION

Introduction

- 8.1 This section of the Management Case will describes how the Trust will manage the delivery benefits associated with the RSC Project. It will cover the following areas:
- Benefits Realisation Strategy;
 - Benefits Mapping and Assurance;
 - Benefits Management Process;
 - Benefits Realisation Plan; and
 - Process for Managing and Monitoring Work.

Benefits Realisation Strategy

- 8.2 The TCS Programme team has been working closely with the Welsh Government and other partners to ensure that the management of the RSC Project benefits are robust. Much of this detail is contained within the Strategic Case of this OBC. This work has included the identification and quantification of Project Benefits where possible. This has then allowed for the quantified benefits to influence the Economic Case where the choice of the preferred option is made. The quantification of benefits relating to the RSC reflect the wider societal benefits within the wider TCS Programme. These are included only where they can be directly attributable to the provisioning of the RSC.
- 8.3 This Project is about the provisioning of the RSC to improve clinical outcomes. It delivers a key aspect of the clinical model and increases integration with local services and support for further research and education.
- 8.4 The use of a quantified benefits assessment methodology brings significant rigour to how the benefits have been assessed and informed the preferred option.
- 8.5 This brings into sharp focus the need to ensure that the Project maximises the delivery of the benefits associated with the RSC Project.

Benefits Mapping and Assurance

- 8.6 One of the most important features in benefits realisation is to ensure that the perceived benefits identified as part of the preferred option will deliver the Project Spends Objectives (PSOs).
- 8.7 As previously described in the Strategic Case, the benefits associated with the Project have been captured and presented.
- 8.8 All Benefit Groups have been matched to a beneficiary, whether this be a patient, carer, ABUHB and Velindre University NHS Trust, other Local Health Boards, or

at a Governmental level or societal level.

Benefits Management Process

- 8.9 The Benefits Management Process takes due account of changes in the Project during the delivery phase which may impact on, or alter the anticipated benefits.
- 8.10 Benefit Reviews will be led by the SRO, and involve stakeholders, to establish the extent to which benefits have been realised to date, and are likely to be in the future.
- 8.11 The Benefits Management approach is a cycle of identification, planning, execution and review. Further details of each stage are provided overleaf:
- Stage 1** Benefits Identification and Assessment: Selection of appropriate and significant benefits that makes the best use of scarce resources;
 - Stage 2** Benefits Realisation Planning: Rational decisions about how, when, and by whom benefits will be delivered, with clear ownership, accountability and timetable;
 - Stage 3** Execute and Deliver the Benefits Realisation Plan: Successful delivery of the Benefits Realisation Plan; and
 - Stage 4** Review: Input to a culture of continuous improvement either through incremental change to the existing system or by triggering the inception of new projects.
- 8.12 A Benefits Review for the RSC Project will also take place which will focus on Benefits Realisation.

Benefits Realisation Plan

- 8.13 A formal Benefits Realisation Plan has been prepared for the RSC Project. The plan is designed to enable benefits, and dis- benefits, that are expected to be derived from the RSC Project, to be planned for, managed, tracked and realised.
- 8.14 The Benefits Realisation plan will help demonstrate whether the scheme's investment objectives are able to generate the desired 'measures for success. This can be assessed by tracking the desired outcomes and subsequent benefits of the RSC Project.
- 8.15 As part of the information required for the OBC, benefits have been incorporated into a Benefits Realisation Plan which will detail the:
- Beneficiaries;
 - Category of benefit;
 - Baseline measure;
 - Trajectory to target; and
 - Benefit owners.

Process for Measurement and Monitoring

- 8.16 Measuring and monitoring the delivery of benefits is key in assessing the extent to which they are being delivered against the plan.
- 8.17 In some cases, measurement can be achieved through existing systems and information source. In some cases, however, this requires the establishment of new arrangements. It is, therefore, important that where new mechanisms are required, these are identified at an early stage.
- 8.18 Additionally, it should be recognised that only a proportion of the benefits will be 'hard' or quantifiable (e.g. additional activity delivered) with many requiring 'soft' or qualitative measures to assess their delivery. These qualitative measures are often the areas requiring the greatest level of bespoke development. Finally, the frequency of benefit monitoring will be established as part of this process.
- 8.19 For each benefit criterion considered, the Project Team were tasked with identifying and documenting:
- How would you know that the benefit has been achieved?
 - Could both qualitative and quantitative measures be used?
 - How will the partnership monitor the achievement of the benefit?

Identification of Potential Dis-benefits

- 8.20 In realising a benefit, it is recognised that as a consequence there is often a resulting negative impact or dis-benefit. Whilst these rarely outweigh the positive benefit it is important that dis-benefits are identified and any potential impact managed as part of the overall BRP.
- 8.21 For each benefit criteria considered, the group was tasked with identifying and documenting:
- What dis-benefits or problems could achieving the benefit cause?
 - What negative impacts could there be on staff, patients or public?
 - What impact could there be on organisational culture, strategy or structure?
- 8.22 All the benefits identified in the RSC Strategic Case and Economic Case must be accounted for within the benefits register. Certain quantified benefits are included within the Economic Appraisal for the preferred option.

9 COMMUNICATION AND ENGAGEMENT

Overview

- 9.1 Effective communication and engagement with all internal and external stakeholders is vital in the delivery of a successful Project.
- 9.2 Following the development of the Programme Business Case the TCS Programme has embarked upon a programme of engagement with numerous key stakeholders including:
- Patients, families and carers;
 - People who may use service in the future;
 - HBs, VCC, 3rd sector, HEIs etc.; and
 - Potential strategic/commercial partners.
- 9.3 The TCS Programme, and the RSC Project, have delivered a Programme of Engagement during the development of this OBC and also engaged with the South East Wales Collaborative Cancer Leadership Group. This Collaborative Cancer Leadership Group chaired by Len Richards, Chief Executive of Cardiff and Vale UHB, also included Board Directors from Planning, Medical and Finance from all of the commissioning Health Boards in South East Wales.
- 9.4 A Communication and Engagement Plan has been developed and is being implemented and will be led by the TCS Programme Communications and Engagement Manager.

10 RISK MANAGEMENT PLAN

Introduction

10.1 This section of the RSC OBC sets out the Projects approach to risk management and presents:

- Risk Management Overview;
- Issue Management and Risk Management Philosophy;
- Recording and Assessment of Risk;
- Risk Management Framework;
- Responsibility for Managing the RSC Project Risk Register;
- Quantification of Project Risks;
- Risk Mitigation;
- Review and Escalation of Risk; and
- Issues Management.

Risk Management Overview

10.2 The RSC Project utilises its governance structure and arrangements to ensure the effective management of risk. The governance structures allow for risks to be escalated from the Project Teams and its sub groups, through to the RSC Project Board, and onto the TCS Programme Delivery Board and/or the ABUHB and/or Trust Board as appropriate.

10.3 All risk registers are updated dynamically, but are also formally reviewed on a monthly basis. A monthly risk report for the RSC Project will be submitted by the RSC Project Director to the SRO. This risk paper will highlight new risks, the movement in existing risks and issues and where appropriate it will recommend the closure of resolved risks or issues.

10.4 The TCS Programme Delivery Board, upon receiving the RSC risk register (via the RSC Project Director), will consider if the mitigating actions are sufficient and if the identified risks are receiving the right level of treatment. The TCS Programme Delivery Board will consider the escalation of RSC Project Risks onto the Trust Risk Register as appropriate. The remainder of this section sets out the detailed management of risks and issues.

Issue Management and Risk Management Philosophy

10.5 The RSC Project Board sees effective risk management as a positive way of achieving the Project's wider aims. The RSC Project Board regards risks as the mirror opposite of benefits. Inadequate risk management would therefore reduce the potential benefits to be gained from the delivery of the RSC Project.

10.6 Effective Risk Management supports the achievement of wider aims, such as:

- Effective Change Management;
- Enhanced use of resources;
- Better Project Management;
- Minimising Waste and Fraud; and
- Innovation.

10.7 The Project utilises the TCS Programmes Risk Management Framework to systemically identify, actively manage and minimise the impact of risk. This is achieved by:

- Identifying possible risks before they manifest themselves and put stringent mechanisms in place to minimise the likelihood of them materialising with adverse effects on the project;
- Putting in place robust processes to monitor risks and report on the impact of planned mitigating actions;
- Implement the right level of control to address the adverse consequences of the risks if they materialise into issues; and
- Having strong decision-making processes supported by a clear and effective framework of risk analysis and evaluation.

10.8 Once risks are identified, the response for each risk will be one or more of the following types of action:

- **Prevention**, where countermeasures are put in place that either stop the threat or problem from occurring, or prevent it from having an impact on the project;
- **Reduction**, where the actions either reduce the likelihood of the risk developing or limit the impact on the project to acceptable levels;
- **Transfer**, where the impact of the risk is transferred to the organisation best able to manage the risk, typically a third party (e.g. via a penalty clause or insurance policy, or contractual responsibility);
- **Contingency**, where actions are planned and organised to come into force as and when the risk occurs; and
- **Acceptance**, where the RSC Project Board decides to go ahead and accept the possibility that the risk might occur, believing that either the risk will not occur or the potential countermeasures are too expensive. A risk may also be accepted on the basis that the risk and any impacts are acceptable.

10.9 RSC Project Board will adopt a proactive approach to the identification, assessment and management of risks throughout the whole project lifecycle. The effective management of risk and the prevention of issues arising will support the

timely delivery of the RSC Project, by preventing delays, avoiding costs and ensuring quality is upheld.

- 10.10 The management of RSC Project risk will be in accord with the principles of the TCS Programmes Risk Management Policy.

Recording and Assessment of Risk

- 10.11 The RSC Project has a Risk Register that is a dynamic document which will be updated with all new identified risks being assessed. All risks will have an individual identifier, an assigned owner and be scored using the standard matrices to ascertain the risk rating colour.
- 10.12 It is worth reiterating that, as set out in the Commercial Case, a number of the risks associated with the procurement will be either wholly transferred or shared with the successful Contractor.
- 10.13 In developing the preferred solution, the Project examined three categories of risks for each option. These are set out in Table 10-1 below, together with a summary of how these were assessed.

Table 10-1: Risk areas

Area	Description	How assessed
Capital Risks	Capital risks relate to unknown or unidentifiable factors that increase the cost and time of the project construction.	Qualitative and quantitative risks assessed by Quantity Surveyor.
Optimism Bias	Optimism bias is the demonstrated Systemic tendency for appraisers to be over optimistic about key project parameters. This creates a risk that predicted outcomes do not fully reflect likely costs	Standard methodology to identify extent of optimism bias, with mitigating factors confirmed through RSC Project assessment
Revenue Risks	These are risks relating to everyday management encompassing cost and activity as well as external environmental factors	Risks identified, with quantitative and qualitative assessment through workshop

- 10.14 The risk values for the shortlisted options were identified and evaluated as part of the assessment process in choosing the preferred option in the Economic Section. Although the focus of this section is on the approach to managing the

risks of the preferred solution, the scope of Risk Management will continue to cover all three areas of risk.

Risk Management Framework

- 10.15 The RSC Project has a Risk Management Framework that focuses on effective identification, reporting and management of risks. There are three roles in the risk management process that are summarised in the table below.
- 10.16 The RSC Project Team will oversee the operation of the Risk Management Framework and will report to the Project Board.
- 10.17 Although overseeing the Risk Management Framework the Risk Management Lead will not be responsible for the actually taking forward risk mitigating actions. In most cases this will be the nominated risk owner. The risk management roles are set out in Table 10-2 below.

Table 10-2: Risk management roles

Role	Responsibility	Reporting & accountability
Risk Management Lead	Manages the process for identifying and addressing risk, maintaining the risk register on a day to day basis	SRO and Project Board
Risk Management Co-ordinated Assessment	Brings together key risk owners to co-ordinate the identification and assessment of risks plus the management of key risks	Project Team and Project Board
Risk Owner	Individual or group responsible for developing and implementing risk mitigation measures for individual risks they are responsible for	Risk management lead and Risk Management Sub Group

- 10.18 The Project Board have recognised and acted upon their responsibility for leading effective risk management throughout each stage of the RSC Project. This is particularly important at OBC stage, to ensure that the risks associated with the preferred solution have been identified and addressed. The paragraphs below set out the work completed to date, demonstrating the proactive approach to risk management.

Responsibility for Managing the RSC Project Risk Register

- 10.19 The RSC Project Director is accountable for ensuring that there is robust and proportionate risk management across the Project. To do this it is important that the relevant information on risk is available. The responsibility for managing the RSC Project Risk Register lays with the RSC Project Manager who will review the Risk Register and where necessary hold Risk Reduction Meetings as and when required. Otherwise, the Risk Register will be issued monthly with updated changes.
- 10.20 The Risk Register should be updated and reviewed continuously throughout the course of the RSC Project and capture the following information for each risk:
- Risk Register Risk number (unique within the Register);
 - Risk type Author (who raised it);
 - Date identified;
 - Date last updated;
 - Description (of risk);
 - Likelihood;
 - Interdependencies (between risks);
 - Expected impact;
 - Bearer of risk;
 - Countermeasures; and
 - Risk status (action status).
- 10.21 All the risks identified in the Strategic Case and Economic Case sections of the RSC Project OBC must be accounted for within the RSC Project Risk Register.

Quantification of Project Risks

- 10.22 Quantified risk has been developed in a number of areas within this OBC. Capital risks have been completed as part of the ongoing project management and regular reviews with the SCP and external advisors. The Capital Risk Register is included in the Estates Annex.

Mitigation of Risk

- 10.23 The RSC Project Board will have a dynamic risk register that will be formally reviewed monthly at the Project Board meetings. The RSC Risk Register must have mitigating actions associated with them. All risks will then be re-evaluated after considering the effect of the mitigating actions, resulting in a post mitigation risk score.

Review and Escalation of Risk

- 10.24 The Project Team will consider and mitigate risk and maintain those which can be actively managed by this Group. However, when a risk is deemed so

potentially severe post mitigation that it could impact on the overall delivery of the RSC (to time, cost or Quality) the risk will be escalated to the RSC Project Board for more senior oversight. The RSC Project Board will manage risk that directly affects their prescribed deliverables. The members of the RSC Project Board will review the Risk Register at each meeting adding, reassessing or closing risks as necessary and where consideration will also be given to the escalation of risks to the TCS Programme Delivery Board and/or the Health Board and/or the Trust Board as appropriate.

Issue Management

- 10.25 Issues are Risks that have materialised. Similar to risk, the RSC Project Board will hold an Issues Register and follow the same escalation path.
- 10.26 All issues should have an owner and an allied action plan and will be reviewed during all RSC Project Board meetings and are categorised as high, medium and low priorities.
- 10.27 Issues will be regularly reported to the RSC Project Board and escalated to the TCS Programme Delivery Board and/or Health Board and/or Trust Board as appropriate.
- 10.28 Issues that are outside the scope or authority of the RSC Project Board will be referred to the TCS Programme Delivery Board and/or the Health Board and/or the Trust Board as appropriate.

11 ARRANGEMENTS FOR POST PROJECT EVALUATION

Introduction

11.1 This section of the OBC sets out the plans to undertake a thorough Post-Project Evaluation (PPE). The areas covered are:

- The requirement for Post-Project Evaluation;
- Framework for Post-Project Evaluation;
- The Four Stages of PPE; and
- Management of the Evaluation Process.

The Requirement for Post-Project Evaluation

11.2 The requirement to carry out a post Project evaluation is essential in establishing if the RSC Project has been successful, has it met the, spending objectives and realised its expected benefits. Additionally, it is important that any lessons that have been learned can be factored into future projects.

11.3 A critical element of the Project closure activities will be the need to carry out a review of the RSC Project (Benefits Realisation).

Framework for Post-Project Evaluation

11.4 The RSC Project Board is committed to ensuring that a thorough and robust Post-Project Evaluation is undertaken at key stages in the process to ensure that positive lessons can be learnt from the RSC Project.

11.5 The purpose of Post Project Evaluation is to:

- Improve Project appraisal at all stages of a Project from preparation of the Business Case through to the design, management and implementation of the scheme. This is often referred to as the 'Post Project Evaluation' (PPE) and is typically carried out six months after completion; and
- Provide a longer-term assessment to appraise whether the RSC Project has delivered its anticipated improvements and benefits. This is often referred to as the 'Post Occupancy Evaluation' (POE) and can be carried out approximately 2-5 years after completion depending on the nature of the Project.

- 11.6 If properly planned and resourced, evaluation can produce significant benefits, which are summarised in the table 11-1 below.

Table 11-1: PPE Benefits

The benefits obtained	Who benefits
<ul style="list-style-type: none"> ✓ Improve the design, organisation, implementation and strategic management of projects ✓ Ascertain whether the project is running smoothly so that corrective action can be taken if necessary ✓ Promote organisational learning to improve current and future performance ✓ Avoid repeating costly mistakes ✓ Improve decision-making and resource allocation (e.g., by adopting more effective project management arrangements) ✓ Improve accountability by demonstrating to internal and external parties that resources have been used efficiently and effectively ✓ Demonstrate acceptable outcomes and/or management action thus making it easier to obtain extra resources to develop healthcare services 	<ul style="list-style-type: none"> ✓ Health/Trust Board – in using this knowledge for future projects including capital schemes ✓ Programme Board – in using this knowledge for future projects including capital schemes ✓ Partners and local stakeholders – to inform their approaches to future major projects ✓ Lead organisations to test whether the policies and procedures which have been used in this procurement are effective

- 11.7 PPE also sets in place a framework within which the Benefits Realisation Plan can be tested to identify which benefits have been achieved and which have not. The key PPE stages applicable for the RSC Project are set out in the Table 11-2 below along with likely timing.

Table 11-2: Four Stages of PPE

Stage	Evaluation undertaken	When undertaken	Timing
1	Plan and cost the scope of the PPE work at the Project appraisal stage. This should be summarised in an Evaluation Plan.	Plan at PBC, fully costed at FBC stage	Completed before submission of FBC and included within FBC costs and FBC submission
2	Monitor progress and evaluate the Project outputs	On completion of the RSC	Within six to eight weeks of the completion RSC

Stage	Evaluation undertaken	When undertaken	Timing
3	Initial post-project evaluation of the service outcomes	After the RSC has been commissioned	Six months after commissioning of the RSC
4	Follow-up post-project evaluation (<i>or post occupancy evaluation - POE</i>) to assess longer-term service outcomes two years after the facility has been commissioned. Beyond this period, outcomes should continue to be monitored.	Typically at intervals of 2-5 years.	Two years after the commissioning of RSC

- 11.8 The detailed plans for evaluation at each of these four stages will be drawn up by the Health Board and Trust in consultation with its key stakeholders. The paragraphs below set out the types of issues considered at each stage of the review and the timescales for each stage.

The Four Stages of PPE

- 11.9 The guidance on PPE identifies four stages in the PPE process, which are discussed in the paragraphs below.

Stage 1: The Evaluation Plan

- 11.10 The Evaluation Plan is a requirement for the FBC and will be completed before the FBC is submitted and form part of the FBC document. The Evaluation Plan will:

- Set out the objectives of the evaluation, confirming what type of information it is designed to generate and for what purpose;
- Set out the scope of the evaluation to show the type of evaluation to be undertaken at the various stages of the project and the key issues to be addressed;
- Define the success criteria for assessing the success or otherwise of the Project;
- Define performance indicators/measures for these criteria;
- State the method(s) that will be used to obtain the information;
- Set out the team and its membership - who will be responsible for undertaking the evaluation and their respective roles;
- State the proposed membership of the Evaluation Steering Group;
- Identify the resources and budget for the evaluation, including the need for written reports and dissemination activities;
- Develop a dissemination plan for ensuring the results from the evaluation are used to re-appraise the Project; and

- Clarify the timing of the evaluation, with expected start and finish dates.
- 11.11 The Evaluation Plan will be developed in conjunction with the Benefit Realisation Plan and Risk Management Strategy, as all three strategies are closely related. This will help ensure that:
- The assessment of whether the Benefits expected from the Evaluation, including the risks of non-delivery of the Benefits, have materialised; and
 - Changes in the Project objectives and other important parameters can be tracked and explicitly noted in the Evaluation Plan.
- 11.12 The Evaluation Plan will be a live document and kept under constant review.

Stage 2: Evaluation Requirements at the Implementation Stage

- 11.13 The Project will be monitored for time, cost and service performance. Other aspects of the Project which will be subject to monitoring include:
- The management procedures;
 - The procurement process;
 - The design solution; and
 - The contractor's performance during the implementation and operational stages of the Project.
- 11.14 Monitoring reports will be produced at regular intervals to help the RSC Project Director determine whether Project Objectives are being met. These reports will be produced on a monthly basis.
- 11.15 The key issues to address at this stage will include:
- Was the project completed on time?
 - Was it completed within the agreed budget?
 - What were the reasons for any delay?
 - What action would management recommend to prevent future problems?
 - Has the estate maintenance backlog been eliminated as planned?
 - Functional suitability of the building?
- 11.16 When the building has been completed, its construction record and functional suitability will be reviewed.
- 11.17 The issues identified in the review process up to this point, will form the basis of the Post-Project Evaluation Report for this stage.

Stage 3: Evaluation Requirement during the Operational Stage

- 11.18 Once services are being delivered in the RSC and a reasonable bedding-in period of some six to twelve months after commissioning of the RSC has been allowed,

a more wide-ranging Evaluation of the Costs and Benefits of the Project will be undertaken.

- 11.19 This Evaluation will build on the work carried out in Stage 2. It will involve reviewing the performance of the Project in terms of the Project Spending Objectives. These will have been defined clearly at Stage 1 of the evaluation process.

Stage 4: Evaluating Longer-term Outcomes

- 11.20 Further Post-Project Evaluation will be undertaken at a later stage to assess longer-term outcomes and/or the extent to which short-term outcomes are sustained over the longer term. By this stage, the full effects of the RSC including any clinical effects will have materialised.
- 11.21 As well as re-assessing the preliminary outcomes identified in the previous phase, the evaluation at this stage will address issues such as:
- Changes in operating costs;
 - Changes in maintenance costs;
 - Changes in risk allocation and transfer; and
 - Changes in activity as expected.

Management of the Evaluation Process

- 11.22 The RSC Project Director will be responsible for ensuring that the arrangements have all been put in place and that the requirements for PPE are fully delivered. The Programme Manager (Strategic Capital and Estates) will be responsible for day to day oversight of the PPE process, reporting to the RSC Project Director, and the RSC Project Board.
- 11.23 The RSC Project Director will set up an Evaluation Steering Group (ESG), which will:
- Represent interests of all relevant stakeholders; and
 - Have access to professional advisors who have appropriate expertise for advising on all aspects of the RSC Project.
- 11.24 A Project Manager will be appointed to co-ordinate and oversee the evaluation. It has not yet been confirmed whether the evaluation will be carried out by in-house staff, external advisors or a team comprising of both. Whichever configuration is chosen, the key principle will be that the evaluation is “arm’s

length” and objective. Therefore, the Evaluation Team will be unrelated to the RSC Project to promote a detached assessment.

11.25 The Evaluation Team will be multi-disciplinary and include the following professional groups, although the list is not exhaustive:

- Clinicians, including Consultants, Nursing Staff, Clinical Support Staff and Allied Health Professionals;
- Social care representatives;
- Healthcare Planners, Estates professionals and other specialists that have an expertise in facilities;
- Accountants and Finance specialists, IM&T professionals, plus representatives from any other relevant technical or professional grouping; and
- Patients and/or representatives from Patient and Public Groups.

11.26 The costs of the final Post-Project Evaluation will be identified at FBC State. These costs are therefore not currently included in the costs set out in this OBC.

Conclusion

11.27 The RSC Project has identified a robust plan for undertaking PPE in line with current guidance, which is fully embedded in the project management arrangements of the project. These plans have not yet been costed, but will be fully developed and the costs identified for inclusion in the FBC.

12. APPENDICES

For Information

The following Appendices are available in support of this Case:

Appendix Reference	Title
OBC/MC1	Estates Annex

Strategic Outline Case for a Medi-Park in Torfaen

July 2020



SQW

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1. Overview of the Strategic Outline Case

Introduction

- 1.1 This report sets out the Strategic Outline Case for the development of a new **Medi-Park** in Cwmbran. This will involve new office, R&D and high-quality production space within the vicinity of the new Grange University Hospital currently under construction. It is intended that this will be oriented to firms in South Wales' growing health and life science sector, helping to drive links between life science businesses and NHS Wales, as well as creating new, higher-value employment and business opportunities in Torfaen.

Background

- 1.2 In 2016, the Welsh Government approved investment of £350 million to develop the new **Grange University Hospital** at Llanfrechfa, Cwmbran. The hospital is now nearing completion and will be completed by autumn 2020¹. It will provide a 'specialist and critical care' facility of regional significance, acting as the main emergency centre for a population of around 600,000.
- 1.3 Torfaen County Borough Council, Aneurin Bevan University Health Board (ABUHB) and their partners in the Welsh Government and the universities recognise that the new Grange University Hospital could act as a "catalyst for sustainable economic growth", supporting ABUHB's research and development activities, and helping the growth of the Welsh life sciences sector². In that context, the partnership established a Board to progress the concept of a 'Medi-Park' offering commercial and R&D space, linked with the hospital. To take this further, SQW was commissioned in October 2019 to prepare a **Strategic Outline Case** (SOC) for the proposition.

Developing the Strategic Outline Case

- 1.4 This Strategic Outline Case has been developed using HM Treasury and the Welsh Government guidance³. It sets out:
 - The **Strategic Case** for the Medi-Park. This outlines the rationale for intervention, considering current policy, evidence of supply and demand for additional business facilities for the life science sector, and the strengths, weaknesses, opportunities and threats associated with a Medi-Park proposition in Cwmbran. It also considers a number of different location options for the Medi-Park.
 - The **Economic Case**. This identifies a range of options for the delivery of the Medi-Park, quantifies the costs and benefits for a series of shortlisted options and, based on this analysis, identifies a preferred option.

¹ Aneurin Bevan University Health Board (<http://www.wales.nhs.uk/sitesplus/866/page/61210>)

² Torfaen CBC (May 2018), *Grange University Hospital: A catalyst for sustainable economic growth – Project Brief*, p.2

³ HM Treasury (2013), *Public Sector Business Cases using the Five Case Model: Green Book supplementary guidance on delivering public value from spending proposals*

(https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/469317/green_book_guidance_public_sector_business_cases_2015_update.pdf)

- The **Financial Case**. This considers the affordability of the shortlisted option and outlines how funding could be secured.
 - The **Commercial Case**, setting out how supplies and services can be sourced and how a viable commercial deal might be structured.
 - The **Management Case**, outlining how the Medi-Park may be managed, both during the construction phase and when the Medi-Park is operational.
- 1.5 It should be noted that at the time of writing, the Medi-Park is at an early stage of development. This Strategic Outline Case therefore focuses primarily on the Strategic, Economic and Financial Cases, acknowledging that there are uncertainties (for example in the specific location of the Medi-Park) that will need to be subject to further consideration. Typically for a Strategic Outline Case, the Commercial and Management Cases are presented at a high level at this stage and should be developed further during the Outline Business Case (OBC) and Full Business Case (FBC).

Key conclusions of the Strategic Outline Case

- 1.6 The Strategic Outline Case identifies potential for up to 120,000 sq ft of additional commercial space aimed at the health and life science sector in Cwmbran to 2038, supported by proximity to the Grange University Hospital. However, Cwmbran is not currently an established life science location and the sector in South Wales is quite price sensitive. The options analysis within the SOC therefore recommends a phased approach, involving:
- an initial c.40,000 sq ft innovation centre (Phase 1a), offering flexible office and workshop space alongside a high quality innovation support offer
 - 80,000 sq ft 'grow-on' space (Phase 1b), to be developed as demand is proven
 - Scope for additional future commercial development (phase 2).
- 1.7 Economic appraisal indicates that Phase 1a and Phase 1b combined would have a total net cost to the public sector of c£24.5 million over 30 years, and would generate net benefits of around £59 million to Cardiff Capital Region over the same period. This equates to a benefit: cost ratio of 2.4:1, which represents high value for money. In addition, there should be further benefits associated with improved health outcomes, 'organisational' benefits to Aneurin Bevan University Health Board and local community and regeneration impacts. Achieving these benefits will however depend on a strong partnership with NHS Wales, links with the Grange University Hospital and engagement with institutions such as Life Sciences Hub Wales.
- 1.8 The estimated capital cost of the Phase 1a innovation centre is £10.7 million. Based on estimated rents and operational costs, it is anticipated that the innovation centre could make a small operational surplus of around £15,000 per annum after five years. However, it is unlikely to make sufficient revenue surplus to cover the costs of capital borrowing: grant funding is therefore likely to be necessary for the capital build.

Part I:

Strategic Case

2. Introduction to the Strategic Case

Purpose of the Strategic Case

- 2.1 The purpose of the strategic element of the Strategic Outline Case (SOC) is to articulate the rationale for the Medi-Park proposal and to demonstrate how it provides a good level of strategic fit. This includes setting out how the Medi-Park complements wider economic growth agendas and provides good alignment with South East Wales' broader strategic priorities.
- 2.2 Making a robust case for change requires a clear understanding of the rationale, drivers and objectives for the proposition. Within this, it is important to ensure that there is a clear and common understanding of the existing policy landscape: the 'business as usual' scenario, business needs (related problems and opportunities), potential scope and the potential benefits, risks, constraints and dependencies associated with the proposed development.

Strategic Case structure

- 2.3 The Strategic Case is prepared in accordance with UK Government guidance⁴, and is structured as follows:
- Section 3 **sets the scene** for the strategic case by presenting a concise overview of the Medi-Park proposition, setting out the origins of the scheme and providing a summary of the *ex ante* rationale
 - Section 4 looks at the **UK, national, regional and local policy context** in which the proposal has been developed
 - Section 5 presents an **assessment of the local life sciences sector** in the context of a review of the scale and nature of demand for the proposed Medi-park
 - Section 6 complements the analysis in Section 3 by **exploring potential growth opportunities associated with the new hospital** and wider NHS Wales in the area, and by considering **examples of similar developments elsewhere**
 - Drawing Sections 5 and 6 together, Section 7 provides **a quantification of the estimated scale of demand** and illustrates how this translates into potential floorspace, land requirements and location options
 - Section 8 sets out some **conclusions** at this stage of the business case development process, presenting:
 - a **summary SWOT assessment** of the Medi-Park proposition
 - the **'critical success factors'** associated with the proposition that can be concluded from the analysis in the Strategic Case, and the key parameters that

⁴ HM Treasury (2018), *The Green Book: Central Government Guidance on Appraisal and Evaluation*; DCLG (2016), *The DCLG Appraisal Guide*; Homes and Communities Agency (2014), *Additionality Guide Fourth Edition*

support the other four cases (Economic, Financial, Commercial and Management)

- the work that will need to be done to take forward the Strategic Case to Outline Business Case (OBC) and Full Business Case (FBC) level

2.4 Annexes A-C support the Strategic Case:

- Annex A provides further details of the **location options analysis** introduced in Section 6
- Annex B provides an overview of **comparator projects and initiatives**, some of which are summarised in Section 6
- Annex C provides some examples of **recent commercial property transactions** in the life science sector in South Wales, supporting the market assessment in Section 5 and the overview of quantified demand in Section 7.

2.5 It should be noted that the research supporting the Strategic Outline Case was completed in 2019. It has not been updated to take account of the implications of the **Covid-19 pandemic**, which at the time of writing, remains ongoing and will have a significant impact on future public funding and priorities. It is likely that the current public health emergency will reinforce the case for further investment in innovation within NHS Wales and for stronger NHS Wales/ industry links, but changes to the wider context should be considered at OBC stage.

3. Setting the scene

The Medi-Park proposition

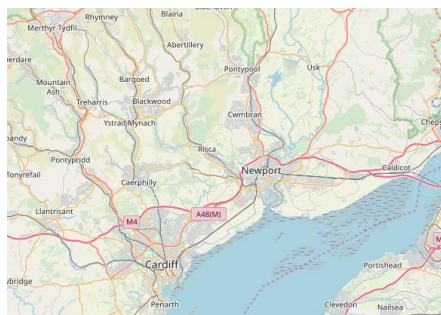
Concept

- 3.1 The Medi-Park concept, as set out in this Strategic Outline Case involves the development of new office, R&D and high-quality production space within the vicinity of the new Grange University Hospital currently under construction in Cwmbran. It is intended that this will be oriented to firms in South Wales' growing health and life science sector, helping to drive links between life science businesses and NHS Wales, as well as creating new, higher-value employment and business opportunities in Torfaen.
- 3.2 Based on analysis of potential demand set out in this document and consideration of a series of options (outlined in detail in the Economic Case), the preferred option for the Medi-Park includes:
- a 'Phase 1a' innovation centre, of around 23,000 sq ft of net lettable space
 - 'Phase 1b' grow-on space, of around 60,000 sq ft
 - 'Phase 2' scope for longer-term expansion, estimated at around 2.7 hectares of land.

Location

- 3.3 Key to the Medi-Park concept is its proposed location near a new hospital: while the hospital has the potential to be an important driver of demand, this demand will also need to be proactively driven through joint 'ownership' of the Medi-Park by NHS Wales as well as other partners, and through the development of a coordinated innovation programme.
- 3.4 At this stage, the specific location of the Medi-Park has not been determined, although a locations analysis (set out in Annex A) has identified four potential sites close to the hospital on the eastern side of Cwmbran.

Figure 3-1: Proposed Medi-Park: Strategic location



Source: Open Streetmap



Rationale for intervention

Background: Investment in the Grange University Hospital...

- 3.5 The new hospital is at the heart of the case for intervention in the Medi-Park. Over a decade ago, the Gwent Clinical Futures Strategy set out proposals for a new 'Specialist and Critical Care Centre' (SCCC) built on the existing Llanfrechfa Grange hospital site in Cwmbran, and serving the whole of the Aneurin Bevan University Health Board (ABUHB) area.
- 3.6 These proposals have moved forward at pace. In 2016, the Welsh Government approved investment of £350 million to develop the **Grange University Hospital** on the Llanfrechfa site. The hospital is due to be completed by autumn 2020, and will receive its first patients in spring 2021 (although it has already been partially completed for use if required to respond to the Covid-19 outbreak). It will provide a facility of regional significance, acting as the main emergency centre for a population of around 600,000 and providing treatment for those requiring complex, specialist and critical care.

Figure 3-2: The Grange University Hospital during the construction phase



Source: SQW

- 3.7 The new hospital will be at the core of a new model for the delivery of improved health outcomes in Gwent. In addition, Torfaen County Borough Council, ABUHB and the Welsh Government all recognise that the new hospital has the potential to act as a “catalyst for sustainable economic growth”, consistent with the Welsh Government’s policy aim of achieving both economic and healthcare benefits from public investment in NHS Wales. High-level analysis commissioned by the Council in 2018 identified the potential to develop land adjacent to the new hospital for use as a ‘Medi Park’, noting that this could be:

“a serviced and attractive business park setting to accommodate a medical research park... of sufficient size to accommodate a critical mass of high value added economic activity based around the life sciences sector, which is complementary to the [Grange University Hospital]”⁵.

⁵ Torfaen CBC (April 2018), *Llanfrechfa, Cwmbran: Development Framework*, p.24

- 3.8 An initial review of the Medi-Park concept was prepared for Torfaen CBC in March 2018. Based on a high-level market and policy overview, this review concluded that there is a potential case for taking the Medi Park forward, although noted that a “detailed strategic business case” would need to be prepared as the next step⁶.

... and the (potential) links with business growth

- 3.9 Essentially, the starting-point proposition (which the SOC tests) is that:

- Locally, nationally and globally, in response to an ageing population and increased innovation (e.g. the rapid emergence of precision medicine), expenditure on healthcare is rising, and **there is an expanding market for new novel treatments, medical devices and associated technologies**. More broadly, the UK has a widely-recognised comparative advantage in the life sciences; there are relevant research strengths and an existing stock of life science businesses in South Wales; and the Welsh Government recognises and is seeking to promote the link between health investment and economic development and productivity growth.
- Within this generally growing market, it is claimed that **commercial firms (and potentially other research and non-profit organisations) can derive business benefits from being located adjacent to a major hospital**. For example through enhanced access to patients or patient data, access to the Health Service supply chain and wider collaboration opportunities, or access to clinical research expertise – including the busy clinicians themselves. On the face of it, these co-location benefits can accelerate innovation as well as removing some of the barriers and associated costs.

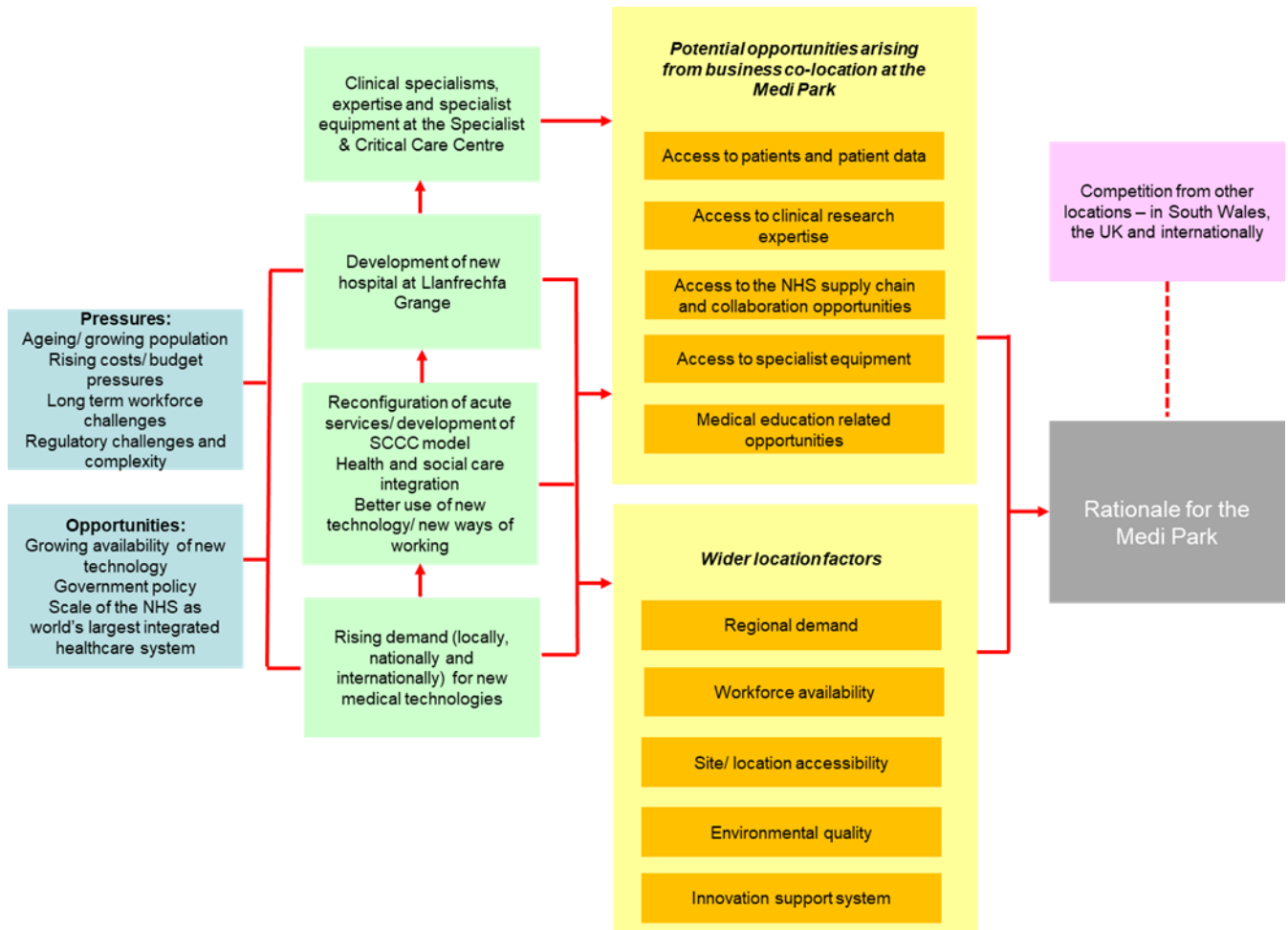
More generally, investment by NHS Wales in scientific research, technology and engineering, and its requirements for innovative solutions to complex problems, drives wealth creation and productivity growth by enabling life science and other firms to invest in novel technologies, services and treatments that NHS Wales needs for its continued development. A key strategic opportunity (and challenge) facing NHS Wales is the need for it to collaborate more effectively with industry partners to reduce the risks associated with health innovation, to add value - but not cost - to the taxpayer. Changes taking place within NHS Wales will help to attract investors, as companies/health research charities seek to capitalise on these market and technology opportunities. Some of these opportunities could be attracted to Cwmbran.

- At the same time, **Llanfrechfa Grange offers wider locational advantages**, such as access to partner institutions, markets and supply chains, as well as access to an appropriately skilled workforce. Additionally, the site could offer a broader environment and supportive infrastructure conducive to the growth and development of businesses within the life science sector. It is also a large and attractive site, offering good access to the strategic road network, and is easily accessible to Cardiff, Bristol and the M4 corridor and the Midlands.

⁶ Torfaen CBC/ Jones Lang LaSalle (March 2018), *Proposed Grange University Hospital, Cwmbran: Report on the potential for an associated 'Medi Park'*

- All of the above presents an **opportunity to develop the right conditions for innovation at the Grange**, which could make it significant within the wider NHS Wales context as well as locally – and will help to differentiate its offer from that of other business parks.

Figure 3-3: Framework for analysis



Source: SQW

- 3.10 Testing this proposition is central to an initial assessment of the potential for new activity on the Medi Park site.

4. Policy context

Introduction

- 4.1 There is a high level of ambition for the growth of the life sciences sector in South Wales, and for the concept of the Medi Park. This section sets out the strategic and policy context and the aspirations of key project partners.

UK Government

- 4.2 The life sciences have long been recognised as a highly productive sector in which the UK has a strong competitive advantage. The Industrial Strategy White Paper identifies the sector as a priority⁷, and it is the subject of one of the first ‘sector deals’ supported by the UK Government. Supporting this, the *Life Sciences Industrial Strategy* identifies “collaboration between NHS [organisations] and industry” as a core strategic pillar. The Strategy also highlights the specific strengths of the nations and regions of the UK, emphasising with reference to Wales strengths in medical technologies and manufacturing⁸.

The Welsh Government

- 4.3 At a strategic level, the Welsh Government places a strong emphasis on the mutually reinforcing links between health investment and economic development. *A Healthier Wales*, the Welsh Government’s plan for health and social care, highlights, *inter alia*, the need to maximise value for patients from the better use of technology and data and, associated with that, the progress that has been made by the NHS Wales in “working more confidently” with industry⁹. *Prosperity for All*, the Welsh Government’s economic action plan, also commits to developing stronger relationships between NHS Wales, universities and businesses to drive economic growth through health-related innovation¹⁰.
- 4.4 A number of stakeholders consulted as part of the work on the SOC noted that this reflects an important change in the Welsh Government’s approach in recent years, characterised by a greater willingness to engage with the private sector in developing solutions to healthcare challenges; by a recognition that the ‘compact’ and integrated nature of NHS Wales could make it an attractive ‘testbed’ for medical technology innovators; and by a strengthened emphasis on innovation in the University Health Board accreditation process. Recent developments, such as the ‘re-purposing’ of the Life Sciences Hub Wales to focus on solutions that will yield both positive health outcomes and economic benefits reflect this approach. More broadly, there has been strong direct Welsh Government support for the life sciences sector in recent

⁷ HM Government (2018), *Industrial Strategy: Building a Britain fit for the future* (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/730048/industrial-strategy-white-paper-web-ready-a4-version.pdf)

⁸ HM Government (2017), *Life Sciences Industrial Strategy*, p.41 (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/650447/LifeSciencesIndustrialStrategy_acc2.pdf)

⁹ Welsh Government (2018), *A Healthier Wales: Our plan for health and social care*, p.23 (<https://gov.wales/docs/dhss/publications/180608healthier-wales-mainen.pdf>)

¹⁰ Welsh Government (2018), *Prosperity for All: Economic Action Plan*, p.34 (<https://gov.wales/topics/businessandeconomy/economic-action-plan/?lang=en>)

years, through (for example) sponsorship of the Wales Life Sciences Investment Fund and through substantial investment in the sector from the Development Bank of Wales.

- 4.5 In this context, the principle of a Medi Park linking commercial innovation in medical technologies with NHS Wales has – potentially – a strong strategic fit with Welsh Government priorities, and the Welsh Government has promoted the concept, subject to the development of a robust business case.

Aneurin Bevan University Health Board

- 4.6 Aneurin Bevan University Health Board (ABUHB) is responsible for delivering healthcare services across Gwent. Strategically, ABUHB's focus has been on the delivery of its Clinical Futures Strategy, of which the Grange University Hospital is a key element, and which seeks – in broad terms – to enable more services to be delivered closer to the community through service redesign and integration, and through the better use of technology¹¹.
- 4.7 The Medi Park concept has emerged since the proposals for the new Grange University Hospital were advanced (although an allocation for employment land adjacent to the hospital exists within the current LDP). In consultation, ABUHB has welcomed the proposals for the Medi Park, in conjunction with a wider estates strategy which takes into account hospital expansion requirements and other planned services. The Medi Park is a potential focal point for the development of an **ABUHB innovation strategy**, which includes developing stronger partnerships with academia and industry: the opportunities associated with this are explored further in Section 5¹².
- 4.8 ABUHB has also highlighted a number of other benefits that could be associated with the development of the Medi-Park, including the potential to provide a platform for innovation, increase ABUHB's participation in clinical trials, provide modern facilities for medical education, and attract and retain staff at the Grange University Hospital. These are explored further in the Economic Case.

Cardiff Capital Region

- 4.9 Cardiff Capital Region's Regional Economic Growth Partnership's *Industrial and Economic Plan*¹³ sets out an economic strategy for the region and helps to inform the use of CCR's 'Wider Investment Fund'. The Plan highlights a number of sectors, including life sciences (more specifically, med-tech and diagnostics) in which the region has a comparative advantage and potential for growth.
- 4.10 Following the preparation of the CCR Industrial and Economic Plan, the Regional Cabinet adopted a Cardiff Capital Region Investment and Intervention Framework in June 2019. This set out a process through which investment proposals would be sought, sifted, appraised and approved. It also gave a broad indication of how the Wider Investment Fund would be used,

¹¹ Aneurin Bevan University Health Board (2018), *Integrated Three Year Plan 2018/19 – 2020/21: Summary Plan* (<http://www.wales.nhs.uk/sitesplus/documents/866/Summary%20IMTP%20Sept%202018.pdf>)

¹² Within the health-related sector, consultation has also taken place with Life Sciences Hub Wales and the South East Wales Academic Health Science Partnership

¹³ Cardiff Capital Region (2019). CCR Industrial and Economic Plan: <https://www.cardiffcapitalregion.wales/wp-content/uploads/2019/02/ccr-industrial-and-economic-growth-plan-english.pdf>

with the aim of striking a balance between projects that will yield a financial return to the WIF and those that will use grant funding to deliver social and economic benefit.

- 4.11 Discussions have taken place between Torfaen CBC and CCR regarding the potential for the use of the Wider Investment Fund, and there is joint work underway to promote the Medi-Park to potential investors. Any commitment from Cardiff Capital Region will be dependent on the completion of a full business case, although it is worth noting that CCR's preference is to focus on a limited number of investments 'at scale', rather than a dispersed range of activities¹⁴. CCR's current preference is also to invest on a recoverable basis where possible.
- 4.12 Cardiff Capital Region has also developed a draft **Strategic Framework for the Medical Devices and Diagnostics Cluster**. This sets out a high-level approach to making the region an internationally significant med-tech location. Alongside the development of the industrial ecosystem, increased capacity for pre-clinical and clinical trials and investment in skills, the Strategic Framework notes that *"there is a lack of a locus of concentration for medical devices and diagnostic companies within the region – they are dispersed across the region, which is both a strength and a weakness"*, and contains an aim to create physical innovation hubs linked with the universities and Health Boards¹⁵.
- 4.13 Linked with this, partners across Cardiff Capital Region have discussed the prospect of creating a 'med-tech corridor' in South Wales, recognising the region's strengths in the sector and its proximity to opportunities elsewhere in the M4 Corridor. This could involve better coordination of the property offer and facilities available to the life science sector (including, for example, the Cardiff Medicentre and proposals for investment in the 'GE site' at Coryton, Cardiff, discussed in further detail in the next section), as well as a more integrated marketing effort. An expression of interest to UKRI's Strength in Places Fund was also submitted in September 2019, focused on the med-tech sector.
- 4.14 The CCR has also initiated a number of pieces of work which could influence future development and innovation activity. These include a review of intervention options for commercial sites across the region (potentially leading to the development of an investment proposition in due course).

Torfaen County Borough Council

- 4.15 Torfaen CBC's current *Economy and Enterprise Strategy* has an overall aim of diversifying the local economy into "knowledge economy" industries, building on its good transport links with Cardiff, Bristol and the Midlands¹⁶. In that context, it recognises the development of the life science sector as an opportunity, building on South Wales' wider strengths.
- 4.16 Looking to the future, a new Torfaen Economy and Skills Strategy is currently being prepared. This reflects the role of the 'foundational' (everyday) economy and the need to build productivity and develop the county borough's strengths in key traded sectors. To drive the latter, the Council is keen to promote an 'innovation ecosystem' of connected facilities,

¹⁴ Cardiff Capital Region (December 2018). CCR Industrial and Economic Plan: Statement of Intent (Report to CCR Cabinet, 17 December).

¹⁵ Cardiff Capital Region (March 2020), *Strategic Framework for Medical Devices and Diagnostics* (<https://www.cardiffcapitalregion.wales/wp-content/uploads/2019/03/item-6d-med-techn-excl-exempt-appendices.pdf>)

¹⁶ Torfaen CBC (2013), *Economy and Enterprise Strategy 2013-20*, p.30. Note that the 2013-20 Strategy precedes the concept of the Medi Park, although the general ambition to expand higher value activities is consistent.

programmes and business support, with clear referral routes and pathways onto programmes and into premises. The Medi Park ought to make an important contribution to this strategy.

- 4.17 Specifically in relation to the Llanfrechfa site, the Project Brief prepared by the Council in May 2018 set out a vision of “a park which offers the right spaces and places for academia, businesses and the health sector... to come together to further the Welsh contribution to life sciences”¹⁷.

Strategic views from stakeholders

- 4.18 The concept of the Medi-Park was explored with a number of stakeholders. In addition to the partner views set out above, the majority were positive about the overall proposition. However, some consultees offered some caution around the co-location benefits that might be derived from the hospital. Some were also cautious about having a narrow life science sector focus, and suggested that this could be more broadly cast to include a wider range of health-facing activities. These views have helped to inform the quantified demand analysis and the wider development of the Medi-Park concept.

Implications for the Strategic Case

- 4.19 In policy terms, there is a favourable outlook for the development of the Medi Park. High – and rising – expenditure on health services, pressures to reduce costs, and the opportunities presented by new technologies ought to lead to higher demand for new products and services. The Welsh Government recognises the potential that can be gained from stronger NHS Wales/ business links, and there is a broad consensus from most major stakeholders that the emergence of the Medi-Park concept has been a positive development.
- 4.20 However, while the outline *concept* of the Medi-Park has widespread stakeholder support, successful implementation of the scheme will depend on the scale and nature of current and future occupier demand, and how this might be enabled. It is to this issue that the next section of the strategic case turns.

¹⁷ Torfaen CBC (May 2018), *Grange University Hospital: A catalyst for sustainable economic growth – Project Brief*, p.2

5. Potential sources of demand: the local life sciences sector

- 5.1 This section considers potential sources of demand within the life science sector, focusing on the Cardiff Capital Region and a wider ‘hinterland’ extending to the West of England. It is broadly structured in three sections:
- first, it looks at the **scale of the local life sciences sector and its recent growth**. In doing so, it considers overall employment and business stock, the distribution of firms within the sector (including key concentrations of activity, sub-sectoral strengths and major businesses), and recent developments in the business base. Towards the end of the section, the focus shifts to exploring potentially significant ‘drivers of growth’ within (for example) the university research base
 - second, building on this analysis, it considers **potential sources of demand for different types of businesses within the life sciences sector**, including start-up and early stage businesses, expanding firms and inward investors, and ‘non-commercial’ occupiers
 - third, it highlights some other relevant ‘**growth factors**’, including relevant university strengths and links with the wider support offer.
- 5.2 Essentially, the analysis in this section aims to understand the nature of the existing ‘stock’ of businesses (and other prospective occupiers) within the sector that may be attracted to a new high quality Medi-Park in Cwmbran. At this stage, it leaves out the potential additional opportunities that could be created by co-location with the Grange University Hospital, which will be considered further in Section 6.

The life sciences sector: scale and growth

Defining the sector

- 5.3 The UK Government’s Office for Life Sciences (OLS) breaks down the ‘life sciences’ into two sub-sectors: biopharmaceuticals; and medical technologies (med-tech), which in turn break down into a number of more granular industry segments (see below).

Table 5-1: Office for Life Sciences sector definitions

Segment	Description
Biopharmaceuticals	
Core biopharma	Firms producing or developing their own pharmaceutical products (e.g. therapeutics, antibodies and vaccines). This category includes early stage R&D companies (including university spin-outs), as well as larger pharmaceutical firms.
Biopharma service and supply	Contract research and manufacturing organisations, and suppliers of consumables and reagents and specialist packaging and handling equipment. This category also includes a wide range of services relevant to the industry, including providers of specialist IT, recruitment and logistics, and specialist financial and regulatory consultants

Segment	Description
Medtech	
Core med-tech	Firms developing and producing their own medical products and devices, including single-use consumables, orthopaedics, diagnostics and hospital equipment. This category also includes 'digital health': firms involved in making products such as hospital and GP information systems and e-health services to facilitate remote care, as well as digitally-enabled medical devices.
Med-tech service and supply	As with the biopharmaceuticals service and supply sector, this segment includes equipment and consumables suppliers, specialist consultants and contractors

Source: Office for Life Sciences (2018)

5.4 This definition encompasses a broad range of activities. In particular:

- there is an overlap between med-tech and the wider manufacturing sector (in that some firms will develop and manufacture products with a range of applications, including (but not restricted to) medical uses)
- 'digital health' and some supporting professional services will also potentially have crossover with other sectors: digital health has grown rapidly in recent years, tends to be quite widely distributed and will often tend to co-locate with other 'digital' businesses
- within the biopharmaceuticals sector, there is an important distinction to be drawn between biologics (small molecule activity, including products such as vaccines and gene therapies) and the active pharmaceutical ingredients (API) industry. The skills and property requirements of the two sub-sectors are quite different: overall, recent growth has tended to be in biologics activity.

5.5 The implication of this from a potential workspace demand perspective is that the sector may be quite diverse in its requirements, including office and manufacturing space, as well as 'specialist' (e.g. lab) provision.

The scale of the sector: a national perspective

5.6 Based on the definition above, the OLS's *Health and Life Sciences Database* draws data from a range of industry support organisations (including MediWales), and links it with Companies House and other sources to estimate business stock, employment and turnover in the sector¹⁸. According to the most recent version of the database, **around 245,000 people were employed in the life sciences sector in the UK in 2017, and around 11,500 in Wales** - in both cases accounting for around 0.8% of total employment¹⁹. In overall employment terms, the sector is therefore modest, although its exceptional productivity (relative to other sectors,

¹⁸ UK Office for Life Sciences (2018), *Health and Life Science Database* – 2017 update

(<https://www.gov.uk/government/publications/bioscience-and-health-technology-database-annual-report-2017>)

¹⁹ OLS (October 2018), *Strength and Opportunity 2017: Supplemental report*

and in comparison with the life sciences sector in other European countries) reinforces its position as a widely-recognised sectoral priority²⁰.

- 5.7 Across the UK, the biopharmaceuticals industry is heavily concentrated around London, the Thames Valley, Cambridge/M11 Corridor and, to a lesser extent, Cheshire and the wider North West of England. Med-tech is more dispersed around the country, partly reflecting the diverse range of activities that it embraces²¹. Consistent with this, **med-tech accounted for around two-thirds of all life sciences employment in Wales in 2017** (compared with just over half of all life sciences employment across the UK as a whole).

Regional life sciences business stock

- 5.8 Looking more closely at the business stock in the vicinity of the proposed Medi Park, the OLS database identifies some **170 life sciences companies in the Cardiff Capital Region**²² and a further 67 in the West of England (see Table 5-2). In Torfaen, the sector is very small: essentially, the Medi Park, alongside the hospital would be the first step in efforts to build a local cluster. This is inherently risky, although it is within the context of a region with a fairly large life sciences business base.

Table 5-2: Life sciences businesses in Cardiff Capital Region and the West of England

	Biopharmaceuticals	Med-tech	Total
Torfaen ²³	3	1	4
Gwent ²⁴	15	32	47
Cardiff Capital Region ²⁵	45	125	170
Wales	78	206	284
West of England ²⁶	16	51	67
Great Britain	2,066	3,583	5,649

Source: OLS (2018), *Health and Life Sciences Database*

- 5.9 In broad terms, one consultee characterised the sector in South Wales as composed of a relatively large med-tech sector with several “larger SMEs”, and a smaller biopharmaceuticals sector dominated by small businesses. The following paragraphs discuss the scale and composition of each sub-sector in turn.

Biopharmaceuticals

- 5.10 In 2017, biopharmaceuticals accounted for around a quarter of all life science businesses across the Cardiff Capital Region (CCR). Of the 45 firms identified by the OLS, 29 employed

²⁰ PwC/ ABPI/ ABHI/ BIVDA (2017), *The economic contribution of the UK life sciences industry* (<https://www.abpi.org.uk/media/1371/the-economic-contribution-of-the-uk-life-sciences-industry.pdf>). This values the direct contribution of the life sciences industry to the UK economy at £14.5 billion in 2015, with productivity (measured in terms of GVA per employee) at double the all-industries average.

²¹ According to the OLS database, the medtech sector accounted for 66% of all life sciences employment in Wales in 2017.

²² On an alternative measure, ONS UK Business Count data (using a narrower SIC code-based definition of the life sciences sector) identifies approximately 80 businesses in Cardiff Capital Region.

²³ The OLS database includes BBI Solutions as based in Torfaen. BBI previously had a facility at Blaenavon, but has since consolidated to Caerphilly. Table 3-2 has been adjusted to reflect this.

²⁴ Torfaen plus Blaenau Gwent; Caerphilly; Monmouthshire; and Newport

²⁵ Gwent plus Bridgend, Cardiff, Merthyr Tydfil, Rhondda Cynon Taf; and Vale of Glamorgan

²⁶ Bath and North East Somerset; Bristol; North Somerset; and South Gloucestershire

fewer than ten people. 19 were based in the city of Cardiff itself, with the remainder distributed around the region, particularly in Bridgend and the central Valleys.

5.11 Most of the CCR's biopharmaceuticals sector is accounted for by the 'service and supply' segment, including contract research organisations (34 of the 45 businesses identified), rather than 'core' drug discovery. Within this context, larger businesses include:

- **PCI Pharma**, a US-based analytical services, clinical trial supply and commercial manufacturing and packaging business with a presence in Tredegar and Bridgend²⁷
- **Pharmaron**, which operates a medical chemistry facility in Cardiff
- **Gwalia Healthcare**, a pharmaceuticals packaging business based at Treforest
- **Simbec Research**, a large contract research organisation (CRO) based at Merthyr Tydfil, originally established as a 'spin out' from NHS Wales, and recently expanded through investment from the Wales Life Sciences Investment Fund²⁸.
- **ReNeuron**, a stem cell regenerative therapy firm based at Pencoed, which recently invested in a major new manufacturing facility

5.12 The service and supply sector also includes a large business based in relatively close proximity to the proposed Medi Park: **Gwent Group**, based at Mamhilad Park, near Pontypool. Originally locally-owned, and recently acquired by Sun Chemical, Gwent Group develops and produces sensor systems for medical and agri-food uses, demonstrating the 'overlap' between life science and wider applications.

5.13 In some parts of the UK, the development of the biopharmaceuticals sector has been underpinned by the presence of large-scale 'big pharma' operations, which, even after the original firms have left or downsized, have led to a substantial legacy in terms of skills and capital facilities²⁹. However, historically, South Wales has not been a centre for large-scale pharmaceutical research operations, and none of the 'big pharma' firms (such as AstraZeneca, Pfizer or GSK) have had a significant presence locally. Within the 'core' biopharmaceuticals sector, the only large business is **Norgine**, a Netherlands-headquartered pharmaceuticals business which operates an R&D base and manufacturing operation at Hengoed. Of the 'micro' businesses in the med-tech sector, there is something of a concentration in north Cardiff (near University Hospital of Wales and Cardiff Medicentre), although there is also quite a wide distribution across the region.

5.14 Looking slightly further afield, the business base in the **West of England** is also relevant to Cwmbran, perhaps especially following the introduction of toll-free travel on the Severn crossings. However, the West of England's biopharmaceuticals sector is quite modest: historically, AstraZeneca maintained a presence in the region (at the Avlon Active Pharmaceutical Ingredient manufacturing plant at Avonmouth), although the firm has now exited from the site following a sale to Avara Pharmaceutical Services. In the other direction, there is also a modest pharmaceuticals business base at **Swansea**, with PRA Health Sciences

²⁷ Previously Penn Pharmaceuticals and Biotec Services International respectively

²⁸ Simbec Research Ltd (<https://www.simbec.co.uk/clients/about-us/company/simbec-a-glance>)

²⁹ Examples include Alderley Park in Cheshire, Charnwood in Leicestershire, and Discovery Park in Kent

(an indigenous (although now US-owned) clinical informatics business that has benefited from Welsh Government support) the largest local firm in employment terms.

Med-tech

- 5.15 In terms of the business stock, the med-tech sector is substantially larger in the Cardiff Capital Region. It is quite widely distributed across the region (as with biopharmaceuticals, the city of Cardiff accounts for the largest share of stock of any local authority in the region, but over 70% of the region's med-tech businesses are located outside of Cardiff, with concentrations at Bridgend and along the M4 corridor). According to the OLS database, the profile of the business stock is more skewed towards larger enterprises (with 65% employing more than ten people).
- 5.16 The relatively high number of larger businesses appears to be in part a legacy of successful inward investment and business support activity over many years and a relatively strong manufacturing orientation. Reflecting these strengths, 'med-tech and diagnostics' is recognised as an area of opportunity by Cardiff Capital Region City Deal, reinforced in the recent expression of interest to the Strength in Places Fund.
- 5.17 In terms of business stock, South Wales includes some of the UK's largest medical device manufacturers; these include:
- **Zimmer Biomet** at Bridgend (originally Biomet UK and recently merged with the global Zimmer organisation), which designs and manufactures orthopaedic devices and implants
 - **Huntleigh Diagnostics**, which designs and manufactures electronic medical devices for obstetric care and vascular assessment from its plant in Cardiff
 - **Hospital Innovations**, based at Pontyclun, which supplies specialist products for use in orthopaedic and corrective surgery, and currently operates the UK's largest private sector tissue bank
 - **Ortho Clinical Diagnostics**, based at Pencoed, which develops screening and monitoring equipment for use in blood transfusion services
 - **Renishaw**, headquartered in Gloucestershire, but with a substantial manufacturing facility in Miskin, which develops sensors and precision instruments for a wide range of industrial applications (including, for example, the aerospace sector, as well as healthcare)
 - **Olympus Surgical Technologies**, a manufacturer of precision surgical instruments, based in Cardiff
 - **BBI Solutions**, a major manufacturer of antibodies, antigens and reagents. BBI recently consolidated its presence in South Wales with the opening of a new headquarters at Crumlin, bringing together existing operations at Cardiff and

Blaenavon (as well as Dundee), with the assistance of Welsh Government financial support³⁰.

- 5.18 The region also hosts a number of medical device manufacturing facilities operated by multi-national, multi-industrial corporations. Examples include 3M and Sony at Bridgend and (now with a residual presence, although for many years one of the largest businesses in the sector in South Wales) GE Healthcare at Cardiff; other manufacturing facilities operated by firms headquartered elsewhere include Convatec at Rhymney.
- 5.19 Compared with the scale of these larger manufacturing operations, the spread of smaller, research-based med-tech businesses is somewhat more limited. However, spin-outs from Cardiff University with an established presence in the region include **Cotton Mouton Diagnostics** (developing magneto-optical sensing technology); **MedaPhor** (which develops ultrasound training simulators and remains based at Cardiff Medicentre); and **Alesi Surgical Limited** (which has raised over £9m for the development of a product to handle surgical smoke created during laparoscopic surgery). Elsewhere, **Creo Medical**, a research-focused medical device business based in Chepstow, has become a leading business in the field of surgical endoscopy.
- 5.20 Within **Torfaen**, the med-tech sector is small. The only business identified by the OLS database is **Carleton Medical Ltd**, based at Llantarnam: Carleton is specialist supplier of lasers to NHS organisations and the private sector, as a distributor of devices produced by Jena and other major manufacturers.
- 5.21 Over the Bristol Channel, the **West of England's** med-tech sector is substantially smaller than that of the Cardiff Capital Region, and quite different in its structure and business composition. Businesses are, on the whole, smaller, overwhelmingly based in the city of Bristol itself, and tend to be less manufacturing-oriented (with, for example, a larger presence in digital health and med-tech-related consultancy services, perhaps reflecting Bristol's wider sector strengths).

Digital health

- 5.22 Within the wider definition of med-tech, it is also worth recognising that there is rapid growth in the field of **digital health**. This is a wide area of activity concerned with the development and marketing of software and/ or devices that rely on software for their key functionality, and which are used in hospitals and GP surgeries or in the home to manage health and deliver services, as well in the process of clinical trials and data analysis³¹.
- 5.23 The OLS database only identifies ten digital health businesses in the Cardiff Capital Region (and none in Torfaen), the largest of which is **Digital Health Labs**, based in Cardiff, which analyses population datasets to drive health economics and pharmacoepidemiology research. However, the wider concept of 'digital health' is quite broad and the OLS database undercounts its scale, and there will be many firms engaged in software development (for example) with health, as well as other applications. Cardiff Capital Region also recognises 'big data' as a key opportunity for the wider region. Within Cwmbran, there is a growing concentration of

³⁰ Caerphilly CBC (July 2018) (<https://www.caerphilly.gov.uk/News/News-Bulletin/July-2018/BBIGroup%E2%80%99s-global-headquarters-officially-open-in>)

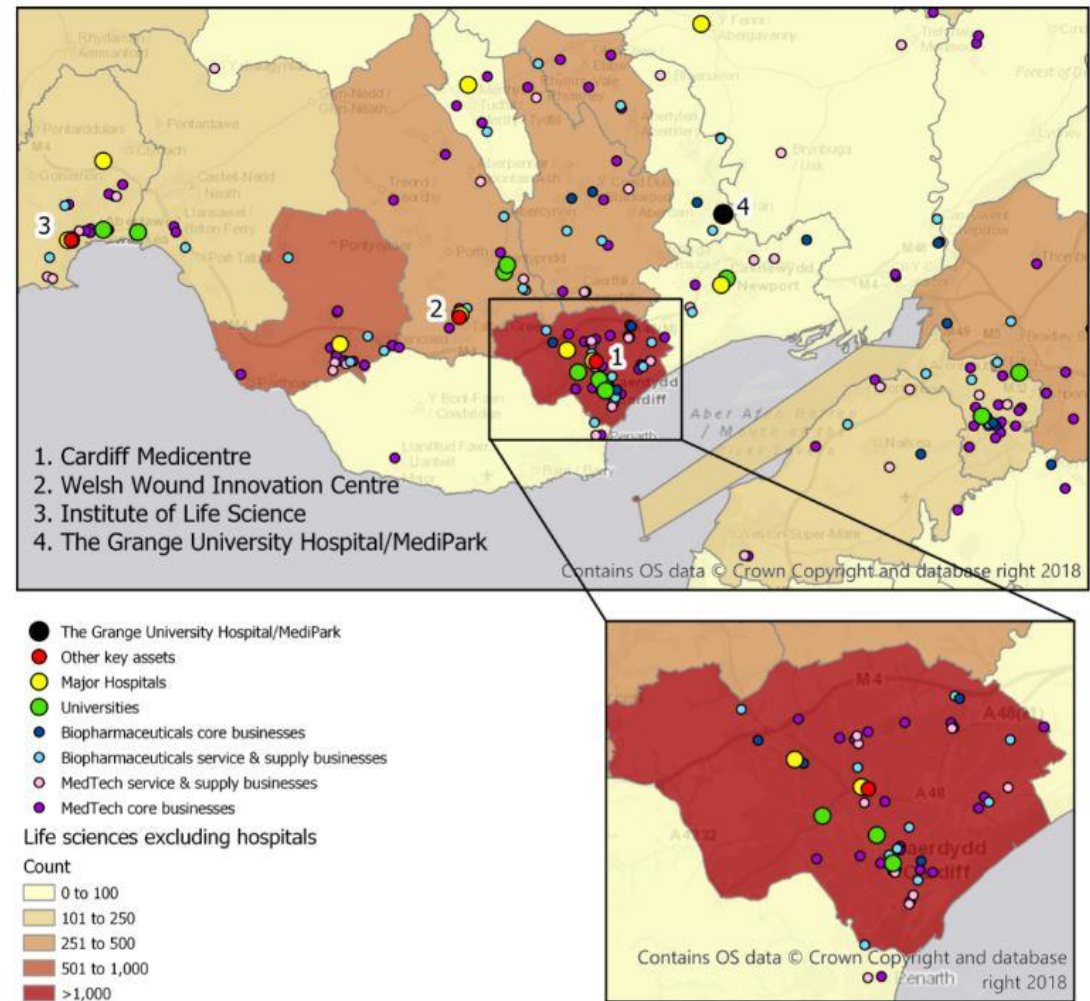
³¹ Office for Life Sciences (2017), *Strength and Opportunity 2016: The landscape of the medical technology and biopharmaceutical sectors in the UK*, p.29

smaller ‘digital’ businesses at Springboard; and there may be further opportunities to engage with the growing health sector market.

Spatial distribution

5.24 Figure 5-1 below sets out the regional distribution of the life sciences business stock (and a number of other key assets), overlaid with the concentration of life science employment by local authority area³².

Figure 5-1: Life science employment and business distribution



Source: Produced by SQW 2018. Licence 100030994 Contains OS data © Crown copyright [and database right] [2018] and Office for Life Sciences Strength and Opportunity 2017: life sciences companies data

5.25 Following the analysis above and the distribution highlighted in the map, three observations are worth making:

- First, **businesses in the sector are widely distributed across the region**, with concentrations of activity at Cardiff and (to a lesser extent) Bridgend, and a broad

³² Employment is calculated using ONS data from the Business Register and Employment Survey (BRES), applied to a SIC code-based definition of the life sciences sector (the SIC codes used for this purpose are: 2110 (manufacture of basic pharmaceutical products); 2120 (manufacture of pharmaceutical preparations); 2660 (manufacture of irradiation, electromedical and electrotherapeutic equipment); 3250 (manufacture of medical and dental instruments and supplies); 7211 (R&D and experimental development in biotechnology)). This definition is somewhat narrower than the definition used by the OLS database, but enables comparison between local authority districts.

distribution elsewhere, probably reflecting Government efforts to enable supply and attract investment. Interestingly, while Cardiff accounts for the largest share of employment and the largest concentration of businesses, *within* the city, the life science business stock is relatively dispersed. There is *some* concentration within the city centre and in north Cardiff (some of which is associated with the Medicentre at the Heath, discussed below). But there is also a broad distribution of stock around the peripheral business parks, such as at Cardiff Gate, and at the vacated parts of the GE facility at Coryton. Some consultees expressed the view that this reflects the availability of relatively cheap ‘generic’ space which can be repurposed, as well as the absence of a central ‘focal point’ for the industry. Proposals to fill this ‘gap’ have involved the redevelopment of the GE Healthcare site at Coryton, Cardiff, discussed later in this chapter.

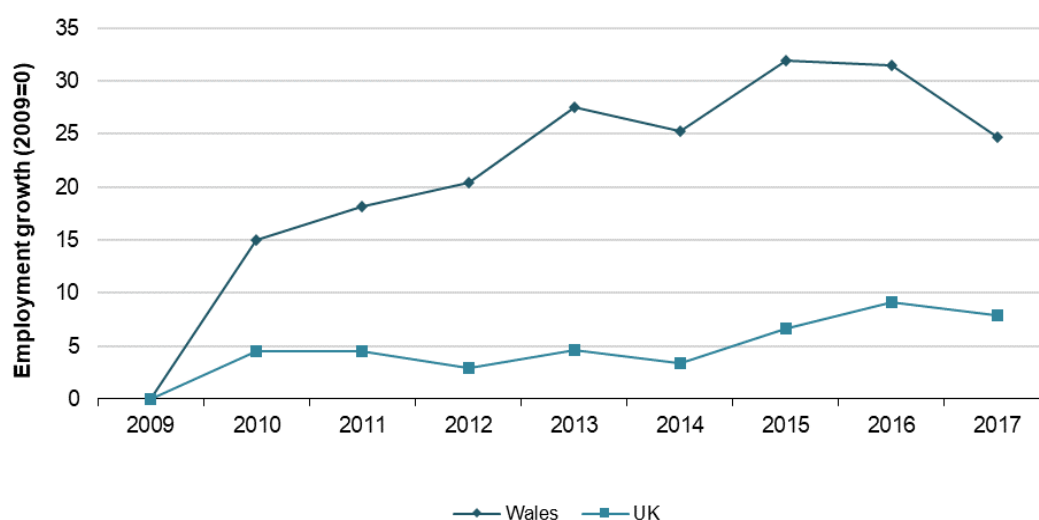
- Linked with this, **there is some evidence that firms based in Cardiff are willing to move outside the city to expand.** For example, in consolidating its activities in Crumlin in 2018, BBI Solutions moved its headquarters activities from its previous base at Llanishen; within a much smaller business, Neem Biotech transferred its R&D activity from Cardiff to Abertillery to secure the ‘right’ premises. Some consultees also reported difficulties in securing lab and grow-on space (with the latter reported as largely a qualitative, rather than quantitative, issue). This is potentially interesting in relation to the (possible) business interest in locating at the Medi Park, although it is essentially anecdotal evidence at this stage, and will need to be tested further in consultation with business.
- **The current life science business stock (and level of life science employment) in Torfaen itself is low, although there are prospects for growth.** While there is a limited life science presence in Torfaen *itself*, Cwmbran has an extensive manufacturing industry, and there is a strong association between med-tech activity in South Wales and the manufacturing base, and there is a large stock of life science businesses in the wider hinterland. It is also possible that there are some businesses ‘under the radar’ (i.e. they produce goods or services with life science applications, but they are not listed on the OLS database)³³; there may also be some digital businesses with a partly health-related customer base. But it does suggest that firms attracted to the Medi Park will have to be new to the locality (if not South Wales more broadly), rather than expanding businesses that are already locally-based.

Indications of sector growth

- 5.26 Across the UK, recent years have seen a decline in employment in core biopharmaceuticals (reflecting long term restructuring in the sector), and an increase in other life science sub-sectors. According to the OLS data, Wales has outperformed the rest of the UK in life sciences employment growth, driven by its stronger presence in med-tech and its lower exposure to biopharmaceuticals. Between 2009 and 2017, life science employment in Wales (based on the OLS definition) increased by about 25%, compared with 8% across the UK:

³³ For example, Crane Process Flow Technologies Ltd manufactures valves for use in the biopharma and Active Pharmaceutical Ingredient manufacturing industries. However, the company produces components for a wide range of other industrial applications, so while it has some ‘medtech’ production, it is not primarily a medtech company and so does not appear on the OLS database.

Figure 5-2: Index of life science employment growth, 2009-17



Source: OLS, Health and Life Science Database 2017; SQW analysis

- 5.27 The employment data used by the OLS are not available for analysis at a more localised level. However, ONS data using a SIC code-based definition of life sciences indicates that **there has been relatively strong employment growth in life sciences in the Cardiff Capital Region in recent years**. Between 2010 and 2017, life science employment in the CCR increased by almost 17%, compared with a fall of around 4% across Great Britain. Over the period, the South Wales life sciences sector certainly appears to have been resilient: other than the (partial but significant) reduction of employment at GE Healthcare in Cardiff, there do not appear to have been any major failures or exits in the sector.
- 5.28 Using the same sector definition, UK Business Count data indicate that the stock of life science businesses has also grown over the same period. However, in contrast to the employment picture, growth in the business base has been slower in the CCR than in the UK (and Wales) overall, and slower than the rate of growth across all industries:

Table 5-3: Employment and business stock growth, 2010-17³⁴

	Employee jobs		Business count	
	% growth	CAGR	% growth	CAGR
Life sciences				
Cardiff Capital Region	16.7	2.2	15.4	2.1
Wales	0.0	0.0	25.0	3.2
UK	-4.1	-0.6	38.3	4.7
All sectors				
Cardiff Capital Region	6.3	0.9	25.9	3.3
Wales	5.4	0.8	14.8	2.0
UK	10.6	1.4	27.1	3.5

Source: ONS, BRES; UK Business Count

³⁴ Note that no data are available for Torfaen: employment and business count data are so low that they are suppressed.

- 5.29 The inference is that the Cardiff Capital Region has retained and gained jobs in the med-tech sector, which is dominated by larger employers. Because its biopharmaceutical sector is small, it has also been insulated from the job losses associated with its restructuring. On the other hand, it has perhaps failed to generate the level of start-up and spin-out businesses that areas with larger biopharmaceutical and research-based sectors are likely to achieve³⁵.

Potential sources of business demand

- 5.30 Within the context of this overview of the life sciences sector in the vicinity of Cwmbran, there are potentially three sources of business demand: from **new businesses** (start-ups, early stage businesses and potentially pre-starts); from **established businesses that are seeking to expand**, or which require space that is better suited to their needs; and from **inward investors**. The following paragraphs consider each source of potential demand in turn – recognising that the comments made below will need to be tested in further consultation with business.

Start-up and early stage businesses

- 5.31 Within the Cardiff Capital Region, there is one incubator facility specifically focused on the life sciences sector: the **Cardiff Medicentre**, based at the University Hospital of Wales. Established in 1992, the Medicentre offers 32 units for life science (mainly med-tech) businesses, and is owned by Cardiff University. As well as physical space, the Medicentre offers a business support package to tenants, including links with venture capital investors and access to the specialist facilities and expertise at the University's School of Medicine. Currently, the Medicentre is fully occupied, although it does house a number of tenants that have been in place for several years, as well as some non-commercial organisations associated with the University Hospital. Although well located in terms of access to the hospital and Cardiff's medical school, the Medicentre facility is on a constrained and congested site, and is now somewhat dated. However, there are no current plans to expand the facility.
- 5.32 Further afield, FutureSpace (linked with the University of the West of England at Bristol) and the Institute of Life Sciences and Swansea Centre for Innovation (both linked with Swansea University) offer space for business incubation, as does the Bristol and Bath Science Park (although it does not appear to have a significant life sciences presence). Elsewhere in the Cardiff Capital Region, the **Sony UK Technology Centre** at Pencoed hosts CellNovo, a medical device business, among other manufacturing-focused technology businesses.
- 5.33 In general, consultees considered that access to affordable office and light industrial workspace for early stage businesses in the life science sector was reasonably well catered for. However, **there was a perception that there is a general lack of biology and chemistry lab space** for smaller businesses, perhaps reflecting an absence of 'repurposed' stock from larger businesses. One consultee reported needing to access lab space in Bristol because of an inability to source space locally³⁶. There is some evidence of commercial interest in bringing forward a 'solution' to this shortage, with work underway to consider a small-scale lab and office-based 'incubator' facility at Mamhilad Park near Pontypool.

³⁵ Reflecting this view, some consultees commented on the relatively low level of spin-out activity at Cardiff University.

³⁶ Although there is an apparent supply of lab space available for occupation at the GE site at Coryton

Expanding businesses

- 5.34 Regarding 'grow-on' provision, the dispersed business stock reflects the widespread growth of commercial premises across South Wales, often supported through public funding. Historically, it appears that firms have been able to access grow-on space in business park locations, and there have in recent years been a number of new lease completions by expanding life science (mainly med-tech) businesses: a summary is set out in Annex C.
- 5.35 The commercial property market is tightening however: in 2018, vacancy rates in Torfaen of 1.8% for specialised industrial space (compared with 18% in 2013), and 10.7% for offices (compared with over 20% in 2013), and agents report rising demand in the 'edge of town' business park market³⁷. Having said that, while there is evidence (reported above) that expanding businesses are willing to move around South Wales to secure the 'right' premises, there is no shortage of reasonable quality business park locations.
- 5.36 In consultation, stakeholders highlighted examples of start-ups that had been 'incubated' at the Cardiff Medicentre before expanding to other locations within the 'general stock' of business premises, mostly around north Cardiff. Examples include Cotton Mouton Diagnostics, currently located on an 'edge of town' business park at Tongwynlais, and Indoor Biotech, located at Pentwyn. This reflects the absence of sector-oriented managed grow-on space offering flexible terms and continuing access to a support offer: there is no 'grow-on' space provision associated with the Medicentre along the lines of that provided at some other university science parks³⁸. Historically, this may have reflected a gap in demand as well as supply, given the retention by the Medicentre of some occupiers for extended periods³⁹, and the tendency (particularly in biopharmaceuticals) for start-ups to evolve through acquisition, rather than through gradual growth within the individual business⁴⁰. However, the Medicentre currently reports full occupancy, with a waiting list.

Inward investors

- 5.37 Inward investment has historically made a very important contribution to South Wales' life sciences sector. Potentially, the Medi Park could be an attractive site for inward investors (given the quality of the site and access to the road network), and work is underway to market it to potential investors. According to Torfaen CBC, there has been interest in locating on the site from three international investors to date (although investor timescales have meant that it has not been possible to progress these so far).

Non-commercial and support activities

- 5.38 Finally, there could be prospects for the Medi Park from non-commercial and 'support' occupiers. In respect of the latter, the Development Framework already proposes the use of the listed building on the site as a conference centre, which could be used by NHS Wales and more widely. In relation to the former, medical charities are frequently important anchors of life science research parks: within South Wales, medical research charities with a significant

³⁷ Co-Star (2018)

³⁸ See for example Warwick Science Park (<https://www.warwicksciencepark.co.uk/property/grow-on-space/>)

³⁹ For example, ultrasound software and simulation technology firm Medaphor was founded in 2004 and now has an extensive product range and a base in the United States as well as in Cardiff. But it remains headquartered at the Medicentre, despite having grown substantially beyond incubation stage.

⁴⁰

research presence include Tenovus Cancer Care and Cancer Research Wales, both based in Cardiff (and with links to the major research universities at the Heath and Velindre). However, of the major patient and family support charities, **Marie Curie’s** Welsh operations are headquartered at Mamhilad Park.

Other growth factors

5.39 Beyond growth in demand and the increasing supply of new technologies, business growth in the life science sector will be encouraged by a range of wider factors. These include innovation, planning and purchasing within NHS Wales, which is considered in the next chapter. In addition, growth is also likely to relate to **university research strengths** and the extent to which these can be commercialised; the **wider support offer** (including access to finance and expertise); and **other location factors**, including access to a skilled workforce. Within the context of this relatively short report, there is insufficient space to provide a detailed analysis of the life sciences ‘ecosystem’ as it relates to Cwmbran and its hinterland. However, the following paragraphs provide a brief overview.

University strengths and links

Research

5.40 **South Wales enjoys a very substantial university research base.** Cardiff University in particular is highly ranked in measures of excellence for medically-related research, and the region’s universities have significant strengths in other areas of research relevant to the (often manufacturing-focused) med-tech sector, as Table 5-4 sets out:

Table 5-4: Research Excellence Framework 2014: Selected subjects

Institution rank (of all UK institutions)		
Subject area	Research power	Grade point average
Medically-related subjects		
Allied health Professions, Dentistry, Nursing & Pharmacy	Cardiff (3)	Swansea (2)
	Swansea (13)	Cardiff (4)
	Cardiff Met (65)	Cardiff Met (55)
	University of South Wales (83)	University of South Wales (83)
Clinical Medicine	Cardiff (21)	Cardiff (8)
Biological Sciences	Cardiff (14)	Cardiff (13)
Psychology, Psychiatry & Neuroscience	Cardiff (6)	Cardiff (2)
	Swansea (45)	Swansea (27)
	University of South Wales (82)	University of South Wales (82)
Public Health, Health Services & Primary Care	Cardiff (22)	Cardiff (20)
Selected other STEM subjects		
Chemistry	Cardiff (23)	Cardiff (9)
Computer Science & Informatics	Swansea (36)	Swansea (18)
	Cardiff (49)	Cardiff (25)

	Institution rank (of all UK institutions)	
	University of South Wales (70)	University of South Wales (71)
General Engineering	Swansea (10)	Cardiff (7)
	Cardiff (20)	Swansea (12)
	University of South Wales (48)	University of South Wales (48)
Overall institution ranking	Cardiff (28)	Cardiff (13)
	Swansea (32)	Swansea (20)
	University of South Wales (117)	Cardiff Met (59)
	Cardiff Met (118)	University of South Wales (99)

Source: SQW analysis of REF 2014 data

- 5.41 Supporting these formal rankings, the region also contains a number of major research institutions. A (non-exhaustive) summary of the three CCR universities' key innovation and research assets, in health and allied areas of expertise, is set out in the table below:

Table 5-5: Health innovation assets in Cardiff Capital Region

Key innovation and research centres
<ul style="list-style-type: none"> The Cardiff based Centre for the Development and Evaluation of Complex Interventions for Public Health Improvement uses data to evaluate multilevel interventions addressing public health issues Cardiff University's Dementia Research Institute, Neuroscience and Mental Health Research Institute, Brain Research Imaging Centre (the only UK facility to apply a 7 Tesla MRI Magnet facility to explore brain imaging and brain stimulation) and the MRC Centre for Neuropsychiatric Genetics and Genomics provide leading neuroscience research capabilities The multi-university Brain Repair and Intracranial Neurotherapeutics Unit explores research in therapeutic delivery, neuroimaging and wearable technologies Cardiff Metropolitan University's key assets include the Welsh Centre for Podiatry, Public Health Wales and the Food Innovation Centre; more broadly, its core expertise in areas relevant to health science are focused on food, nutrition and health; cardiovascular health and ageing; and health and risk management The University of South Wales has a long standing interface with the health system, particularly in relation to nursing and midwifery. Key health science assets include the Genomics Policy Unit, and the Welsh Institute of Chiropractics Swansea's Centre for Ageing and Dementia Research and the Centre for Innovative Ageing bring together biological, psycho-social and environmental expertise. Welsh Wound Innovation Centre aims to improve wound prevention and treatment The Positron Emission Tomography Imaging Centre at University Hospital Wales supports clinical innovation in areas such as cancer and infection Additional translational and clinically oriented innovation is provided by Cardiff's European Cancer Stem Cell Research Institute and the Medicines Discovery Institute. Cardiff's combination of the Clinical Research Facility and Centre for Trials Research provide the necessary facilities and expertise to design, conduct and analyse high value clinical trials. Cardiff Medicentre is co-located with the University Hospital of Wales and Cardiff Medical School, and provides 32 business incubator units for biotech and medtech start-ups. Joint-Clinical Research Facility at Swansea's Institute of life Science is another important business location

Source: SQW for the South Wales Crucible SIA

- 5.42 Slightly further afield, Swansea University also has a well-regarded (and highly ranked) Medical School, and has developed a substantial range of assets in relation to life sciences. These include the **Centre for Improvement in Population Health through E-records Research**, one of four investments comprising the Health e-Research Collaboration UK; and

the **Centre for Ageing and Digital Research**. Swansea has also recently invested in the **Institute for Life Sciences** (including business space) and the **ARCH** regional collaboration between Swansea University and the Hywel Dda and Abertawe Bro Morgannwg University Health Boards.

Spin-outs and commercial links

- 5.43 According to data from the Higher Education Business and Community Interaction (HEBCI) Survey, there were 765 active spin-out and start-up firms linked with the three CCR universities in 2016/17. The number and average turnover of these varies substantially between the institutions (broadly, Cardiff Metropolitan has the largest number of active firms, with firms linked with Cardiff University having the highest average turnover)⁴¹. Within the life sciences sector, there are several examples of spin-out businesses (including those highlighted in para. 5.19 above, and those linked with the Cardiff Medicentre).

Potential links with the Medi Park

- 5.44 This range of university strengths is undoubtedly a regional asset: the universities are likely to be important partners in developing the Medi Park and, through the 'Phase 1' consultation process, were keen to be engaged. Potentially, the universities have a range of relevant roles, in academic research, the nurturing of spin-out businesses, engagement with the wider business community and teaching, all of which could potentially take place on, or in conjunction with, the Medi Park, and life science business parks are frequently delivered with substantial university leadership⁴².
- 5.45 However, there is currently no university presence at Cwmbran itself. Given the universities' existing footprints and strategies, **establishing a significant physical on site university presence is likely to be challenging, at least in the short term**. Cardiff University's expansion plans are focused on the development of its Maindy campus in the city, and, in the longer term, the redevelopment of the Heath. In respect of its capacity for growth in life sciences, the University has acquired a 10-acre site adjacent to the University Hospital of Wales to accommodate its College of Biomedical and Life Sciences⁴³. Cardiff Metropolitan's estates strategy is similarly geared to the development of a city centre presence and the redevelopment of its existing campus at Cyncoed. The University of South Wales' estates strategy is currently being developed, and the university has a history of operating from multiple sites, although it has recently closed its Caerleon campus.
- 5.46 Having said that, the universities will be engaged on site through the Grange University Hospital, and the establishment of a presence associated with any innovation centre offer is something that should be explored further as this business case progresses. More generally, it will be important to ensure that any development at the Grange site is complementary to the university-led agendas.

⁴¹ HESA, HEBCI

⁴² There are several examples of university leadership in the development of science parks focused on the life science sector, usually with close links to the universities' core academic strengths. Examples include the science park at Keele and the proposed investment by Lancaster University in a Medical Science Park. Closer to home, the University of the West of England at Bristol and Swansea University have both recently invested in innovation facilities geared to the life science sector (FutureSpace and the Institute of Life Sciences respectively).

⁴³ <https://www.walesonline.co.uk/business/commercial-property/cardiff-university-acquires-key-10-14700678>

Links with the wider support offer

- 5.47 The Welsh Government has long had a positive support offer to life science businesses, and this has been an important factor in developing the sector in South Wales. In particular, the historic role of the Welsh Government (and before that, the WDA) in developing facilities for inward investors has been cited as key to the development of the South Wales med-tech sector; in terms of financial assistance, the **Wales Life Sciences Investment Fund** has a portfolio of ten investments⁴⁴, and the sector is a substantial recipient of Development Bank of Wales investments. More recently, there has been a renewed focus on building opportunities for businesses to gain from innovation to address health challenges, notably through the repurposing of Life Sciences Hub Wales and the development of the **Accelerate** programme, which aims to speed up the deployment of new technology solutions within the health system. Much of the support offered to the life sciences sector is not place-specific (MediWales for example has referred to itself as a 'dispersed cluster', reflecting the nature of the local market). However, the additional innovation support offer is likely to be important in differentiating the Medi Park from other sites in South Wales.

Other location factors

- 5.48 Finally, the attractiveness of the Medi Park will depend on Cwmbran's wider 'location factors', particularly in relation to workforce availability and transport connectivity. These are broadly positive, in the context of an 'out of town' site: The four shortlisted sites all offer an environmentally attractive location with good road access; from a workforce perspective, qualification levels are rising (albeit with weaker workforce qualifications to NVQ4+ in Torfaen itself than the UK average), and the town benefits from strong labour market flows to Newport, Cardiff and surrounding districts.

Supply side factors

- 5.49 The lack of a 'focal point' for firms in the life science sector was widely highlighted in consultation, and analysis of recent commercial property transactions in the sector (set out in Annex C) illustrates widespread dispersal around the region. This is partly linked with the distribution of relatively affordable industrial stock which can be refurbished to higher levels of specification (c.f. PCI's facilities at Bridgend and Tafarnaubach): 'competition' from this wider industrial property base is relevant given the nature of the sector in South Wales.
- 5.50 Regarding more bespoke business space in a science park environment, several ideas have been proposed across South Wales in recent years, reflecting the strategic importance of the sector. These include the potential development at the **GE Healthcare site** in Coryton, Cardiff, cited above. This is a substantial site with a history of healthcare innovation and proximity to the M4, Wales' main cancer hospital at Velindre and Cardiff's university assets. In October 2019, the owner of the site (a commercial developer) submitted a proposal to Cardiff Capital Region City Deal for investment to develop a **Life Sciences Park**, building on co-location with GE's continued presence, and potentially delivering up to 225,000 sq ft of office and lab space⁴⁵. A Strategic Outline Case for the scheme has been developed: while still in its early

⁴⁴ Arthurian Life Sciences (<https://arthurianlifesciences.co.uk/fund/>)

⁴⁵ Cardiff Capital Region (9 March 2020), Report to Regional Cabinet (<https://www.cardiffcapitalregion.wales/wp-content/uploads/2019/03/item-6d-med-techn-excl-exempt-appendices.pdf>)

stages, it would be a substantial development were it to progress, and it will be important for the region that the Medi-Park is complementary to it.

Implications for the Strategic Case

5.51 There is evidence that **South Wales has a substantial and apparently resilient life sciences sector, especially in med-tech**. In thinking about the strategic case for the Medi Park:

- **It will be important to market the site effectively to occupiers from outside Torfaen**, including both ‘anchor’ occupiers and smaller businesses seeking space for expansion. Currently, Cwmbran itself is not a significant life science hub (and some other locations in South Wales, such as Bridgend and Llantrisant, have a larger sector presence). However, there is evidence of significant transactions at ‘new’ locations in recent years: for example, were a major project to ‘land’ at the Medi Park (along the lines, for example of BBI Solutions’ consolidation at Crumlin), it would be a very significant step in bringing the site forward. Cwmbran’s manufacturing and engineering strengths may also be highly relevant to a number of med-tech firms. But occupiers are unlikely to be ‘indigenous’, and a focus on promoting the quality and location of the site and its support offer, linked with NHS Wales, will be key.
- **Plans for the Medi Park must add value to other emerging propositions in the region**. The med-tech sector is recognised as a regional priority and there are plans underway to invest in a new ‘life sciences’ park at Coryton. From a regional perspective, these plans must be complementary, rather than competitive, and it will be important to focus on the added value that the Medi Park can offer (especially linked with co-location with the Grange University Hospital).
- **Potential competition locally needs to be considered**, There are, for example, plans to develop innovation facilities at Mamhilad. These could be complementary, especially if Mamhilad is focused on a more generic offer. However, in the context of a relatively small local market, it will be important to carefully consider the balance of demand for both centres.
- **Involvement by supporting institutions will be important, and may need to develop gradually**. ‘Medi parks’ are often associated with (and often led by) universities: while there is no university presence currently in Cwmbran, the local universities are represented on the Medi Park Board. Given the universities’ current strategies, we should probably assume that there is unlikely to be a large physical university presence on-site at the outset, but continued early discussions will help to explore their further involvement. Similarly, involvement by institutions such as Life Sciences Hub Wales is likely to be important.

5.52 In summary, the evidence collected thus far suggests that it would be risky to rely on the *local* market as it currently stands to support large scale ‘science park’. However, there does appear to be additional demand from the sector (if the quality and location is right), the site has a USP in its co-location with the new Grange University Hospital and there is potential to build stronger partner relationships in the context of a coordinated regional approach to the

development of the sector. The next chapter considers this – and the benefits that could be derived – in greater detail.

6. Potential sources of demand: NHS Wales-related opportunities

- 6.1 Regardless of the potential demand that could be derived from life science businesses in general terms and the extent to which this could be attracted to Cwmbran, the key driver for the proposed Medi-Park is the Grange University Hospital itself. This section considers the nature of the commercial opportunities that could be generated from the investment in the hospital. First, it outlines the scale of the new hospital, the services that will be provided, and Aneurin Bevan University Health Board's wider innovation and transformation agenda. It then considers how these might translate into 'demand' for uses on the Medi Park site.

The Grange University Hospital

- 6.2 The Grange University Hospital is a key element in the delivery of the Gwent Clinical Futures Strategy, which aims to deliver more care closer to home; create a network of local hospitals to provide 'routine' diagnostic and treatment services; and centralise specialist and critical care services. The Grange University Hospital delivers the third of these objectives, providing a c.560 bed Specialist and Critical Care Centre, including⁴⁶:

- 24 hour emergency department and assessment unit
- emergency general surgery, and some forms of major elective general surgery
- orthopaedic trauma and some elective orthopaedic surgery
- cardiology (acute cardiac care and inpatient cardiology)
- paediatrics (Children's Assessment Centre and inpatient paediatrics)
- gastroenterology
- neonatal services
- haematology.

- 6.3 Most of the services provided at the Grange will be transferred from the existing district general hospitals at the Royal Gwent in Newport, and Nevill Hall in Abergavenny. Once the Grange is open, the Royal Gwent and Nevill Hall will continue to provide inpatient and outpatient care, minor injuries and diagnostics, as part of a network of local community-facing hospitals alongside those at Chepstow, Ebbw Vale and Ystrad Mynach. Some specialisms will also continue to be provided from within parts of the community hospital network (for example, the new Breast Cancer Centre of Excellence at Ysbyty Ystrad Mynach). In addition, Gwent will continue to be served regionally for major trauma and some specialist services from the University Hospital of Wales at Cardiff (and for specialist oncology services from Velindre Hospital in Cardiff, which has a national function).

⁴⁶ A full list of planned services is published at: <http://www.wales.nhs.uk/sitesplus/866/page/91853>

- 6.4 The Grange University Hospital has a high profile. Although the concept of a Specialist and Critical Care Centre has been adopted elsewhere in the UK⁴⁷, it will be the first such hospital in Wales, and will benefit from modern facilities (including an expanded intensive treatment unit, and pathology and radiology centres).

Economic opportunities linked with health investment

- 6.5 As Chapter 3 set out, the Welsh Government has a strong focus on ensuring that its health investment yields *economic* benefits as well as improved health outcomes. Through the Life Sciences Hub Wales and initiatives such as ACCELERATE, there is also a growing emphasis on engaging with the private sector to develop solutions to the long-term demographic and technology challenges that NHS Wales faces. New investment in the Grange ought therefore to provide a new opportunity for engagement with firms in the life science sector. Consultees within the Aneurin Bevan University Health Board also highlighted the scale of ABUHB's spending *outside* the hospital itself, and the opportunity to develop stronger commercial partnerships in respect of its wider healthcare functions.
- 6.6 Despite the intuitive connection between a major new hospital and opportunities for life science businesses, there are few examples in the UK of developments that have combined a new general hospital and linked business facilities, outside of a university-related setting. Cwmbran is therefore potentially a 'pioneer' in this regard, although some examples of practice elsewhere are highlighted below⁴⁸. In this context, the following paragraphs set out a number of 'areas of opportunity' that could potentially lead to additional space requirements on the Medi Park site, considering **clinical research** opportunities, opportunities arising from ABUHB's leadership role in respect of '**value-based healthcare**' (and opportunities for industry partnerships), and the potential for new **specialist research** functions.

Clinical research opportunities

- 6.7 Some years ago, research carried out by MediWales into the challenges hindering the commercial development of innovative medical devices highlighted the lack of available clinical expertise during early product idea evaluation; the lack of knowledge of funding opportunities and pathways, and lack of access to specialist advice for proof of concept testing⁴⁹. This helped to inform the strategy adopted by **Health and Care Research Wales**, which manages public research funding and provides a national coordination role for industry and health partners.
- 6.8 Within this national framework, ABUHB's **Clinical Research and Innovation Centre (CRIC)**, based in Newport, supports commercial clinical trials, identifying areas in which the University Health Board has clinical expertise and/or substantial levels of activity, and

⁴⁷ The first such hospital in England (the Northumbria Specialist Emergency Care Hospital) has recently been opened at Cramlington, as part of a similar process of service redesign.

⁴⁸ There are examples associated with hospitals linked with universities (e.g. Cardiff Medicentre, and the facilities at the Institute for Life Sciences at Swansea), but beyond the big university hospitals, examples are few and far between. The Health and Wellbeing Innovation Centre at the Royal Cornwall Hospital in Truro provides one example, although it is substantially smaller than the planned Medi Park at Cwmbran, and is quite diverse in terms of its occupier base.

⁴⁹ MediWales (2010), *Barriers to Clinical Access*; National Institute for Social Care and Health Research (2012), *Industry Engagement in Wales*

(<https://www.healthandcareresearch.gov.wales/uploads/Policy%20%26%20Strategy/Industry%20engagement/NISCH%20Industry%20Engagement%20in%20Wales%202012.pdf>)

facilitating engagement between commercial businesses and clinicians. Currently, ABUHB is engaged in around 90 research studies per year, principally in areas such as cancer treatment, mental health and stroke⁵⁰.

- 6.9 The level of research activity carried out by ABUHB is substantially smaller than that at Cardiff and Vale University Health Board, which includes the University Hospital of Wales and has a very close relationship with Cardiff University's medical school⁵¹. Nevertheless, the volume of trials at ABUHB has increased substantially in recent years (from around 30 studies per year six years ago), and there is a view (expressed by ABUHB, but also by other unconnected consultees) that ABUHB has a positive track record in being responsive and proactive. Given limited Welsh Government clinical research funding, ABUHB's strategy seeks to increase the volume of commercial contracts.
- 6.10 It appears that the development of the Grange could provide new opportunities to expand ABUHB's research portfolio (for example, the Grange will offer expanded intensive treatment unit (ITU) facilities and additional equipment, which is likely to increase its viability for certain areas of research)⁵². Potentially, the Grange could also provide a 'showcase' for commercial research, perhaps linked with the wider life sciences industry support offer.
- 6.11 There is little evidence of clinical trials activity leading to commercial demand for co-location with ABUHB's facilities (although interest was recently expressed by Synexus, a clinical trials company with an operation at Taff's Well). Having said that, the capacity to supply this is minimal at present, and there could be potential from trials companies if the growing research trajectory continues. ABUHB's access to large-scale population data was also cited as a potentially exciting commercial opportunity.

Opportunities to develop new products

Value-based healthcare...

- 6.12 The concept of 'value-based healthcare' features prominently in *A Healthier Wales* as part of a strategy to reduce costs and support improved outcomes within NHS Wales. Essentially, it involves a focus on partnerships with industry to develop more cost-effective products and services beyond efficiency gains, making better use of NHS Wales-held outcomes data⁵³. Currently, ABUHB has a lead role for value-based healthcare within NHS Wales, and a number of early partnerships with business have been developed (for example, with GE in ophthalmology). What this could mean in terms of demand for co-location alongside NHS Wales facilities is unclear at the moment, although work is underway to develop a strengthened industry proposition.

⁵⁰ Consultation with ABUHB (December 2018)

⁵¹ For comparison, Cardiff and Vale is engaged in around 400 research studies per year, some of which are linked with Cardiff University's research specialisms.

⁵² The broader SCCC model is also likely to be relevant, given the number of smaller hospital units that ABUHB is able to offer. ABUHB highlighted the potential for links with specialisms elsewhere within the ABUHB estate (e.g. the Breast Cancer Centre of Excellence at Ystrad Mynach).

⁵³ Data management is potentially a key strength within NHS Wales, due to its centralised and integrated structure. For example, the NHS Wales Secure Anonymised Data Linkage Databank contains over 20bn records over 20 years for the whole Welsh population, providing a valuable research resource.

... and wider opportunities

- 6.13 In addition, reflecting the earlier MediWales research cited above, some consultees considered that there could be an opportunity to develop an **'open gateway' for innovators** to engage with NHS Wales (both clinicians and non-clinical decision-makers interested in value and outcomes): in this regard, ABUHB's relatively small scale (and good networks into the universities and neighbouring Health Boards⁵⁴) could provide an opportunity to achieve this, perhaps in conjunction with Life Sciences Hub Wales and other national organisations. There could be a number of ways of taking this forward - but it could perhaps involve the development of a 'challenge and develop' testbed brokerage service (along the lines of the example in the box below), promoted to the Welsh life sciences sector.

Med-tech and in-vitro diagnostics co-operatives

The programme of med-tech and in-vitro diagnostics co-operatives (MICs) was established in England by the National Institute for Health Research (NIHR), with the aim of building expertise and capacity within NHS England and providing a stronger evidence base on commercially-supplied in-vitro diagnostics tests.

There are 12 MICs currently running. One of these, the **Devices for Dignity** co-operative, led by Sheffield Teaching Hospitals NHS Trust, helps to broker connections between NHS partners identifying an 'unmet need' with innovators within the commercial supplier base, linked with opportunities for funding. Essentially, this operates as a challenge process, helping med-tech innovators respond to clinical need.

Source: NIHR (<https://www.nihr.ac.uk/about-us/how-we-are-managed/our-structure/infrastructure/Documents/medtech-and-in-vitro-diagnostic-co-operatives.htm>)

Development of an ABUHB Innovation Strategy

- 6.14 Linked with this, work is currently underway to develop a bespoke ABUHB innovation strategy and approach. The key emerging themes of this are to create the optimal environment and conditions that support innovation, and to develop underpinning innovation platforms and centres. The Medi Park is envisaged as a primary opportunity to become an ABUHB innovation centre site.

Opportunities for new specialist centres

- 6.15 Consideration is also being given to the potential for specialist 'centres of excellence', which would require patient access and hospital co-location. The Welsh Government with university partners already sponsors (among others) the Welsh Wound Innovation Centre at Llantrisant and the Welsh Centre for Printing and Coating at Swansea; discussions have also taken place regarding the potential for a national diagnostics centre.
- 6.16 More generally, there could also be potential in **other NHS Wales services and facilities**, some of which could themselves be relevant to the development of partnerships with industry (for example, there are several NHS Wales screening service providers located alongside the Welsh Wound Innovation Centre and Welsh Blood Service at Llantrisant, in close proximity to the Royal Glamorgan Hospital). These would, in themselves, be non-commercial uses, and the

⁵⁴ Via (for example) the South East Wales Health Academic Science Partnership, which links the universities (Cardiff, Cardiff Met and USW) with ABUHB, Cardiff & Vale UHB and Cwm Taf UHB.

various services at Llantrisant appear to be quite self-contained⁵⁵. However, at Cardiff Medicentre (for example), NHS Wales-related tenants are an important part of the occupier mix alongside commercial businesses, and there is evidence of other health-related services having a locally transformational effect⁵⁶. A small presence at an early stage (if designed well, with opportunities for collaboration with the hospital and with other occupiers at the Medi Park) could help to build wider demand.

Examples from elsewhere

- 6.17 As indicated above, while there are examples of business space for the life sciences sector being developed alongside hospital provision, these are generally on university campuses or at major regional or national facilities (such as the Medicentre at the Heath). An overview of comparators is set out in Annex B: the closest comparator is the innovation centre at the **Royal Cornwall Hospital** in Truro, which is within the hospital estate and which was intended to focus on health-related businesses, building on links with the hospital.
- 6.18 The Royal Cornwall is in much more remote location than Cwmbran, with a much weaker sub-regional presence in life sciences. However, two key lessons are worth highlighting from the point of view of the Medi-Park:
- first, **it may be beneficial to take a broad definitional view of 'life sciences'**. The service and supply market could be an important component of demand
 - second, **links with NHS Wales need to be proactively brokered**. Co-location does not automatically lead to collaboration, and the extent to which Health partners have a stake in the proposition, and the extent to which there is an effective innovation programme to drive demand are both likely to be key.

Implications for the Strategic Case

- 6.19 All of the areas of opportunity highlighted above are to some extent 'emergent', and do not straightforwardly translate into demand for business space at the Medi-Park. However, given that the hospital is the 'key anchor' of the Medi-Park, **ensuring that there is capacity for relationships to be built with business (probably in advance of the development of the Medi-Park itself) is likely to be important**. This suggests an enhanced approach to working with business, within which resource and commitment will be important alongside additional physical facilities.

⁵⁵ Although the commercial space adjacent to the Royal Glamorgan Hospital at Llantrisant is referred to as a 'Medi Science Campus', it does not really function in this way, and there is only one business on the site, albeit one which is a leading medtech company (Markes International/ Schauenberg Diagnostics). However, in the Welsh Wound Innovation Centre and the Welsh Blood Service, it does contain some important assets.

⁵⁶ For example, the Royal College of Physicians' decision to locate in Liverpool. See: <https://news.liverpool.ac.uk/2016/07/29/new-liverpool-hq-for-the-royal-college-of-physicians/>. Locally

7. Quantifying demand and location implications

- 7.1 Previous sections provide an assessment of potential demand for a Medi- Park at Llanfrechfa, shaped primarily by a review of the life sciences sector in South Wales. It also draws on an analysis of the opportunities that could potentially be enabled by the co-location of businesses/health research charities/NHS Wales organisations and other related activities with the new Grange University Hospital.
- 7.2 This section seeks to build on the analysis in previous sections to develop indicative estimates of the extent of demand from businesses in the life sciences sector/ complementary activities and translate these into broad estimates of space requirements.

Key demand-side assumptions

- 7.3 To estimate potential requirements for new employment floorspace on the proposed Medi-Park, a **Quantitative Demand Assessment Model** was developed. This is an Excel-based model based on a series of assumptions drawn from the available data to identify floorspace by type and sector over time.
- 7.4 The model projects forward to 2038 and is explained below. Specifically, this section presents:
- a summary of the key assumptions used
 - the results of the quantitative model
 - a cross-check with wider evidence.
- 7.5 The Quantitative Demand Model is based on a series of assumptions. In summary:
- Geographically, it uses three levels of analysis: Cardiff Capital Region, the 'rest of South Wales' (extending to Swansea Bay and West Wales) and a wider region in the West of England, extending to Swindon
 - Within these geographies, the model inputs demand evidence relating to four life sciences sub-groups:
 - Start-ups
 - Established med-tech businesses (taking account of the overall business stock in each geography, estimated job numbers per unit and historic employment growth)
 - Established biopharmaceuticals businesses (taking account of the overall business stock in each geography, estimated job numbers per unit and historic employment growth)
 - Health and life sciences FDI, using Welsh Government and Department for International Trade data by project and jobs created

- For each sub-group, estimates of *relocation* demand and *expansion* demand are applied, based on experience elsewhere, historic growth and consultation with businesses and other stakeholders. All these are subject to high, medium and low estimates.
- Job and firm numbers are converted to potential gross floorspace demand using standard (UK Government Homes and Communities Agency) job densities for workshop, lab/ office and office space
- Internal growth rates are calculated, based on the expansion of existing firms and vacated space
- A 'decay in demand' factor is then applied (to allow for a reduction of marketing momentum over time, or the introduction of competing offers elsewhere). For the revised model (projecting forward to 2033 and 2038), we have applied higher levels of demand decay, to reflect the greater uncertainty of longer term projections
- Outputs from the model are gross (i.e. they provide an estimate of the total quantum of development on the site that could be supported by demand), which will include an element of within-region relocation
- As the Medi-Park is a new site, the model assumes zero occupancy in Year 1 (2022) – so it develops out from a 'standing start'
- The outputs from the model are then cross-checked with historic evidence of demand from across the Cardiff Capital Region.

Demand model outputs

7.6 The Quantitative Demand Model estimates potential life sciences occupancy of c.11,400 sq m (120,000 sq ft) by 2038, based on the mid-point of a broad range. Assuming that the first development is completed in 2022, this is equivalent to c.1,300 sq m (13,000 sq ft) per year. Around 55% of total demand is estimated to be for workshop/ manufacturing space (for an overview of what this might 'look like' in the context of a new development in Cwmbran, the case study of Future Space in Bristol at the end of this chapter provides an indication).

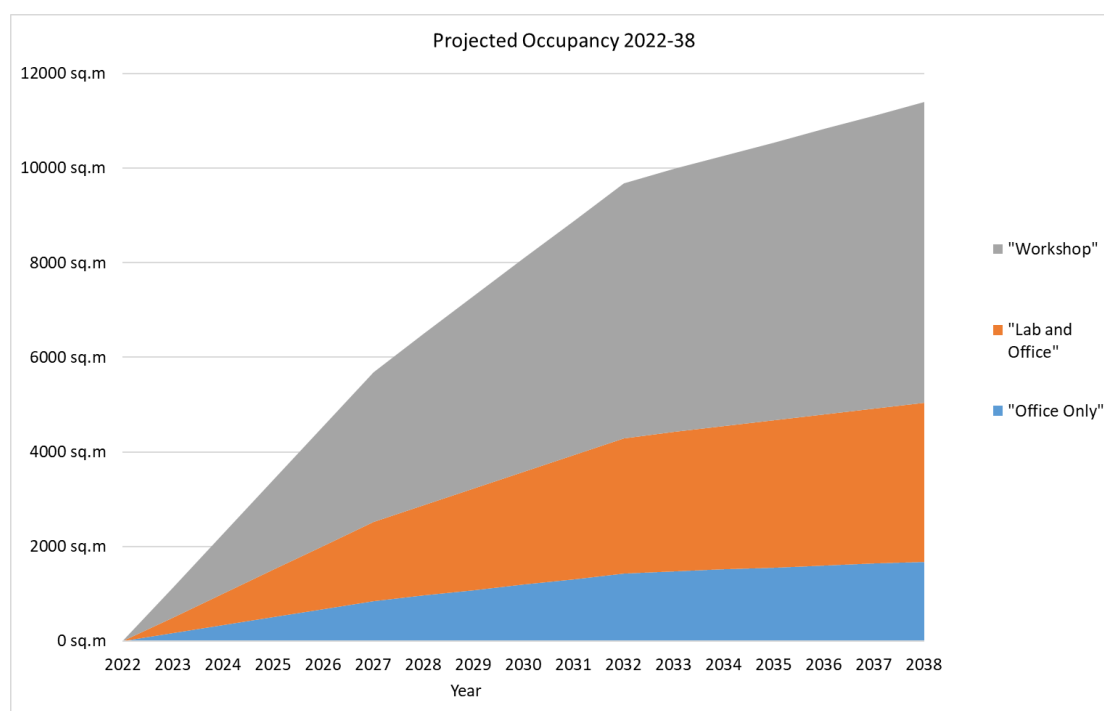
Table 7-1: Cumulative occupancy (mid-point estimate)

	To 2030	To 2033	To 2038
Office	1,200 sq m 13,000 sq ft	1,500 sq m 16,000 sq ft	1,700 sq m 18,000 sq ft
Lab and office	2,400 sq m 26,000 sq ft	3,000 sq m 32,000 sq ft	3,400 sq m 36,000 sq ft
Workshop/ manufacturing	4,500 sq m 49,000 sq ft	5,600 sq m 60,000 sq ft	6,400 sq m 68,000 sq ft
Total	8,100 sq m 87,000 sq ft	9,700 sq m 104,000 sq ft	11,100 sq m 120,000 sq ft

Estimates rounded to nearest 100 sq m/ 1,000 sq ft

7.7 The graph below illustrates the demand trajectory calculated through the Model:

Figure 7-1: Projected occupancy 2022-2038



SQW 2020

- 7.8 120,000 sq ft is a substantial amount of floorspace – but it appears plausible if the Medi-Park is seen – and promoted as – a strategic location for the sector. Taking a historical view of demand across South Wales, the estimated annual demand equates to around 11% of the estimated total annual life sciences take-up across South Wales since 2010.
- 7.9 **However, life sciences demand is ‘lumpy’:** larger occupiers (such as Renishaw at Miskin, Sharp at Rhymney and BBI at Crumlin) account for a substantial proportion of take-up in the past decade. The prospects for South Wales securing future investment of this kind are positive and Cwmbran should be well placed to take advantage of this – but there isn’t a steady flow.
- 7.10 **Most of the demand is likely to be for manufacturing-focused uses.** This accounts for the great majority of life sciences employment and floorspace take-up in South Wales. Cwmbran’s existing manufacturing offer is likely to be helpful in this regard. Technology is also driving sectoral convergence – for example in the growth of digital health, in which Cwmbran also has some relevant industrial strengths.
- 7.11 There are indications from consultation with business of interest in Cwmbran as a ‘grow-on’ location if the product is right – perhaps suggesting a combination of grow-on space and serviced plots.
- 7.12 **However, the industry in South Wales is quite price-sensitive.** Most recent transactions in the sector have been for existing industrial stock, although with high refurbishment costs, and the widespread use of grant support.
- 7.13 **Business starts in the life sciences sector are likely to be modest.** Start-up numbers in the sector generally are relatively low, and in South Wales are concentrated around Cardiff

(especially given university links). Innovation centre provision in Cwmbran is therefore likely to require a broader sectoral mix (for example associated with wider hospital service and supply activity), as well strong innovation and business support, linked with institutions and centres of excellence elsewhere.

- 7.14 **Co-location with the Grange University Hospital will be a key part of the Medi Park offer.** Links between the hospital, NHS Wales and businesses locating on site will need to be proactively managed and encouraged, and are likely to develop over time (this proactive management will be important, since initially, the hospital is unlikely to be an ‘automatic’ driver of demand *at scale*). There is also evidence from elsewhere of demand from health-related service and supply SMEs which could support an innovation centre offer.

Location implications

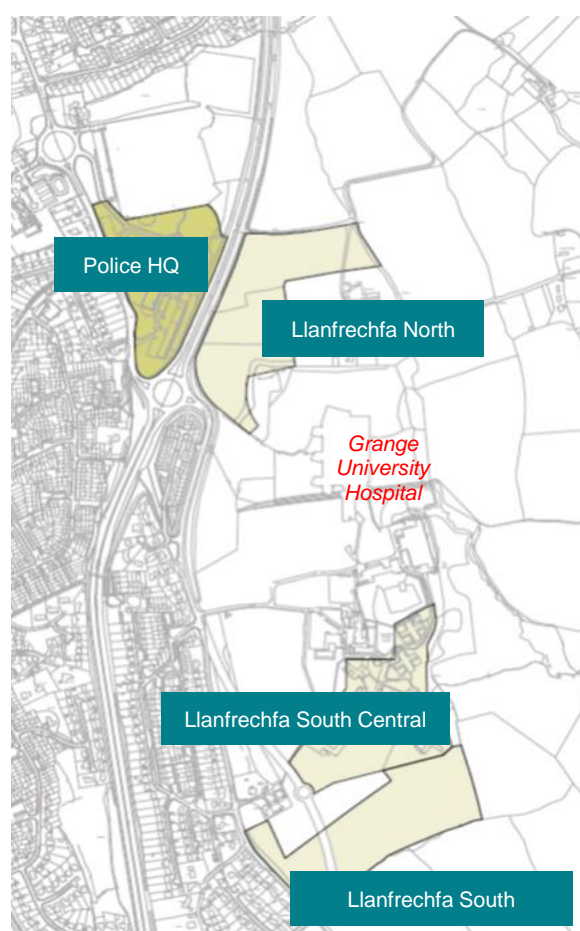
- 7.15 As set out earlier in this strategic case, there is currently no specific location identified for the Medi-Park, although previous work had identified scope as part of a mixed-use development on the ‘Llanfrechfa Grange hospital’ site immediately adjacent to the new hospital.

- 7.16 Through a location options analysis, an assessment was made of the potential for a range of sites across Torfaen to accommodate development on the scale identified through the quantified demand analysis. This resulted in the shortlisting of four locations: three on the Llanfrechfa site and one on the site currently occupied by the Gwent Police headquarters on the opposite side of the Croesyceiliog bypass.

- 7.17 Annex A sets out the results of the location options assessment. At this stage, we have assumed that all four shortlisted options are viable, and the options assessment in the economic case reflects this. However, **proximity to the hospital is likely to be key** (given that this is essentially the USP of the Medi-Park in the first place). This strongly suggests a location on the Llanfrechfa site itself.

- 7.18 Work is currently underway to develop a masterplan for the Llanfrechfa site, taking into account the potential long-term expansion requirements of the hospital and the options for

Figure 7-2: Location options



Source: ADP


the future of the older stock of clinical and administrative buildings on the site. This will inform the preferred location option for the Medi-Park, to be set out at OBC/ FBC stage.

Visualising the offer: Future Space, Bristol


Future Space offers office, workshop and lab space along with co-working and hotdesking space, located on the University of the West of England's Frenchay campus in Bristol. The facility hosts a range of technology businesses in a variety of sectors, including med-tech, digital health and bioscience. It operates as an innovation centre (managed by Oxford Innovation), connecting entrepreneurs and innovators with specialist advice, researchers and graduate talent.

The local context is different from Cwmbran, especially Future Space's location within university campus. But learning from the innovation support model has been applied elsewhere, and has been used to develop the Economic and Commercial Cases within the SOC.


Some examples of the type of space offered at Future Space are highlighted below:




Co-working area



Office space



Workshop space



Workshop space

Source: Oxford Innovation

8. Conclusions

8.1 Bringing together the analysis contained in the earlier sections of the strategic case, this section sets out:

- a summary of the **strengths, weaknesses, opportunities and threats** associated with the Medi-Park proposition
- the '**critical success factors**' that will inform the analysis of options, costs and benefits in the economic case
- key issues to be explored at OBC and FBC stage

The Medi-Park proposition: Summary SWOT analysis

Strengths

8.2 There are key strengths in relation to the Medi-Park proposition particularly associated with the site itself:

- **Llanfrechfa is an environmentally attractive, well located site, with good transport connections** (and the fourth potential location, the Gwent Police site, has similar attributes). It offers excellent road access to the M4 and has the potential to offer a pleasant working environment in a semi-rural location, with the benefit of the existing listed building on site. While the site is in reasonable proximity to Cwmbran's other main employment locations, it is sufficiently separate from them to be able to demonstrate a distinct offer.
- **All potential locations are in public ownership**, between the Welsh Government and ABUHB.
- **Cwmbran is an established employment location**, which has been comparatively resilient in recent years. Industrial and office vacancy rates have fallen sharply of late (albeit in the context of a lack of new supply), and the town is recognised by the market as an employment centre. There is also evidence (for example in the c.85% occupancy levels reported by Springboard) of demand from a diverse range of businesses for innovation centre facilities.
- **There is an ambitious partnership approach to taking the project forward** involving all the key stakeholders involved in the site. This is reflected in the joint commitment to develop the SOC, which will result in a 'shared vision'.
- **There is substantial flexibility in the potential use of the site.** Although there are some buildings on the Medi Park 'Phase 1' site, it is largely unconstrained, and while the Development Framework sets out some high-level proposals for the phasing of development, there is scope to vary this depending on ambition and demand.
- Globally, the **med-tech sector has experienced rapid growth and this is expected to continue** over the medium-term. Global med-tech R&D investment is projected to

increase by 3.7% (CAGR) to \$33.5bn and worldwide med-tech sales are expected to reach \$522bn y 2022⁵⁷.

Weaknesses

8.3 Set against these strengths, there are some weaknesses (essentially, challenges) that the proposition will need to mitigate or overcome:

- **Cwmbran itself is not an established location for life science businesses.** While there is a large life science (mainly med-tech) business base in South Wales (see *Opportunities* below), there is very little current activity in the sector in Cwmbran itself. Unlike many medical science parks elsewhere, this means that there is no incumbent business stock which can be grown or can act as an early anchor. It also means that unlike some other locations in South Wales, Cwmbran is not currently recognised by the market as a centre for life science activity.
- **There is currently no life science research base in Cwmbran.** Frequently, universities act as the anchors for medical science parks and are the key drivers for their development. Discussions are underway with the three regional universities, which are all represented on the Medi Park Board: it is possible that over time, an HE presence could emerge, if the business base grows (or in association with the Grange University Hospital), and university links will be a part of the offer. But in the short run, this will not be a university-driven science park, and we should probably not anticipate a large physical university presence on site.
- **Rental values in Cwmbran are relatively low.** Average industrial rents are around £4 psf; average office rents are around £10 psf. These have risen in recent years, but there is still a stock of low cost capacity (for example at Mamhilad, and elsewhere in Gwent more broadly) that may exert downward pressure on the rents that can be commanded at the Medi Park. Given the aspiration for high quality development, the implication is that viability will be challenging, and that development will require subsidy in some form (although it should be noted that at this stage, we have not yet considered development costs).
- **Given all of the above, it is likely that development will proceed relatively slowly and incrementally,** and the nature of the market and the opportunities associated with it will change over time. The implication is that plans for the development of the Medi Park may need to involve a number of options, and will need to be flexible (within the context of the desire to maintain quality development). This may need careful explanation to stakeholders, and the implications for development costs will need to be considered as part of the next stage of work.

Opportunities

8.4 Bearing these 'weaknesses' in mind, there is a substantial range of opportunities that the Medi Park proposition could explore and capture:

⁵⁷ EvaluateMedTech: World Preview 2017, Outlook to 2022: <http://info.evaluategroup.com/rs/607-YGS-364/images/EvaluateMedTech-World-Preview-2017-Executive-Summary-ES.pdf>

- **The Grange University Hospital and the active involvement of Aneurin Bevan University Health Board present an opportunity to build a unique proposition.** This is really the *fundamental* opportunity presented by the Medi Park: the key ‘asset’ on site is the new University Hospital and there is an opportunity to use it to build close links between NHS Wales and commercial medical innovation. However, the opportunity will not be realised ‘organically’: the challenge will be to create mechanisms (and supporting infrastructures/cultures) that will enable innovators to work directly with NHS Wales, and to use the ‘gateway’ provided by the Grange University Hospital and ABUHB to provide a route into NHS Wales (and perhaps the NHS organisations in the other UK nations). It is likely that this opportunity will not just be driven by the provision of physical space on site: there may be a need for revenue funding or new ways of working (which might amount to the same thing) to facilitate greater interaction. This suggests that **the core opportunity of the Medi Park is the creation of a new model of NHS/industry joint working** with wider application, rather than *just* the delivery of a new business park (albeit that business space will be part of the offer).
- **Linked with this, there is the opportunity to create ‘mutual benefit’ for the economy and health outcomes (plus potential cost savings to NHS Wales).** This goes to the heart of the Welsh Government’s strategy for innovation in NHS Wales, and reflects the key driver of Life Sciences Hub Wales. There ought to be an opportunity to embed mutual benefit within the industry/ NHS Wales relationship.
- **Within the context of a proposition based around practical NHS Wales/industry links, there is an opportunity to engage with South Wales’ large life sciences sector.** Compared with other parts of the UK, the sector (at least med-tech) is of significant scale, and there is an effective infrastructure seeking to network it (e.g. MediWales and Life Sciences Hub Wales). Potentially, an NHS Wales/ industry innovation offer at Llanfrechfa could be relevant across the wider region, including for businesses that are not based on site.
- **There is a potential (although as yet unquantified) gap in ‘grow-on’ space** for firms that have expanded beyond the capacity of incubator space, but may still value support services and proximity to other businesses in related activities
- **While Cwmbran does not currently have a life science sector, there is an opportunity to develop a med-tech presence,** especially given Cwmbran’s strong manufacturing base and the overlap between med-tech and general advanced manufacturing. This is likely to develop quite slowly, but it is plausible that a combination of industry/NHS Wales links, an innovation support offer and access to a manufacturing/engineering workforce and supply chain could make Cwmbran an attractive location for the med-tech sector (and there may be links with the work underway – associated with the City Deal – to develop South Wales’ semiconductor industry). There are also opportunities in the **digital health** sector that could be locally relevant.
- **There is evidence of some commercial interest in developing new innovation/incubator facilities for the life science sector locally.** This is small scale and nascent. But if there is some emerging private sector interest already, there is an

opportunity to link this to the proposals for the Medi Park, and potentially to scale it up.

- **Llanfrechfa is a major site, and offers the *potential* for a significant new employment location** for higher value (including potentially headquarters) uses. It also has the potential to become a significant project for Cardiff Capital Region City Deal.
- **The wider development of the site may provide opportunities for funding solutions.** The Llanfrechfa site is a mixed use development, with a substantial housing element. It is likely that some value will need to be extracted from the development to support road access and other community infrastructure. However, there could potentially be opportunities within the overall development to help fund the Medi Park element.

Threats

8.5 However, realising these opportunities will mean recognising and managing a number of threats:

- **The key threat is that the central opportunity is quite hard to pin down *specifically*, quite complicated to operationalise, and is likely to require sustained resource (time, money and strong leadership) to deliver.** It is substantially more complex than delivering business space on a (good quality) site that happens to be next to a hospital. The risk is that:
 - the nature of the NHS Wales/ industry opportunity and how it is realised is not well articulated and widely understood...
 - ... so it is therefore not 'embedded' within the management of the hospital or ABUHB, or NHS Wales more broadly, it is not understood practically by industry, and it is not incentivised...
 - ... so it all becomes "too difficult", and the Medi Park project defaults to a generic land and property intervention with ill-defined and *ad hoc* links with the adjacent hospital. This could represent a major missed opportunity for Cwmbran.

This is quite a plausible threat: there are many examples of innovation facilities designed to facilitate an intuitive link, but which default to generic provision when this link cannot be meaningfully operationalised. For the Medi Park concept, the risk is important, given that the site's 'USP' is really the hospital and the NHS Wales link.

In our view, to develop a genuine Medi Park, the focus should be on the long-term development of a cluster of commercial activity linked with the access to NHS Wales that the hospital provides, rather than on a property-led scheme. Having said that, if the aim is to secure occupancy and rental levels, there is potential for a more generic business offer on the site: the key is reaching agreement on partners' core objectives.

- **From the perspective of the Medi Park as a business location, there is a threat of competition**, especially given the dispersed nature of the sector and its cost-driven imperatives. On the other hand, there is a risk that if the Medi Park simply absorbs businesses from other sites in South Wales, the net additionality to the Welsh economy will be minimal.
- **Locally, there is potentially a threat of duplication or ‘spreading the jam too thinly’ across other business locations in Torfaen.** The relationship between the Medi-Park and Mamhilad Park needs be considered carefully in this context.
- **There is a realistic threat of lack of commercial demand:** while South Wales has a relatively large med-tech sector, it is still quite small in absolute employment and business stock terms. Potentially, this could result in a refocusing to a more ‘generic’ offer, or to a lack of delivery altogether. Similarly, other parts of the UK are well advanced in terms of their cluster development thinking and planning around med-tech⁵⁸. Competition for talent (particularly technical, regulatory and digital skills) and investment is quite high.
- **There are deliverability risks associated with site-specific constraints.** These apply to any prospective business park in advance of detailed site analysis
- **Finally, there are ‘macro’ risks associated with Brexit**, particularly in relation to the future competitiveness of the UK life science industry, access to skilled staff and research funding.

Critical success factors

8.6 Taking this assessment into account, alongside the *ex ante* rationale for the proposition set out at the start of this strategic case, we consider the critical success factors for the Medi-Park to be:

- an ability to generate sustainable, higher-value employment and business growth
- relevance to market demand
- **flexibility to respond to changing demand** over time. This may include the ability to flex the offer between units of different size and between workshop, lab and office space
- **compatibility with Cardiff Capital Region’s wider strategy for economic growth**, particularly as it relates to innovation and the development of sectors in which the region has a comparative advantage. This suggests that the offer must be complementary and additional to that available elsewhere in the region (such as at Cardiff Medicentre)
- **an opportunity to make a positive contribution to Aneurin Bevan University Health Board’s innovation strategy**, driving stronger collaboration between the

⁵⁸ See for example *Opportunities and Growth: Medical Technologies in the Leeds City Region* (the Leeds City Region Medtech Science and Innovation Audit) (<https://leedscityregionmed.tech/>)

Health Board and industry and contributing in the long run to improved health outcomes and savings to NHS Wales

- **value for money**, in terms of the public investment and attributable benefits.

8.7 These critical success factors have informed the basis for the analysis of options, costs and benefits within the economic case, within the context of a scheme based on (in the preferred option) a 'Phase 1a' innovation centre, 'Phase 1b' grow-on space and additional land for future expansion.

Issues for consideration at OBC and FBC stage

8.8 The strategic case is strong in terms of the growth of the life sciences sector in South Wales, unmet demand (at regional level) for good quality business space relevant to the sector and the opportunity to build stronger links between commercial innovation and NHS Wales. At the next stage of business case development however, further consideration will need to be given to:

- the specific **framework for interaction** between the Medi-Park offer (in terms of physical space and innovation support), the Hospital and the wider innovation and commercialisation support base. This will also support the management case and (in terms of adjustments to costs and benefits) the economic case
- the **location of the Medi-Park**. Currently, there are four site options, and these have been treated as equal for the purposes of demand modelling and the economic and financial cases.

Part II:

Economic Case

9. Introduction to the Economic Case

Summary of the Economic Case

- The Economic Case considers a range of options for the delivery of the Medi-Park and presents an economic appraisal of three shortlisted options. It finds that the preferred option is likely to have a net cost to the public sector of £24.5 million over a 30-year appraisal period, excluding land acquisition, site infrastructure and abnormal construction costs.
- Based on conservative assumptions, the net present value of the contribution to GVA in Cardiff Capital Region is estimated to be around £59 million.
- This gives a **benefit: cost ratio of around 2.4:1**. Taking construction impacts into account, this rises to 2.47:1. This represents high value for money, although achieving it will depend on a concerted effort to drive demand and occupancy.
- The preferred option will also yield significant benefits relating to improved health outcomes, 'organisational' benefits to Aneurin Bevan University Health Board and local community and regeneration impacts. These cannot be quantified at this stage, but should be considered further in the Outline Business Case.

Introducing the Economic Case

- 9.1 The Economic Case presents an assessment of whether the proposed Medi-Park in Cwmbran demonstrates value for money. It presents evidence of the expected impacts of the scheme (relative to its costs) on the economy, as well as its social, health, environmental and spatial impacts, and quantifies and monetises these as far as possible. In summary form, it will form part of the main Strategic Outline Case for the Medi-Park project, alongside the Strategic, Financial, Commercial and Management Cases.
- 9.2 The Economic Case is prepared in accordance with UK Government guidance⁵⁹, and is structured as follows:
- The rest of this introduction considers the **broad parameters for the proposed Medi-Park**, taking into account the objectives of the scheme and the evidence of potential demand presented in the Strategic Case
 - Section 10 then considers the **different options** that could be pursued to deliver these objectives, identifying a long-list of options and reducing this down to a shortlist to be considered in more detail
 - Section 11 subjects each shortlisted option to **economic appraisal**. This identifies a 'reference case' and considers the costs and benefits of each option over an appropriate appraisal period, with consideration given to optimism bias, deadweight, leakage, displacement and multipliers. It also considers 'optimism bias' and presents a sensitivity analysis on the economic appraisal

⁵⁹ HM Treasury (2018), *The Green Book: Central Government Guidance on Appraisal and Evaluation*; DCLG (2016), *The DCLG Appraisal Guide*; Homes and Communities Agency (2014), *Additionality Guide Fourth Edition*

- Section 12 considers the **‘non-monetised’ benefits** that the Medi-Park should bring. These are impacts on health outcomes and local regeneration and economic development, as well as organisational benefits to Aneurin Bevan University Health Board and NHS Wales more broadly. While these cannot be quantified at this stage, they are likely to be important
- Section 13 then presents the **appraisal results** in summary form, enabling a comparison to be made between each option

9.3 In general, our assumptions are conservative at this stage, reflecting the fact that the Medi-Park project is still in the relatively early stages of development.

Economic Case parameters

Demand-based assumptions

- 9.4 As outlined in the Strategic Case, modelling of demand indicated that there could be the potential for up to c.120,000 sq ft of take-up of space at the Medi-Park by 2040. Based on this, an indicative land requirement of 2.7 hectares was identified to accommodate a ‘Phase 1’ development including c.40,000 sq ft of office, lab and workshop space within an ‘innovation centre’ facility, plus grow on space to support future requirements to 2030; in addition to a further 2.7 hectares in ‘Phase 2’ to provide capacity for longer term growth.
- 9.5 **We have based the Economic Case purely on Phase 1.** This is on the basis that Phase 2 will not be required until at least 2030 and will depend on the success of Phase 1 and the extent to which it is able to influence the build-up of demand and indeed the nature of this demand in terms of the mix of space required.

Location considerations

- 9.6 The Economic Case also acknowledges that the specific location of the Medi-Park is yet to be determined, bearing in mind the masterplanning work currently underway for the Llanfrechfa site and pending decisions on the spatial requirements for future clinical need. Following an analysis of potential locations, we assume that the Medi-Park will be delivered on either the Llanfrechfa site or the nearby Gwent Police site, but **within this broad area, we assume that each Medi-Park option is ‘location-neutral’**. However, we have undertaken some analysis (within the final section of this Economic Case) on the potential implications of different location decisions on the impacts associated with each shortlisted option.

10. Options assessment

Summary

The Economic Case involves the quantified comparison of the costs and benefits associated with a number of realistic options to deliver the Medi-Park project.

This section explains how a shortlist of options for economic appraisal was identified, through

- the identification of a series of **objectives and ‘critical success factors’** for the Medi-Park, following the Strategic Case
- the development of a **‘long-list’ of ten options**, which were subjected to an initial review
- from the long-list, the identification of a **shortlist of four options** for detailed consideration in Section 3. These are:
 - a **‘site allocation only’** approach, leaving delivery to the market
 - the development of an **innovation centre without the requirement for direct NHS Wales involvement** in Phase 1a (plus grow-on space in Phase 1b)
 - the development of a **smaller facility with a substantial NHS Wales R&D presence** in Phase 1a (plus grow-on space in Phase 1b)
 - the development of an **innovation centre providing a substantial NHS Wales R&D presence alongside commercial space** in Phase 1a (plus grow-on space in Phase 1b)
- To enable the added value of each option to be considered, this section also describes a **‘reference case’**, a theoretical model of how many jobs might be created in the life science sector in Cardiff Capital Region ‘anyway’, in the absence of intervention.

The options assessment process

10.1 Following the analysis in the Strategic Case, the objectives of the Medi-Park are to:

- **Objective 1:** Support the creation of sustainable, long-term, higher-value employment in Torfaen
- **Objective 2:** Enable the growth of the life sciences sector in Cardiff Capital Region, building on the region’s comparative advantage
- **Objective 3:** Enable long-term benefits for NHS Wales (and therefore accelerated innovation and better health outcomes) through stronger relationships with industry.

10.2 In the light of these objectives, the following process was followed:

- a series of ‘critical success factors’ were identified
- in the light of these critical success factors, a ‘long list’ of options was drawn up, including a ‘do nothing’ option

- this long list was considered, with each option reviewed in the light of its ‘in principle’ deliverability and viability, and its ‘in principle’ alignment with the objectives of the Medi-Park and the identified critical success factors
- following this, five options were shortlisted and subjected to further appraisal
- this resulted in the preferred option described in detail below.

Critical success factors

10.3 Critical success factors (CSFs) help us to consider whether options are attractive, rational, commercial, affordable and achievable. Taking into account the objectives above, we consider that the CSFs for this project (from the perspective of the Economic Case) are:

- **an ability to generate sustainable, higher-value employment and business growth**
- **relevance to market demand**
- **flexibility to respond to changing demand** over time. This may include the ability to flex the offer between units of different size and between workshop, lab and office space
- **compatibility with Cardiff Capital Region’s wider strategy for economic growth**, particularly as it relates to innovation and the development of sectors in which the region has a comparative advantage. This suggests that the offer must be complementary and additional to that available elsewhere in the region (such as at Cardiff Medicentre)
- **an opportunity to make a positive contribution to Aneurin Bevan University Health Board’s innovation strategy**, driving stronger collaboration between the Health Board and industry and contributing in the long run to improved health outcomes and savings to NHS Wales
- **value for money**, in terms of the public investment and attributable benefits.

Options long-list for Phase 1

10.4 Taking into account the objectives and critical success factors, the following options have been considered. It should be noted that these are ‘stylised’: they are not all necessarily mutually exclusive, and a cautious initial project might not necessarily preclude further (more ambitious) investment in the future.

Table 10-1: Options long-list

Option	Headline description	Shortlisted?
1. Do nothing (Reference case)	No planned ‘Medi Park’ development	This is the ‘default’ option, and assumes that some employment would come forward in due course as part of the wider development of the site. In the short term, it involves no cost, but would not deliver against any of the objectives or stated critical success factors.

Option	Headline description	Shortlisted?
		However, it forms the 'reference case' for the purposes of the economic appraisal
2. Site allocation only/ market driven	Land allocated for employment, with some investment in access and servicing, with active marketing and promotion	Yes. This is a low-risk, 'do minimum' option that could enable the site to be promoted for life science investment (and encourage business location) while being fundamentally market-led.
3. Dispersed strategy	Range of locations identified across Torfaen for life science businesses, linked with active marketing strategy. This could include capital investment in facilities on other sites where appropriate	No. There are other business space assets in Torfaen and these could be promoted, but these can (and are being) marketed anyway. There would be no single focal point for local life science cluster development activity, and there is no clear link with the original rationale in relation to connections with the GUH.
4. Planned science park	Ambitious 'innovation district' development focused on and promoted to life science businesses, actively marketed and with investment in advance build of lab, workshop and office space, and linked with wider proposals for residential and leisure/ wider activity at Llanfrechfa	<p>Not at this stage. Ultimately, a future masterplan for the Llanfrechfa site could seek to build on an 'innovation district' concept (to some extent, this is the vision that the earlier MediPark report and associated Development Framework set out).</p> <p>However, the evidence for an extensive 'science park' development is, at this stage, weak: Cwmbran is not an established life science location, the typical drivers for this type of development (universities, other research and technology organisations, and major firms) are not present at scale and developing a sector-specific science park 'from scratch' is likely to be very challenging. We have therefore not proposed considering this option in detail at this stage, although other, more incremental, options (set out below) should contribute to the longer-term strategy for the site.</p>
5. Innovation Centre only	Initial investment in innovation centre (e.g. 30,000 sq ft net lettable office and workshop/maker space) only	No. On its own, an Innovation Centre would likely need a wider focus than life sciences alone – and while Llanfrechfa would be an attractive site, other locations (e.g. in the town centre) could be preferable strategically if this is to have a 'generic' offer
6. Innovation Centre plus expansion strategy	Initial investment in innovation centre, plus investment in serviced plots and potentially investment/ grant support for larger scale capacity (<i>compound of Options 2 and 5</i>)	Yes. This would see an innovation centre as part of a wider development strategy (including an accelerator and entrepreneurship programme) to develop the life sciences sector. It would not rely on the GUH as an explicit driver of demand (although proximity to the hospital is likely to be an asset), and would seek to respond to South Wales' broader strengths as a life science location.

Option	Headline description	Shortlisted?
7. Core NHS Wales research activity and small-scale business space	Centre for R&D/ clinical trials (as an adjunct to the GUH) with small scale (e.g. 5,000 sq ft) collaboration space and offices to let	Yes. This would be a relatively low-cost/ low-risk proposition without prejudice to further expansion.
8. Core NHS Wales research activity + Innovation Centre/ further expansion	Centre for R&D/ clinical trials/ potential additional activity, alongside innovation centre and scope for longer term expansion (<i>compound of options 6 and 7</i>)	Yes. This reflects a more ambitious approach, which could be phased, and which could potentially offer better value for money than Options 6 or 7 (although this should be tested).
9. Patient-facing health hub	Development of 'compatible service' offer linked with GUH (e.g. private healthcare, social care facilities, etc)	No. This was discussed at the start of the project, and there was limited stakeholder appetite for this proposition (although it could form part of the mix within the wider site masterplan).
10. Consolidated NHS support hub	Centre for NHS back-office functions, concentrating employment and freeing up capacity elsewhere	No. Potentially, Cwmbran could be an attractive location. But it would not create net <i>additional</i> employment in South Wales overall, and is anyway subject to wider NHS organisational strategy (and NHS Wales Shared Services are already mostly consolidated at Bridgend). However, 'research facing' NHS Wales activities could be an important part of the mix in Options 7 and 8.

The reference case: What would happen anyway?

- 10.5 The first option set out in the table above is 'doing nothing'. This would mean no proactive measures to drive innovation and business growth linked with the new hospital and would mean a significant missed opportunity. Since there is not currently a life science presence in Torfaen, the ability to 'create one' from a standing-start will be very challenging.
- 10.6 However, as the demand analysis in the Strategic Case demonstrates, the life science sector is growing in Cardiff Capital Region, and the region has significant medical, academic and industrial strengths. There is also evidence that despite the absence of a dedicated 'hub' for the sector, it has grown steadily through a dispersed model, as firms (particularly in the medtech sector and in manufacturing-related activities) have been willing to locate in standalone facilities, often in repurposed buildings. We should therefore expect continued growth within the CCR in the absence of intervention (even if that growth would not necessarily take place within Torfaen).
- 10.7 We have used this assumption to inform our 'reference case', against which the shortlisted options are considered. The costs and benefits that may arise from 'doing nothing' are set out in the economic appraisal in Section 3, alongside those of each shortlisted option.

Options shortlist

- 10.8 Apart from 'doing nothing', an initial assessment reduced the long-list to a shortlist of four options, highlighted in green in Table 10-1: . These are:

Option 1 (site allocation only/ market driven development)

- 10.9 This option assumes that **provision is made for employment space within Llanfrechfa/ the former Police HQ as part of a wider masterplan**. Based on the evidence of demand and the benefits that there could be from: a) the site's good connectivity; and b) potential links with the new hospital, investment would be made in a series of serviced plots (suggested up to the quantum identified through the demand analysis). While delivery of these would be left to the market, the site would be actively promoted as a high-quality location for the life science (and related digital technology and data focused sectors), perhaps with an element of associated grant support (possibly utilising existing schemes) to attract investors and occupiers.
- 10.10 This option may require some public sector capital investment in access and servicing costs, if in the actual building of commercial space itself. There would also be a promotional and perhaps incentive cost.
- 10.11 This option is likely to be relatively low-cost and low-risk. Cwmbran is an established employment location (especially for manufacturing-related activities), the (Llanfrechfa) site is attractive and there is evidence that firms within the life sciences sector are willing to consider a range of locations across South Wales. This option could help to accelerate delivery or bring forward employment ahead of residential development. However, while the site would be promoted as suitable for life science businesses, it would not necessarily be restricted to them (so could be open to other sectoral opportunities).
- 10.12 However, the option does not include a mechanism to proactively drive a link with the hospital and embed a strong and shared culture of innovation. Commercial-medical links might develop organically, but the main driver of demand is likely to be strategic location – so there is a risk in this option that the opportunity to accelerate innovation and cluster development would be lost.

Option 2: Innovation centre plus longer-term expansion strategy

- 10.13 **This option presents a business-led/ employment-led strategy.** It is based on the planned development of a substantial (and potentially and ultimately nationally significant) Medi Park capable of attracting businesses within the life science sector and relevant digital technology/data analytics sectors, while not relying on any direct NHS Wales investment or change of NHS Wales strategy.
- 10.14 As in Option 1, the key focus of Option 2 would be commercial growth, building on the site's locational advantages. However, it would seek to drive this more proactively, through:
- **A 'Phase 1a' 'innovation centre'**, marketed at businesses in the health and life science sector (including digital technologies and health data related activities) and including collaboration/ shared meeting room/networking space and café facilities that could promote interaction with NHS Wales activities on site. Given the nature of the sector, Cwmbran's general offer and the evidence of demand for 'grow-on' space (as opposed to incubation facilities), the 'innovation centre' might be more oriented to expanding businesses (e.g. firms graduating from Cardiff Medicentre) than to new starts, direct university spin-outs, etc. The Phase 1a innovation centre assumes:

- 24,000 sq ft net lettable space, split equally between offices and workshop/ manufacturing space.
- 2,000 sq ft of flexible workspace accommodating flexible working/ hotdesking facilities, etc.
- **Phase 1b 'grow-on' space**, which could also appeal to larger occupiers (as cited in relation to Option 1). For Phase 1b, we assume 60,000 sq ft of lettable space, split between offices (20,000 sq ft) and workshop/ manufacturing space (40,000 sq ft)
- **active innovation/ business support activities** to encourage growth and interaction among tenant businesses (and those in the life science sector in the wider area) and to build links with the NHS Wales and the broader support network (e.g. Life Sciences Hub Wales, Innovation Point, the Medicentre, etc.). This could include an accelerator/ sector development programme with a wider regional reach.

10.15 It should be noted that we have not assumed provision of any 'speculative' lab space in either Phase 1a or Phase 1b. Laboratory costs are high, and requirements are often bespoke to the occupier. Consistent with the experience at Cardiff Medicentre, we have assumed a combination of office and workshop space, with the latter capable of being 'upgraded' to lab or office provision depending on demand. The space would be designed with flexibility in-mind from the outset.

10.16 This option is potentially deliverable without a major commitment from NHS Wales partners, although this would be highly undesirable. In the context of a general lack of good quality premises for the sector, and the absence of a physical 'hub' for growing businesses, Cwmbran could be attractive, especially if this is linked with a quality support offer not available elsewhere.

Option 3: Core NHS research activity and small-scale business space

10.17 This option takes an alternative approach, which seeks to **build the Medi Park proposition from a core of NHS Wales activity**.

10.18 This could include (for example) NHS Wales research and development activities, linked with facilities for commercial clinical trials, capacity for partner businesses to hire workspace on flexible terms and some collaboration/ demonstrator space, as well as include café/ meeting room/training and conference facilities, to support interaction with hospital staff. Essentially, it is an **NHS Wales-led approach**, which seeks to build business collaborations on the basis of the benefits they would deliver to health outcomes, supporting ABUHB's current strategy.

10.19 This option would involve capital investment in a new facility, including:

- **a 'Phase 1a' innovation facility**. This would be smaller than the facility proposed in Option 2, with a stronger balance towards NHS Wales uses within the space mix. It assumes:
 - 7,300 sq ft of net lettable office space
 - 5,000 sq ft to accommodate NHS Wales innovation and collaboration activity

- 1,000 sq ft of flexible workspace accommodating collaborative working/ hotdesking facilities, etc. (a smaller version of the equivalent space proposed for Option 2)
 - **Phase 1b grow-on space**, in the same configuration as that proposed for Option 2 (as in Option 2, we do not propose any lab space)
 - **active innovation support activities**, as in Option 2 (although this may need to be on a smaller scale, given the smaller size of the facility).
- 10.20 Option 3 builds a direct connection between the hospital (and NHS Wales activity more broadly) and commercial growth, in a way that is relevant to the ABUHB's assets and scale. This should be relevant to wider Welsh Government strategy and ought to be sustainable, since it builds on existing activity. This option is also quite contained, and could be taken forward on a small footprint without prejudice to the wider development of the site, and would directly help to deliver health benefits.

Option 4: Core NHS research activity + innovation centre/ expansion space

- 10.21 This option is essentially a combination of Options 2 and 3. It involves:
- A 'core' of NHS Wales research activity (as described in Option 3, and potentially extending to a 'research hotel'/ living lab model, perhaps with the involvement of Cardiff University or the University of South Wales)...
 - ... supported by longer-term or temporary space for businesses with which ABUHB has a research relationship (or want to develop a relationship) as well as those within the wider life science sector and health economy, linked with a business/ innovation support programme as set out in Option 2
 - ... with scope for further expansion (including for larger businesses).
- 10.22 This option takes the links with the hospital as its key driver (although business demand for more general floorspace could be an important part of the mix as the Medi Park expands.
- 10.23 As with Option 3, this will involve capital investment in a new facility, although at greater scale, alongside active business support and marketing. Specifically, it involves:
- **a 'Phase 1a' innovation centre**, accommodating both space for businesses on the scale of a 'typical' innovation centre, and substantial accommodation for NHS Wales research, development and innovation activity. This includes:
 - 23,000 sq ft net lettable floorspace. This is split between 19,000 sq ft for offices and 4,000 sq ft of workshop/ manufacturing space (reflecting a more conventional innovation centre mix and, as outlined in the Financial Case, helping to drive viability through the higher rental levels that can be commanded for office accommodation)
 - 5,000 sq ft to accommodate NHS Wales innovation and collaboration activity (as in Option 3)
 - 2,000 sq ft flexible/ hotdesking space (as in Option 2).

- **‘Phase 1b’ grow-on space**, as in Options 2 and 3 (again, with no provision of lab space)
- **active innovation support activities**, as in Options 2 and 3. It should be noted that these are likely to be especially important for Option 4 (as are the NHS Wales links), given the need to drive demand for the additional office accommodation that the option involves.

10.24 Option 4 also builds a strong link with the hospital and with NHS Wales priorities. It also allows scope for expansion, and is somewhat more ambitious in terms of the links that could be made with the universities and other partners. The larger volume of (lettable) office space potentially increases viability and value for money, and if designed and managed in a highly flexible way, could allow the balance between NHS Wales, lettable business space and shared/ collaboration space to be varied over time according to demand. **This option is likely to best meet the objectives set out earlier in this paper and is considered the preferred option.**

Conclusions of the Options Assessment

Having identified a series of ‘critical success factors’ for the Medi-Park, consideration of a wide range of options yielded a shortlist of four options, all of which are (on the face of it) credible and could deliver the Medi-Park’s objectives.

On a preliminary view, the fourth option (the development of an innovation centre and expansion space alongside NHS Wales R&D activity) would best meet the Medi-Park objectives. But all four options will be tested through an economic appraisal in the next section, against an assessment of what might have happened anyway in the absence of intervention.

11. Economic appraisal of costs and quantified benefits

Summary

Following the options assessment, this section subjects all four shortlisted options to a formal economic appraisal, over a 30-year appraisal period. It sets out in detail the estimated costs and benefits of each option (excluding land acquisition, site infrastructure and abnormal construction costs), and finds that:

- **Option 1 (site allocation only)**, will incur only a small cost to the public sector. However, net additional benefits will be marginal, and we have therefore not modelled this option in detail
- **Option 2 (innovation centre + expansion space)** has total costs (expressed in net present value) of £25.1 million and will yield benefits (expressed in the net present value of additional GVA to Cardiff Capital Region, plus construction impacts) of £37.5 million. This gives a benefit: cost ratio of 1.5 – which represents ‘acceptable’ value for money
- **Option 3 (smaller-scale R&D facility with some capacity for related office use + expansion space)** has total costs of £18.5 million. However, total quantified benefits are only expected to amount to £17.6 million. This gives a benefit: cost ratio of 0.95 (i.e. costs outweigh benefits, representing poor value for money)
- **Option 4 (NHS Wales research facility within a larger innovation centre)** has total costs of £24.5 million and will yield benefits of £60.5 million. This gives a benefit: cost ratio of 2.47, which represents high value for money.

The preferred option therefore represents the best value of the four options, based on ‘monetised’ benefits.

Key assumptions and approach to economic appraisal

11.1 Each of the shortlisted options has been subjected to a formal assessment of costs and benefits. Key assumptions shaping our approach are as follows:

- costs and benefits are presented for **Phase 1** of the Medi-Park only, as set out in the options above (on the basis that Phase 2 will only come forward once there is clear demand following Phase 1)
- an **appraisal period** of 30 years is used, starting in 2020. This reflects the fact that the Medi Park is a substantial investment which will take time to reach full occupancy (optimum job numbers are unlikely to be realised until after 2030, taking account of the later delivery of Phase 1b)⁶⁰.
- the **‘reference case’** is used to estimate of the position in terms of outputs and outcomes that would occur at the end of the appraisal period had no intervention

⁶⁰ It is likely that the facility will have a useful life beyond 30 years (and Phase 1b will only be 20-25 years old by 2050). However, the life sciences sector is dynamic, and the market for workspace for the sector has changed substantially over the past decade (note for example the transition from large single-firm campuses to multi-occupancy facilities). It is therefore reasonable to assume that by 2050, the Medi-Park may need substantial reinvestment and the nature of demand might be quite different.

taken place (i.e. an assessment of ‘what would have happened anyway’). Cost and benefit assumptions relating to the reference case are set out in the economic appraisal below, but in summary, we assume that:

- there are no costs associated with non-intervention⁶¹
- no Medi Park development would take place in the absence of intervention (although we assume some general employment development may come forward and could be viable given the build and rental assumptions for Phase 1b)
- there would be employment growth in the life sciences sector in Cardiff Capital Region (although very little of this would take place in Cwmbran, given the current distribution of sectoral employment)
- **demand and take-up assumptions** are set out as in the Financial Case. In summary, we assume the following build-up of occupancy for lettable space for Options 2, 3 and 4. In all cases, maximum occupancy is less than 100%, to allow for an element of churn:

Table 11-1: Occupancy assumptions % occupancy, by year post-completion)

	Option 2	Option 3	Option 4
Phase 1a			
Year 1	15	25	25
Year 2	35	50	50
Year 3	50	90	75
Year 4+	85	90	90
Phase 1b			
Year 1	15	10	25
Year 2	20	20	35
Year 3	30	25	40
Year 4	40	35	50
Year 5	50	40	60
Year 6	55	47.5	65
Year 7	60	55	70
Year 8	65	60	80
Year 9	72.5	65	85
Year 10+	80	70	90

Source: SQW

- **costs** are presented as exclusive of VAT

⁶¹ It is possible that there would be some site preparation and servicing costs even in the non-intervention scenario (for example to enable housing or NHS Wales-related activity). However, since at SOC stage we have not included land or servicing costs in relation to any of the options, we have not counted them as part of the reference case.

- **discount rates** are applied, following HM Treasury's standard guidance, at 3.5% per year, on costs and benefits
- the **impact area** for quantifying the intervention is taken as Cardiff Capital Region. This reflects the supply and demand analysis in the Strategic Case, which notes the dispersed nature of employment in the life sciences sector across the region and the willingness of firms in the sector to move, where the property offer and incentive packages are right⁶². Cardiff Capital Region also accounts for the great majority of travel-to-work journeys starting or finishing in Torfaen and is an established regional geography. Some impacts may however be more locally specific (relating, for example, to Torfaen or to the Aneurin Bevan University Health Board area): this is discussed further below
- the **extent to which outputs are attributable and additional** is explored in detail, with deadweight (based on the reference case), displacement, leakage and substitution all considered carefully
- **optimism bias** is applied to both costs and benefits and is described in the narrative.

Costs

- 11.2 For the purposes of this economic appraisal, a funding profile is set out for the capital and revenue costs relating to the different options for developing the Medi Park. As indicated above, we have excluded land costs⁶³, servicing and abnormal construction costs from all options at this stage, although these will need to be considered as part of the Outline Business Case. We have also excluded the costs of masterplanning, which will need to take place in all options and will relate to other uses (residential, employment and NHS Wales-related) on the site.
- 11.3 A detailed schedule of modelling assumptions for the costs associated with all options is set out in the Financial Case. This takes into account cost estimates based on Oxford Innovation's experience of delivering innovation centres and business space across the UK, and RICS benchmarks for construction costs. A summary of the key costs is set out below.

Reference case

- 11.4 Within the reference case, there are no capital costs to the public sector, since no development will take place unless it is brought forward by the market. There may be some revenue costs to the public sector associated with holding the land, although these are likely to be marginal and we have not formally estimated them⁶⁴.

Option 1 (site allocation only/ market driven)

- 11.5 Option 1 assumes no public sector capital investment (other than in servicing costs, as set out above). However, we assume that Torfaen CBC and Aneurin Bevan University Health Board

⁶² This is less the case for smaller firms in the pharma sector, which tend to concentrate in Cardiff, but is more true of medium to larger firms and businesses in the medtech sector.

⁶³ Although in all location options, the land is in public ownership

⁶⁴ Holding costs may also vary by location.

will want to promote the site to potential occupiers in the life science sector. This could involve a range of costs, extending from marketing and promotional activity through to various incentives to the private sector (such as grants and Enterprise Zone-type incentives, such as business rate discounts and enhanced capital allowances).

- 11.6 As an indicative estimate, we assume £200k per year in enhanced marketing costs for the site (consistent with marketing costs on a number of Enterprise Zone schemes)⁶⁵. This could help to promote the opportunities that could be available to businesses through location alongside a new hospital (and assumes that ABUHB takes an active approach to engagement with the life science sector through its innovation strategy as part of 'business as usual'.
- 11.7 However, we assume that any grant incentives are limited to the existing grant support offered by the Welsh Government (and that these grants and other financial incentives will be available to occupiers in all options). Since the Welsh Government economic development budget is finite and we assume that business cases for support will be considered on merit regardless of location, there are no net additional grant costs in Option 1.
- 11.8 Assuming costs of £200k per year between 2021 and 2030, Option 1 incurs a **total cost of £2 million (or a net present value of £1.615 million**, based on the Treasury 3.5% discount rate). Reducing the marketing costs by 50% (i.e. to a total cost of £1 million to 2030) gives a net present value of around £900,000.

Option 2 (Innovation centre plus longer term expansion strategy)

- 11.9 **Capital costs** are the build costs of a 40,000 sq ft (24,600 sq ft net lettable, plus 2,000 sq ft flexible working space) innovation centre in Phase 1a and an 80,000 sq ft (60,000 sq ft net lettable) 'grow-on' space facility in Phase 1b. These are based on BCIS benchmarks for air-conditioned office-based schemes (at £172 psf) and include a 10% contingency, professional fees and fit-out costs.
- 11.10 **Revenue costs** include:
- for Phase 1a: salaries and on-costs (including provision for an innovation director to support business growth); property costs (including IT infrastructure); a management fee based on 6% of Phase 1a revenue (this assumes that the management of Phase 1a is outsourced, although as set out further in the Management Case, corporate costs would also apply in the event that the facility is managed in-house); and business rates
 - for Phase 1b: a high-level assumed all-inclusive operating cost of £10.50 per net lettable sq ft.
- 11.11 Revenue costs for both Phases 1a and 1b are presented net of rental income (based on the occupancy assumptions set out in the Financial Case).

⁶⁵ For example, the marketing budget for the Science Vale EZ in Oxfordshire was £183,000 in 2017/18 (<http://democratic.whitehorsedc.gov.uk/documents/s42174/Science%20Vale%20enterprise%20zone%20marketing%20plan.pdf>)

Option 3 (Small-scale R&D facility with some capacity for related office use)

- 11.12 **Capital costs** are based on a smaller Phase 1a facility (20,000 sq ft; 7,300 sq ft net lettable to commercial occupiers, plus 5,000 sq ft R&D space for the NHS Wales and 1,000 sq ft flexible working space), using the same build cost assumptions as in Option 2. The costs of Phase 1b are the same as in Option 2.
- 11.13 Net **revenue costs** are estimated on the same basis as for Option 2. In Phase 1a, these are lower than the revenue costs in Option 2, given the smaller footprint of the building. However, net rental income is expected to be slightly lower in Phase 1b, since occupancy is likely to be slower to build given the smaller initial base.

Option 4 (NHS research facility within a larger innovation centre)

- 11.14 **Capital costs** are based on a 45,000 sq ft Phase 1a innovation centre (23,000 sq ft net lettable, plus 5,000 sq ft NHS Wales R&D space and 2,000 sq ft flexible working space), using the same build cost assumptions as in Options 2 and 3. Again, the costs of Phase 1b are the same as in Option 2.
- 11.15 Net **revenue costs** are estimated on the same basis as for Options 2 and 3, with net costs reduced by somewhat faster occupancy growth assumptions, linked with the ability of the NHS Wales presence and innovation support offer to drive demand.

Comparison of costs

- 11.16 Taking the assumptions above into account, Table 11-2: compares the total estimated net costs for Options 2-4 over the appraisal period:

Table 11-2: Comparison of costs, Options 2, 3 and 4 over appraisal period (£m, 2020 prices)⁶⁶

	Option 2		Option 3		Option 4	
	Total	NPV	Total	NPV	Total	NPV
Phase 1a						
Capital	9.4	8.8	4.8	4.5	10.7	10.0
Revenue (gross)	15.4	6.5	10.0	4.2	16.5	7.0
Revenue (net)	4.4	2.2	1.8	0.9	0.4	0.5
Total net cost	13.8	11.0	6.6	5.4	11.2	10.6
Phase 1b						
Capital	12.5	10.4	12.5	10.4	12.5	10.4
Revenue (gross)	10.3	3.2	9.0	2.8	11.9	3.8
Revenue (net)	-0.4	-0.1	-0.3	-0.1	-0.5	-0.1
Total net cost	12.1	10.3	12.2	10.3	12.1	10.3
Total						
Capital	22.0	19.3	17.3	14.9	23.3	20.5

⁶⁶ 'Net revenue costs' mean gross revenue costs over the appraisal period, less anticipated rental and any other sources of income e.g. from events/meeting room hire etc.

	Option 2		Option 3		Option 4	
	Total	NPV	Total	NPV	Total	NPV
Revenue (gross)	25.7	9.7	15.2	7.0	28.4	10.8
Revenue (net)	4.0	2.1	1.4	0.8	0.0	0.4
Total net cost	26.0	21.3	18.8	15.7	23.2	20.9

Source: SQW

11.17 As the table above indicates:

- **there is a net revenue cost on all options in Phase 1a**, when the full 30 year appraisal period is taken into account. However, the net revenue cost is lowest in Option 4, since active NHS Wales engagement drives occupancy levels and there is a higher amount of lettable space
- **there is a net revenue surplus on all options in Phase 1b**. Revenue costs and income are similar in all options, since the size of Phase 1b is the same. However, the surplus is highest in Option 4, as there is a stronger mechanism to drive demand for grow-on space
- **overall, only Option 4 generates a (small) net revenue surplus** over the appraisal period (although the NPV still shows an overall cost, since the greatest net costs are in the early years of the scheme).

Optimism bias

11.18 'Optimism bias' refers to the tendency for project forecasts to underestimate costs and overestimate benefits. To account for this, an adjustment for optimism bias should be applied to costs and benefits, and this should be incorporated into the benefit: cost ratio.

11.19 The adjustment made for optimism bias varies by type of expenditure. For **capital costs**, we have assumed that the Medi Park buildings are all 'standard' (i.e. they are workshop and office buildings constructed to a conventional design). Treasury guidance applies an 'upper bound' optimism bias of 24% on capital costs to buildings of this type⁶⁷. Some of this is likely to be mitigated through procurement and good project management. However, at this stage, there are significant uncertainties in the business case (including the specific location of the Medi Park, which could impact on capital costs). Breaking down the components of optimism bias and their potential mitigations, we have increased all capital costs by 17% to allow for optimism bias to all capital costs⁶⁸.

11.20 For revenue costs:

- For Option 1, the adjustment required for optimism bias is modest, given that marketing costs can be easily managed. We assume a notional 10% adjustment
- For all other options, the net revenue costs depend on the gross costs (i.e. the costs of salaries, management costs and utilities) and the extent to which these are mitigated

⁶⁷ HM Treasury (n.d.), *Supplementary Green Book Guidance: Optimism Bias*, using upper and lower bound optimism bias estimates developed by Mott MacDonald

⁶⁸ Following Treasury guidance, this involves taking the upper bound as a starting point and working through the mitigating factors to arrive at an estimate.

by rental income. The operational costs are benchmarked against those incurred at other innovation and business centres in the UK and are considered relatively predictable. However, income to derive the net revenue cost is subject to considerable uncertainty at this stage, and could be impacted by (for example) slower than anticipated take-up or a failure to command rents at the assumed level. We have notionally assumed a 25% increase in revenue costs for optimism bias to accommodate this uncertainty (although the impact of different levels of take-up and rent are considered in the sensitivity analysis section below).

Comparison of costs for all options, including optimism bias

11.21 Taking optimism bias into account, Table 11-3Error! Reference source not found. illustrates the total costs (at net present value) for Options 2-4 over the appraisal period:

Table 11-3: Summary of total costs for all options, in optimism bias (NPV, 2020 prices, £m)

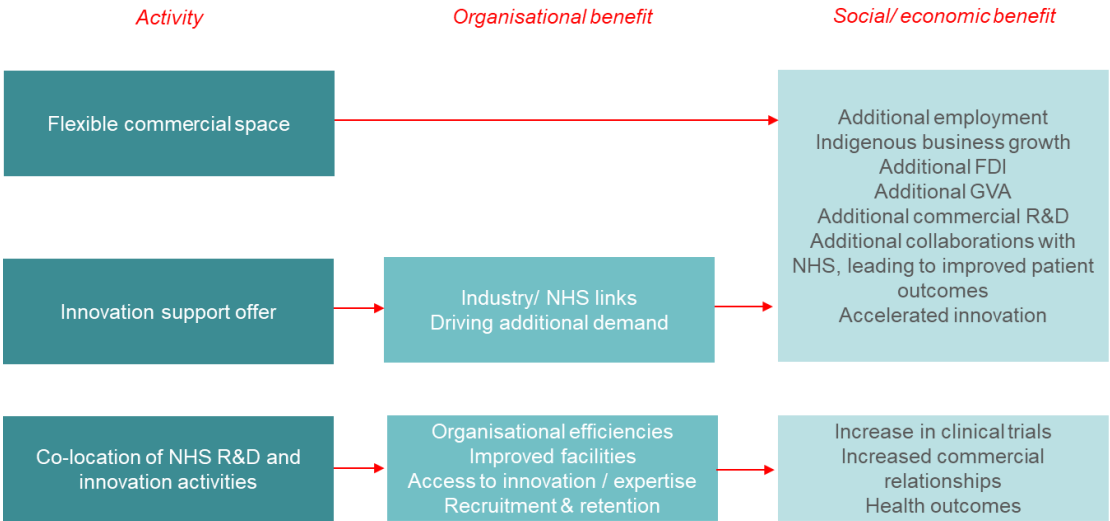
	Phase 1a	Phase 1b	Total
Option 2	13.0	12.1	25.1
Option 3	6.4	12.1	18.5
Option 4	12.4	12.1	24.5

Source: SQW

Identifying potential benefits

11.22 The project objectives outlined at the start of the Economic Case suggest a range of social and economic benefits, as well as ‘organisational’ benefits to NHS Wales which should in turn lead to improved health outcomes. Figure 11-1: sets out the potential ‘routes to impact’ associated with the activities accommodated at the Medi Park. At this stage, we can quantify some economic benefits (in terms of additional jobs and businesses) and we are able to estimate the additional GVA generated as a result. In principle, it should also be possible to quantify wider health benefits and organisational benefits to NHS Wales: this will require further discussion with ABUHB as part of the next stage of the business case development process, but we have described the potential benefits in narrative terms in Section 4.

Figure 11-1: Potential benefits arising from the Medi Park



- 11.23 It should also be noted that current appraisal guidance recommends **land value uplift** as an approach to estimating the benefits of development⁶⁹. At this stage, we have not undertaken an analysis of land value uplift, since we have excluded land costs from the appraisal and we do not yet have clarity on the specific location of the Medi Park. However, an appraisal of land value uplift should form part of the Outline Business Case (potentially taking into account any proposed residential and other development).

Initial quantified benefits

- 11.24 Initial quantified benefits include:

- additional jobs
- additional GVA generated
- additional businesses generated.

- 11.25 The following paragraphs present the expected benefits in each of these categories in relation to the reference case and each shortlisted option.

The reference case

- 11.26 To estimate the reference case (the benefits that would have been gained anyway had the intervention not taken place), we assume that:

- life science employment in Cardiff Capital Region will grow by 2% per year⁷⁰
- Torfaen could capture a proportionate share of the CCR's sector employment growth⁷¹. While there is very little sector employment in Torfaen, the evidence is that the sector is widely dispersed and is willing to take up premises in a variety of locations where there is a suitable offer.

Job impacts

- 11.27 Over a 'job creation' period running from 2024 to 2036⁷², we estimate that 120 jobs could be created 'anyway', taking the assumptions above into account. For a conservative estimate, we have increased this by 10% to account for non-sector employment that may be attracted to the Medi Park. This gives a total of **132 jobs** by 2036.
- 11.28 These gross direct impacts have been adjusted as follows:

⁶⁹ DCLG (2016), *The DCLG Appraisal Guide*, p.31

⁷⁰ Actual employment growth in the CCR was around 3% per year in 2009-17 (OLS database; SQW analysis based on Wales data). However, this includes substantial year-on-year volatility: going forward, we have assumed a mid-point between the historic CCR growth rate and that of the UK as a whole (1%)

⁷¹ This would equate to around 5.4% of all employment growth, based on the size of Torfaen's employment base within the CCR. The point here is not that this quantum of employment would be created in Torfaen in the absence of intervention, but that it is a proxy for a relevant share of growth that would be created in the CCR (given that the assumed area of impact is the CCR as a whole)

⁷² i.e. the period from when the first jobs would be created in Phase 1a for Options 2-4 through to the point at which Phase 1b reaches steady state

- **Leakage:** We have applied a 5% discount for leakage. This estimate is lower than the lower-bound 'ready reckoner' used in Government guidance. However, it reflects modest in-commuting into the CCR from outside the region
- **Displacement:** A discount of 25% displacement has been applied, based on Government guidance (and the fact that across the CCR as a whole, a static working age population will mean that some employment growth will displace jobs in other activities)
- **Substitution:** In the reference case, there is no incentive mechanism to encourage firms to substitute one activity for another. We have therefore assumed zero substitution.
- **Multiplier:** We have applied a composite regional multiplier of 1.5.

11.29 Applying these adjustment factors gives an estimated 141 net 'additional' jobs in the (theoretical) reference case.

Monetising the job impacts

11.30 To estimate the value of the employment that would have been created 'anyway', we assume gross value added per filled job of £45,091 (the mid-point of GVA per filled job for Newport and Monmouthshire and the Gwent Valleys in 2017). Assuming all 'new' jobs are permanent, this results in a **net local GVA impact of £125.1 million** over the appraisal period (or a **net present value of £40.7 million**). It is plausible that the value of employment could be much higher than this given the high productivity of the life sciences sector (GVA per filled job in manufacturing is around £72,000 across Wales as a whole, for example), although we have used the sub-regional all-industries average for a conservative estimate.

Option 1

11.31 For Option 1, any job creation will be reliant on the private sector responding to a marketing effort to promote the opportunities at Llanfrechfa. We assume that no private sector actor would take forward any form of innovation centre along the lines of that proposed for Phase 1a in Options 2, 3 and 4. This is plausible, since the Financial Case demonstrates that Phase 1a is not viable without public sector support. However, it is possible that the site could attract business interest, especially for a single-occupier building (and there has already been an enquiry from a medtech company looking to expand in South Wales)⁷³. It is possible that a concerted marketing effort could help to accelerate private sector interest, especially given proximity to the hospital and relatively strong growth in the sector regionally.

11.32 As outlined in the demand analysis in the Strategic Case, market demand for employment space in the sector can be 'lumpy', especially in medtech manufacturing. Given that Option 1 is essentially a variant of the reference case and does not involve the development of any specific 'product', we have not formally modelled the benefits. However, we could reasonably assume that in the absence of intervention, demand on the site is likely to be for an industrial-

⁷³ This could involve development by an owner-occupier, as well as an investor seeking a rental stream (and if delivered entirely by the private sector, the former is more likely given the general structure of the life sciences sector in South Wales).

type, single-occupier facility. Based on light industrial employment densities, a 20,000 sq ft facility could accommodate around 36-46 jobs at 90% capacity⁷⁴. This is essentially one additional business (which is consistent with the average size of life sciences businesses in the CCR, at around 40 jobs per business)⁷⁵.

Option 2 (Innovation centre plus longer term expansion strategy)

- 11.33 In Option 2, most of the floorspace developed in Phase 1a is lettable. Within the general mix of office and workshop/ manufacturing space, a range of employment densities based on different uses yields gross job estimates for Phases 1a and 1b combined of between 344 and 203 (with a 'central estimate' of 238).
- 11.34 These are adjusted as follows:
- **Leakage and displacement** are applied at the same rates as for the reference case (i.e. 5% and 25% respectively), with no assumed substitution
 - the regional composite **multiplier** of 1.5 is applied
 - **deadweight** is assumed to equate to the reference case.
- 11.35 Applying these adjustments leads to a central estimate of **114 net additional local jobs** (within a range of between 76 and 227).
- 11.36 Over the appraisal period, this would generate £123.6 million net additional GVA (or a net present value of £47.9 million), based on the central estimate. This is based on the regional GVA per filled job data set out earlier, although it should be noted that if the Medi Park is successful in securing a significant life science presence, the GVA generated by jobs in that sector could be significantly higher.
- 11.37 However, there are some uncertainties associated with these estimated impacts. In particular, Option 2 is designed to be *independent* of any NHS Wales involvement: there is no assumed presence within Phase 1a for ABUHB activity. While there ought to be significant scope for interaction (through co-location, the proposed innovation programme and the provision of shared space), the demand-generation mechanism is relatively weak. Second, occupancy projections in Phase 1b are obviously very indicative at this stage (as they are for all options). We have therefore applied an adjustment for **optimism bias** of 25%. **This gives a total net additional GVA of £92.7 million over the appraisal period (or a cumulative NPV of £35.9 million).**
- 11.38 In relation to businesses that could be accommodated within Option 2, an indicative breakdown of lettable space (based on benchmarking against Oxford Innovation facilities elsewhere, taking into account anticipated occupancy rates) suggests that Phase 1a could accommodate around 38 businesses (including hot-desk/ flexible working area users) at steady-state, with a further 34 accommodated in Phase 1b.

⁷⁴ Assuming 'standard' densities of 505 sq ft/ job for B1c light industrial space, and 388 sq ft/ job for B2 industrial and manufacturing

⁷⁵ OLS, SQW analysis

Option 3 (Small-scale R&D facility with some capacity for related office use)

- 11.39 Option 3 contains a smaller amount of lettable space in Phase 1a, with a larger presence for NHS Wales-related uses. While the quantum and mix of proposed floorspace is the same in Phase 1b as for Option 2, we have profiled a slower rate of occupancy take-up, given that Phase 1a will have less capacity to generate demand.
- 11.40 Based on standard floorspace densities, we estimate 183 gross direct jobs (within a range of 153 and 286 according to the densities applied). These are adjusted with estimated displacement of 35% (reflecting the large amount of floorspace taken by NHS Wales uses, and the likelihood that some of this employment will be displaced from other NHS Wales facilities in the region). All other adjustment factors are the same as for Option 2. Applying these gives a low central estimate of **29 net additional local jobs**.
- 11.41 Over the appraisal period, this would generate £40.2 million net additional GVA (or a cumulative net present value of £18.2 million), based on the central estimate. However, we have assumed a lower adjustment for **optimism bias**, reflecting the fact that Phase 1a could only viably go ahead with a significant NHS commitment (effectively guaranteeing about 40% of the floorspace). Take-up rates in Phase 1b have also already been adjusted. Assuming 10% optimism bias gives a **total net additional GVA of £36.2 million over the appraisal period (or a cumulative NPV of £16.4 million)**.
- 11.42 Estimating potential business numbers on the same basis as for Option 2, Option 3 could accommodate 29 businesses in Phase 1a and 30 in Phase 1b.

Option 4 (NHS research facility within a larger innovation centre)

- 11.43 Option 4 includes a larger footprint building in Phase 1a, with a higher ratio of office to workshop space and capacity for an NHS Wales presence equivalent to Option 3. We assume that the greater capacity for business growth in Phase 1a will enable the Medi Park to generate momentum for occupancy in Phase 1b, and this is reflected in the occupancy assumptions.
- 11.44 We estimate 299 gross direct jobs, within a range of 252 and 439. These are adjusted for leakage, displacement, substitution, multipliers and deadweight in the same way as Option 2. Applying these gives a central estimate of **179 net additional local jobs**.
- 11.45 This would generate £198 million net additional GVA (or £78.5 million in terms of cumulative NPV) over the appraisal period. It should be noted however that Option 4 relies (in Phase 1a) on a high proportion of office accommodation: while this is typical for an innovation centre, any 'rebalancing' of the usage mix in favour of workshop space would reduce the estimates given here. As with Option 2, we have therefore applied an adjustment for **optimism bias** of 25%. This gives a **total net additional GVA of £148.5 million over the appraisal period (or a cumulative NPV of £58.9 million)**.
- 11.46 Estimating potential businesses as above, Option 4 could accommodate 55 businesses in Phase 1a and 39 in Phase 1b (with the number of potential businesses increased in Phase 1 due to the larger volume of office floorspace relative to Option 2).

Comparing the quantified impacts

11.47 Table 11-4: summarises the initial quantified impacts for Options 2, 3 and 4:

Table 11-4: Summary of initial quantified impacts (based on central job estimates)

	Option 2	Option 3	Option 4
Gross direct jobs Phase 1a	120	79	165
Gross direct jobs Phase 1b	119	104	133
Gross direct jobs total	238	183	299
Net direct local jobs total	170	113	213
Net local jobs (inc. multiplier)	254	170	319
Net additional local jobs	114	29	179
Businesses accommodated	73	57	94
Cumulative net additional GVA (inc. optimism bias), £m	92.7	36.2	148.5
Cumulative NPV net additional GVA (inc. optimism bias), £m	35.9	16.4	59.0

• Source: SQW

Other quantified benefits

11.48 In the short term, there will be some economic benefit generated through the construction of the Medi Park buildings. This is obviously secondary to the purpose of the project, and we anticipate that the impacts will be relatively minor.

11.49 To estimate the construction impacts, we have used the English Homes and Communities Agency's 'labour coefficient' (the number of workers required in 'job years' for £1 million of construction spend) applied to the total estimated construction costs. The gross effects of the construction phase are £10.6 million in Option 2; £8.4 million in Option 3; and £11.2 million in Option 4.

11.50 These figures should be discounted substantially. In all options, we assume

- **leakage** of 50%, a 'high' estimate within the HCA's ready reckoner tables, reflecting the fact that there is a UK construction labour market and a substantial proportion of jobs years are likely to be taken by people outside the region (although this could be mitigated by local labour initiatives)
- **displacement** of 50%, a 'medium' estimate on the HCA's ready reckoner tables, assuming that capital funding used to pay for the Medi-Park would probably be deployed elsewhere in the region if the scheme were not to proceed
- a regional composite **multiplier** of 1.5
- **deadweight** of 43%. In the absence of a bespoke reference case, this is based on the average of evaluation data reported in the HCA *Additionality Guide*.
- 20% **optimism bias** on all impacts

11.51 Taking these into account, we assume the following construction impacts:

Table 11-5: Summary of construction impacts (£m 2020 prices) over appraisal period

	Option 2	Option 3	Option 4
Total net additional GVA	1.8	1.4	1.9
NPV of net additional GVA	1.6	1.2	1.7

Source: SQW

Benefit: cost ratios

11.52 Based on the analysis in this section, the table below draws together the costs and benefits for each of the fully-appraised options:

Table 11-6: Summary of quantified economic appraisal results (£m)

	Option 2	Option 3	Option 4
Net present value of costs	25.1	18.5	24.5
Net present value of initial benefits	35.9	16.4	58.9
Net present value of other benefits	1.6	2.4	1.7
Net present value of total benefits	37.5	17.6	60.5
Initial benefit: cost ratio	1.43	0.89	2.40
Adjusted benefit: cost ratio	1.49	0.95	2.47

Source: SQW

11.53 Based on this analysis, Option 3 represents the weakest value for money, since costs (slightly) outweigh the benefits. Option 2 represents ‘acceptable’ value for money. **Option 4 (our ex ante preferred option) represents high value for money, with a BCR of 2.47.**

Sensitivity analysis

Demand and take-up

11.54 Overall value for money is influenced by the assumptions made on demand for occupancy at the Medi-Park, and the pace of take-up. Slower take-up would increase the net revenue cost, and would also reduce the employment-derived GVA benefits.

11.55 To test this, we have modelled more pessimistic demand assumptions. These have the effect of reducing the overall BCR, although for Option 4, the BCR remains (marginally) greater than 2.

Table 11-7: Summary of impact of pessimistic demand assumptions

Option	Revised assumptions	Original adjusted BCR	‘Weaker demand’ adjusted BCR
Option 2	In Phase 1a, demand builds over 6 years to reach maximum occupancy of 75%. In Phase 1b, demand builds over 10 years to reach maximum occupancy of 75%	1.49	1.17

Option	Revised assumptions	Original adjusted BCR	'Weaker demand' adjusted BCR
Option 3	In Phase 1a, demand builds over 5 years to reach maximum occupancy of 80% In Phase 1b, demand builds over 12 years to reach maximum occupancy of 70%	0.95	0.66
Option 4	In Phase 1a, demand builds over 6 years to reach maximum occupancy of 80% In Phase 1b, demand builds over 10 years to reach maximum occupancy of 80%	2.47	2.01

• Source: SQW

- 11.56 This demonstrates that changes in demand make a substantial impact on the economic appraisal (and it should be noted that maximum occupancy levels of around 80% are not inconsistent with those currently reported at Springboard). Efforts to drive demand in Phase 1a will be critical (and will also help to build up longer-term demand for space in Phase 1b).

GVA assumptions

- 11.57 Within the economic appraisal, we have assumed that each full-time equivalent job generates GVA of £45,091 (equivalent to the mid-point of GVA per filled job in the Gwent Valleys and Newport and Monmouthshire). As indicated above, this could be a pessimistic assumption, given that productivity in the life science sector is higher than in the economy as a whole. However, given the need to generate demand, pressure to relax sectoral gateway criteria could increase (and this has been the experience of some facilities elsewhere).
- 11.58 While the definition of 'life sciences' could be quite broad (embracing a variety of service and supply activities), we have modelled a more pessimistic GVA per job assumption as a proxy for a switch to occupancy by 'lower value' activities. Assuming lower GVA of £42,074 (the average for the West Wales and the Valleys NUTS2 area in 2017), the impact on the BCR is as follows:

Table 11-8: Summary of impact of pessimistic GVA per filled job assumptions

Option	Original adjusted BCR	'Lower GVA' adjusted BCR	'Weaker demand' and 'lower GVA' BCR
Option 2	1.49	1.39	1.09
Option 3	0.95	0.89	0.62
Option 4	2.47	2.30	1.88

• Source: SQW

Locational considerations

- 11.59 Although the analysis within this Economic Case is based on a 'locationally neutral' Medi-Park (i.e. it could be on any of the four potential sites set out in the Strategic Case), it should be noted that the location is likely in practice to have a significant bearing on the Medi-Park's success. In broad terms, access to and a close relationship with the hospital is likely to be important in driving demand (not least since we would assume that the conferencing and flexible 'collaboration' space proposed within all three substantive options is likely to be better used if it can be easily accessed by hospital/ NHS Wales staff).

- 11.60 Of the four shortlisted sites, it is likely that Sites 1 and 4 (Llanfrechfa South and the Gwent Police HQ site) would find it more challenging to generate demand, given their more distant locations. Sites 2 and 3 (Llanfrechfa South Central and Llanfrechfa North) ought to be more promising, all other things being equal. However, to carry out a meaningful appraisal of these options, we would need to incorporate the specific costs associated with each site.

Conclusions of the economic appraisal of quantified costs and benefits

Using conservative assumptions, there is evidence that the Medi-Park could yield significant economic benefits over the appraisal period, with the highest value for money offered by the option that combines maximum lettable floorspace with a significant NHS Wales presence.

Achieving these benefits will require a coordinated effort to drive demand: a wider innovation programme and the active participation of both NHS Wales and those agencies established to support innovation in the Welsh life science sector will be crucial. The positive benefit: cost ratio for the preferred option should also be seen as preliminary given the uncertainty regarding the Medi-Park location. However, the Medi-Park should also achieve wider benefits, considered further in the next section.

12. Non-monetised benefits

Summary

In addition to the quantified benefits discussed in the previous section, the Medi-Park should also yield health and wider economic development benefits, and should also be directly beneficial to Aneurin Bevan University Health Board and NHS Wales more widely.

These benefits cannot be quantified at present. But they are highly significant and efforts should be made to quantify them and incorporate them within the formal economic appraisal as part of the development of the Outline Business Case.

Introduction

- 12.1 In addition to the quantified impacts set out above, there are several benefits that are not yet possible to quantify, but which are central to the Medi-Park business case. These fall into four main categories: **health** benefits; **organisational** benefits (particularly to NHS Wales organisations); **local regeneration** benefits in Cwmbran; and **wider economic development** benefits.

Health benefits

- 12.2 While part of the driver for the Medi-Park is economic (reflecting Cardiff Capital Region's relative strengths and the high value of the life sciences sector), the development of the Medi-Park should also contribute to **improved health outcomes**. This is recognised strategically: for example, *A Healthier Wales*, the Welsh Government's plan for health and social care, highlights the need to maximise value for patients from the better use of technology and data⁷⁶. This is reflected in the focus of Life Sciences Hub Wales on developing solutions that will yield both positive health outcomes and economic benefits and in the strengthened emphasis on innovation in the University Health Board accreditation process.
- 12.3 More specifically, health benefits could be generated by the Medi-Park in a number of ways:
- first, by providing a 'framework' through which NHS Wales bodies and industry can collaborate in finding shared solutions to health challenges. This might include increased capacity for clinical trials (both physically within the Medi-Park buildings, and organisationally); or opportunities for ABUHB and industry (whether physically located at the Medi-Park or not) to become involved in joint collaborations along the lines of the 'medtech and in-vitro diagnostics co-operatives' established in parts of England. ABUHB has increased its clinical trials activity in recent years: although volumes are still much smaller than in (for example) Cardiff and Vale, there ought to be an opportunity to capitalise on ABUHB's smaller scale, potential flexibility and the value of the Medi Park resource

⁷⁶ Welsh Government (2018), *A Healthier Wales: Our plan for health and social care*, p.23 (<https://gov.wales/docs/dhss/publications/180608healthier-wales-mainen.pdf>)

- second, by orienting the focus of NHS Wales/ industry collaboration towards the specific health and care issues faced by Torfaen and the ABUHB region. Currently, the ABUHB area (and the South Wales Valleys more generally) face significant and long-term challenges associated with an ageing population and high levels of deprivation: while these are relevant to much of Wales and the UK as a whole, they are especially acute locally. The Medi-Park could present an opportunity for a stronger local/ regional focus
- third, by building up the potential for links with the wider knowledge and innovation base. There are strong links already between ABUHB and the local universities: Cardiff University, Cardiff Metropolitan University and the University of South Wales are all represented on the Medi-Park Board, and all have indicated an interest in being 'stakeholders' in the longer term. While the current model as outlined in this SOC does not include a major university presence, it provides an opportunity for a 'point of presence', which could be valuable in encouraging greater University/ Health Board interaction, as well as joint working with industry.

12.4 Some of these health-related benefits could be quantified, and they should be explored in detail at the Outline Business Case stage. For example, it ought to be possible to map the number of and growth in existing collaborations between ABUHB and industry and identify how these might be expanded over time.

12.5 Within the different options set out in this Economic Case, it is likely that Options 3 and 4 will be more conducive to achieving health service/ industry collaboration (and therefore improved health outcomes) over time, since both of these options include, and to some extent rely on, direct NHS Wales engagement. Option 2 provides a more 'conventional' commercial space solution.

Organisational benefits

12.6 Aside from the opportunity for greater collaboration in support of improved health outcomes, the Medi-Park should deliver some organisational benefits, especially to ABUHB. These could include:

- **'internal' innovation and collaboration benefits:** The Medi-Park should provide a focal point for ABUHB's wider innovation activity – and strengthen it by enabling closer joint working and dialogue with industry and academic partners. This should strengthen ABUHB's role as a driver of innovation within NHS Wales (enhancing ABUHB's emerging innovation strategy) and build stronger relationships with other parts of the NHS Wales innovation framework (including Life Sciences Hub Wales and the Bevan Commission). The Medi Park also provides an opportunity to create an ABUHB innovation centre on the Grange University Hospital site, which it would not have the resources to do alone, providing a focal point for ABUHB Innovation (and potentially research) to develop partnerships with industry and academia and to provide better access to national and UK-wide funding and collaboration opportunities
- **estates benefits:** The Medi-Park is not primarily intended to be an addition to the ABUHB land and property estate. However, it could provide co-location opportunities

and could enable use for conferencing, training and other purposes. In the context of the development of a masterplan for the Llanfrechfa site, the Medi-Park could also help to drive opportunities for the wider redevelopment of the older part of the estate for alternative clinical or other uses. Depending on the eventual ownership model for the Medi-Park (see the Management Case), the scheme will also provide ABUHB and other partners with an additional, high-quality asset that would otherwise not come forward

- **recruitment and skills benefits:** The Medi-Park should also strengthen ABUHB's ability to attract staff. It presents a new opportunity for clinical staff to engage with the innovation process – and one which is likely to be unique, at least in a 'large general hospital' setting. Given the challenges in recruiting and retaining clinical staff, especially in non-metropolitan areas and in the light of Brexit, this could make an important contribution to ABUHB's future resilience.

12.7 As with the health benefits, these 'organisational benefits' are likely to vary between the Medi-Park options. Option 2 is less likely to yield organisational benefits to ABUHB and other NHS Wales organisations than Options 3 and 4, given the lack of an 'inherent' NHS Wales presence within the model.

Local regeneration benefits

12.8 While the area of impact for the Medi-Park scheme has been assumed to be Cardiff Capital Region for the purposes of the economic appraisal, there will be some benefits which will be more specifically locally relevant. These include:

- **benefits associated with the development of the Llanfrechfa (or Police HQ) site.** Some of these have been captured in the 'estates benefits' referred to above (for example, the opportunity that the Medi-Park presents to drive the wider redevelopment of the sub-standard older estate on the Llanfrechfa site). More broadly, it is anticipated that the Medi-Park will be a central component of a wider masterplan for the site, contributing to the success of a mixed-use development
- **aspiration and community opportunity.** A central purpose of the Medi-Park concept (especially from the perspective of Torfaen CBC) is to drive new, and higher value, employment opportunities for local people. The additional employment itself is quantified in the economic appraisal (although it should be noted that leakage from Torfaen will be substantially higher than the estimated leakage from Cardiff Capital Region as a whole). However, the presence of a 'higher-value' employment base in Cwmbran should help to drive wider benefits, for example in providing greater diversity within the local employment base and raising aspirations among potential future employees, clinicians and innovators. Realising these will require strong links to be built between the Medi-Park and local schools, colleges and community organisations, although the innovation programme embedded within Options 2-4 should help with this.

12.9 These benefits will be relevant in Options 2, 3 and 4, although the scope for industry engagement will obviously be more limited in Option 3, given its scale.

Wider economic development benefits

- 12.10 Finally, the Medi-Park will lead to some wider, long-term catalytic economic development benefits. The life science sector is highlighted as a priority opportunity within Cardiff Capital Region's Industrial and Economic Plan, and a range of measures – including the current bid to the Strength in Places Fund – are in place to support its development. The Medi-Park will form an important part of the regional offer to inward investors and expanding indigenous businesses: linking the innovation programme associated with the Medi-Park itself with the wider regional ecosystem support offer will be essential.

Conclusions of the analysis of non-monetised benefits

Although they have not yet been quantified, the benefits set out in this section form an important part of the case for the Medi-Park, and are at the heart of its core rationale. If monetised, they are likely to increase the overall benefit: cost ratio.

It should be possible to quantify some of these (for example, the potential gain in the volume of clinical trials progressed with ABUHB involvement). This will require further analysis, as well as clarity on the detail of the Medi-Park offer, but ought to be considered within the Outline Business Case.

13. Conclusions of the Economic Case

Bringing it all together: Appraisal summary

- 13.1 Taking the costs and benefits outlined in this Economic Case into account, the table below summarises the results of the economic appraisal. Note that we have not formally modelled Option 1, given that it does not involve any public sector capital investment (over and above land and servicing costs, which are excluded from all options) and does not *directly* lead to any benefits.

Table 13-1: Economic appraisal results

Appraisal sections		Option 2	Option 3	Option 4
A	Present Value Benefits (£m)	35.9	16.4	58.9
B	Present Value Costs (£m)	25.1	18.5	24.5
C	Present Value of other quantified benefits	1.6	1.2	1.7
D	Net Present Public Value (A-B+C)	12.4	-0.8	36.0
E	Initial Benefit: Cost Ratio (A/B)	1.43	0.89	2.40
F	Adjusted Benefit: Cost Ratio ((A+C)/B)	1.49	0.95	2.47
G	Significant non-monetised benefits	<ul style="list-style-type: none"> Additional demand for higher level skills. Organisational benefits to ABUHB and wider NHS Wales Increased interaction and knowledge exchange between clinicians/ NHS Wales and industry Increased regional capacity for growth Opportunities for co-location of NHS Wales/ ABUHB services Contribution to wider regional economic strategy 		
	<i>Gross jobs</i>	238	183	299
	<i>Net additional jobs</i>	114	29	179
	<i>Businesses accommodated</i>	73	57	94
H	Value for money category	Acceptable	Poor	High
I	Switching values and rationale for vfm category	Sensitivity analysis (adjusting for lower/ slower take up) reduces BCR, although still within categories shown.		
J	Net financial cost (£m)	Capital: 1a: 11.0 1b: 14.6	Capital: 1a: 5.6 1b: 14.6	Capital: 1a: 12.5 1b: 14.6
		Revenue: 1a: 5.5 1b: -0.3	Revenue: 1a: 2.2 1b: -0.2	Revenue: 1a: 0.7 1b: -0.3

Appraisal sections		Option 2	Option 3	Option 4
K	Risks	<ul style="list-style-type: none"> • Failure to secure anticipated commercial demand • Failure to implement strict entrance and exit criteria • Failure to secure sufficient demand from firms in life science sector (as opposed to 'generic' demand) • Lack of clear links with NHS Wales innovation and research base • Failure to build complementarity with wider regional offer – risk of duplication/ competition 		
L	Other issues	-	-	-

• Source: SQW

Conclusion

- 13.2 Option 4 clearly presents the best value for money of the three options, based on the economic appraisal. It is also the option most likely to generate the non-monetised benefits highlighted above. However, this should be regarded as an early assessment, given the uncertainties regarding the specific location and potential uses (and the sensitivity of the BCR to changes in occupancy level). It will therefore be important to revisit the economic appraisal at the OBC stage, once site-specific costs have been finalised.

Part III:

Financial Case

14. Introduction to the Financial Case

Summary

The Financial Case sets out how far the proposals for the Medi-Park are affordable. Comparing each option in Phase 1a:

- Option 2 has an estimated capital cost of £9.4 million, excluding land and servicing costs. Based on configuration and rental assumptions, it is likely to run at an annual loss of £138k in steady state after 5 years.
- Option 3 has an estimated capital cost of £4.8 million, and is likely to run at an annual loss of £54k after 5 years
- Option 4 has an estimated capital cost of £10.7 million, and is likely to make a small annual profit of £15k after 5 years

Option 4 is the preferred option in terms of financial viability. However, the estimated profit is small, and based on the model, the scheme is unlikely to be able to sustain repayments were the capital to be borrowed. We anticipate that the capital phase will require grant funding.

For all options, Phase 2b is estimated to have a capital cost of around £12.5 million, and could generate an annual profit of £20-25k. This could eventually be viable for a private developer, but would require a significant increase in rental values, and would probably rely on the success of Phase 1a.

Financial model

- 14.1 The purpose of this financial case section of the SOC is to offer an early stage assessment of the extent to which the proposition for Cwmbran Medi-Park is affordable – on what basis and under what configuration.
- 14.2 This question has been interrogated in a flexible high-level Excel-based financial model that:
- runs to 2044, i.e. illustrates up to 20 years of operational activity on the working assumption that Phase 1a (see below) is built and operational by 2024
 - differentiates between capital and revenue spend and financial implications to the project partners – reporting on both estimated capital cost (amount and timing) and operational income and expenditure forecasts post completion
 - is capable of layering in inflation calculations as required
 - is capable of simultaneously running up to six scenarios – allowing financial analysis of options and or sensitivity modelling, as required.
- 14.3 As set out in the Economic Case, four options for the Medi-Park were developed. These options are summarised below. Looking at each of these, the financial model aims to answer the following key questions:

- **what is the estimated capital cost** of the scale of development proposed at the MediPark in Cwmbran?
- once built, **is the development likely to (as a minimum) break even** on a revenue basis within a reasonable amount of time (say within three years of opening)?
- **do the revenue forecasts suggest that operating activities might be capable of – partially or fully – repaying long term borrowing** (e.g. Prudential Borrowing) raised for the purposes of funding capital costs (or alternatively, does it look likely that 100% capital grant funding will be necessary)?
- on a comparative basis, **which option is the most affordable/financially viable?**

Financial case options

14.4 The financial case assesses each option, assuming that there are three phases of development:

- **Phase 1a** (up to 40,000 sq ft):
 - Option 1 (serviced site only)
 - Option 2 (innovation centre, without a substantial NHS Wales link)
 - Option 3 (small scale NHS Wales research and development facility, with some capacity for related office uses)
 - Option 4 (NHS Wales research activity within a wider innovation centre)
- **Phase 1b** (up to 80,000 sq ft, grow on space to 2038)
- **Phase 2** (scope for expansion, indicatively a further 2.7 hectares).

14.5 Phase 2 is noted here for information purposes - for modelling purposes, we are only concerned with Phases 1a and 1b (as per the demand model prepared in 2019 and reported in the Strategic Case).

14.6 **All financial modelling currently excludes land values and infrastructure/ site servicing costs.** These costs are likely to be significant and will add to the capital costs that are illustratively quantified in this SOC. However, insufficient information is currently available to quote figures with any degree of certainty. That is not unusual at this early stage, and significant additional research and financial analysis will need to be carried out as the proposals develop through Outline Business Case (OBC) and Full Business Case (FBC) gateways. However, as the costs are consistently excluded across all options, comparative analysis is still possible to identify a preferred SOC option.

15. Financial modelling assumptions

Phase 1a

Phase 1a (Option 1): Site allocation only

Description

- 15.1 Option 1 assumes a series of serviced plots on the site would be brought forward by the market, with the site actively promoted to the life science sector.

Assumptions

- 15.2 Whilst economic and strategic cases indicate that there is demand from within the life science sector, it is unlikely that the connection between the hospital and business demand will be realised without active promotion and some initial investment in activity on the site. Purely illustratively, this is estimated at c.£100k per annum for three years – i.e. an aggregate cost of c.£300k covering promotion, agency, events, printing, web design and maintenance and publicity costs – but not modelled for financial case purposes as this represents the only direct financial impact.

Phase 1a (Option 2): Innovation centre, without a substantial NHS Wales link

- 15.3 Option 2 proposes a Phase 1a innovation centre marketed at businesses in the health and life science sector (including digital technologies and health data related activities) and including collaboration / shared space and café facilities that could promote interaction with NHS Wales activities on site.
- 15.4 No direct NHS Wales presence is included within the facility, although it is assumed that there is provision for interaction with relevant support organisations (such as Life Sciences Hub Wales, etc.).
- 15.5 Detailed modelling assumptions are as set out in Table 1 below.

Table 15-1: Phase 1a / Option 2 assumptions

	Assumption	Source
Indicative space		
Gross external area	40,000 sq ft	As per initial demand estimates and indicative layout
Gross internal area	38,000 sq ft	HCA Employment Densities Guide (GEA less 5%)
Net internal area	31,500 sq ft	Broadly aligned with HCA Employment Densities estimate (GIA less 15%); consistent with indicative space planning calculations used by SQW's sister company Oxford Innovation (OI)

Indicative exclusions to derive net lettable space

	Assumption	Source
LSHW presence/ flexible working area	2,000 sq ft	Assumes office point of presence (for example, LSHW and other relevant organisations (e.g. Cardiff University/ USW/ Cardiff Met), plus hotdesking space
ABUHB R&D/ clinical trials space	-	No assumed R&D / clinical trial content in this option
Other gross to net internal deductions including common areas, café / lounge, toilets/showers, reception and conferencing spaces	4,900 sq ft	Derived from OI indicative space calculations
Total exclusions	6,900 sq ft	
Total net lettable excluding LSHW / ABUHB	24,600 sq ft	
Indicative schedule of lettable space		
Flexible workshops (with scope for easy upgrade to lab/ office)	12,000 sq ft	Approximately 50% of total, consistent with demand analysis
Offices	12,600 sq ft	Approximately 50% of total, consistent with demand analysis (no assumed subdivision into room sizes at this stage)
Hot desks	15	Consistent with content of similar OI schemes elsewhere
Virtual tenancies	30	Consistent with content of similar OI schemes elsewhere
Development timeframe		
Start date	2021	Earliest possible
Build start to completion	2.5 years	Working assumption
Build start to occupancy	3.0 years	Estimated six months from completion to occupancy
Occupancy assumptions		
Office and workshop space		
Year 1 from completion	15%	Assumes slower than ‘normal’ occupancy, based on health/ life science gateway criteria (assuming limited direct association with the hospital) – NB this reflects the Royal Cornwall experience, where gateway criteria were substantially relaxed, and Springboard is currently 85% occupied
Year 2 from completion	35%	
Year 3 from completion	50%	
Year 4 from completion	85%	
Year 5 from completion	85%	
Hot desks/ virtual tenancies		
Hot desks Y1-Y8 build up	0-15	Derived from OI experience
Virtual tenancies Y1-Y8 build up	0-30	Derived from OI experience
Build cost assumptions		

	Assumption	Source
Land costs/ abnormals	Excluded	Common to all options – insufficient scheme definition and information currently available
Build costs per sq ft	£172	BCIS benchmarks for air-conditioned office-based schemes range from £146 - £208, assumed at £172 for these purposes (upper quartile 1-2 storey), plus 15% developer profit assumed on top
Build contingency	10%	Working estimate % of build costs
Professional fees	6%	Working estimate % of build costs
Fit-out costs (inc. IT)	£200k	Derived from OI experience
Operating cost assumptions		
Pre-opening and mobilisation	£30k	Derived from OI experience
Approximate running costs, excl. rates	£472k p.a.	<p>Working OI estimate for innovation centre of c.40,000 sq ft – inclusive of salaries, on-costs, property costs and fixed costs (IT etc). The staff posts and estimated on-cost inclusive annual salary costs included within this budget are as follows:</p> <p>Customer Experience Assistant (salary of £20,000)</p> <p>Assistant Centre Manager (£25,000)</p> <p>Centre Manager (£35,000)</p> <p>Innovation Director (0.5FTE, £30,000)</p> <p>This gives a total estimated annual salary and on-costs figure of £132k (before management fees).</p>
Business rates	£95k p.a.	<p>Working estimate - average rateable value assumed to be £12 psf (based on RV at Springboard NP44 3AW)</p> <p>Multiplier assumed £0.50</p> <p>Less estimated small business relief</p>
Management fee	6% of revenue	OI estimate
Income assumptions		
Office space rent	£24 psf	Assumed at the top end of available benchmarks given the quality of the proposed offer and OI experience of exceeding local rental levels. This figure includes IT/broadband etc. By way of comparison, Cardiff Medicentre is £24 psf all inclusive, although this is exceptionally well located on the Heath/ Cardiff Medical School campus. Springboard (Llantarnam) is £19 psf all inc.; some units at Raglan House (Llantarnam £17psf). Orbit (Merthyr) is £19.50 psf for offices
Workshop rent	£10 psf	Assumed uplift on local comparators given the quality of the offer - industrial rents in Llantarnam are in the £6-7 psf range.
Hot-desk fees	£200 per month	Equivalent to current 'e-pod' rates at Springboard and in line with OI estimates
Virtual memberships	£75 per month	Based on OI experience

	Assumption	Source
Conferencing income	£45k p.a.	Based on OI calculations on similar scale schemes elsewhere (using lower end of range)
Revenue grant		Assume grant equivalent to 100% of rental value of LSHW space – i.e. LSHW is assumed to occupy the space as an anchor tenant, but would need to finance the market rent from revenue grant / some other source.

Phase 1a (Option 3): Small scale R&D facility, with some capacity for related office uses

- 15.6 Option 3 seeks to build the Medi-Park proposition from a core of NHS Wales activity, including the *indicative* relocation of ABUHB's research and development facility and related services in the Research, Improvement, Innovation and Value team (e.g. ABCi, currently accommodated at St Cadoc's). It also assumes some business uses relevant to the proposed R&D core, although on a smaller scale to those assumed in Option 2. Detailed modelling assumptions are as set out in Table 2 below.

Table 15-2: Phase 1a / Option 3 assumptions

	Assumption	Source
Indicative space		
Gross external area	20,000 sq ft	Notionally half identified demand (essentially illustrative of a smaller scale facility)
Gross internal area	19,000 sq ft	HCA Employment Densities Guide (GEA less 5%)
Net internal area	15,750 sq ft	Broadly aligned with HCA Employment Densities estimate (GIA less 15%); consistent with indicative space planning calculations used by OI.
Indicative exclusions to derive net lettable space		
LSHW presence/ flexible working area	1,000 sq ft	Assumes office point of presence (e.g. for LSHW and other relevant organisations (e.g. Cardiff University/ USW/ Cardiff Met)), plus hotdesking space
ABUHB R&D/ clinical trials space	5,000 sq ft	Working estimate
Other gross to net internal deductions including common areas, café / lounge, reception and conferencing spaces	2,450 sq ft	Derived from OI indicative space calculations
Total exclusions	8,450 sq ft	
Total net lettable excl LSHW / ABUHB	7,300 sq ft	
Indicative schedule of lettable space		
Offices	7,300 sq ft	More limited provision, expected to be directly associated with the NHS offer

	Assumption	Source
Hot desks	10	Consistent with content of similar OI schemes elsewhere
Virtual tenancies	20	Consistent with content of similar OI schemes elsewhere
Development timeframe		
Start date	2021	Earliest possible
Build start to completion	2.5 years	Working assumption
Build start to occupancy	3.0 years	Estimated six months from completion to occupancy
Occupancy assumptions		
Office space		
Year 1 from completion	25%	Derived from OI estimates
Year 2 from completion	50%	Derived from OI estimates
Year 3 from completion	90%	Derived from OI estimates
Year 4 from completion	90%	Derived from OI estimates
Maximum occupancy level	90%	Derived from OI estimates. NB: Springboard is currently c.85% occupied
Hot desks/ virtual tenancies		
Hot desks Y1-Y8 build up	0-10	Derived from OI experience
Virtual tenancies Y1-Y8 build up	0-20	Derived from OI experience
Build cost assumptions		
Land costs/ abnormals	Excluded	Common to all options – insufficient scheme definition and information currently available
Build costs per sq ft	£172	BCIS benchmarks for air-conditioned office-based schemes range from £146 - £208, assumed at £172 for these purposes (upper quartile 1-2 storey), plus 15% developer profit assumed on top
Build contingency	10%	Working estimate % of build costs
Professional fees	6%	Working estimate % of build costs
Fit-out costs (inc. IT)	£150k	Derived from OI experience
Operating cost assumptions		
Pre-opening and mobilisation	£30k	Derived from OI experience
Approximate running costs, excl. rates	£296k p.a.	Working OI estimate for innovation centre of c.20,000 sq ft – inclusive of salaries, on-costs, property costs and fixed costs (IT etc). The staff posts and estimated on-cost inclusive annual salary costs included within this budget are as follows: Customer Experience Assistant (salary of £20,000) Assistant Centre Manager (£25,000)

	Assumption	Source
		Centre Manager (£35,000).
		This gives a total estimated annual salary and on-costs figure of £96k (before management fees).
Business rates	£75,000	Working estimate - average rateable value assumed to be £12 psf (based on RV at Springboard NP44 3AW) Multiplier assumed £0.50 Less estimated small business relief
Management fee	6% of revenue	OI estimate
Income assumptions		
Office space rent	£24 psf	As per assumptions for Option 2 (all inclusive)
Hot-desk fees	£200 per month	Equivalent to current 'e-pod' rates at Springboard and in line with OI estimates
Virtual memberships	£75 per month	Based on OI experience
Conferencing income	£45k p.a.	Based on OI calculations on similar scale schemes (using lower end of range)
Revenue grant		Assume grant equivalent to 100% of rental value of LSHW and ABUHB spaces – i.e. they are assumed to occupy the space as an anchor tenant but would need to finance the market rent from revenue grant / some other source.

Phase 1a (Option 4): NHS Wales research facility within a larger innovation centre

- 15.7 Option 4 is a combination of Options 2 and 3, with a slightly enhanced footprint in order to accommodate a greater proportion of revenue generating net lettable space.
- 15.8 This option is defined by a core of NHS Wales research activity, supported by longer-term or temporary space with which ABUHB has a research relationship (or wants to develop a relationship), as well as those in the wider life science and health economy. Detailed modelling assumptions are as set out in Table 3 below.

Table 15-3: Phase 1a / Option 4 assumptions

	Assumption	Source
Indicative space		
Gross external area	45,000 sq ft	As per initial demand estimates and indicative layout
Gross internal area	42,750 sq ft	HCA Employment Densities Guide (GEA less 5%)
Net internal area	35,500 sq ft	Broadly aligned with HCA Employment Densities estimate (GIA less 15%); consistent with indicative space planning calculations used by OI

	Assumption	Source
Indicative exclusions to derive net lettable space		
LSHW presence/ flexible working area	2,000 sq ft	Assumes office point of presence (e.g. for LSHW and other relevant organisations (e.g. Cardiff University/ USW/ Cardiff Met)), plus hotdesking space
ABUHB R&D/ clinical trials space	5,000 sq ft	Working estimate
Other gross to net internal deductions including common areas, café / lounge, reception and conferencing spaces	5,500 sq ft	Derived from OI indicative space calculations
Total exclusions	12,500 sq ft	
Total net lettable excl LSHW / ABUHB	23,000 sq ft	
Indicative schedule of lettable space		
Workshops (with scope for upgrade to lab/ office)	4,000 sq ft	Consistent with demand analysis but with enhanced office space provision (see below)
Offices	19,000 sq ft	Consistent with demand analysis, enhanced level of office space provision (no assumed subdivision into room sizes at this stage)
Hot desks	15	Consistent with content of similar OI schemes
Virtual tenancies	30	Consistent with content of similar OI schemes
Development timeframe		
Start date	2021	Earliest possible
Build start to completion	2.5 years	Working assumption
Build start to occupancy	3.0 years	Estimated 6 months from completion to occupancy
Occupancy assumptions		
Office and workshop space		
Year 1 from completion	25%	Derived from OI estimates and experience. Assumes faster rate of occupancy than Option 2, given an active NHS Wales presence
Year 2 from completion	50%	
Year 3 from completion	75%	
Year 4 from completion	90%	
Year 5 from completion	90%	NB: Springboard is currently c.85% occupied
Hot desks/ virtual tenancies		
Hot desks Y1-Y8 build up	0-15	Derived from OI experience
Virtual tenancies Y1-Y8 build up	0-30	Derived from OI experience
Build cost assumptions		

	Assumption	Source
Land costs/ abnormals	Excluded	Common to all options – insufficient scheme definition and information currently available
Build costs per sq ft	£172	BCIS benchmarks for air-conditioned office-based schemes range from £146 - £208, assumed at £172 for these purposes (upper quartile 1-2 storey), plus 15% developer profit assumed on top
Build contingency	10%	Working estimate % of build costs
Professional fees	6%	Working estimate % of build costs
Fit-out costs (inc. IT)	£300k	Derived from OI experience
Operating cost assumptions		
Pre-opening and mobilisation	£30k	Derived from OI experience
Approximate running costs, excl. rates	£505k p.a.	<p>Working OI estimate for innovation centre of c.45,000 sq ft – inclusive of salaries, on-costs, property costs and fixed costs (IT etc). The staff posts and estimated on-cost inclusive annual salary costs included within this budget are as follows:</p> <p>Customer Experience Assistant (salary of £20,000)</p> <p>Assistant Centre Manager (£25,000)</p> <p>Centre Manager (£35,000)</p> <p>Innovation Director (50FTE, £30,000)</p> <p>This gives a total estimated annual salary and on-costs figure of £132k (before management fees).</p>
Business rates	£100k p.a.	<p>Working estimate - average rateable value assumed to be £12 psf (based on RV at Springboard NP44 3AW)</p> <p>Multiplier assumed £0.50</p> <p>Less estimated small business relief</p>
Management fee	6% of revenue	OI estimate
Income assumptions		
Office space rent	£24 psf	As per assumptions for Option 2
Workshop rent	£10 psf	As per assumptions for Option 2
Hot-desk fees	£200 per month	Equivalent to current 'e-pod' rates at Springboard and in line with OI estimates
Virtual memberships	£75 per month	Based on OI experience
Conferencing income	£45k p.a.	Based on OI calculations on similar scale schemes (using lower end of range)
Revenue grant		Assume grant equivalent to 100% of rental value of LSHW and ABUHB spaces – i.e. they are assumed to occupy the space as an anchor tenant but would need to finance the market rent from revenue grant / some other source.

Phase 1b financial modelling assumptions (options 2 – 4 inclusive)

- 15.9 Phase 1b is additional grow-on space, developing the Medi-Park to the (indicatively) estimated demand capacity to 2038. Essentially, Phase 1b is the same for all options, although it is reasonable to assume that the greater the demand generated in Phase 1a, the faster the take-up in Phase 1b.
- 15.10 For the purposes of generating an illustrative forecast of Phase 1b we assume that:
- Phase 1b is brought forward by the market (perhaps with the assistance of Private Developer Grant or similar).
 - the developed space is 'generic' and entirely for rent (i.e. there are no additional hotdesking spaces, conferencing facilities, shared facilities, etc., given that these are provided within the innovation centre)
 - the focus is on health and life science activities (rather than a generic business park), and this influences the take-up profile
 - some office occupiers *could* be from NHS Wales services (e.g. the RIIV team), although this may be impacted by the fact that rents at Llanfrechfa are likely to be higher than at Mamhilad and some of their existing stock
 - detailed modelling assumptions are as set out in Table 4 below.

Table 15-4: Phase 1b assumptions

	Assumption	Source
Indicative space		
Gross external area	80,000 sq ft	As per initial demand estimates and indicative layout
Gross internal area	76,000 sq ft	HCA Employment Densities Guide (GEA less 5%)
Net internal area	65,000 sq ft	Lower bound HCA Employment Densities estimate (GIA less 15%); approximates to indicative space calculation used by OI.
Indicative exclusions to derive net lettable space		
Common and services	5,000 sq ft	Working estimate
Total exclusions	5,000 sq ft	
Total net lettable	60,000 sq ft	
Indicative schedule of lettable space		
Workshops	40,000 sq ft	c2/3 total, broadly consistent with demand analysis taking into account higher level of office supply in Phase 1a
Offices	20,000 sq ft	c1/3 total, broadly consistent with demand analysis taking into account higher level of office supply in Phase 1a
Development timeframe		
Start date	2024	Working assumption

	Assumption	Source	
Build start to completion	2.5 years	Estimated six months from completion to occupancy	
Build start to occupancy	3.0 years	Working assumption	
Occupancy assumptions			
Office and workshop space			
For illustrative purposes, it is assumed that occupancy relates to the level of demand (and initial profile) built up as a result of Phase 1a. The resultant notional occupancy build-up is as follows:			
	Option 2	Option 3	Option 4
Year 1 from completion	15	10	25
Year 5 from completion	50	40	60
Year 10 from completion	80	70	90
Build cost assumptions			
Land costs/ abnormals	Excluded	Common to all options – insufficient scheme definition and information currently available	
Build costs per sq ft (office)	£115	Estimated build costs for South Wales (outside Newport/ Cardiff) in JLL/ Sutton Business Space report for hybrid units (CCR, 2019). Corresponds to mid-point of BCIS estimated costs for Torfaen for Office (£140 psf) and industrial (£75 psf) quoted in WG Commercial Property report. Plus developer profit assumed on top of build costs.	
Fit-out costs (inc. IT)	£200k	Based on OI estimates	
Build contingency	10%	Working estimate % of build costs	
Professional fees	6%	Working estimate % of build costs	
Operating cost assumptions			
All-inclusive operating cost per net lettable sqft	£10.50	Very high-level working assumption that more generic (i.e. non innovation centre) space can be operated on a leaner basis at an average of £10.50 per net lettable sq ft including rates costs, plus an allowance for a management fee at 6% pa – equates to total operating costs of just over £600k pa once maximum occupancy is reached	
Income assumptions			
Office space rent	£20 psf	Assumed at the top end of available local benchmarks given quality of proposed, but slightly below the £24 psf assumed for the innovation centre.	
Workspace rent	£7.50psf	EGi and CoStar office and industrial rents in Torfaen (cross-checked with assumed rental level on hybrid units quoted in JLL/ Sutton report)	
Revenue grant		None	

16. Financial modelling: Illustrative SOC conclusions

- 16.1 Based on the modelling assumptions detailed above, the following early stage conclusions may be reached in relation to the key questions posed at the beginning of this financial case section.

Estimated capital cost

- 16.2 Table 5 below summarises the estimated capital cost of each option as modelled.

Table 16-1: Capex Phase 1a, £'000

	Option 2	Option 3	Option 4
Land and servicing costs	0	0	0
Build and fit-out costs	7,080	3,590	8,040
Fees, contingency and developer profit	2,365	1,199	2,685
Total estimated capital cost	9,445	4,789	10,725

- 16.3 Under all **Phase 1a** options, the costs outlined above would be incurred between 2021 and 2023 – albeit in practice given the smaller scale footprint it is possible that Option 3 could be delivered to a slightly accelerated timescale.
- 16.4 The estimated build cost of **Phase 1b** under all scenarios is c.£12.54m, on the working assumption that serviced land would be made available to the market on a negligible cost basis (or that cost would be grant funded) in order to encourage scheme delivery. Inclusive of development finance cost, that total cost would probably rise to £13.0m - £13.5m. This is noted for information only – the costs and operation of Phase 1b are not assumed to be incurred by the project partners.

Operational cash flow profile

- 16.5 Tables 16.2 – 16.4 below summarise the estimated operational cash flow profile of each option as modelled, extracting the first five years of operation from the Excel model.

Table 16-2: Option 2 illustrative income and expenditure forecasts (first 5 years of operation)

£'000	2024	2025	2026	2027	2028
Phase 1a					
Rental income – office space	45	106	151	257	257
Rental income – workshop space	18	42	60	102	102

£'000	2024	2025	2026	2027	2028
Grant / rental revenue – LSHW / ABUHB	7	17	24	41	41
Other revenues (hot desk / virtual / conferencing)	22	32	43	54	54
Total revenues	92	197	278	454	454
Operating costs	(572)	(579)	(584)	(592)	(592)
Estimated operating profit / (loss)	(480)	(382)	(306)	(138)	(138)

Table 16-3: Option 3 illustrative income and expenditure forecasts (first 5 years of operations)

£'000	2024	2025	2026	2027	2028
Phase 1a					
Rental income – office space	44	88	158	158	158
Rental income – workshop space	0	0	0	0	0
Grant / rental revenue – LSHW / ABUHB	36	72	130	130	130
Other revenues (hot desk / virtual / conferencing)	17	26	35	44	44
Total revenues	97	186	323	332	332
Operating costs	(375)	(379)	(384)	(386)	(386)
Estimated operating profit / (loss)	(278)	(193)	(61)	(54)	(54)

Table 16-4: Option 4 illustrative income and expenditure forecasts (first 5 years of operations)

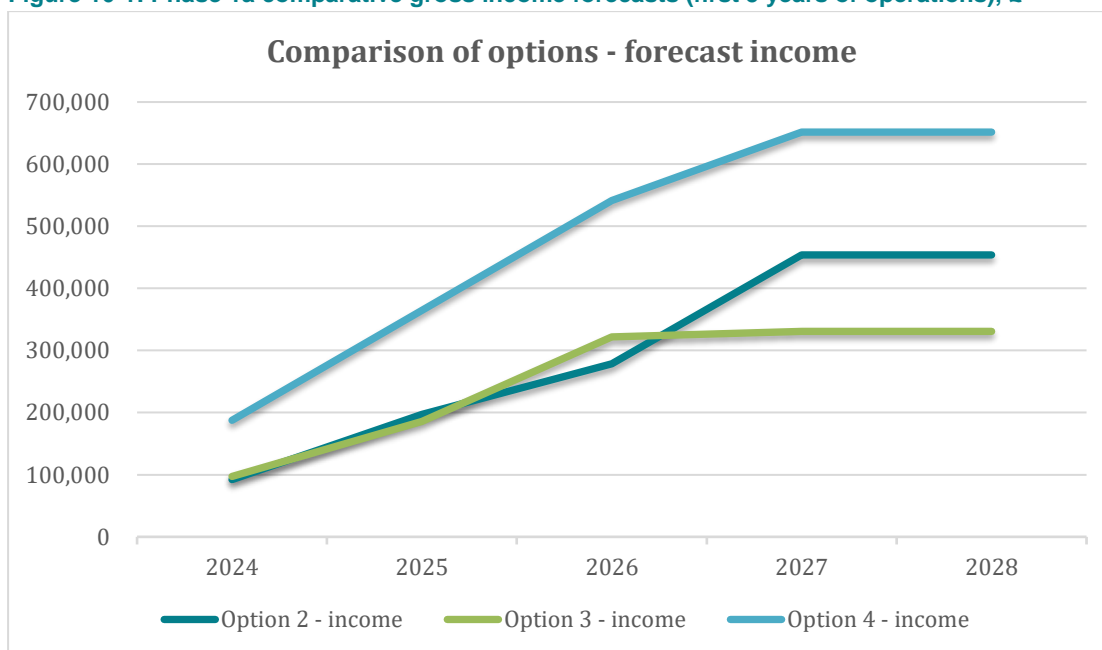
£'000	2024	2025	2026	2027	2028
Phase 1a					
Rental income – office space	114	228	342	410	410
Rental income – workshop space	10	20	30	36	36

£'000	2024	2025	2026	2027	2028
Grant / rental revenue – LSHW / ABUHB	42	84	126	151	151
Other revenues (hot desk / virtual / conferencing)	22	32	43	54	54
Total revenues	188	364	541	651	651
Operating costs	(614)	(622)	(631)	(636)	(636)
Estimated operating profit / (loss)	(426)	(258)	(90)	15	15

Summarising gross income and profit and loss

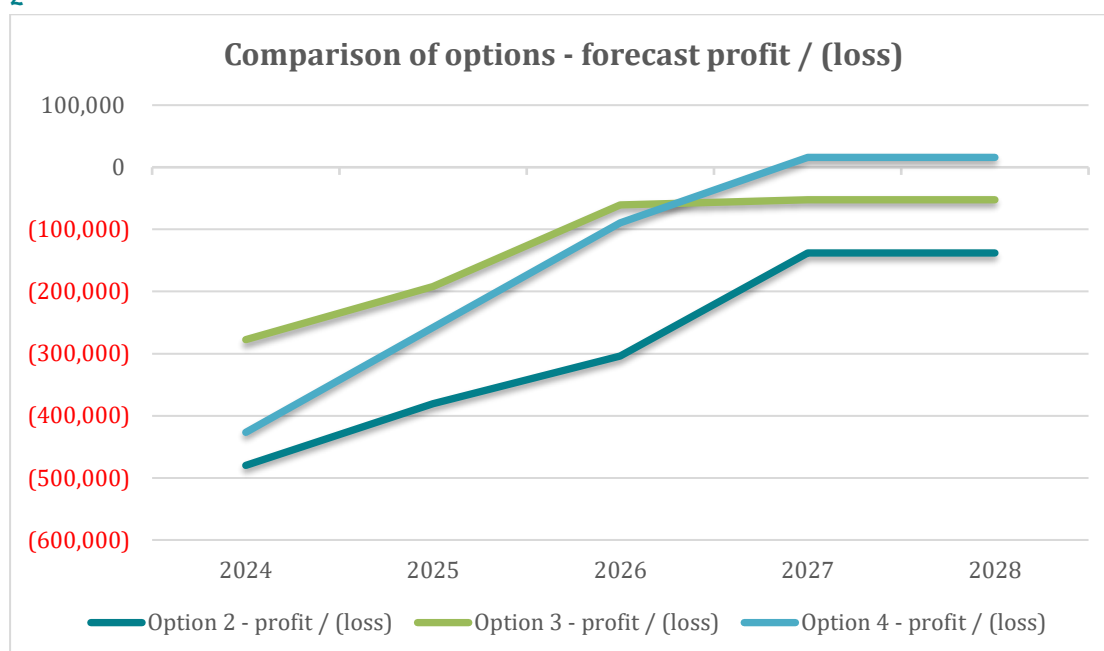
16.6 Figure 16-1 illustrates the forecast annual gross income across the first five years of operations for Phase 1a under each of Options 2, 3 and 4 (excluding any pre-opening costs):

Figure 16-1: Phase 1a comparative gross income forecasts (first 5 years of operations), £



Similarly, Figure 16-2 illustrates estimated net annual profit (loss):

Figure 16-2: Phase 1a comparative net annual profit (loss) forecasts (first 5 years of operations), £



Conclusions

In relation to Phase 1a...

16.7 The Medi-Park project is in its early stages, so the financial analysis should be seen as indicative. However, two clear conclusions can be drawn:

- **Financial performance on an ongoing basis is likely to be at or around breakeven level at best** – and under certain configurations could require recurring revenue support. This is a result of relatively low prevailing rental values combined with the relatively high operational costs associated with the delivery of a good quality innovation centre.
- **The option most likely to ensure recurring revenue support is not required is one which maximises provision of high-quality lettable office space within a vibrant life science and health economy cluster.** This is Option 4, which is the preferred option in financial case terms; i.e. the most affordable/ viable identified option. Option 4 is also the preferred option within the economic case.
- **It would be prudent to assume that 100% capital grant funding will be necessary** – even under the scenario (Option 4) where operating activities are forecast to become self-sustaining within three years of opening. The estimated operating profit is marginal, and unlikely to be capable of providing a meaningful contribution towards servicing any long term borrowing (e.g. Prudential Borrowing) raised for the purposes of funding capital costs.

16.8 To progress the preferred financial option (Option 4), **the project partners would need to source capital funding in the region of £10.725m** (excluding land and servicing costs). By way of illustration, the estimated annual repayment on £10.725m borrowed on a 30-year

basis at a 3.0% cost of finance would be £547k – far in excess of the stabilised annual forecast profit of £15k under Option 4.

... and Phase 1b

- 16.9 The assumption is that Phase 1b would be delivered by the market – i.e. there are no financial impacts upon the project partners.
- 16.10 How viable is this? Based on the modelled Phase 1b assumptions noted above, the scheme could generate a small annual profit (£20k - £25k). One way to look at this is to assess what level market rents would have to rise to in order to incentivise the private market to deliver the scheme – i.e. a reasonable (say 4%) net annual return on capital.
- 16.11 Based on £13m capital cost, this would equate to a target annual net return of £520k pa. As an illustration, this could be achieved if (a) office rentals had risen to £30/sq ft and workshop rentals to £15/sq ft; or (b) the balance of space was adjusted from 2:1 in favour of workshop rentals to a 50:50 split of space allocations. Arguably both of these things could conceivably be achieved in the long timeframe to the proposed Phase 1b build completion, *if* demand is generated by the success of Phase 1b and the scheme offers a unique high-quality proposition. However, they are ambitious given prevailing rental values in the area and the weakness of general office space demand.

Part IV:

Commercial Case

17. Commercial Case

Introduction and overview

Purpose of the commercial case

- 17.1 The purpose of this commercial case section of the SOC is to offer initial consideration of the commercial issues that will have to be addressed in future phases of business case development. Consistent with Green Book guidance, the commercial case is presented at high level at SOC stage, and can be developed further as plans are further advanced.
- 17.2 The commercial case addresses key questions around **how supplies or services can be sourced**. This considers:
- **supply-side capacity** (i.e. whether suppliers exist that can supply the services as articulated elsewhere in the business case)
 - whether a **viable and attractive commercial deal** can be structured for the supply of services (construction and ongoing delivery) in value for money terms.
- 17.3 Typically, the development of the commercial case involves:
- setting out the details of how the proposed services will be procured
 - pricing expectations
 - likely structure of commercial contracts with prospective suppliers
 - consideration of any OJEU implications.

Commercial case considerations for the Medi-Park

Supplies and services

- 17.4 In very broad terms, the supplies and services that would need to be contracted in order to deliver on the Cwmbran Medi-Park proposition can be identified as:
- the land on which the Medi-Park buildings would be developed – potentially involving a long leasehold or freehold transaction with Welsh Government and / or ABUHB
 - planning and design services in relation to the development of a deliverable and approved masterplan for the site
 - a building contract (or more likely phased series of contracts) to deliver the physical Medi-Park masterplan
 - an operating contract (or again, possibly several operating contracts) for the letting and management of the developed buildings – inclusive, at least in the case of the proposed innovation centre (Phase 1a), of wider packages of business and innovation support, as outlined in the management case.

- 17.5 It is highly likely that a large proportion of the identified supplies and services will involve contracting with specialist third party suppliers. Whilst it currently appears likely that the Project Board – in some form – would be the client and funder for the delivery of Phase 1a as proposed, that would probably still involve appointing a main contractor to manage and deliver the development scheme (for instance under a Design and Build contract).
- 17.6 Similarly, for ongoing management services, the most likely operating option (as set out in the management case) is one in which the building owner contracts on a medium to long term basis with a third-party specialist operator for letting, management and business support services.

Procurement implications

- 17.7 Both types of activity will have procurement implications – and are likely to trigger an OJEU process by being in excess of the threshold value for supplies and service contracts. Should the initiative progress further it will be necessary for the (outline or full) business case to consider and comment on:
- **client-side arrangements** – i.e. the (existing or newly created) organisation from that will contract supplies and services, as well as the structure of funding, reporting and governance relationships between that contracting entity and the other stakeholder organisations represented on the Medi-Park Board. Within the management case, we have indicatively assumed that Torfaen CBC may take this role, although this is to be determined
 - **a procurement project plan** and set of timescales for each major procurement requirement, inclusive of statutory consents (most obviously gaining planning permission). This procurement plan should also give clear consideration to any State Aid implications, and to how procurement should be structured to maximise value for money.
- 17.8 An indicative high-level brief for the construction and delivery phases (assuming procurement of a specialist operator as recommended in the management case) is set out below:

Indicative high-level brief for the proposed IC at the Cwmbran Medi-Park

Stage 1: Expert advice on the planning and design of the IC building

The selected tenderer will be required to advise on, and inform the overall design, internal layout, specification and fit out of the Cwmbran innovation centre. This will require technical advice on the design and layout of the building. Accordingly, tenders must provide:

- A concept design for the proposed Innovation Centre.
- A proposed design concept to include layout options, to help ensure the creation of an engaging workspace for target occupants that optimises financial sustainability and economic impact
- Proposed optimum solutions for enterprise/innovation space
- Cost benefit analysis of the options, incorporating full fit out costs.

Stage 2: Operation and management of the completed innovation/enterprise space

(NB: this will be subject to the different management options proposed in the management case)

The selected tenderer will be required to manage and operate the Innovation Centre with a proposal as agreed with the Cwmbran Medi-Park Project Board. Accordingly, tenders must demonstrate and provide:

- Proposed operational and management options for the innovation centre, which should include details on entrance/exit criteria, staff roles and responsibilities, event management, innovation support offer and wider cluster development activities etc.
- Projected benefits of the above options covering:
 - Potential for job creation and business growth arising from the activity generated by the project.
 - Direct income generated by the facility.
 - Any externalities /non-monetary costs and benefits
- Overall financial projections, identifying the process and timescale leading to financial viability.
- Provision of sample monthly operations and management reports.

The successful tenderer will be paid a set fee plus they will be paid a concession fee which will be a percentage on the net profits generated by the innovation centre (paid annually following finalisation of Financial Statements). The concession percentage will be considered as part of the tender process.

Part V:

Management Case

18. Management Case

Purpose of the management case

- 18.1 The purpose of this management case section of the SOC is essentially to provide an early perspective on the anticipated delivery, monitoring and evaluation arrangements for the innovation centre element (Phase 1a) of the proposed Medi-Park. It seeks to demonstrate that the implementation measures are robust and that they draw on recognised good practice – both in terms of benefits realisation and risk management.
- 18.2 Given the level of uncertainty that is typical for schemes at the initial SOC stage (recognising that this will be addressed as the proposals are honed and refined during the OBC and FBC processes over the coming months) the management case is presented at a fairly high level. However, it is framed by three key challenges, namely to:
- manage any risks during the design, build, funding and operational phases of the scheme and put in place fit for purpose contingency arrangements
 - cope with inevitable business and service change in a controlled manner
 - ensure that the core objectives for the scheme are met fully, anticipated beneficial outcomes are delivered as expected and evaluated effectively.

Governance and management

Strategic oversight

- 18.3 Currently, oversight of the Medi-Park project in the business case development phase is maintained by the **Medi-Park Board**. This is a partnership body currently chaired by the Chief Executive of Aneurin Bevan University Health Board, with leadership-level representation from the Council, Welsh Government, Cardiff University, the University of South Wales and Cardiff Metropolitan University.
- 18.4 It is anticipated that the Medi-Park Board will – at a strategic level - be responsible for ensuring the successful delivery and operation of the Medi-Park. While the composition and terms of reference for the Board may need to evolve to reflect this responsibility, **it will be important that strategic oversight is a partnership endeavour: as the strategic and economic cases demonstrate, the direct and substantive involvement of Health partners, alongside those with an economic development remit, will be essential to the success of the project.**
- 18.5 This suggests the establishment of a formal **joint venture** arrangement, involving those organisations with a direct land interest (depending on the location, the Welsh Government and ABUHB), with the Council. This approach is typically adopted by public sector-led science parks, with the joint venture maintaining ownership of the facility after completion. Examples include Warwick Science Park (a joint venture between the University of Warwick and Warwickshire County Council, established as a private limited company in 1996 and maintaining ownership of the Science Park's innovation facilities), and (more recently) the

new cyber security innovation centre at Hereford, established through a JV between Wolverhampton University and Herefordshire Council.

- 18.6 In principle, it could also be possible to procure a private sector partner as part of a public-private joint venture (with the development partner investing in the scheme and managing Phase 1a on completion). However, as the Financial Case demonstrates, the financial return on investment is modest: Phase 1a is therefore unlikely to be attractive to a commercial development partner. It is also important to recognise that the ongoing management of the Medi Park will require management of specialist *innovation* facility, rather than a generic commercial estates proposition. Likely higher costs and greater uncertainty are again likely to make this unattractive to a conventional commercial development partner.

Construction phase management

- 18.7 With that in mind, we envisage that procurement of the design and build of Medi Park Phase 1a will be managed by the Joint Venture, either via staff seconded to the JV company from partners, or via one of the partner institutions themselves (such as Torfaen CBC).
- 18.8 The JV and any lead partner with delegated responsibilities will need to ensure a clear and robust structure to provide accountability and an effective decision-making process for the management of major capital schemes. We have not as part of this study reviewed partners' systems and capacity; however (for example) Torfaen CBC has substantial experience of managing complex capital projects, including (for example) the 21st Century Schools programme and the recent £24 million Torfaen Learning Zone scheme. Management roles and accountabilities will need to be clearly set out in the OBC/ FBC, but would typically involve a Project Board and a defined Project Manager role with clear reporting and escalation lines.
- 18.9 The approach to construction procurement is set out in the commercial case.

Delivery phase management

- 18.10 There are potentially three ways in which an innovation centre could be managed:
- directly, by Torfaen CBC (or an alternative lead body)
 - through a third party, via a management agreement
 - through a third party, via a turnover lease
- 18.11 In practice, there are several ways in which a management or turnover lease arrangement might be constructed. However, Table 18-1 summarises the main features of each option:

Table 18-1: Summary of management options

Model	Key features
Direct management	Managed by staff directly employed by Torfaen CBC (or alternative lead body) All revenue is retained by the Council/ partnership However, likely to be difficult to secure the range of skills and expertise to enable the Medi-Park to reach its full potential
Management agreement	Third party operator secured through open procurement

Model	Key features
	<p>Operator receives a fixed fee, or a base fee plus a share of income (to incentivise growth)⁷⁷</p> <p>Remaining revenue retained by the Council/ owner</p> <p>Agreement may be terminated with notice period (after an initial minimum term)</p> <p>'Duty of care' obligation for operator in respect of repairs and maintenance</p> <p>Capital investment the responsibility of the Council/ owner</p> <p>Typically a 10-year contract term with 3,5 and 8 year breaks</p>
Turnover lease	<p>Third party operator secured through open procurement</p> <p>Operator retains all revenue, and pays a base rent plus an additional rent based on a proportion of turnover to the Council/ owner</p> <p>Medium/ long term notice period for termination</p> <p>Operator responsible for repairs and maintenance (sometimes with liability limitation)</p> <p>Operator investment in IT/ telecoms (and sometimes early year losses)</p> <p>Generally 10 or 15 year term (with 5 or 10 year break respectively)</p>

- 18.12 Essentially, the choice of operating model is a balance of risk/ control and reward, and the merits of each option should be carefully considered at OBC/ FBC stage. However, at this stage, **it is clear that the management of Phase 1 of the Medi-Park should involve the appointment of a specialist operator**, given that its success will depend on the active promotion of innovation and the animation of links between business and Health partners: this will require an integrated approach, combining high quality facilities management and the active delivery of an innovation programme, with access to life science expertise.
- 18.13 We therefore anticipate that management will involve the appointment of a specialist operator, selected through an open tender process so as to ensure good value for money and to attract organisations with the requisite expertise and experience of successfully managing health and life science focused innovation centres elsewhere in the UK.
- 18.14 Typically, a specialist operator for a facility on the scale of Medi-Park Phase 1a will appoint a small team responsible for driving innovation and business growth, as well as for the 'practical' management of the facility. The costs included within the financial and economic cases assume a team of four, which would be required regardless of the specific management/ lease option that the Council/ partnership decides to enter into. We assume that this team would comprise an Innovation Director, Innovation Centre Manager, Assistant Innovation Centre Manager and a Customer Experience Assistant. Indicative role descriptions and salary estimates are set out in Annex 1.

Ensuring partnership coherence and leadership in the delivery phase

- 18.15 It will be important that the operator of the Medi-Park is engaged with the wider business support and innovation landscape. This is complex, and includes, *inter alia*, organisations such as Life Sciences Hub Wales, MediWales, the universities in South Wales (and beyond), Innovate UK, and complementary initiatives elsewhere in the region and nationally. We

⁷⁷ We have assumed a composite 6% annual management fee in the Financial Case as an equivalent sum for either management agreement or turnover lease options

therefore envisage the establishment of an **Innovation Centre Management Board (ICMB)**, with representation from (at least) ABUHB and perhaps neighbouring Health Boards, industry, LSHW and the universities, ensuring a wider range of stakeholder involvement to complement the JV partners.

- 18.16 We anticipate that the ICMB will be established prior to the completion of the construction phase (to oversee the pre-launch mobilisation and marketing programme) and will meet at least quarterly. It will be tasked ensuring that the Innovation Centre maximises cluster development opportunities, builds synergies with the hospital to drive innovation-led growth, knowledge exchange and inward investment into Cwmbran and the Medi-Park. Importantly, the ICMB will be responsible for positioning the facility within a broader SE Wales life sciences/med-tech ecosystem and ensuring complementarity.
- 18.17 The ICMB will learn about the performance of the Innovation Centre and advise how performance can be improved in the future. ICMB members should be encouraged to participate in the programme of business advice, incubation and entrepreneurship support as well as wider cluster development activity managed by the specialist operator. The ICMB should also agree formal changes to entry and exit criteria to the facility, Innovation Centre policies and services (although should not be involved in the day to day decisions on suitability of companies, since this will cause unnecessary delays in moving companies into the Innovation Centre).

Risk management

- 18.18 Risk management will be the responsibility of the Joint Venture entity or lead body appointed by it. Good risk management ensures that the organisation makes well informed decisions and the associated risks are widely understood.
- 18.19 Effective risk management considers not just threats but also opportunities; the approach taken should seek the right opportunities and, where possible, minimise threats, within the authority's overall appetite for risk.
- 18.20 Risks will need to be considered in detail at OBC/ FBC stage. However, we anticipate the following strategy to manage the project risks:

Indicative risk management strategy

- **Identify risk** – Risk identification will be carried out by the Project Manager, team members, consultants, supply chain, customers and other stakeholders. A Risk Register will be produced that includes a description of each risk, its likelihood and potential scale of impact. It will be updated and reviewed regularly.
- **Assess risk** – The risks will be qualitatively assessed to determine the applicable probability of each risk occurring and the possible impact on any of the project objectives should it occur. Each risk will be classified according to TBCs standard for determining risk levels and entered into the Risk Register.
- **Evaluate risk** – The risks will be evaluated against parameters (risk appetite and tolerance) which will provide assurance of consistent approach to the measurement of risk and appropriate management and escalation. Torfaen Borough Council recognises that risk is inherent in delivering and commissioning services and does not seek to avoid all risk, but instead aims to have an 'open' approach to risk, with risks managed in a proportionate manner. Risks rated as 'high' will be deemed to have exceeded tolerance levels and will be subject to escalation to the

Project Board for review and action. The target residual rating for a risk is expected to be 'medium' or lower. In the event that this is not deemed realistic in the short to medium term, this shall be discussed as part of the escalation process, and this position regularly reviewed with the ultimate aim of bringing the level of risk to a tolerable level.

- **Allocate risk** – The Register will also identify the owner for each risk i.e. the person best placed to monitor the residual risk or full risk if accepted the threat or rejecting the opportunity, ensuring that the identified owner has the required level of authority to manage the risk effectively.
- **Determine actions** – A logical approach will be implemented to determine appropriate, proportionate and viable solutions to eliminating, reducing or controlling threats and enhancing opportunities in line with risk appetite.
- **Apply actions** – Risk response actions will be agreed at the appropriate level and undertaken to ensure the desired outcome. Risk owners will be held accountable for the outcome of each assigned risk.
- **Monitor and control** – The Risk Register will be a 'live' document and risk events will be continuously monitored to reduce and maintain them to tolerable levels. Stakeholders will be updated on the new status as required. Risks will be managed and monitored through the ICMB and Project Board. However, Risk Reduction meetings will be held outside of these meeting cycles as and when required. Communication regarding the risks will be provided through updates of the Risk Register

Monitoring and evaluation

- 18.21 It is envisaged that a formal monitoring and evaluation framework will be developed for the Innovation Centre, including a summary logic model setting out its rationale, inputs, outputs and longer-term outcomes as well as an explanatory theory of change.
- 18.22 The monitoring component is likely to call for monthly reporting across a set of standard KPIs such as occupancy level, volume and nature of enquiries, take-up of different support products and the findings from an annual survey of tenants to understand their growth dynamics etc.
- 18.23 There will also be a requirement for ongoing evaluation that covers both process issues and economic impact. An indicative approach to some early evaluation work is summarised below.
- **Inception meeting and note:** evaluators will meet with the ICMB/ Medi-Park management team to discuss and agree the evaluation research questions and approach, gather relevant documents and data, and discuss any sensitivities that they need to be aware of in undertaking the work. Following the meeting, a short note should be produced to summarise the discussion and agreed action points.
 - **Document review and data analysis:** the evaluators will review relevant background documentation relating to the Innovation Centre and wider Medi-Park, including this SOC and subsequent stages of the business case, plus any funding agreements/ relevant policy documents. They will also assess early spend and output data against interim targets and performance against milestones.
 - **Define/refine programme logic model and design research tools:** informed by the two tasks above, the evaluation team will design (or refine, if already available) a logic model and theory of change for the Innovation Centre. This will set out the nature of expected inputs, activities, outputs, outcomes and impacts (and when), underlying assumptions on how intended outcomes and impacts are expected to be

brought about, and the potential role of other factors that may influence the outcomes e.g. around cluster development. The evaluators will also design topic guides and an e-survey questionnaire for the tasks below.

- **Consultations with governance, management and delivery staff:** the evaluators will conduct a number of in-depth consultations with key representatives from the partner organisations represented on the ICMB who are involved in the governance, management and delivery of the Medi-Park and Innovation Centre. The focus will be on the effectiveness of delivery processes to date within the Innovation Centre, its financial performance, what is working well (or not) and why, alignment and engagement with the wider business and innovation support offer, and how the project could be improved looking forward.
- **E-survey with beneficiaries:** an online survey will be delivered using Smart Survey software for all beneficiaries of support and those attending events to complete, in order to capture feedback on the support process, how this could be improved, and emerging evidence on outcomes/benefits and the extent to which these are additional (i.e. would not have happened in the absence of support).
- **Follow-up consultations with beneficiaries:** c.10 follow-up consultations with beneficiaries who have completed the e-survey will be undertaken. This will allow the evaluators to explore what works (or not) and emerging outcomes in more detail, providing examples and case studies for the evaluation report.
- **Consultations with external stakeholders:** Consultations will also be held with up to 10 external stakeholders to gather feedback on the Innovation Centre and incubation/innovations programmes, their fit with the wider business support and innovation landscape, and any areas for improvement.
- **Liaison, analysis and reporting:** The findings from the tasks above will be triangulated, and presented in a concise draft evaluation report. This is likely to be structured as follows: a summary of spend, activities and outputs delivered to date; an assessment of spend/outputs; feedback on the effectiveness of governance/management/delivery processes (what is working well or not); evidence on economic outcomes and the extent to which these are additional; and recommendations for improvement. A final version of the evaluation report will be developed in light of any comments received from the ICMB/ Medi-Park team.

Annexes

Annex A: Location options analysis

Anticipated requirements

- To accommodate c.96,000 sq ft (the space requirement based on the demand analysis, there would be a notional site area requirement of c. 2.2 hectares (5.7 acres), although this will obviously vary depending on the configuration of the site and the mix of space
- As indicated by demand analysis, this would come forward in a phased approach. We have assumed:
 - an initial 40,000 sq ft innovation centre (office, lab, workshop space plus shared 'hub' facilities)
 - 22,500 sq ft serviced offices and labs, for future development
 - 18,500 sq ft and 15,000 sq ft manufacturing/ workshop space, for future development
- Across Torfaen, there are a number of locations that could potentially accommodate this scale of development
- At 'long listing' stage, we considered six broad locations, in relation to:
 - Planning policy status
 - Transport access
 - Proximity to relevant and related uses
 - Constraints
 - Ownership
 - Alternative proposals
 - Demand side implications

SQW

Long list of sites

6. Kays and Kears, Blaenavon

5. Mamhilad Park, Pontypool

4. Craig-y-Felin, Cwmbran

3. Gwent Police HQ, Cwmbran

2. Carillion Richardson, Cwmbran

1. Llanfrechfa, Cwmbran

North (WG owned land)

South (WG owned land)

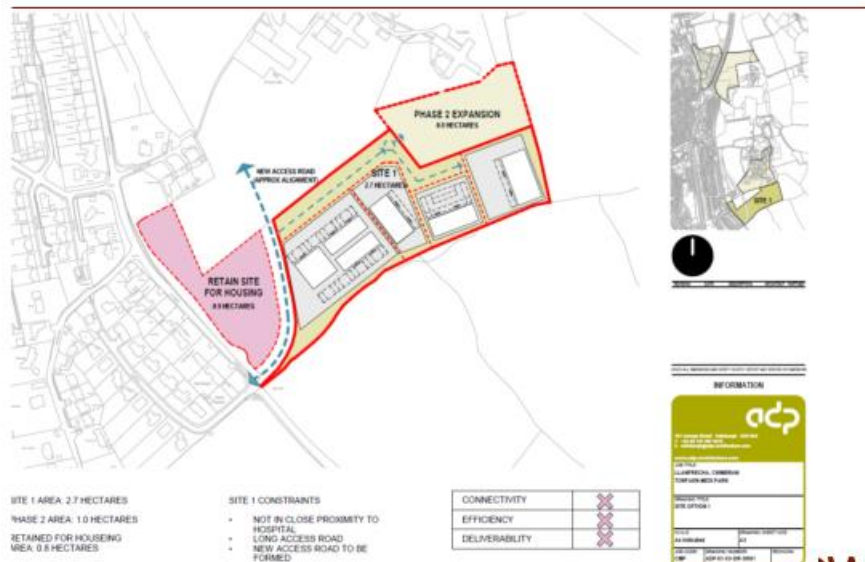
South Central (AB owned land)



- For those sites further away from the Grange University Hospital, the rationale for a Medi Park focused on life sciences and linked with the hospital itself becomes far more challenging
- Following a review of the long list by the Steering Group, it was agreed to progress four sites:
 - three sites at Llanfrechfa (two on Welsh Government-owned land at the north and south of the Llanfrechfa site, and the site within ABUHB ownership broadly identified within the 2018 JLL report)
 - the current Gwent Police HQ site

SQW

Site 1: Llanfrechfa South (i)



W

Site 1: Llanfrechfa South (ii)

	Headline assessment
Summary description	Greenfield agricultural land at the southern edge of the Llanfrechfa site
Planning policy status	Allocation exists within the current Torfaen Local Development Plan (Policy SAA7) for a mixture of hospital, healthcare-related employment, housing and associated community facilities. Within the LDP, area of land on the south side is allocated for housing
Transport access	Additional road access proposed should site be used for housing, although no road access in place at present
Proximity to relevant and related uses	Near to the hospital, although no existing direct access. No other relevant uses on the site
Ownership	Welsh Government
Alternative proposals	Residential and associated infrastructure
Demand side implications	Less prominent than other sites considered, and dependent on additional infrastructure investment (potentially supported by housing)
Conclusions	Reasonably close to the hospital, although an initial phase of development would be somewhat isolated and in a relatively 'hidden' location, and reliant on additional infrastructure

SQW

Site 2: Llanfrechfa South Central (i)



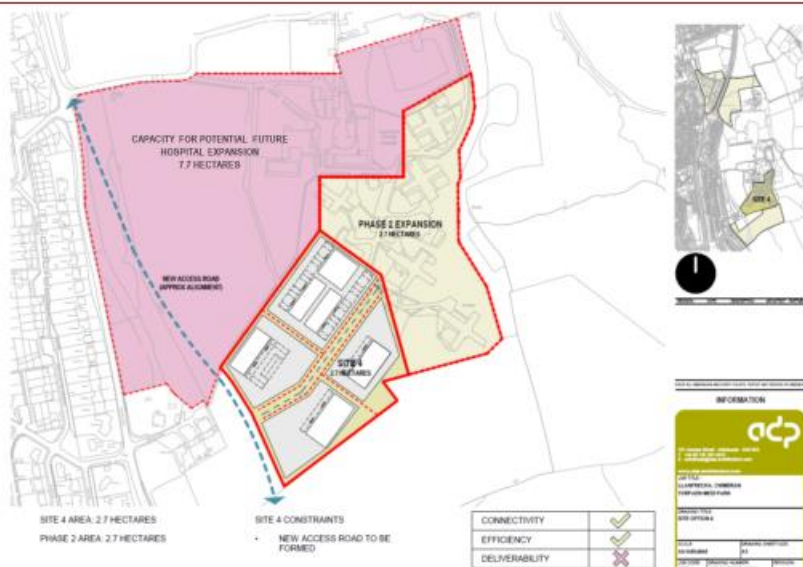
SQW

Site 2: Llanfrechfa South Central (ii)

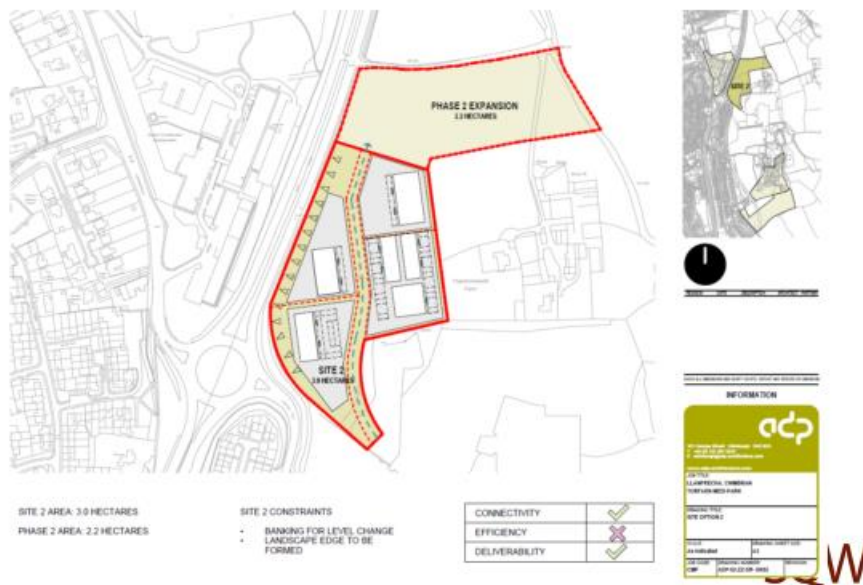
	Headline assessment
Summary description	Area to the south of the University Hospital, including the existing hospital buildings and greenfield land. This area accommodated the <u>assumed</u> 'medi park' location within the previous JLL report (although on a much larger footprint than that indicated by the subsequent demand assessment)
Planning policy status	Allocation exists within the current Torfaen Local Development Plan (Policy SAA7) for a mixture of hospital, healthcare-related employment, housing and associated community facilities.
Transport access	Accessed from the Caerleon road (off the A4042). New road access now in place for new GUH off the Caerleon road, in addition to existing access to current hospital buildings.
Proximity to relevant and related uses	Close proximity to hospital, with potential for joint/ shared use of space within the Medi Park (although no existing business uses on the site)
Ownership	ABUHB
Alternative proposals	Residential and associated infrastructure and additional hospital requirements (ABUHB has indicated <u>potential</u> need for c.200,000 sq ft over 10 years)
Demand side implications	Although floorspace demand <i>directly</i> generated by the hospital may be limited in the short term, the site (broadly defined) is likely to be attractive as a facility to support collaboration and build up demand over time.
Conclusions	Likely to be an attractive option in relation to the objectives of the Medi Park, provided the right support infrastructure is in place. However, the site is constrained by the existing Llanfrechfa Hospital buildings (which may need to be re-provided) and by future clinical requirements for the GUH itself.

SQW

Site 2: Llanfrechfa South Central (iii)



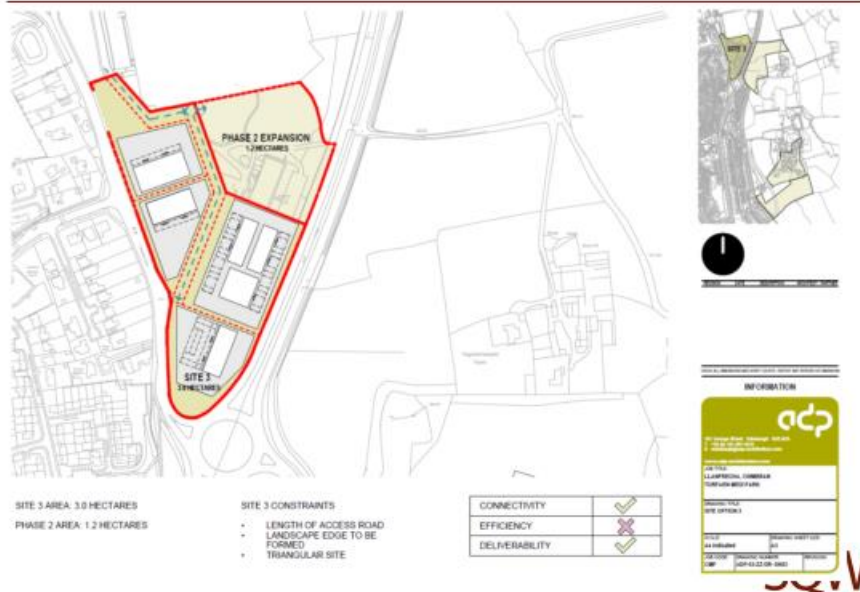
Site 3: Llanfrechfa North (i)



Site 3: Llanfrechfa North (ii)

	Headline assessment
Summary description	Northern part of the Llanfrechfa site; greenfield site, with the exception of some farm buildings
Planning policy status	Within the context of SAA7, the site is allocated for employment use (although within the Llanfrechfa Development Framework – which has no planning policy status - it is identified for open market housing)
Transport access	Access from new GUH roundabout. Existing road infrastructure limits employment development to 100,000 sq ft (which will accommodate projected demand)
Proximity to relevant and related uses	Close proximity to hospital, with potential for joint/ shared use of space at the Medi Park, (although no existing business uses on the site)
Ownership	Welsh Government (farm buildings are in private ownership but outside the site area)
Alternative proposals	Residential and general employment use
Demand side implications	Potentially an attractive location in close proximity to the hospital
Conclusions	Likely to be an attractive option in relation to the objectives of the Medi Park, provided the right support infrastructure is in place, and offers scope for longer term expansion (albeit subject to future access improvements). Note need to plateau site before development.

Site 4: Gwent Police HQ (i)



Site 4. Gwent Police HQ (ii)

	Headline assessment
Summary description	3.3 ha site (8.2 acres), currently occupied by Gwent Police. The Police have acquired a new HQ at Llantarnam, and will vacate the site in due course. Need to demolish existing buildings. There may still be a requirement from Gwent Police for additional facilities (e.g. local police station for Cwmbran) which may need to be delivered on the site.
Planning policy status	Housing allocation within LDP (220 on Police HQ site and the adjacent County Hall site); 70 dwellings proposed for Candidate Site for LDP Review
Transport access	Accessed from the A4042 Turnpike Road/ Llanfrechfa roundabout. Easy access to central Cwmbran
Proximity to relevant and related uses	Close to GUH, although pedestrian access between the two sites is constrained. No existing relevant uses on the site itself
Ownership	Gwent Police
Alternative proposals	Residential use and potential continuing Police requirements
Demand side implications	In close proximity to the GUH, so potentially an 'innovation' facility on this site could be linked with and marketed as part of the wider hospital complex (although achieving use of the facility by NHS staff and services might be more challenging given the additional distance).
Conclusions	Potentially an attractive option and a prominent site, although unlikely to come forward in short term, and likely costs associated with demolition.

Annex B: Comparator innovation centres

Summary

This paper provides an overview of comparator schemes to that proposed for the Medi Park. In particular, it considers the extent to which proximity to and connections with NHS Wales assets are important. While there are no *directly comparable* examples to the proposals in Cwmbran, there is evidence that proximity to the hospital is likely to be valuable, and that this could be reinforced by joint partner ownership.

Introduction

- B.1 At the heart of the Medi Park proposition is the view that proximity to a new hospital could be an important factor in attracting businesses in the life science sector (or the wider NHS Wales supply chain).
- B.2 Consultation with businesses and other stakeholders has suggested some ways in which this might happen, through active firm location decisions (e.g. companies with or wanting to develop interaction with clinical expertise or patients), opportunities for ‘unplanned’ interaction (through shared facilities within an innovation centre environment), or through the value of an address in a high-quality, healthcare-related environment. However, the demand analysis showed that life science firms in South Wales are generally quite dispersed (in the absence of a leading ‘science park’ facility) and there is no reason in principle why firms seeking to build links with NHS Wales need to be physically ‘co-located’ with clinical facilities.
- B.3 With this in mind, this paper considers some comparator facilities, focusing on the potential value of proximity to NHS Wales assets and lessons that could be drawn for the Medi Park in Torfaen.

Identifying comparator schemes

- B.4 Typically, medically-related science parks and innovation centres are either located on or adjacent to university campuses (or in some cases on the periphery of major university centres with strong links to the university core, such as in Oxford and Cambridge), or are on repurposed pharmaceuticals sites benefiting from substantial sunk investment in equipment, infrastructure and skills development (such as Alderley Park in Cheshire, or Discovery Park in Kent). A review of potential comparators identified few examples of schemes that have developed business, innovation and collaboration space linked with a large district general hospital: to some extent, Cwmbran appears to be a unique proposition. However, a series of case studies from schemes elsewhere can present some useful lessons. From a ‘long list’ of potential comparators, this paper considers:
- **Cardiff Medicentre**, the most relevant example within Cardiff Capital Region, and with which the Medi Park could (and should) have strong functional links
 - three regional/ city regional approaches in England and Scotland, looking at **Birmingham and the West Midlands, Liverpool** and **Glasgow**, taking into account

the relationship between local NHS Wales assets, the academic base and the network of specialist business premises

- **health and life science innovation centres developed in locations outside of the major university campuses and regional hospitals** (including the Health and Wellbeing Innovation Centre in Truro).

Cardiff Medicentre

Background

- B.5 Cardiff Medicentre is the only dedicated life science innovation centre in Cardiff Capital Region. Based at the University Hospital of Wales at the Heath, it was established in 1992 with Government funding and was initially owned by Cardiff City Council, before being transferred to Cardiff University. The University currently manages the centre as a joint venture with Cardiff and Vale University Health Board. The Medicentre has incubated a number of prominent life sciences firms: some of these are cited in the Phase 1 report, and include **Indoor Biotech** (which has since 'graduated' to its own premises in Pentwyn) and **Midatech Pharma** (originally incubated at the Medicentre as QChip, and currently located on Newport Road in Cardiff, and with an interest in further manufacturing expansion).

Available space and expansion

- B.6 The Medicentre offers 18,000 sq ft of lettable space, broken down into desk leases and 32 individual units. Individual units are made available as office space, with the flexibility for tenants to convert to lab space to their own specification (and at their own expense) if required. Generally, the Medicentre's experience has been that firms' lab requirements are bespoke, and providing speculative lab space rarely addresses individual demand. However, the Medicentre has a flexible strategy: in some cases, exiting firms' lab space may be attractive to an incoming business, and the Medicentre does sometimes contribute to conversion costs.
- B.7 Currently, the centre is 100% occupied, and has been at 95% occupancy or above for the past two years. There is a waiting list at present (with eight firms currently waiting for space). This represents something of a reversal of fortune: for many years, the Medicentre ran at around 65% occupancy and included a number of tenants who had occupied space for several years. The current management put this down to a more active approach, suggesting that there was latent demand that was not being met (or was being satisfied by non-specialist facilities). There is also a perception from the Medicentre management that the creation of a joint venture between the University and the Health Board led to more active management (when the facility 'belonged' to the Council, it was seen as less integral to the key institutions on the Heath campus).

Location and future expansion

- B.8 The location of the Medicentre is important: firms need to have a connection with the university, those that don't are turned away, and the focus of the Medicentre is on incubating Cardiff University spin-outs. While the aim was to encourage firms to move on after three years, life science incubation periods are generally 3-5 years, and therapeutics may take up to

ten. The occupier mix is research-intensive pharmaceutical and medtech: very different in composition from the general healthcare focus of the Truro example outlined below.

- B.9 There is no capacity to expand the Medicentre on its current site. At present, there are no plans for a future phase elsewhere, although there is no obvious 'grow-on' location, with graduating firms quite widely distributed, especially on the Cardiff business parks.
- B.10 Cwmbran is clearly a different and potentially complementary proposition from a location on the Heath campus, and it is likely that new spin-outs from the University will want to remain close to the University support network (although in principle, elements of that offer could be extended out to Cwmbran). However, business consultation indicated that Cwmbran is a plausible grow-on location, if the facilities and support offer are right.

City regional approaches in England and Scotland

- B.11 Cardiff Medicentre is not unique in providing a centre for business incubation associated with major universities and hospitals. Recent years have seen significant investment in innovation facilities for the life sciences sector, most of which are focused on concentrations of academic and NHS Wales assets. The following paragraphs briefly describe some of the major developments elsewhere in three major city regions in England and Scotland: Birmingham and the West Midlands, Liverpool City Region, and Glasgow and Strathclyde. The researchers have intentionally avoided the use of case study research from the Golden Triangle and Manchester due to the maturity and strength of these leading UK life science clusters and their limited relevance to the Cwmbran proposition.

Birmingham and the West Midlands

- B.12 Historically, Birmingham's presence in the life sciences has been relatively modest: there has not for example been a major presence from the large drug discovery firms. However, it has a positive record in growing life science start-ups, particularly in diagnostics, and plans for expansion are ambitious.
- B.13 The core of Birmingham's life science activity is around **Birmingham Medical Quarter**, an area to the south of the city centre that incorporates the University of Birmingham Medical School and a very large concentration of hospitals (the Queen Elizabeth Hospital, Birmingham Dental Hospital and Birmingham Women's Hospital) and medical charity research activity. Birmingham University and the local NHS Trusts have established **Birmingham Health Partners** as a healthcare alliance intended to strengthen links between clinicians and academics, with a focus on developing treatments for patients in the West Midlands, with a particular focus on cancer, chronic diseases, 'health and wellbeing' and children's health. The Institute for Translational Medicine provides a framework for developing interaction between Birmingham Health Partners and industry, and also accommodates the regional Academic Health Science Network (ASHN).
- B.14 There is evidence of a growing business base in Birmingham Medical Quarter, and efforts have been made to expand the infrastructure for start-up and pre-revenue firms. In particular, **Birmingham BioHub** is a serviced biomedical research laboratory located on the edge of the Medical Quarter, offering individual laboratory bench space, access to shared equipment, specialist consultancy from the University and some capacity for grow-on space. **Birmingham**

Research Park is adjacent to the Medical Quarter and offers office space of between 300-10,000 sq ft. The Research Park markets itself as *“in close proximity to the Institute of Translational Medicine and the clinical partnership provided by Birmingham Health Partners – and this proximity can speed research, provide more rapid assessment and quicker adoption for new medical technologies”*⁷⁸. It is worth noting that West Midlands’ commercial life sciences activity is quite concentrated: although the med-tech sector is more widely distributed, the industry overall is much less dispersed than it is in South Wales, and the focus of recent ‘medi park’ related development (including the proposed Birmingham Life Sciences Park) is all in the vicinity of the Medical Quarter (despite relatively recent investment in new hospital facilities – such as Birmingham Heartlands – elsewhere in the region).

Liverpool City Region

- B.15 From a commercial innovation and business space perspective, there is a substantial ‘critical mass’ of assets around Liverpool’s central ‘Knowledge Quarter’, associated with the University of Liverpool and Liverpool John Moores University, the Royal Liverpool Hospital and the Liverpool School of Tropical Medicine (LSTM). These include:
- the **Liverpool Bio-innovation Hub** (LBIH), which offers lab and small-scale office space on flexible terms and subsidised (i.e. grant equivalent) rents, linked with business support to the biomedical sector. The LBIH was funded with £10 million ERDF matched by the University of Liverpool and opened in 2013, and is built directly opposite the new Royal Liverpool Hospital building
 - the new **Life Sciences Accelerator**, opened in 2016 as a partnership between the LSTM and the Royal Liverpool and Broadgreen University Hospitals NHS Trust. The Accelerator offers around 30,000 sq ft of lettable space, with collaboration and ‘shared’ space, and is adjacent to Royal Liverpool’s early phase clinical trials unit and the Liverpool Biobank
 - **Liverpool Science Park**, which offers around 120,000 sq ft of office and commercial lab space, focused mainly (although not entirely) on the biomedical and digital health sectors
- B.16 Further developments with important medical applications as well as wider industrial relevance, such as the **Sensor City** innovation centre for sensor and internet of things technology development
- B.17 More recently, partners across the city-region have implemented ambitious plans to extend the Knowledge Quarter through the development of **Paddington Village** as the main eastern gateway to the city centre. The emerging £1bn innovation district forms a key part of the city council’s vision to position the city region as an international destination of significance for the life-science, healthcare and technology industries. The site has been earmarked for up to 1.8m sq ft of science, technology, education and health focused employment space and is being developed in three phases: Paddington Central; Paddington South; and Paddington North, with phase one already underway. Paddington Village is situated directly opposite the site of the new Royal Liverpool University Hospital and Clatterbridge Cancer Centre. Demand for

⁷⁸ <https://www.birminghamresearchpark.co.uk/business-research-support/>

space at Paddington Central has been encouraging. The Royal College of Physicians have selected the development as the location for its new Northern Centre of Excellence, which is scheduled to open in summer 2020. Proton Partners International (PPI) have committed investment to build the Rutherford Cancer Centre North West as part of a wider network of proton beam therapy centres. A subsidiary of PPI, Rutherford Diagnostics, have agreed to build a £20m HQ at the development, providing access to specialist diagnostics expertise and technologies.

- B.18 Beyond the central Knowledge Quarter itself, an Innovation Hub has also recently opened within the **Alder Hey Children's Hospital** to support new R&D collaboration and accelerate med-tech innovation. However, Liverpool City Region also has a large established life science sector, with a major concentration of pharmaceuticals businesses (including AstraZeneca, Seqirus, Eli Lilly and Allergan) in the south of the city, Bristol-Myers Squibb at Moreton on the Wirral and a growing cluster of life science firms linked with the SciTech Daresbury campus.

Glasgow and Strathclyde

- B.19 In contrast to Birmingham and Liverpool, the life sciences sector in Glasgow is somewhat more dispersed across the city region, and is perhaps more similar to South Wales in terms of its spatial distribution. Local partners are promoting the concept of the '**Glasgow Bio Corridor**', stretching 50 miles across the city region. Key business locations include:

- **West of Scotland Science Park**, to the northwest of central Glasgow, which is home to a range of companies operating across all areas of life sciences and is located near to (although not on the same site as) the Beatson West of Scotland Cancer Centre, Scotland's largest cancer hospital and its new Translational Research Centre. The Science Park itself is long established (having been developed as a joint initiative between Scottish Enterprise and Glasgow and Strathclyde Universities in the 1980s)
- **BioCity Glasgow**, a 130,000 sq ft site off the M8 at Newhouse, near Airdrie (around 13 miles from Glasgow city centre). BioCity Glasgow is marketed as a 'med-tech incubator' and is a somewhat different proposition from the other facilities highlighted in this paper: like several other life science focused out-of-town campuses, it is a repurposed single-occupancy site (in this case previously owned by Merck), offering flexible office and lab space.

- B.20 Directly associated with the hospital, the **University of Glasgow Clinical Innovation Zone (CIZ)** is based within the Queen Elizabeth University Hospital itself, with the aim of *"bringing together a world-leading university, a forward thinking Unitary Health Board and the brightest industry partners to form a 'triple helix' approach to tackle global healthcare challenges and maximise patient benefit"*⁷⁹. In this context, the CIZ positions itself as a 'gateway' to the Scottish ecosystem for precision medicine, including through proximity to clinical expertise and the university.

- B.21 Specifically, the CIZ offers 22,000 sq ft of innovation and 'touchdown' space. Tenants include larger international businesses (such as Canon and Siemens Healthineers) and a number of smaller businesses (including University of Glasgow spin-outs). A University of Glasgow led

⁷⁹ <https://www.gla.ac.uk/colleges/mvls/ciz/>

partnership is currently exploring options for increasing the provision of innovation space on the hospital campus as part of a wider vision of building an internationally significant precision medicine ecosystem.

Some implications for Cwmbran

B.22 Although Birmingham, Liverpool and Glasgow are significant centres of life science activity, they are by no means the only (or even the largest) ones: similar examples could also be given for Leeds, Manchester and Nottingham – and, of course, the ‘Golden Triangle’ between Cambridge, Oxford and London. A number of smaller centres, such as Norwich, have also developed large ‘medi park’ facilities linked with regional hospitals and the university presence. Based on this brief review, a number of observations are worth making in relation to Cwmbran:

- first, **proximity to both the universities and hospital infrastructure is important** – and there are examples (e.g. Alder Hey Children’s Hospital, Paddington Village and Glasgow’s Clinical Innovation Zone) where innovation space for commercial life science firms has been embedded within the hospital environment itself
- second, **although the ‘asset base’ is important, it is not necessarily sufficient to drive commercial growth**. Birmingham is perhaps a good example here: the city contains one of Europe’s largest hospitals and has a university with ‘world class’ expertise. But historically, the life sciences sector has not been locally prominent. Growing the sector has partly been linked with access to premises in proximity to the university and the hospital (with much coming forward in recent years), but the involvement of the NHS alongside the universities in the establishment of Birmingham Health Partners has been important in opening up opportunities
- third, **the regional dimension is important**. There is always likely to be consolidation around the core health and academic assets: links with these are likely to be complementary, rather than competitive (and this is also suggested by the dispersed distribution of the sector in South Wales).

Beyond the university and regional hospital centres

B.23 While Cardiff Medicentre and the other regional examples highlighted above are relevant, Cwmbran presents a somewhat different prospect. Although well located, it does not have a university presence or an existing life sciences sector. However, the new hospital is a key potential driver.

B.24 There are few examples of commercial life science facilities developed within or adjacent to ‘district general’ hospitals without a university presence in the vicinity. One example that consciously sought to build a link between business innovation and the hospital is the Health and Wellbeing Innovation Centre in Truro, discussed in the paragraphs below.

Health and Wellbeing Innovation Centre, Truro

Background

- B.25 The Health and Wellbeing Innovation Centre (HWIC) is located adjacent to the Royal Cornwall Hospital at Treliske, just outside Truro. It is a single-building innovation centre (a three-storey building with a lower-ground conference facility) with around 21,500 sq ft of net lettable floorspace (mostly office, with some lab provision), in addition to meeting, conferencing and informal networking space⁸⁰.
- B.26 The project was a public sector-led initiative, driven from the dual objective of developing economic opportunity in a sector with growth potential alongside support for healthcare solutions that could have community benefit. The original business case for the project (developed in 2011) recognised that Cornwall had a growing life sciences sector, albeit one that was small, fragmented and relatively peripheral.
- B.27 HWIC secured £10 million through the ERDF Convergence Programme, matched with £3.3 million from Cornwall Council and opened in spring 2013. Currently, the Centre is 80% occupied and accommodates around 45 businesses. The facility is owned by Cornwall Council, with management delivered by the University of Plymouth under the 'Innovation Cornwall' brand (the University also manages two other Cornwall Council innovation centres as part of an integrated network).

What's worked... and what hasn't

- B.28 **In straightforward occupancy terms, the HWIC is successful.** It has run at 80% occupancy for over 18 months, and makes a revenue surplus (although occupancy levels for the lab space are lower than for offices). Average rents are around £25 psf.
- B.29 **There is evidence of positive links with the NHS in general and the Royal Cornwall Hospital in particular.** The HWIC offers conferencing and meeting space, which is frequently used by the RCH, facilitating informal interaction. Of the firms based at the HWIC, around 30 have some form of direct business interaction with the NHS, including 'service and supply' businesses and firms developing patient-facing adaptations and other products:

Health and Wellbeing Innovation Centre: Some key businesses

- **Dental Prosthetic Solutions:** Design and manufacture removable prosthodontic appliances for dentists and patients, established by a dental technician team with experience at the Royal Cornwall Hospital
- **Health Intelligence:** Software provider of information management services for health organisations, particularly focused on diabetic eye screening services, child health information and population based data analytics
- **Made for Life:** Cosmetics and skin products for people diagnosed with cancer.

- B.30 The HWIC runs a flexible gateway policy, which seeks to maximise the presence of firms with a health connection. However, the current policy is less rigid than that originally applied.

⁸⁰ Some of this section is based on a discussion with the Centre Manager at Innovation Cornwall

Initially, it was assumed that occupancy would be focused on R&D-intensive life science firms: in practice, the focus is really on supplementary and support services.

B.31 Despite the positive connections with the NHS (which are largely driven by proximity and informal interaction), there is a perception that the **links could be deeper and that this is something of a missed opportunity** – perhaps an especially important one in Cornwall, given the nature of the local economy. There seem to be two dimensions to this:

- first, **the links are informal, rather than embedded in governance and management**. There was a Strategy Board established at the start, including the Royal Cornwall NHS Trust, Peninsula Medical School and the Cornwall Development Company. However, the role of the Board was not a strong one (since the facility is owned outright by the Council), so managed links to Hospital expertise and potential demand for solutions were weaker than they could have been
- second, **although the Hospital uses the HWIC for meetings and conferencing, it isn't a base for RCH's own innovation activity**: it is entirely a business space (and the business model works on that basis). This potentially limits some of the scope for direct NHS-business collaboration.

B.32 So far, there is limited evidence of **demand for grow-on space**, although it is still early days for the HWIC. Given the uniqueness of the offer locally, firms have tended to stay (a common challenge for innovation centres in areas with a limited alternative quality offer), and the Council obviously has an interest in maximising rental receipts - although this could present a challenge for the future as new demand emerges. At present, there are no plans to build additional facilities on the site, although there is some larger floorplate grow-on space at Innovation Cornwall's other facility in Pool, near Redruth. Whether the loss of proximity to the hospital will impact on the attractiveness of this has yet to be tested.

Some lessons for the Medi Park

B.33 The HWIC is an interesting case study for Cwmbran. Truro is in (on the face of it) a much less attractive area for life sciences development, given Cornwall's peripherality and the small size of the existing sector locally – but it has demonstrated that there is relevant demand, even in a location that lacks a substantial university presence⁸¹. Some key lessons include:

- there is a value in proximity – but in Truro, this value is mostly informal. Accompanied by more active involvement and management and shared leadership across the partners, the benefits could be greater
- linked with this, the HWIC is a 'shared' facility, but the way in which the sharing relationship was set up was transactional (e.g. room hire), rather than through the use of the facility for NHS as well as business use. There ought to be an opportunity to establish the Medi Park on a different footing
- a flexible approach to sector definitions has paid off...

⁸¹ There is some university involvement in the Royal Cornwall Hospital, via Peninsula College of Medicine and Dentistry, University of Exeter Medical School and Plymouth University Faculty of Health and Social Work, although RCH is a relatively small teaching hospital.

- ... but there should be more opportunities in South Wales to take advantage of the wider ecosystem (for example, there does not appear to be any direct role for the Academic Health Science Network (ASHN) at the HWIC, but there ought to be a role for Life Sciences Hub Wales in Cwmbran)
- although this does not seem to be a challenge so far, the HWIC as a facility is relatively inflexible, with (for example) no workshop space on site. Latent demand for this may not be visible (if there is no product, there won't be any enquiries), but potentially there could be unmet small-scale production demand (which is likely to be greater in South Wales given its better connectivity and existing manufacturing base). There is also no grow-on space at the HWIC itself: given the number of firms that are based there with service and supply links to the NHS, it is possible that general industrial or office space further away from the RCH may not meet business demand.

Bringing the comparators together: issues for Cwmbran

- B.34 This review of comparator schemes suggests that there are both opportunities and challenges for Cwmbran. On the one hand, the fact that there are no directly comparable projects linked with a new sub-regional hospital suggests that operationalising the relationship between the hospital and commercial opportunity is quite hard: the experience of the Truro centre bears this out.
- B.35 On the other hand, businesses have said in consultation that the ability to access clinical expertise is important, and there is evidence of the Aneurin Bevan and Cardiff and Vale University Health Boards facilitating this. More broadly, where innovation facilities have been developed alongside hospitals in the larger university centres, proximity appears to be an important feature. Additionally, access to patients and their data is likely to become more important over the coming years as precision medicine based approaches become more pervasive across the Health Service.
- B.36 The likelihood is (based on the comparator analysis and the earlier work) that the Medi Park could derive some demand from three sources:
- firms for which a **direct link with the hospital is important**, including those valuing access to clinical expertise, hospital managers and patients. Initially, this might be a relatively small number (the demand model assumes this), but for these businesses, physical proximity is likely to be a very important factor
 - firms requiring **grow on space** (perhaps from elsewhere in South Wales), for whom a consolidated life science presence, with a high quality support offer, is likely to be attractive. There may be some overlap with the first group, but in any case the 'clinical' environment is likely to be part of the offer
 - **'self-contained', probably larger, businesses in the life science** (especially med-tech) sector. These form a large part of the South Wales business stock and are currently dispersed: if promoted as a strategic location, Cwmbran could be attractive.
- B.37 Moving forward, the Medi Park probably needs to appeal to all three. The latter group could be catered for through general high-quality industrial space (which could be located anywhere with reasonable connectivity and land availability); the first group might initially

have very small space requirements, but could offer the greatest value to the NHS itself and help to build the long-term reputation of the Medi Park.


- B.38 A key message from the comparator studies is that **joint ownership and commitment is important**. The direct involvement of Cardiff and Vale UHB and the University seems to have been important in increasing the success of the Cardiff Medicentre; in all of the hospital-focused examples, direct Health Service involvement has been a key part of their success (and limited involvement has arguably restricted the effectiveness of the Truro centre). The Medi Park will need to be a shared endeavour with strong partner commitment to its management and delivery.
- B.39 Finally, 'medi park' schemes can be challenging to deliver successfully (if success is measured in benefits for the health system as well as in the growth of innovative businesses). Effective support infrastructure and active management (provided by the private sector as well as public sector partners, and linked with the wider offer across Cardiff Capital Region and Wales as a whole) will be vital.

Annex C: Recent relevant transactions

To inform the Quantitative Demand Analysis for the proposed Medi-Park in Cwmbran, this annex sets out some examples of commercial property transactions (sales and leases) relevant to the life sciences sector that have taken place since 2010 in Cardiff Capital Region. This draws on data held by CoStar, although it should be noted that there are often some omissions in the data, and it is not always possible to easily identify the activities of the occupier (for example, where the owner is an investment trust or similar vehicle)

Recent transactions

Occupier	Description
BBI Solutions	<p>Parkway, Pen-y-fan Industrial Estate, Crumlin NP11 3EF 120,000 sq ft (11,150 sq m), industrial 10 year lease from 2017; £4 psf</p> <p>BBI Solutions is a manufacturer of gold reagents, antibodies and antigens and offers a range of assay development services for the pharmaceutical sector. The firm has its origins in South Wales: Biocell Research Laboratories (the original 'core' of the BBI Group) evolved from research into gold nanoparticles at Cardiff University, and has subsequently expanded through a series of mergers and acquisitions. BBI Solutions is now owned by a private equity firm, Exponent.</p> <p>The new premises at Crumlin consolidates a number of BBI's UK operations (including its former headquarters at Ty-glas in Cardiff and former manufacturing facility in Blaenavon, as well as an R&D arm previously based at Dundee Medi-Park. The consolidation provides a new global HQ for BBI. The total investment is reported as £8.5 million, supported by a £1.8 million Welsh Government grant and was built and leased back by BBI</p> <p>The facility itself is a standalone secure property on the Oakdale scheme of business parks developed over the past 20 years with ERDF support. There are a number of other 'higher value' industrial occupiers in the vicinity, including ThermoFisher Scientific (adjacent to BBI's premises) and General Dynamics.</p>
Drive DeVilbiss	<p>Newtown Industrial Estate, Crosskeys, NP11 7PZ 72,000 sq ft (6,700 sq m), industrial 6 year lease from 2013, £1.50 psf</p> <p>Drive DeVilbiss manufactures and distributes durable medical and care products (e.g. wheelchairs, mobility aids, specialist beds, respiratory devices, etc.). Its main international base is in West Yorkshire, with a number of manufacturing and distribution centres worldwide (including a facility in Bridgend).</p> <p>The facility at Crosskeys appears to be older stock, close to the A467.</p>
PCI Pharma Services	<p>Tafarnaubach Industrial Estate, Rassau, Tredegar NP22 3AA 26,200 sq ft (2,400 sq m), industrial 5 year lease from 2016; £2.44 psf</p>

Occupier	Description
	 <p>PCI Pharma Services is a US-owned manufacturing, clinical services and packaging firm, operating several sites in South Wales (at Bridgend (formerly Biotec Services) and Hay-on-Wye, as well as at Tredegar). The Tredegar operation was originally part of Penn Pharma, which was acquired by PCI in 2014 and which offers drug development, manufacturing and clinical trials supply.</p> <p><i>Source: Cushman & Wakefield</i></p> <p>Investment in a Contained Manufacturing Facility (CMF) was previously made at Tafarnaubach in 2013, and has subsequently seen further investment. The acquisition of additional premises expands these operations, and includes both lab space and offices.</p> <p>The property itself is a repurposed existing industrial building on a secure, 2.8 acre site, just off the A465 Heads of the Valleys road.</p>
Neem Biotech Ltd	<p>Roseheyworth Industrial Estate, Abertillery NP13 1SP</p> <p>15,900 sq ft (1,500 sq m), industrial</p> <p>10 year lease from 2015; £3.50 psf</p> <p>5,300 sq ft (500 sq m), industrial</p> <p>5 year lease from 2017; £2.50 psf</p> <p>Neem Biotech is a pharmaceutical biotech company, producing novel antimicrobial treatments. The firm was established as a Cardiff University spin-out in 1998, and was based at St Mellons Technology Park, Cardiff until 2012. As Neem required additional bench space specific to its requirements, it undertook an extensive search for property (including elsewhere in the UK and overseas), with accessibility for the current workforce and the wider 'quality of life' offer an important consideration, as well as cost-effectiveness.</p> <p>The facility at Roseheyworth was an existing industrial building owned by Blaenau Gwent County Borough Council and repurposed by Neem. It secured £225,000 in 2015 in grant support from the Welsh Government to assist in the move, as part of a c.£2 million total investment. An additional property was leased in the same location in 2017</p>
Steritouch Ltd	<p>Roseheyworth Industrial Estate, Abertillery NP13 1SP</p> <p>3,068 sq ft (285 sq m), industrial</p> <p>1 year lease from 2010; £3.75 psf</p> <p>Steritouch develops antimicrobial additives for plastics, textiles and other materials, for a range of healthcare and consumer goods applications. The firm's main base is on the Rassau industrial estate at Ebbw Vale.</p>
Creo Medical Ltd	<p>Beaufort Park, Chepstow NP16 5UH</p> <p>1,869 sq ft (174 sq m), office</p> <p>3 year lease from 2012 (no rental given)</p> <p>Creo Medical is a medical device company focused on surgical endoscopy. It was founded in 2003 as MicroOncology Ltd to develop cancer treatments using microwave energy, and has subsequently developed CROMA, an electrosurgical platform.</p> <p>Creo has a design and manufacturing facility at Chepstow. It has benefited from Development Bank of Wales investment (the Bank currently owns about 10% of the company).</p>

Occupier	Description
Brecon Pharmaceuticals	<p>Main Road, Treforest, CF37 5UR 23,221 sq ft (2,157 sq m), industrial 5 year lease from 2011</p> <p>Brecon Pharmaceuticals has subsequently been acquired by PCI Pharma. It appears that it no longer maintains its premises in Treforest (although has facilities in Bridgend and Tredegar)</p>
Life Sciences Hub Wales	<p>3 Assembly Square, Cardiff CF10 4PL 12,489 sq ft (1,160 sq m), office 10 year lease from 2013; £22 psf</p> <p>3 Assembly Square is the main headquarters of Life Sciences Hub Wales, and also provides an incubator facility for start-up and young businesses in the life science sector. It is entirely open-plan office based</p>
BBI Solutions	<p>Parc Ty Glas, Cardiff CF14 5DU 10,580 sq ft (983 sq m), industrial 10 year lease from 2010</p> <p>Previous HQ facility for BBI prior to their consolidation and move to new facilities at Crumlin</p>
Synexus	<p>Ynys Bridge Court, Cardiff CF15 9SS 9,054 sq ft (840 sqm), office 15 year lease from 2015; £11.50 psf</p> <p>Synexus is a clinical trials management company, supporting trial management and planning, and recruitment of trial participants. The firm is based in Lancashire, and operates internationally, with a range of centres that appear to be mainly population-driven.</p>
Indoor Biotech	<p>Caxton Place, Pentwyn, Cardiff CF23 8HA 5,209 sq ft (484 sq m), office 10 year lease from 2016; £15.95 psf</p> <div> </div> <p>Indoor Biotech develops products for indoor air quality, particularly focused on asthma and allergy treatments and serving the biopharmaceuticals and allergy vaccine manufacturing industries. It also has production facilities in the US and India.</p> <p>The firm was originally based at Cardiff Medicentre and moved to new premises in 2016.</p> <p>The current facility is an office building (Vision Court) in north Cardiff, which the firm shares with a number of other SMEs in a range of sectors.</p> <p>It took around two years for Indoor Biotech to find its current premises, the main challenge being finding modern and 'professional' premises suitable for partial conversion to lab space (alternative premises considered included the (formerly) proposed Innovation Village on the GE site. Cardiff is considered as a good location from a workforce recruitment and retention point of view, and the current site is well located for access to the city and the M4.</p> <p>Indoor Biotech has indicated that it has plans for expansion – see Pipeline below.</p>
An-eX Analytical Services Ltd	<p>Capital Business Park, Cardiff CF3 2PX 3,610 sq ft (335 sq m), office 3 year lease from 2017; no rental provided</p>

Occupier	Description
	<p>An-eX is an independent CRO offering specialist skin science services to the pharmaceutical, cosmetics, personal care and chemical sectors.</p> <p>Capital Business Park is a large general business park (industrial, office and logistics) in Wentloog, east Cardiff. The An-eX premises are owned by Cardiff Council Strategic Estates</p>
Markes International Ltd	<p>Gwaun Elai Medi Science Park, Pontyclun CF72 8XL</p> <p>2,789 sq ft (260 sq m), office</p> <p>5 year lease from 2015; £15.50 psf</p> <p>Markes International is a specialist manufacturer of instruments for the detection of trace-level volatile and semi-volatile compounds, with applications in food and flavourings, defence and forensic and environmental sectors, as well as in the development of respiratory medical devices.</p> <p>It is the main occupier on the Gwaun Elai Medi Science Park (adjacent to the Royal Glamorgan Hospital and the Welsh Wound Innovation Centre).</p>
Momentum Bioscience	<p>Llandogo Road, St Mellons, Cardiff CF3 0GA/ Crickhowell Road, St Mellons, Cardiff CF3 0ED</p> <p>7,710 sq ft (716 sq m), office (3 new leases)</p> <p>3 year leases from 2015 and 2017; £9.48 psf</p> <p>Momentum Bioscience is an R&D company backed by venture capital and the Development Bank of Wales, headquartered in Oxford. Its focus is on solutions to the identification and treatment of sepsis and antimicrobial resistance. It has taken a number of the Willowbrook Laboratory Units at St Mellons, owned by Cardiff Council.</p>
Scitech Engineering	<p>Beck Court, Cardiff Gate Business Park, Cardiff CF23 8RP</p> <p>2,165 sq ft (200 sq m)</p> <p>5 year lease from 2018; £12 psf</p> <p>Scitech is a construction and consultancy company specialising in the pharmaceutical, biotechnology and technology sectors, with clients including PCI, Janssen, Pfizer and GSK. The firm's main HQ is in Surrey, with offices in Belgium and the Netherlands, as well as in Cardiff</p>
Digital Health Labs Ltd	<p>Brigantine Place, Cardiff CF15DD</p> <p>2,084 sq ft</p> <p>5 year lease from 2016; £13.44 psf</p> <p>Digital Health Labs is a research consultancy specialising in pharmacoepidemiology, health economics and outcomes research</p>
EKF Diagnostics	<p>Stanwell Road, Penarth CF64 2XZ</p> <p>1,400 sq ft, office</p> <p>3 year lease from 2011; no rental figure given</p> <p>EKF is a point-of-care diagnostics and central laboratory assay manufacturer, specialising in developing tests for use in diabetes and anaemia diagnosis, as well as reagents for use in clinical chemistry analysers. The firm started as an electrical engineering business in Germany and subsequently developed into a focus on medical technologies. It operates globally, and is headquartered in Penarth (still within the Stanwell Road building).</p>
Echa Microbiology	<p>Llandogo Road, St Mellons, Cardiff CF3 0GA</p> <p>811 sq ft, lab space</p> <p>3 year lease from 2016; no rental figure given</p> <p>Echa Microbiology is not a life sciences business itself, although is active within an allied field: it a technical products, consultancy, testing and training firm, producing microbiological test kits for fuels, mostly in the transport sector. The lab</p>

Occupier	Description
	building leased on Llandogo Road is one of several units on the Willowbrook estate, owned by Cardiff Council Strategic Estates.
Bowen Dental Engineering	<p>Portmanmoor Road, Cardiff CF24 5FF</p> <p>646 sq ft, industrial</p> <p>3 year lease from 2018, £9 psf</p> <p>Bowen Dental Engineering is a service and supply company offering equipment repairs to dental surgeries, vets and cosmetic/ beauty surgeries across South Wales and the M4/M5 corridors. The property leased on Portmanmoor Road is leased from Cardiff Council Strategic Estates.</p>
PCI Pharma Services	<p>Central Park, Bridgend Industrial Estate</p> <p>37,500 sq ft, office and warehousing</p> <p>PCI is a US-owned outsourced pharmaceuticals firm, with facilities at Tafarnaubach (see above), Bridgend and Hay-on-Wye. The Bridgend arm was previously Biotec Services International, and has been a tenant on the Central Park site (Biotec House) since 2007, subsequently expanding into two further units. Planning permission was granted in 2016 for a new unit to enable PCI's expansion.</p>
Biocatalysts	<p>Cefn Coed, Parc Nantgarw, Cardiff CF15 7QQ</p> <p>11,000 sq ft, industrial</p> <p>Biocatalysts is an enzyme manufacturer, particularly focused on the food sector. Originally established in London, the firm relocated to Cardiff in the 1980s, incentivised by a WDA grant. It was acquired by BRAIN AG in 2018; the new investment triples its manufacturing capacity on the site. The total value of the investment was £6.5 million, supported by Barclays</p>

Annex D: Medi-Park Phase 1a Innovation Centre staffing: roles and responsibilities

At this SOC stage, it is assumed that under the preferred option for the Innovation Centre, there will be four main staffing posts. Indicative job specifications and salaries are set out below.

Innovation Director (c£60,000 per annum excluding on-costs, but we have assumed a 0.5 FTE role initially)

The Innovation Director will provide pragmatic, high quality strategic business coaching and innovation support to life science/med-tech businesses based in the Innovation Centre on the Medi-Park, with the objective of enabling business growth, accelerating innovation, supporting cluster development and commercial success, drawing on the expertise and research strengths of local partners as appropriate. It is expected that the Innovation Director would work closely with the ABHB, hospital, Welsh Government and LSHW in particular.

The successful candidate will have a proven track record in business; either working at senior director level within large corporates or as a small business owner themselves. Ideally, they will have a background in tech and life science sector businesses.

Whilst direct experience of providing quality business coaching to early stage businesses is favourable, we would consider candidates with the inherent skills and aptitude to develop this capability within the role. However, crucial to being successful in this role will be the candidates' ability to build relevant business, investment, and innovation networks for the centre, and to proactively drive the benefits of collaborative working. More specifically, the Innovation Director will be responsible for delivering on a number of targets relating to business growth, development and innovation activity.

Key responsibilities

- Accountable for the management and delivery of all Business Support Key Performance Indicators (KPIs) as defined by the ICMB and Medi-Park Project Board.
- Ensure delivery of the business support service is within contractual budgets as defined by the budget. Track, monitor and report on this regularly, as required.
- Attend regular team review meetings and provide written reports regarding activity, progress against KPIs and performance outputs as required by the Project Board.
- Work with key strategic partners, including the ABHB and the hospital on ongoing initiatives and on designing and implementing new initiatives and projects which benefit the centre customers.
- In addition to driving one to one collaborations, actively seek to develop a high quality centre business support programme that places the Innovation Centre at the heart of an emerging life sciences cluster in South East Wales.

- Continue to develop relevant market-based support ecosystems for the Centre and innovation support and collaborative networks at the local and city-regional levels.
- Develop long term relationships with this support ecosystem keeping them informed and engaged in the Medi-Park's development strategy, referring businesses to their schemes when applicable and of value to the pro business aims of the project.
- Ensure accurate recording of data relating to the Business Support activity and outputs in an accessible Centre Management System at least monthly.
- Deliver on all targets based around activity, resource productivity, service quality and profile. Report monthly to the Project Board with progress and any possible new development opportunities.
- Provide business coaching, strategic support and specialist consultancy directly to business customers in order to support their business innovation development and performance growth.
- Develop case studies and testimonials whenever possible and the centre's marketing material and campaigns.
- Ensure an on-going focus on the continuous development of business support and coaching tools to ensure the Business Support Service adds value to the centre and enhances its brand.
- Develop a network of business specialists, support associates and third-party support providers to assist in the delivery of high quality, pragmatic Business Support Service to Centre customers and users.
- Identify opportunities to engage the student and academic communities in employability initiatives, such as placements, internships, Knowledge Transfer Partnerships and research projects aligned to their studies in the businesses supported by the Innovation Centre.
- Review the effectiveness of incubation and innovation programmes provided at the centre; deliver new proposals for programme initiatives or improvements to existing programmes for increased effectiveness and impact.
- Share best practice with other team members, extracting the benefits of any relevant service improvements (e.g. support tools, reports, process improvements) they might develop.
- Work with the centre team to ensure that the business support activities and outputs actively contribute to the successful delivery of targets and KPIs (revenue streams, occupancy, licence fees, cash collection, cost management etc.)
- Work in conjunction with the Centre Manager to design a programme of life science focused training and networking events. Take the lead on overall programme management whilst delegating specific project management and delivery responsibilities amongst the centre team and the external support network.

- Work with the centre and central marketing team to contribute to the building of a strong alumni network for companies that have successfully graduated from the centre.

Key skill-sets

- Degree level standard of education or a recognised professional business qualification
- An understanding of the business support landscape and the needs of SMEs
- Credibility and ability to influence at owner/manager or senior director levels
- A proven track record in business leadership, either working at senior director level within large corporates or as a small business owner
- A successful track record of achievement in enterprise and innovation development
- Previous experience of delivering business management and development either as a consultant or business coach to early stage businesses or relevant experience within such a business
- Skilled at negotiating commercial partnerships/relationships
- A track record in budgeting, forecasting and the management of financial and other resources
- Experience of operating/managing business support or incubation programmes
- Strong contact base in SE Wales
- Experience of providing business coaching
- A background in life sciences
- Project management skills
- A knowledge of the growth funding landscape for SMEs would be beneficial
- Data and ROI driven, with a strong understanding of contract delivery KPIs and ability to provide and interpret information in management reports
- Strategic thinker with strong business acumen and a detailed knowledge of the key functions within a business particularly sales & marketing, financial management and operations.
- Ability to use own initiative and to be able to identify quickly and effectively how problems can be solved
- Strong networking and relationship building skills with a personal network beneficial to the business support needs of the role
- A passion for innovation and solving problems
- Excellent communication and organisational skills

- Strong analytical and writing capabilities

Innovation Centre Manager (c£35,000 per annum excluding on-costs)

The role of the Innovation Centre Manager is to head up the sales, operational and ultimate financial performance of the facility. The Centre Manager will report to the Project Board and will be supported by an Assistant Centre Manager (see above). The Centre Manager will work closely with the Innovation Director (see below).

Key responsibilities

- Financial management to include monthly billing and revenue collection, demonstrating a good understanding of income statements and cost management
- Control expenditure lines in the business within budgetary guidelines. Make recommendations on OPEX (operational expenditure) and cost savings
- Present annual budgets and business plans with recommendations on price increases, proposed local strategies and CAPEX (capital expenditure) requirements
- Recommend and implement potential areas where additional revenue can be generated through the facility
- Produce lettings and additional services revenue plans as required
- Promote available space in the centre on pre-agreed commercial terms
- Generate revenue from various products available in the centre
- Ensure the centre is fully exposed to the market to maximize revenue opportunities
- Network with influencers, public sector and inward investment bodies, and target potential customers as required
- Liaison with the central marketing team to prepare marketing strategies suitable for the centre
- Identify, recommend and implement local marketing initiatives
- Identify additional revenue creating opportunities
- Maintain an awareness of the operator's range of support services, projects and expertise and promote these appropriately to partners and clients
- Maintain an awareness and interest in the centre clients' business performance and problems and signposting to support, working effectively with the Innovation Director
- Set, monitor and develop the standards of centre presentation, including cleanliness, health & safety and security, by implementing the agreed standard operating procedures and monitoring criteria with the centre team

- Develop a culture of quality service and customer care in all areas by encouraging open and honest feedback from the staff and customers through regular surveys and staff coaching
- Promote and build the centre's reputation for exceptional standards of customer care
- Ensure that an appropriate competent employee is always on duty and able to deal with emergency procedures
- Attend training courses and meetings as and when requested to do so, being responsible for own development
- Team management to include all centre staff and temporary cover
- Manage recruitment and coaching of the Centre Management team to the required standards of performance and service levels, to ensure that the centre achieves outstanding operational standards
- Develop and maintain links between the centre and organisations within the regional economy.

Key skill-sets

- Experience in the operational running of an asset of the size, character and quality of an Innovation Centre
- Experience of working in a similar environment, supporting SMEs and able to demonstrate credibility in commercial aspects of innovation.
- Awareness of economic development and the role Innovation Centres play in them
- Refined networking skills demonstrated through the ability to maximise revenue opportunities
- Clearly identifiable leadership skills to manage a team within a service environment, ensuring overall performance is maximised
- Evidence of excellent sales and negotiation skills
- An interest in science and technology is preferred but not essential
- Credibility and ability to influence at owner/manager/senior director level
- Data and ROI driven, with a strong understanding of contract delivery KPIs and the ability to provide and interpret information in management reports
- Strategic thinker with strong business acumen with a detailed knowledge of the key functions within a business (particularly sales and marketing, financial management and operations)
- Excellent networking skills at a senior level across academic, research and business sector bodies

- A passion for innovation and problem solving
- Ability to communicate effectively at all levels
- Strong analytical and writing capabilities
- Ability to build relationships with multiple stakeholders
- High standards and an enthusiasm for continuous improvement
- Able to deliver accurate, quality reports in a timely manner
- Highly self-motivated and proactive with a desire to contribute to the company more widely
- Ability to work under pressure and multi task
- Motivate, lead and delegate tasks to team
- Effective team leader and team player.

Assistant Centre Manager (c£25,000 per annum excluding on-costs)

Key responsibilities

- Provide support to the Centre Manager in all aspects of sales, marketing and operational activities to attract new customers to the centre and ensure retention of existing customers
- Deliver exceptional customer service levels, supporting the Centre Manager with overall management control and accountability for the commercial performance of the centre
- Act effectively as Centre Manager in the absence of the Centre Manager.
- Support the Centre Manager with Financial Management Information to include invoicing customers and debt management
- Assist in budget planning and monitoring of expenditure and cost
- Assist in financial reporting and demonstrate an understanding of profit and loss
- Raise purchase orders
- Reconcile invoices and ensure compliance for audit
- Assist with team management to include reception/customer experience assistant staff and temporary cover
- Assist with recruiting and coaching the centre management team in the required standards of performance and service levels to ensure that the centre delivers a high level of customer service to customers of the centre.

- Support the Centre Manager in promoting available space in the centre on pre-agreed commercial terms
- Assist in generating revenue from various products available in the centre
- Contribute to identifying additional revenue creating opportunities
- Make a strong contribution to developing a community of entrepreneurs within the centre
- Maintain an awareness and interest in the clients' business performance and problems and signposting to help
- Assist in preparation for conferencing, events, meetings and catering for the centre
- Assist in ensuring that the centre is fully exposed to the market to maximize revenue opportunities
- Assist in preparation of marketing material and initiatives suitable for the centre
- Assist with setting, monitoring and developing the standards of the building's presentation, including cleanliness, health and safety and security
- Primary responsibility for implementing the agreed standard operating procedures and monitoring criteria with the centre team
- Maintain Centre Asset register
- With support from 'Operations' ensure compliance with statutory and mandatory obligations under the Health and Safety at Work Act
- Maintain and deliver the Planned Preventative Maintenance (PPM) schedule in a timely manner
- Report any reactive maintenance issues in the centre and oversee the works through to completion
- Assist in procurement and management of contractors, suppliers and consumables
- Manage assets, stock and inventory and replenish consumables where required
- Assist in setting up, reporting and maintaining in-house IT systems
- Where applicable, ensure that all information is dealt with in accordance with the GDPR and Money Laundering Regulations
- Maintain records and documentation to comply with Quality Management Systems e.g. ISO9001
- Contribute to developing a culture of quality service and customer care in all areas by encouraging open and honest feedback from the staff and tenants, assisting with regular tenant surveys and regular staff coaching

- Strong contribution to promoting and building the centre's reputation for exceptional standards of customer care
- In the absence of the Centre Manager, ensure that an appropriate competent employee is always on duty and able to deal with emergency procedures
- Attend training courses and meetings as and when requested to do so, being responsible for own development
- Undertake any additional tasks as proposed by the Centre Manager.
- Key skill-sets
- Experience in the operational running of an asset of the size, character and quality of the proposed new centre
- Previous experience in a letting office environment preferred
- Clearly identifiable management skills in order to manage a team within a service environment, ensuring overall performance is maximised
- Evidence of negotiation skills within previous roles
- Attention to detail/completer finisher
- Excellent administrative and organisational skills
- Good communication skills, tactful and persuasive
- Highly self-motivated and proactive with a desire to contribute to the company more widely
- Client and customer services focussed
- Ability to work under pressure and multi task
- Ability to motivate, lead and delegate tasks to team members
- Team player and team leader
- IT literate.

Customer Experience Assistant (c£20,000 per annum excluding on-costs)

Key responsibilities

- Be the first and last point of contact for tenant firms and their guests
- Welcome all tenants, visitors and meeting room guests with an authentic enthusiasm and smile in a friendly, professional natural manner
- Responsible for opening the centre in the morning and closing the centre at the end of the day

- Booking meeting room arrangements, ensuring the rooms are in a suitable condition prior to the meeting and that everything goes smoothly for the customer
- Manage keys and passes (activation/ deactivation) for customers
- Handle all daily incoming and outgoing mail for customers
- Answer all incoming questions and requests via phone, email or at reception
- Booking and recording all requests for meeting rooms and events, arranging refreshments and other support needed
- Support the Innovation Centre Manager with event planning and hosting
- Monitor the meeting room agenda and act as a host for coffee morning and external events
- Ensuring all centre equipment is in good working order – including for example coffee machines, printers, and AV kit etc.
- Maintaining and monitoring of useful consumables and stationery supplies etc.
- Record any chargeable ad hoc services customers or their guests need
- Support customers with tasks varying from using the coffee machine to printing jobs, ordering office supplies or even booking a taxi for a journey home
- Maintaining tidiness of the community areas in the centre including re-stocking the communal kitchens
- Logging improvement logs on a bespoke system and following up as necessary
- Support customers with local area knowledge – restaurants, bars, events etc.
- Act as back up for the Assistant Centre Manager and Centre Manager for all kinds of administrative tasks.

Key skill-sets

- A confident and enthusiastic person able to mix with all types of people and to provide a friendly, natural professional public image
- Pro-active
- Good IT skills with experience of using a wide range of technology
- Conscientious and efficient with an eye for detail and pride in their work
- Great as part of a team as well as working on their own when the need arises
- Flexible – willing to do what it takes to make the Innovation Centre a success.

Llanfrechfa Grange Campus Masterplan Utilities Infrastructure Study

7th July 2020

Rev 04 Phasing & Costing Update

Quality information

Prepared by	Approved by
Keith Thompson (Mechanical) Stephen Rowlands (Electrical) Julian Thorpe (QS)	Sarah Gealy David Buick

Revision History

Revision	Revision date	Details	Authorized
00	14-05-2020	WIP - Draft for Comment	KJT
01	22-05-2020	First Issue - For Comment	KJT
02	26-05-2020	Area Schedule Update - For Comment	KJT
03	15-06-2020	Final Issue	KJT
04	07-07-2020	Updated to reflect incorporation of new phasing strategy, consideration of alternative IDNO Primary Sub-Station Procurement and utility specialist CV Included.	KJT

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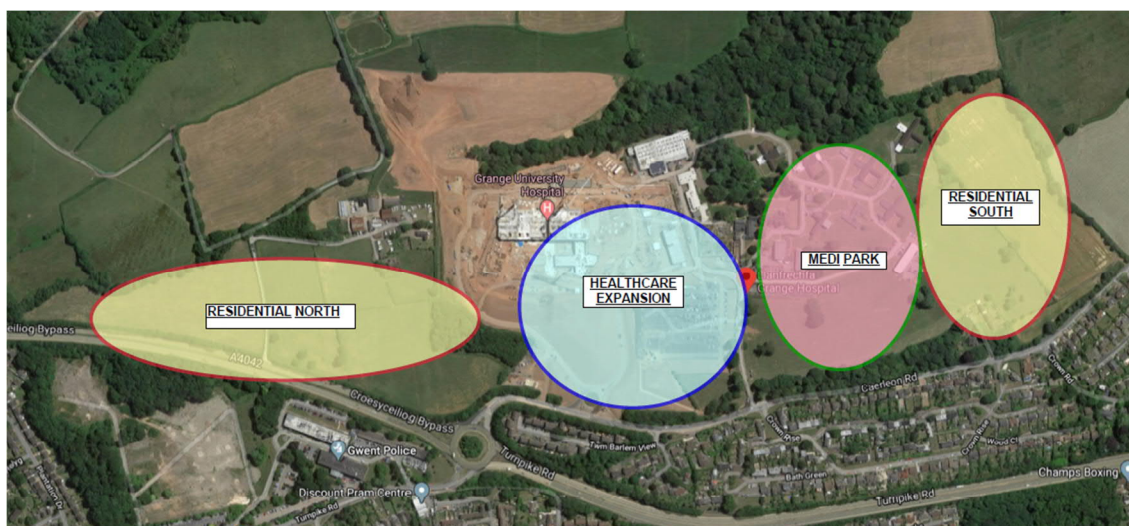
1. Introduction

- 1.1 Following on from the development of the Grange University Hospital at Llanfrechfa, and in support of the Torfaen County Borough Council's Local Development Plan (LDP) a Medi-Parc / Life Sciences Hub has been identified as a priority project in "Our Valleys, Our Future", a plan published by the Ministerial Taskforce for the Valleys in 2017.
- 1.2 The Life Sciences sector is a £2 billion industry in Wales, with 360 companies employing around 12,000 people across the country.
- 1.3 The aims and objectives of this utilities study are to inform and support the Client in their initial development of the masterplan for the Llanfrechfa Grange site.
- 1.4 In support of the wider Master Planning exercise and based on AECOM's existing knowledge of the site, we have been appointed to undertake a desktop study of the existing utility services to establish current provisions and produce an initial loading assessment and a commentary on the extent of capacity upgrades that may be required to support the overall redevelopment.
- 1.5 As part of this study we have made informal contact with the various utility providers noted, and they have provided informal information, to ascertain whether there is in principle any capacity in their networks available to support any extent of development of the Grange site. In order to verify this a formal utility connection application would need to be made. In line with our appointment, this has not been undertaken at this early stage and cannot be made until the masterplan is developed to a sufficient level of detail. Note that some utility providers e.g. Welsh Water will not typically provide a formal utility connection quotation until a planning application number is available. It is envisaged that this step would be undertaken during the next stage of masterplan development.

1.6 Site Location

Llanfrechfa Grange Site
 Caerleon Rd,
 Llanfrechfa, Cwmbran
 NP44 8YN

1.7 Site Ariel View



2. Utility Services

2.1 Our study is limited to the following utility infrastructure services:

- **Electrical Power**
- **Natural Gas**
- **Water**
- **Telecom**

2.2 Investigations into the Drainage infrastructure have been undertaken separately by WSP.

3. Scope of Work

3.1 The following summarises AECOM duties (Utilities and Infrastructure) under the Sub-Consultancy Appointment:

Task 1

- i) Collate existing utilities information.
- ii) Update external services drawings.
- iii) Issue requests to utility providers for updated utility plans
- iv) Undertake initial loading assessment.

Task 2

- v) 3 No. Masterplan Options - Services input.

Task 3

- vi) Produce final Utility Loadings for preferred masterplan
- vii) Produce final External Services drawings for preferred masterplan.

4. Development Plan Schedule of Areas

- 4.1 This Utilities study has been based on the following information:
- Approved Development Framework document (updated 2018) – with key area name Zones used from this document in the following table (clause 4.2)
 - Drawing LLA-BDP-XXX-00-PL-L-900001 – Study Area Boundary
- 4.2 The Utilities assessment is based upon the following schedule of designations and corresponding development areas and capacities:

Table 1 – Land Development Areas

Key/Area Reference	Land Building use	Area (GFA)	Capacity
Zone 1	Hospital	Existing	
	HSDU	Existing/Proposed	
Zone 2	Hospital Expansion	25,000 m ²	
	Pathology	2,500 m ²	
	Orthopaedics	12,000 m ²	
	Low Secure Unit	8,000 m ²	
Zone 3	Medi-Park Phase 1	9,000 m ²	
Zone 3	Medi-Park Phase 2	10,000 m ²	
Zone 4	Housing South	-	56 Housing Units
Zone 5	Housing North	-	262 Housing Units
Zone 6	Mixed use – Grange House and Hub. ➤ Co-working spaces/ Training facilities ➤ Nursery/ Creche ➤ Gym ➤ Café ➤ Local Convenience Retail ➤ Florist	2,900 m ²	

5. Methodology

- 5.1 AECOM have taken the masterplan proposals, including building types and use and generated a demand loadings schedule to determine the bulk demands to support the new development. This schedule has then informed discussions with the various utility providers.
- 5.2 Note that utility demand estimates we have undertaken exclude any allowance for the current utility loadings serving the existing site e.g. existing gas or power connections serving the old Grange hospital facility that would become redundant through demolition. From our assessment of the new demands, it is unlikely that the existing supply capacities would have any significant impact on the new total demand for the masterplan.
- 5.3 In assessing the cost implications associated with the utility infrastructure upgrades, we have worked with AECOM Cost Consultancy, and our estimates for utility upgrades are contained within their cost report section.
- 5.4 **New Plot Utility Capacities**
- Determining the estimated site capacities for the plots, we assessed the individual plot areas and the proposed use. The predominant plot use can be summarised as follows:
- **Healthcare**
 - **Medi-Park Facilities**
 - **Residential**
 - **Car Parking**
- 5.5 Considering Medi-Park application, at this early stage we have adopted a template for a typical commercial Science Park building to determine the utility loadings. Consequentially, AECOM utilised this baseline and our extensive experience to collate information from previous commissions on a number of successfully completed and operational Science Park sites. We collected and assessed data on layouts, servicing and corresponding utility demands.
- 5.6 From our investigations, we determined that a typical commercial science park building comprises of the following split of use

Table 2 - Typical Medi-Park Building Space & Usage:

Typical Use \ Function	% Area*
Laboratory \ Process Space (Category 2) Each building would be designed to be multi tenanted with a minimum generic lab space of around 50m ² . Each lab would typically include infrastructure for lab benches, sinks, and small lab equipment, fume cupboards (average 2 per 50m ² lab).	25%
Office - Write Up Space Each lab would have an associated write up area where tenants could complete non lab activities. These areas would typically be more intensively used than an office area.	10%
Office Space - General Use \ Administration Office spaces would be of a standard equivalent to normal commercial business park office space.	25%
Common Tenant Areas (Breakout space \ Cafeteria) Tenant's common areas would typically include spaces such as cafes, a variety of different meeting spaces, offices etc. that would be accessible to all Tenants.	7%
Ancillary Space – Circulation \ Plant \ Storage \ Reception All common spaces would be covered by the ancillary areas including entrances, lift lobbies, toilets, corridors, plantrooms, risers etc.	33%

* The m² area referred to above is building net internal area (NIA).

5.7 Subsequent to determining area proportions for Science Park applications, we then used historical project data to determine the average utility load demands. Following investigations, the following allowances were adopted:

- **Electricity 160W/m²**
- **Gas 110W/m²**
- **Water 0.05 LU/m²**

5.8 In addition to the Life Science usage, the other proposed identified plot designations are Healthcare, Residential, and Car Parking. As these uses are relatively standard, to assess the estimated utility demand, we utilised Building Services Research and Information Association (BSRIA), Rules of Thumb - Guidelines for building services 5th Ed - BG 9/2011 as a basis to develop a demand figure. We subsequently applied an element of diversity to consider the overall scale of the Llanfrechfa Grange Site redevelopment; the utilised figures are presented in the following table

Table 3 - Residential, Healthcare and Car Parking Utility Loadings.

Use \ Function	Electricity (W/m ²)	Gas (W/m ²)	Water (LU/m ²)
Healthcare	80	120	0.1
Residential	n/a	n/a	0.2
Car Parking*	10	-	-
* Car parking will have minimal gas and water demand load requirements, consequentially negligible impact on bulk utility demands.			

5.9 This methodology has been adopted at this early stage of the masterplan development. The base loadings do not include any provision for diversity, which is likely, due to the diverse uses incorporated into the development. Therefore, it is anticipated that there is a reasonable level of flexibility and scope for manipulation of the life science building areas and use classifications to suite the end users. The detail and extent of flexibility can be refined at the next stage of masterplan development once the specific uses of buildings are further defined.

5.10 As established during initial discussions AECOM's appointment was to focus on the primary utility connections to the overall Llanfrechfa Grange development site.

5.11 Secondary and Tertiary utility connections to individual buildings are excluded at this early stage. Our report assumes all new services connections, with no consideration at this early stage, of any existing services connections being re-used or retained.

5.12 On the basis of initial discussions with the Client, and as part development of the overall masterplan, AECOM utilised experience from previous largescale developments to incorporate the principle of a common utility corridor to serve the re-developed site. This concept was illustrated on our initial proposals and conveyed as generic layout; this is included in the Appendix.

5.13 The initial preferred location of the common utility corridor was the new main central boulevard. This location provided optimum space for setting out of services and additionally provided good access for installation, maintenance and alternation of the utility services.

5.14 At this early stage of development, the drawings are indicative for master planning use and costing purposes only.

5.15 The drawings show the main utility routes, they do not convey the final connections to individual plots. As there is limited variation in the size and configuration of final connections, provision is made within the cost plan to cover the work associated with the individual connections, including service and related groundworks.

6. Utility Loadings Estimate

6.1 Using the elemental loadings explained, we have applied them to the masterplan plot areas and the total loads have been calculated. A summary of the total load diversified load estimates:

Table 4 - Initial Estimated Gas & Water Utility Loadings

Zone	Land/ Building use	Zone area (ha)	Housing units	GFA (m2)	Water Demand (Litres \ Second)	Gas Demand (kW)	Notes
1	Hospital Existing				N/A	N/A	Existing Connections Retained
2	Hospital Existing Expansion (+25%)			12500	N/A	N/A	Existing Connections Retained
3	Laundry Facility				N/A	N/A	Existing Connections Retained
4	New HSDU Facility				N/A	N/A	Existing Connections Retained
2	Hospital Expansion (+25%)	8.80		12500	6.50	1875	Gas Con B
	Pathology			2500	2.50	375	Gas Con B
	Orthopedics			12000	7.70	1800	Gas Con B
	Low secure unit			8000	5.70	1200	Gas Con B
3	Medi Park P1	4.00		9000	5.59	788	Gas Con C
	Medi Park P2			10000	5.22	893	Gas Con C
4	Hosuing South (29+27 Units)	2	56.00		3.90	1344	Gas Con C
5	Housing North (55+69+138)	9.20	262.00		12.00	6288	Gas Con A
6	Mixed use - Grange House\Hub	0.90		2900	3.05	181	
	Co-working spaces/ Training facilities				0.43	42	Gas Con C
	Nursery/ Creche				0.43	21	Gas Con C
	Gym				0.94	42	Gas Con C
	Café				0.50	23	Gas Con C
	Local convenience retail				0.33	35	Gas Con C
	Florist				0.43	18	Gas Con C
Total land area (excluding hospital site, other open space and primary road)		25	318.00	69400	52	14743	

Table 5 – Estimated Electrical Power Utility Loadings

Llanfrechfa Grange Hospital - Electrical Utility Loads										
Zone	Land/ Building use	Zone Area (ha)	Housing Units	GFA (m2)	Elec Demand (kW)	Parking User Type	Car Parking Spaces	EV Charging Allowance	Additional Elec Demand for future EV Charging (kW)	Additional Elec Demand for Gas Alternative (kW)
1.00	Grange Hospital Existing				5500	Hospital Current - Staff/Visitor	950		Healthcare Retrofit Policy tba	Healthcare Retrofit Policy tba
1.00	HSDU Building Existing/Proposed					Staff/Visitor			Healthcare Retrofit Policy tba	Healthcare Retrofit Policy tba
1.00	Laundry Building Existing					Staff/Visitor			Healthcare Retrofit Policy tba	Healthcare Retrofit Policy tba
Llanfrechfa Grange Masterplan - Electrical Utility Loads										
2.00	Hospital Expansion	8.80		25000	2500	Staff/Visitor	250	20% of Parking @ 7kW/space	350	
	Pathology			2500	250	Staff/Visitor	50	20% of Parking @ 7kW/space	70	
	Orthopedics			12000	1200	Staff/Visitor	240	20% of Parking @ 7kW/space	336	
	Low Secure Unit			8000	650	Staff/Visitor	160	20% of Parking @ 7kW/space	224	
3.00	Medi Park P1	4.00		9000	1800	Office	180	20% of Parking @ 7kW/space	252	
	Medi Park P2			10000	2040	Office/High Tech	200	20% of Parking @ 7kW/space	280	
						Disabled Parking for Zone 2-6 new employment areas	102	20% of Parking @ 7kW/space	143	
4.00	Housing South Affordable housing: Apartments (1, 2 bedrooms)	2.00	29		160	Allocated (on-street and plot)	29	7kW/Dwelling	203	73
	Housing South Affordable housing: Semi-detached houses and Bungalows (3, 4 bedrooms)		27		149	Allocated (on-street and plot)	27	7kW/Dwelling	189	68
						On street parking for visitors	32			
5.00	Housing North Affordable housing: Apartments (1, 2 bedrooms)	9.20	55		303	Allocated (on-street and plot)	55	7kW/Dwelling	385	138
	Housing North Affordable housing: Terraced houses (2, 3 bedrooms)		69		380	Allocated (on-street and plot)	69	7kW/Dwelling	483	173
	Housing North Open market housing: Detached and semi-detached houses (2, 3, 4 bedrooms)		138		759	Allocated (on plot inc driveways, garages (min3x6m))	276	7kW/Dwelling	966	345
						On street parking for visitors	37			
6.00	Mixed use - Grange House and Hub	0.90		2900	337					
	Co-working spaces/ Training facilities									
	Nursery/ Creche									
	Gym									
	Café									
	Local Convenience Retail Florist									
Sub-total kW:					10526				3881	795
Total kW excluding: > Existing Hospital site > Proposed HSDU > Primary Road > Other open Space					15202					

7. Utility Provider Dialogue

7.1 Western Power Distribution

- 7.1.1 We have contacted the local Electricity Network provider Western Power Distribution (WPD) and requested up to date information on the local Electricity Network. We have obtained a copy of their latest utility network plan and copies are appended in this report.
- 7.1.2 From AECOM records, the WPD services to the new Grange University Hospital and the remaining services to the original site i.e. Llanfrechfa Hospital, Grange House and the Laundry Building, have been identified and indicated on the Indicative Utilities Plan – refer to the Appendices at the end of this document.
- 7.1.3 Subsequent to receipt of the information, we have held an initial meeting with WPD to discuss the Masterplan proposal, and to obtain an understanding of what capacity is available on the local network. This was to be an informal meeting, where we tabled some initial load estimations for the key development areas. The estimates were based on current industry guidelines, BSRIA Rules of Thumb for building services, and AECOM's historic project data. As a conservative estimate the demand was in the order of 11 MVA in total, and this to increase for adjustment for future legislation e.g. EV Charging policy, Ground \ Air Source Heat Pumps to replace Gas heating etc.
- 7.1.4 With regard to the existing Hospital site, AECOM were the design Consultants for the Enabling Works i.e. demolition of part of the old Llanfrechfa Grange University Hospital, and later the new Hospital Detail Design. For these works it was necessary to understand the available Network supply capacity for the new Hospital, and the resilience that would be required. Currently the connection agreement is for 5.5 MVA, which includes an allowance of +25% for future expansion. This supply is delivered by two Primary supplies on diverse routes from the WPD Cwmbran Sub-station.
- However, we understand that a revised figure of +50% would now be required for the Hospital, and this element was also discussed with the WPD.
- 7.1.5 The existing Police HQ site was discussed, and WPD indicated that some work had already be done regarding an expected Housing development. However, with no real information available on the Masterplan, it remains unclear what could be supported in this area.
- 7.1.6 Some clear advice was given by WPD that the existing Electricity Network for this area is currently at maximum allowance, and the existing WPD Primary Substations at Panteg and Cwmbran would not be able to support further increase in demand.
- AECOM were already aware that Panteg SS was an issue - which is why the new Grange University Hospital (SCCC) could only be served from the Cwmbran SS. It should be noted that 25% spare capacity is already secured in the connection agreement for the Grange University Hospital, and we were looking for a further 25% increase in our estimates.
- 7.1.7 Another notable element and factor in future Electrical demand will be legislation on Electric Vehicle charging and the reduction in Gas usage in Dwellings. For example, today's rule of thumb advises a 5.5kW allowance for a Dwelling. However, with EV Charging and Ground/Air Source Heat Pumps (to replace Gas heating), WPD are now expecting demand in the future to increase to 10 - 15kW/Dwelling. In the previous section of this report, the table of Estimated Electrical Power Utility Loadings indicates the allowances made.
- 7.1.8 In the next Task stages, it may be possible to refine the estimated Electrical Loadings further, however regardless of the final capacity requirement, the lesser figure of approximately 11 MVA (i.e. today's figures), will alone prompt the need for a new Primary Substation.

WPD were asked about the cost and space requirement for a new Primary SS, however WPD were reluctant at this stage to place a figure on an element that has many factors to consider. When pushed to say what the last one cost they indicated £18m, with a footprint of 3,500 m2. Note that we are reluctant to place confidence in this cost, given that it was not given as an estimate against our project details.

Aside from Western Power Distribution, the incumbent Distribution Network Operator (DNO), it is possible to procure the primary sub-station from an alternative provider i.e. Independent Distribution

Network Operator (IDNO). We have undertaken investigation and considered recently completed AECOM projects where this strategy has been explored, and on this basis we have assessed the potential cost of a new (IDNO) primary sub-station and we have determined that the costs could be significantly reduced compared to a WPD solution, our outlie estimate would be £12m.

With regard to how the area could accept a new Primary SS, this would appear to be positive news. Behind our site/s (to the East), are the nearest Network 132kV Overhead Transmission Lines, which would deliver supplies to a new Primary SS. The creation of a new Primary SS would provide resilience, flexibility, choice of equipment ownership – all to be agreed.

WPD provided the following Diagram and Plan which indicated the approximate locations for the existing 132kV Overhead lines, and an indicative route and location for a new service to serve a new Primary SS. The final route would be subject to negotiations with Landowners, and there would be further consideration to this service being overhead transmission line or underground cable. Within the vicinity of the Masterplan areas, the location of the Primary SS would also need to consider requirements such as suitable road access, the Hospital Helipad flight route etc.

WPD Overhead Lines Indicative Routing Diagram & Plan

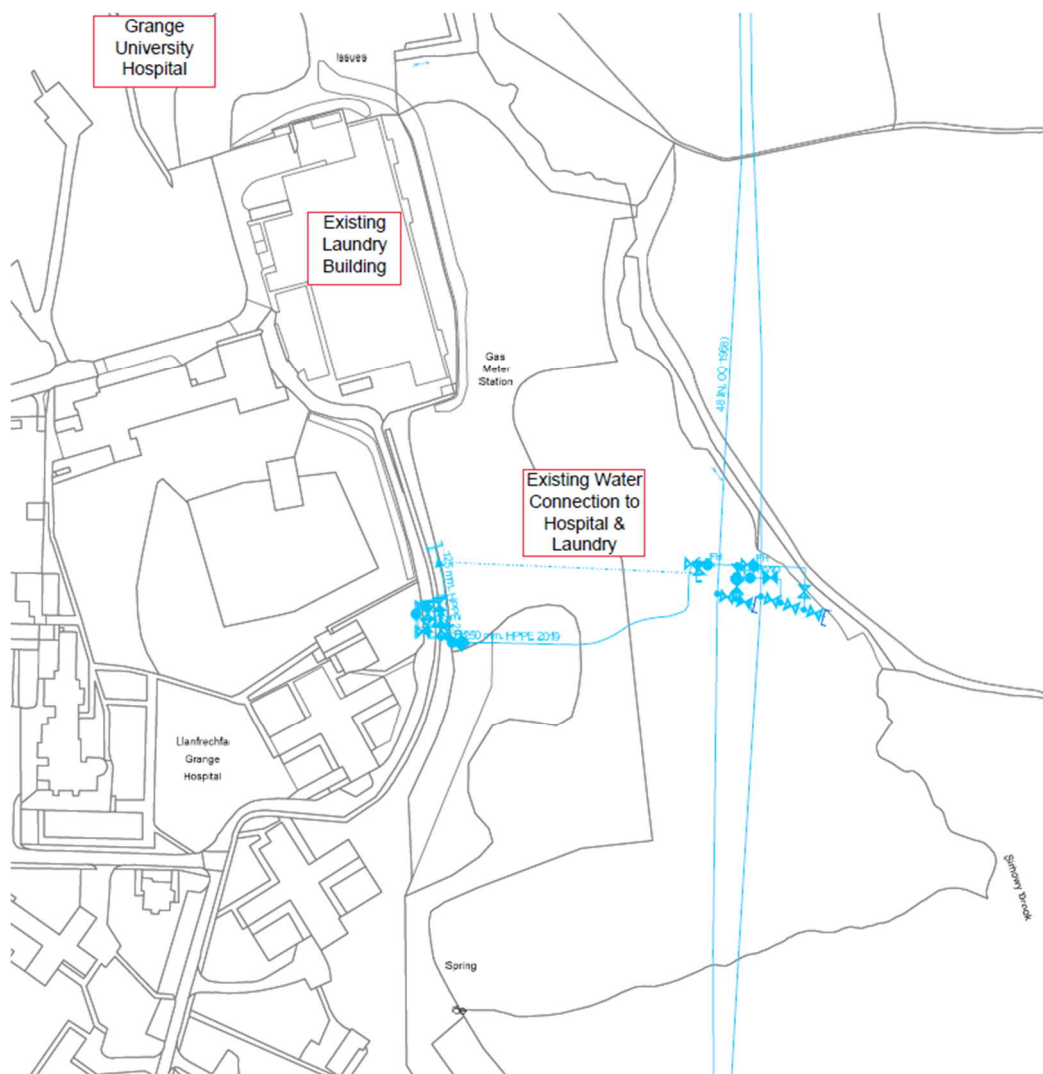


7.2 Dwr Cymru (Welsh Water)

- 7.2.1 We have made initial investigations into the existing Water Network and have obtained a copy of utility provider's (Dwr Cymru) local Water Network information. A copy is appended to the Report.

7.2.2 Adjacent to the Grange University Hospital Site there are 2 No. arterial primary trunk mains from Llandegfedd Reservoir, (1200mm D_{ia} Concrete (1968) & 750mm D_{ia} Concrete (1962). The new Grange University Hospital water connection is derived from an existing trunk main connection.

7.2.3 Existing Trunk Mains Location Map



7.2.4 We have made contact with Dwr Cymru Developer Services Department and discussed the Masterplan proposals. Based on our estimated water demand for the development, due to the scale of the development it is highly unlikely that it can be served from the existing local network, therefore the only logical solution is to either make a new connection to the adjacent trunk mains or route a new large diameter connection from an existing trunk main connection either upstream or downstream of the development site.

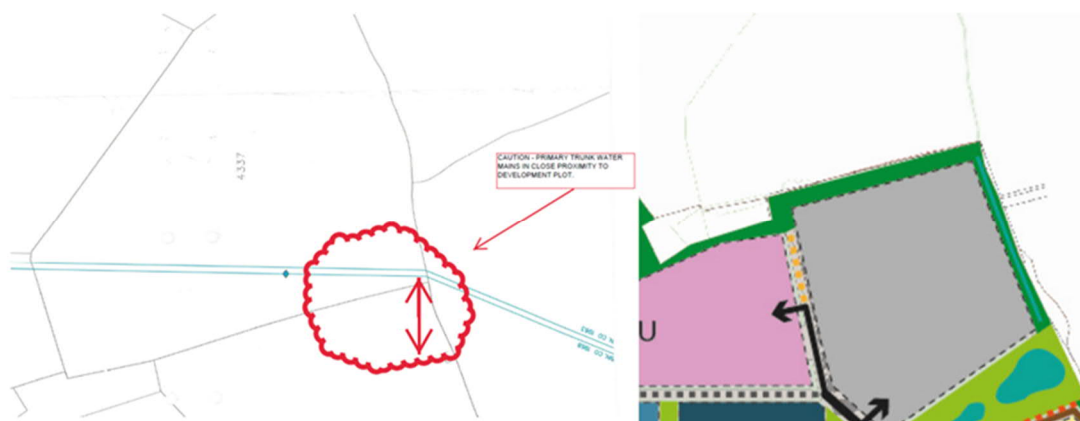
7.2.5 In addition to a potable water connection to serve the new masterplan development, a new fire hydrant water main connection is also required.

7.2.6 Logistically, making a new connection to the existing trunk mains (1200mm D_{ia} Concrete (1968) & 750mm D_{ia} Concrete (1962)), is difficult and is not the recommend course of action. Therefore, there will be significant cost associated with this option. The initial cost estimate is included in the infrastructure cost reporting.

7.2.7 A possible alternative option is to derive a new connection from an existing trunk main connection either upstream or downstream of the development site, however this may not be possible given the site water demands.

- 7.2.8 To determine and confirm the optimum solution, Dwr Cymru have advised that THEY would need to undertake a detailed water network load analysis, including the installation of site-specific data loggers. The full scope, cost and duration of the modelling would need to be defined. As a budget indication we would estimate that the costs for this exercise would be in the region of £4-6k and take approximately 3-4 months to conclude.
- 7.2.9 Therefore, initial investigations indicate that there is scope and sufficient capacity available in the water network to support the development, albeit that there are costs and logistical challenges to confirm \ address. It's recommended that further detail on the new water connection requirements, including the completion of the referenced load analysis, are developed and substantiated during the next phase of the masterplan development.
- 7.2.10 Initial review of the Grange Masterplan layout and the Welsh Water site plan indicates that development of the South Site, specifically the car parking area, is in relatively close proximity to the existing trunk mains (1200mm Dia Concrete (1968) & 750mm Dia Concrete (1962)). Due to the strategic importance of the water mains, development in proximity to the main will be restricted and significant easement will be required. Following initial investigations with Welsh Water, they have advised that to determine the specific easement requirements, they need to conduct a site survey and potentially undertake trial pits adjacent to the development site to establish the actual depth of cover on the water mains. In the absence of this information, they have suggested an allowance of 10m is used with the final requirements to be determined after investigation. Given the potential impact on the south site development, we would recommend that the required survey is instructed at the next stage of masterplan development.

7.2.11 Water Main Plan Excerpt



- 7.2.12 Note that at this early stage, we have not undertaken any assessment of any necessary water utility diversions or removal of redundant connections. Initial review indicates that secondary water services distribution is present on the masterplan site. We would recommend that detailed investigations are undertaken at the next stage, including Ground Penetrating Radar (GPR) and a number of trial holes to verify the location of any existing water mains across the masterplan site.

7.3 Wales & West Utilities (Natural Gas)

- 7.3.1 We have made initial investigations into the existing Natural Gas Network and have obtained a copy of the utility provider's (WWU) local Gas Network information. A copy is appended to the Report.
- 7.3.2 In relative proximity to the Grange University Hospital Site there is a reasonable Low-Pressure Gas Main network (LP 21mbar – 75mbar) and Medium-Pressure (MP 350mbar – 2bar) gas main feed; the latter currently serves the new Grange University Hospital and the existing Laundry facility.
- 7.3.3 Due to the significant capacity required for the new development, following discussion with Wales & West Utilities it is impractical to provide a single dedicated connection to serve the entire development.

Therefore, considering the diverse uses, initial thoughts are to serve the development via multiple connections to the existing gas network.

7.3.4 On this basis, initial proposals are based on three connections:

- A. North Residential**
- B. Healthcare**
- C. Medi Park & South Residential**

7.3.5 Initial investigation by Wales & West Utilities indicate that these supply arrangements could potentially support the site. However, to verify and confirm this, a full schedule of accurate site loadings would be required for them to undertake a detailed network modelling analysis, and the formal request for connections would need to be submitted. We would suggest that the next stage of Masterplan development includes the requisite modelling and formal requests for gas utility connections.

7.3.6 Note that at this early stage, we have not undertaken any assessment of any necessary gas utility diversions or removal of redundant connections. Initial review indicates that an existing Medium Pressure gas main does dissect the site in proximity to the proposed Medi Park facilities. We would recommend that detailed investigations are undertaken at the next stage, including Ground Penetrating Radar (GPR) and a number of trial holes to verify the location of existing gas mains on the masterplan site.

7.3.7 In line with Welsh Government policy, the use of gas in domestic properties is to be phased out with the target that there are no new domestic connections by 2025. In our assessment we have included the residential loading for gas supplies (compliant with Part L 2020), but it is likely that a gas solution will not be compliant in 2025. Therefore, in lieu of a gas connection, we anticipate that the favoured method of heating and hot water generation for residential properties will be though electrically driven air source heat pumps. Consequentially, we have included an assessment within our initial utility masterplan electrical loading estimate to factor in allowance for the future change from gas to mains electric power.

7.4 Telecom Openreach WIP

7.4.1 We have obtained from Openreach a copy of their latest utility network plan, and copies are appended in this report.

7.4.2 From AECOM records, the Openreach/Telecom services to the new Grange University Hospital and the remaining services to the original site i.e. Llanfrechfa Hospital, Grange House and the Laundry Building, have been identified and indicated on the Indicative Utilities Plan – refer to the Appendices at the end of this Report.

8. Site Survey Considerations

- 8.1 The following table provides an indicative schedule for discussion and potential site surveys that should be considered; to inform the master planning process. Note that these survey requirements are not limited to utility elements and cover all facets of the masterplan development.

Table 6 Schedule of Potential Site Surveys to inform Masterplan Development

Item No.	Survey Activity	Comments
1.	GPR Underground Services	Based on data from monitoring equipment located on site.
2.	Background Noise	
3.	Vibration	Based on data from monitoring equipment located on site.
4.	Ecology Preliminary Appraisal + Desk Study + Extended Phase 1 Habitat Survey	Based on Guidelines for Preliminary Ecological Appraisal, CIEEM April 2013. Species specific investigation excluded covered at next stage. The optimum period for Preliminary Ecological Appraisal Phase 1 Habitat Surveys is April to Mid-October. Sub optimal surveys can be completed but some habitats maybe more diverse during optimum periods possibly necessitating an additional site visit at additional cost.
5.	Arboriculture	Accurate Topographical survey required before commencement including tree stem locations and trees directly
6.	Air Quality Assessment	
7.	CCTV Existing below ground drainage network	Assumes all manholes are accessible in normal hours and unsealed.
8.	Intrusive Ground Investigation Geotech \ Contamination.	The desk study to consider anything in the ground conditions that may increase the cost of design and construction for redevelopment of the site. For the purposes of this study we assume that we are considering only fairly conventional types of buildings which would not in themselves attract unusual design or construction costs.
9.	Utility Company Asset Record Search	
10.	Aeronautical Survey \ Civil Aviation Review	(Helicopter pad – Grange University Hospital \ Overhead Power Lines)
11.	Telecommunication Masts	To establish masts requiring replacement as a result of demolished buildings and the impact on existing signalling of the new masterplan.
12	Party Wall Survey for Retained Buildings	Further discussion is required to establish a clear brief for Party Wall surveys. The fee includes an assessment of; <ul style="list-style-type: none"> · The extent of Party Wall matters; · Any potential trespass, crane over-sailing and scaffold over-sailing issues; · Provide a fixed fee for progression of neighbourly matters and a budget for third party costs; · Estimated timeline for neighbourly engagement and statutory notices served under the Party Wall etc. Act. The need for conditions surveys of buildings to be retained would be assessed as part of this initial exercise.
13.	Topographical	All the options below cover the whole of the site.
13.a	Topographical - Option 1	Survey of a 10m grid across the site and the survey of the heights of the remaining buildings.
13.b	Topographical - Option 2	Survey the site using a drone a full 3d TIN mesh that can be viewed in AutoCAD showing true heights of all buildings.

13.c	Topographical - Option 3	Full topographical survey is based on traditional methods, locating all visible and accessible features. The main issues that need to be taken in consideration are access to all areas, areas obstructed by trees and vegetation and details obstructed by parked cars.
14.	Rights of Light / Daylight, Sunlight Assessment	<p>Provide an indicative/qualitative report that considers the neighbouring constraints, both in terms of rights to light and daylight and sunlight for planning. The report will summarise the:</p> <ul style="list-style-type: none"> · Research into neighbouring properties (within the hospital and adjacent neighbours) to establish the age, use, internal layouts and potential for enjoyment of rights to light. · Review any legal or title documents provided that may affect the rights of light position; along with commentary on the likely impacts caused by the current proposals and the scope/requirement for detailed daylight & sunlight/rights of light assessments. · Recommend if further detailed studies are required.
15.	Verified View Survey & Photography – preliminary	Preliminary assessment if the sites fall within the cone of protected views for local area, including background intrusion and provide recommendations and costs for further detailed work to assess the impact on building location and massing.
16.	Archaeological (Desktop)	<p>Stage 1 desk-based assessment to deliver a report compiled to full ClfA standards.</p> <ul style="list-style-type: none"> · Review of project documentation, design information, etc; · Collation of baseline archaeological data for the development sites (i.e. Historic Environment Record and National Monuments List for Wales); · Study of documentary, cartographic and aerial photographic sources; · Site walkovers by archaeology and built heritage specialists; · Consultation with CADW and Council's City Archaeologist on scope of Phase 2 investigations;
17.	Legal Boundary Search	

9. Conclusions

- 9.1 Based on our concluded desktop study and our early engagement with the various utility providers, we have established that generally the proposed redevelopment can be supported from the existing local networks, albeit with the need for network enhancements.
- 9.2 The primary concern at this early stage is the provision of HV Power as this will require substantial and significant enhancement of the local utility network, consequentially this requires further detailed investigation at the next stage to assess and determine the ramifications of the necessary upgrade.
- 9.3 It is not possible at this stage to obtain what capacity is truly available, or what other potential applicants have requested a connection from the statutory undertakers; as this is commercially sensitive information. As with all developments, until the site proposals are fully evolved, detailed and binding connection agreements are in place; the utilities will remain a potential risk to cost / programme certainty.

10. Next Steps

- 10.1 The focus during the next stage of masterplan development is to mitigate these risks, by undertaking the necessary investigations to identify all local and regional network alterations or reinforcements that maybe required. In conjunction with this, it is also recommended that the development team progress formal applications to the statutory undertakers for full works quotations.
- 10.2 From our review of the utility connections to serve the new proposed masterplan development, the connection of the new mains power is the principal concern, due to the cost of the works and the logistics of securing a new connection. Therefore, for the next stage of works, we would seek to bring in specialist expertise to support the Cardiff team.
- 10.3 Within AECOM we have a number of individuals who have extensive experience of working on both utility network projects and on dedicated utility infrastructure projects. For the Llanfrechfa Grange project Vince Colby is supporting our local Cardiff team. Vince has vast project experience working as Utility Infrastructure Lead for complex multi-million pounds developments. He has extensive market leading knowledge on the utilities and energy sectors and a sound practical and commercial understanding of the complexities involved in securing new supply connections. He will bring his experience as a Contractor and Consultant, working on some of the largest building infrastructure projects in the UK, to the project. In addition, his connections into the utility companies will deliver early insight and improved accuracy to help mitigate this major risk item, allowing us to support the infrastructure upgrades and diversion work and support the delivery team in brining best value to the project.
- 10.4 Working alongside the Cardiff team, Vince has and will continue to use his experience and benchmark data from similar projects to define new infrastructure requirements (electricity, gas, water, district heating or communications) and provide the other necessary information to allow budget applications to be made to the utility companies. AECOM has recently undertaken similar exercises for Project Oriel (a c43,000m2 new healthcare and research development in London), East Sussex Healthcare Trust (for an 800 bed new hospital on a greenfield site), the proposed redevelopment of Watford General Hospital and a 160,000m2 tower block at St Mary's Hospital, Paddington.
- 10.5 AECOM will make budget applications to the "incumbent" utility companies, based on the best available information. Through our team, we have a track record of undertaking this process efficiently and accurately, helping meet the programme deadlines. This process can include making applications to accredited third parties (IDNOs and the like) who are authorised to undertake work on the utility company networks, to market test value. On recent schemes, the use of such companies has reduced the offsite reinforcement costs by up to 50% compared to the UKPN estimate of the contestable works.
- 10.6 A copy of Vince's CV has been included in the appendices for information. Please advise if you need to discuss any of the detail or feel it would be beneficial to set up a call to discuss any specific points.
- 10.7 New Power Utility Connection Road Map

New Power Supply Connections Roadmap			
Task	Activity	Action	Timescale
1.	Secure Network Power Capacity for Phase 1 of masterplan Development.	<p>Assess the existing Health Board power connections to the existing Llanfrehfa Grange site and develop a strategy to support making applications to the incumbent shippers to increase the reserve capacity on each MPAN connection. This will secure network capacity to afford the Health Board to progress MP Phase 1 works i.e. Low Secure Unit & Medi Park 1.</p> <p>The immediate priority is to secure the temporary 1.5MVA connection currently utilised by Laing O'Rourke to support the Grange Hospital construction works. This connection was provided by adapting the old WPD service to the original Llanfrehfa Grange Hospital and current Laundry Building.</p> <p>Following this, make further investigations with regard to the capacity available and utilised for the remaining and occupied old Llanfrehfa Grange Hospital site. This capacity could then be added to the above mentioned 1.5MVA – although this value is expected to be in the order of 100 to 500kVA.</p> <p>With regard to the new Grange Hospital, currently we would estimate a further 800kVA available for future development. Therefore, this capacity could be available subject to the Health Board agreement.</p> <p>An initial assessment and comparison with the detailed Load analysis contained within the Masterplan report indicates:</p> <ol style="list-style-type: none"> 1. The potential for between 2400 to 2800kVA being available for Phase 1 works. 2. From the detailed Load analysis we were reporting: <ul style="list-style-type: none"> ➤ Low Secure Unit = 874kVA ➤ Medi Park P1 = 2052kVA 	Immediate July 2020 (TBC)
2.	MP Phase 1 works Connection Applications i.e. Low Secure Unit & Medi Park 1.	Assess secured reserve capacity under activity 1 and undertake updated load assessment for the Low Secure Unit & Medi Park 1 based on latest design information and make formal applications to WPD for new connections. Follow up meeting with WPD to discuss and resolve any issues.	July \ August 2020 (TBC)
3.	MP Phase 2 Power Connection Applications.	Undertake updated load assessment for MP Phase 2 buildings based on latest design information and make formal applications to WPD (DNO) & other alternative Independent Distribution Network Operators (IDNO) (list to be agreed) for new Power Connections MP Phase 2 works i.e. remaining development site. Follow up meeting with WPD to discuss. (potentially 90 Day application period).	September \ October 2020 (TBC)
4.	Interrogate WPD & IDNO proposals \ quotations for MP Phase 2 works.	Undertake detailed assessments of quotations and hold meetings with various providers, and identify opportunities to reduce cost, obtain best value for the client. Review contestable works, equipment procurement (alternative options for sub-stations \ switchgear, civils). Assess any opportunities for contributions to costs, e.g. 2 nd user principles and any credit return to the client.	January \ February 2021 (TBC)
5.	Formal Acceptance of preferred supplier		TBC

- 10.8 We would also recommend that both Wales & West Utilities and Dwr Cymru are engaged to undertake modelling for both the gas and water networks before the next stage of design development.
- 10.9 Obtaining quotations can then establish what, if any, reinforcement is required. If there is significant work to be undertaken; they can be investigated by the team to assess cost and programme implications and plan the work accordingly. AECOM have extensive experience of exploring and capitalising on opportunities to incorporate contested works and engage the de-regulated market to drive the utilities procurement strategy.
- 10.10 As part of a review of the requirement for diversion of existing site services, we will undertake a detailed coordination exercise with the preferred masterplan layout to assess the routing of all existing and new site services. This exercise will take cognisance of the limiting factors in routing services adjacent to building structures, foundations and landscaping, paying particular attention to ensuring accessibility for initial installation and replacement of distribution and system components e.g. sub-stations, valve chambers etc.
- 10.11 We look forward to working with The Client, Key Stakeholders and The Design Development team to take this exciting project to the next stage and using our extensive experience to obtain best value for the Client

11. Infrastructure Costings

- 11.1 This section of the report has been prepared to identify the likely connection and construction costs relating to the infrastructure proposed to meet the requirements of the master planning exercise being undertaken for the site.
- 11.2 The estimated costs are determined based upon the masterplan proposals issued by BDP and developed in this report.
- 11.3 Please note this report includes construction costs only and all other development costs including Professional fees, surveys, VAT etc are excluded and should be considered separately.
- 11.4 Basis of Estimate
 - The Estimate Base Date is 2Q2020.
 - There is no allowance or inclusion for risk or contingency
 - The programme of works is not defined at the time of this report and inflation or price fluctuations beyond 2Q2020 are excluded from this cost estimate.
 - Assumptions and exclusions which have been used in the preparation of these costs are listed at the end of this report.
 - The costs for project on-costs and overheads and design fees have not been included in this report.
- 11.5 Cost Summary

Description	Estimated Total Cost
Electrical Power	£ 14,088,000
Natural Gas	£ 1,841,000
Potable Water Mains	£ 1,195,000
Telecoms / BT	£ 1,058,000
Fire Main (water)	£ 452,000
Trunk Road Alterations / footbridges / Site Roads	£ 12,553,930
Public Realm Pedestrian Areas	£ 800,000
Demolition	£ 350,000
Drainage	£ 4,795,000
Surveys	£ 177,500
Total Estimate	£ 37,310,430

11.6 Electrical Power

11.7 Scope of Costs

Connection to the National Grid Power lines and the provision of a new primary sub-station stepping the power down to 132kV and then to 11kV power within the primary sub-station footprint area. Power cabling then distributes the supply to five locations to smaller substations where power can be supplied onwards to end users / specific properties.

11 kV substations across the site.

11.8 Connection to National Grid and Primary Sub Station total £ 14,088,000

Break down

WPD DNO / IDNO Sub Station	1	nr		£	12,000,000	
HV Power Cabling in ducts	320	m	£ 900	£	288,000	
Services in shared trench	1500	m	£ 520	£	780,000	LV & HV
Smaller Sub Stations	5	nr	£ 160,000	£	800,000	
Additional cable to S/Stations		item		£	130,000	
Civils and Construction Costs		item		£	40,000	
Cable connections		item		£	50,000	
Substation to Properties		m	£ / m	£	excluded	connections by end users / developers

11.9 Natural Gas Distribution

11.10 Scope of Costs

Connection to the grid has been discussed with Wales and West and the current proposal is for three separate connections, two connections to existing local medium pressure mains and one connection to a low pressure local main.

Gas Connections	total	£ 1,841,000
Connection to 180 mm Dia gas main (healthcare)		£ 50,000
Services in shared trench	1500 m £600	£ 900,000
Civils work And miscellaneous costs		£ 290,000
Gas valve and Gas Governer to reduce pressure		£ 26,000
Connection to 180 mm Dia gas main (residential)		£ 50,000
Gas valve and Gas Governer to reduce pressure		£ 26,000
Connection to Low Pressure gas main (residential) 150 mm diameter capped for future developer use.		£ 30,000
Service in trench with tape	200 m £600	£ 120,000
New gas main (diversion of existing)	570 m £700	£ 399,000

11.11 Potable Water Mains

11.12 Scope of Costs

Mains water distribution	total	£ 1,195,000
Connections to 750 mm diameter Mains pipe in two places		£ 750,000
Excavation down to and connection into concrete pipe		
Connection to the Welsh Water mains supply and one single Service brought to site and distributed across the site in the common services trench.		
One 250 mm diameter water supply connections to be made by future end users / developers.		
Valve Chamber including construction work		£ 35,000
Services in shared trench		£ 225,000
Civils work /trenches and associated works		£ 40,000
Valve chamber		£ 50,000
Metering		£ 30,000
Junctions / other / tap boxes / manifolds		£ 60,000
Capped ends / connection points		£ 5,000

11.13 Telecom / BT

11.14 Scope of Costs

Primarily at this stage the work will consist of BT Openreach connection costs and service trenches with 100 mm ducts.

BT / Data distribution	total	£ 1,058,000
Connection charges		£ 50,000
Services in shared trench		
100 mm diameter ducts	1500 m	£ 600
Draw ropes and cables		£ 900,000
Civils work /trenches and associated works		£ 40,000
Exchange boxes and infrastructure by Openreach 20 nr		£ 18,000
Final connections / other equipment		£ 50,000

11.15 Fire Main (hydrants)

11.16 Scope of Costs

Connection to the 250 mm main brought on to the site and a 200 mm diameter fire main (water) across the site with thrust blocks and isolation valve boxes. Hydrant points to be installed assumed at this time to be 10 number.

Fire Main in service trench	total		£ 452,000
200 mm diameter fire main			
Service in shared trench	1500 m	£ 170	£ 225,000
Connection to Water main	1 nr	£ 2000	£ 2,000
Thrust blocks to stabilise main	8 nr	£ 15,000	£ 120,000
Valve Chambers	5 nr	£ 7,000	£ 35,000
Hydrants	10 nr	£ 3,000	£ 30,000
Associated civils works	item		£ 40,000

11.17 Roads – Alteration to Trunk Roads, bypass (tbc), bridge works

11.18 Scope of Costs

There are changes required to the layout of the roads constructed for the hospital site and logistical changes to the existing roundabout off the main trunk road. The use of new traffic signals may be required and this will involve work to install buried ducting and changes to the approaches/layout of traffic islands and kerb profiles.

Further new work is required to upgrade the bypass and provide pedestrian access with a new footbridge.

Road alterations and Car parks	total		£ 12,553,930
Alteration to existing Roundabout			£ 300,000
New Roundabout			£ 600,000
New traffic signalisation, buried ducts and power.			£ 900,000
Alteration to road junction for Caerleon Road			£ 120,000
Bypass main road	1200 m long		£ 3,600,000
Alteration to road junction for Caerleon Road West			£ 100,000
Street lighting			£ 500,000
New pedestrian footbridge	1 nr	DDA (ramps)	£ 2,000,000
Other, bus stops, layby points and Pelican Crossing.			£ 115,000
Road Signs	generally		£ 50,000
Combined Cycle Foot Path	1600 m long		£ 558,080

Car Park Construction CP 4	£ 1,014,000
New principal on site roads	£ 2,696,850

11.19 Demolition – Site Roads and Buildings.

11.20 Scope of Costs

There are a number of buildings on the site that need to be demolished to make way for the new development. We are instructed that twelve of these are to be demolished and one is to remain.

The existing site roads need to be broken out and the kerbs and gullies removed. Drainage will need to be removed, grubbed up and disposed of.

Demolition total	£ 350,000
Demolition of two storey buildings and site clearance	£ 330,000
Terminate services	£ 20,000

The sub-base and other materials are assumed to be left in place as these can be used as temp site roads and do not pose any significant issue, ie the sub-base can be excavated through by machine and left on site if contamination free.

11.21 Drainage

11.22 Scope of Costs

The surface water is managed with the construction of swales and landscape areas. Medium diameter drainage measured to site and capped for developer connections. No small diameter drains measured. Pumping Station on the north end residential development area will terminate into a chamber to then discharge further across the site in a gravity sewer. Attenuation tanks discharge into local infrastructure subject to LA approval. A culvert has been included for on the basis of cut and cover to the main carriageway.

Drainage total	£ 4,795,000
Drainage to Pumping Station & Gravity Sewer	£ 130,000
Pumping station and Chamber	£ 510,000
Rising Main 700 m and Chamber	£ 475,000
Head wall, Cap off points etc	£ 7,000
Culvert to Main Road, backfill & TM	£ 350,000
Swales and landscaped ponds	£ 294,000
Attenuation approx. 9000 m3	£ 2,700,000
Interceptors on the Carparks	£ 150,000
Manholes/ General items	£ 179,000

11.23 Site Surveys

11.24 Scope of Costs

To carry out initial site surveys ahead of site works commencing.

Provisional allowance	£ 177,500
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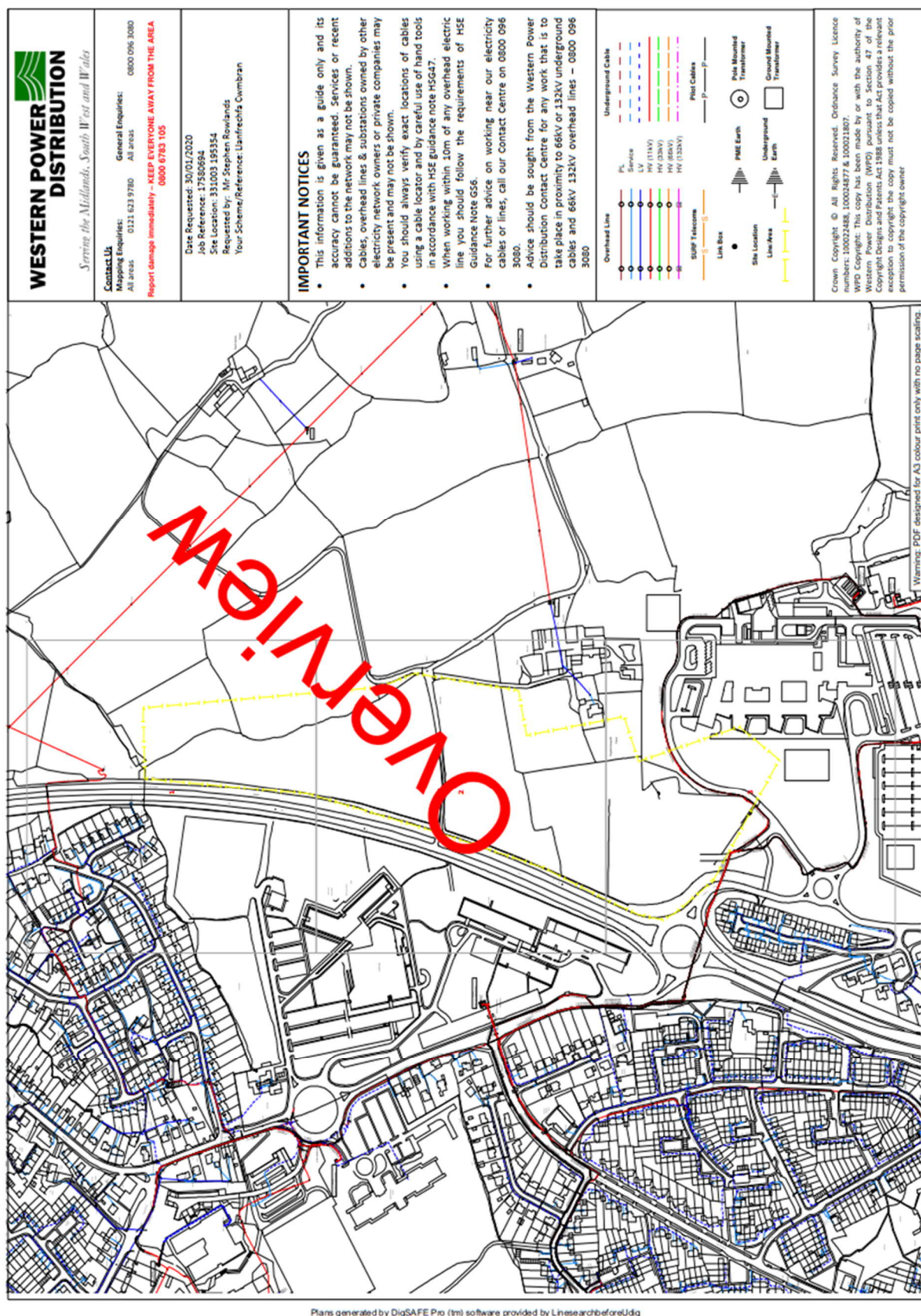
12. Observations, Risks & Exclusions

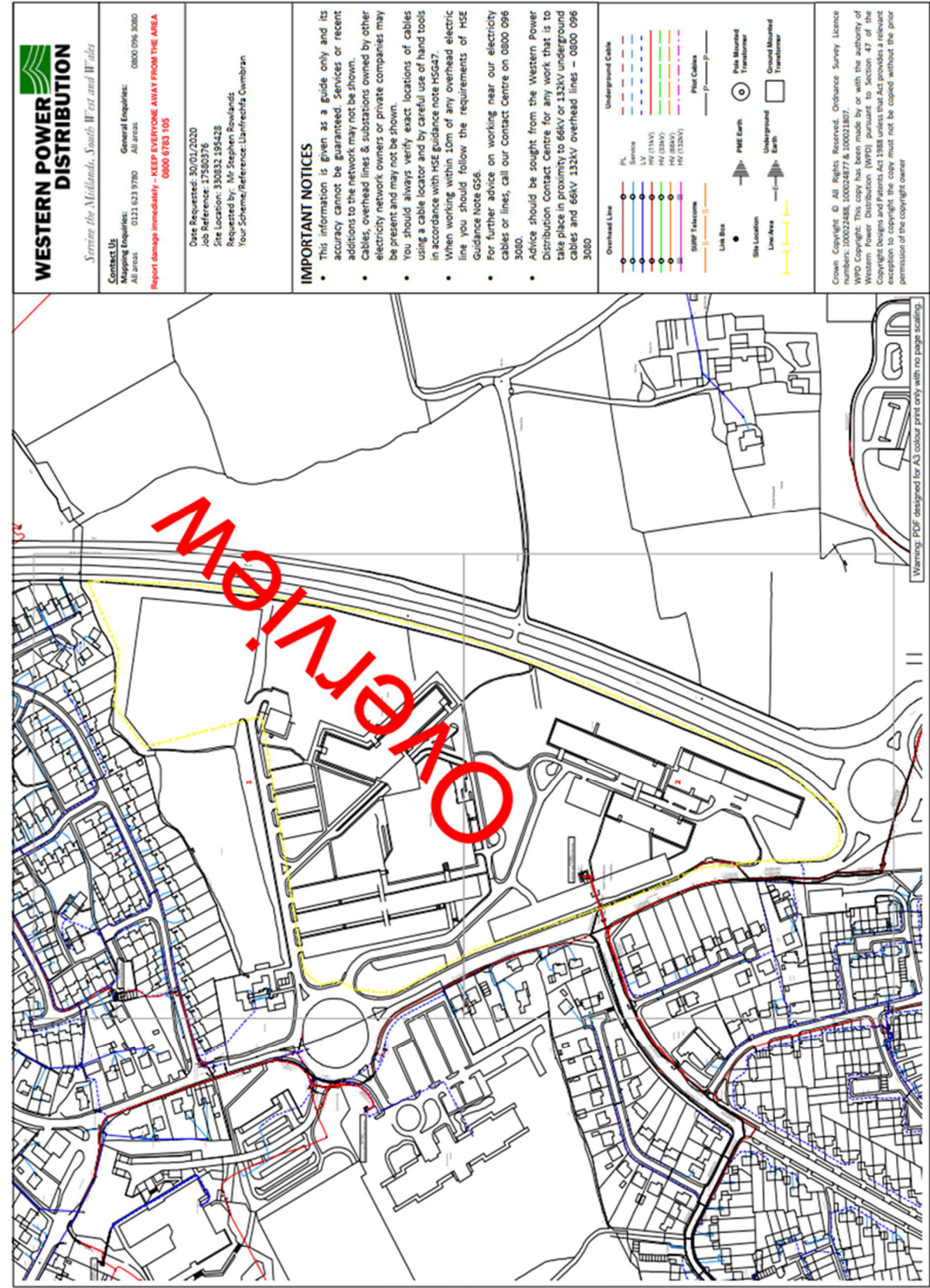
- 12.1 In line with our appointment we have undertaken a desktop study and our investigations exclude any site attendance to survey or assess the extent of work, it is anticipated that this would be undertaken during the next stage of masterplan development, when the plans are further developed and requirements greater defined.
- 12.2 Whilst we have noted a few observations in relation to the presence of existing services on the actual masterplan site, our study does not include the review of any existing site utility distribution e.g. gas mains, power mains, water mains etc. Therefore, it is possible that significant services distribution may be present and may require diversion, or re-routing. The extent and cost of any of these works is currently excluded from our assessment.
- 12.3 Our study is limited to the primary infrastructure for the masterplan development, it does not cover on plot utility connections or infrastructure, the secondary and tertiary connections to plots are assumed to be the responsibility of the plot developer for example; the HV power cabling will be at the site boundary, the plot developer will make application for new connection and pay all costs for the new connection in plot and the provision of a new HV to LV transformer.
- 12.4 Our scope of investigation is limited to the utility services listed in our appointment and contained in the report, we have made no other engineering or costs allowance for any other utility services.
- 12.5 Our assessment takes no consideration of the potential future development of adjacent sites \ land and any consequential impact on our report e.g. impact on available utility company capacity.
- 12.6 The following general exclusions are listed; it is anticipated that these can be reviewed and developed during the next stages of masterplan development:
- Costs in connection with any land acquisition.
 - Costs in connection with funding of project.
 - Any On Plot Development Costs inside plot boundaries.
 - All findings noted in the report are subject change following the outcome of any site surveys undertaken and listed in the report.
 - Fees in connection with Planning.
 - Costs associated with removal of contaminated waste \ land etc.
 - Cost of any necessary wayleave agreements.
 - Costs associated with temporary interruption of local utility networks.
 - Costs in connection with phasing.
 - Off-site IT cableways information will only be sourced via Openreach.
 - Discovery of archaeological remains, sinkholes, mine workings, etc.
 - Discovery of unexploded devices \ ordnance.
 - Extra cost of disposing of hazardous and non-hazardous excavated material.
 - Removal of asbestos or any other hazardous material.
 - Direct works by Employer.
 - Effects of exchange rates.
 - Effects of inflation.
 - Removal of non-asbestos toxic waste.
 - Treatment of invasive plant growth.
 - Protection of 'Protected' trees.
 - Dealing with presence of endangered species.
 - Restricted working hours and/or routines.
 - Works in connection with party wall awards.
 - Costs in connection with diversion of existing services.
 - Costs in connection with decanting and re-location, including fitting-out of temporary accommodation, rents and running costs.
 - Costs in connection with fittings, furnishings and equipment which do not form part of the building contract.
 - Fees in connection with Project and Design Team consultants.
 - Fees in connection with Specialist consultants.
 - Fees in connection with Site investigations.

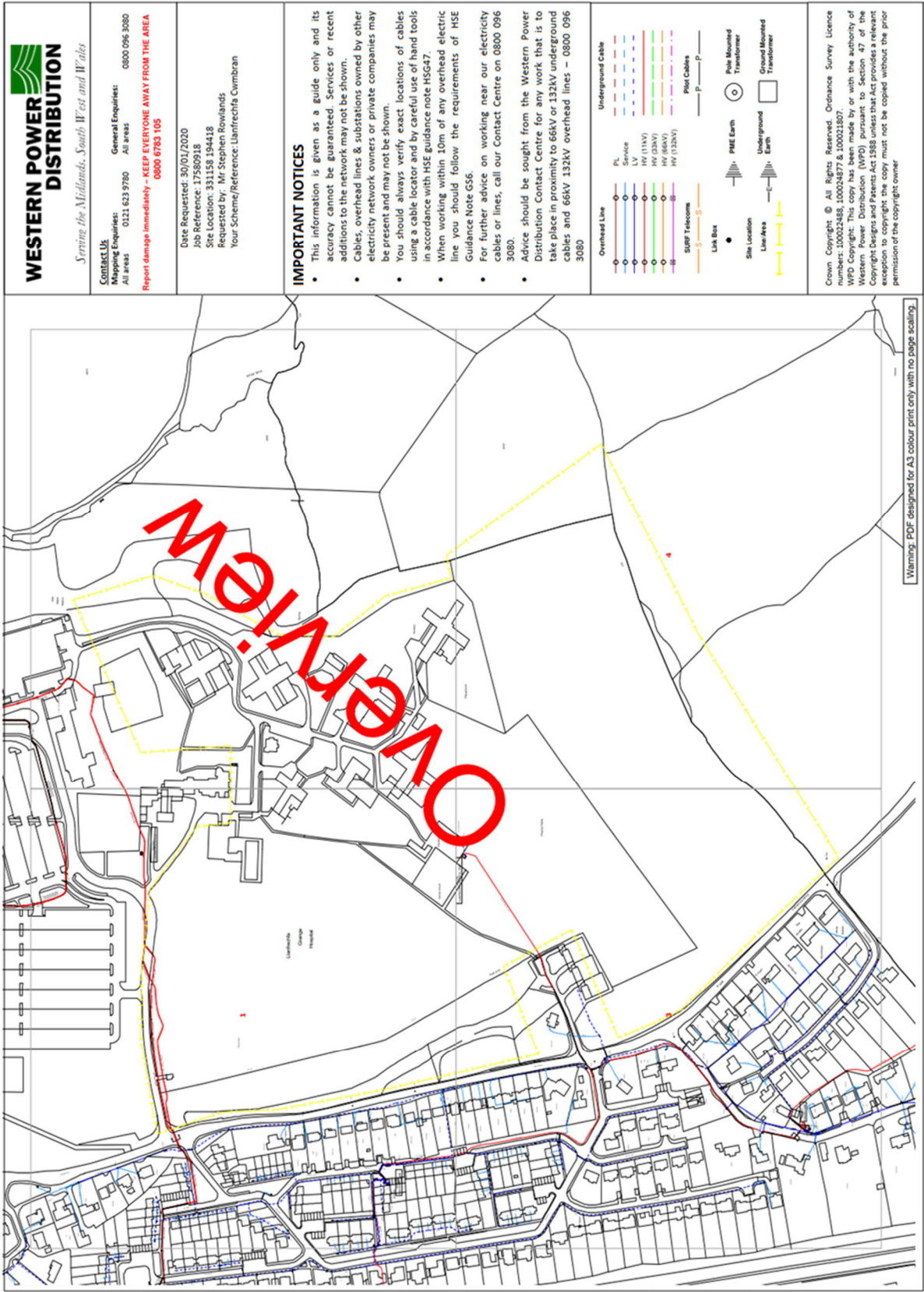
- Fees in connection with Specialist support consultants (including Letting agents, Legal, Tax adviser, etc.) investigation fees and charges.
- Charges in relation to Construction Infrastructure Levy (CIL).
- Charges in relation to Affordable Housing Contributions.
- Fees in connection with Building Control.
- Fees in connection with oversailing rights.
- Fees in connection with licences, road closures, permits and agreements not normally paid by Contractor.
- Fees in connection with rights of light agreements.
- Fees in connection with other agreements between Client and neighbours to facilitate project completion.
- Costs in connection with maintenance of highways.
- Direct financial contributions in connection with planning consent.
- Works outside the boundary of the site/working area.
- Insurances in connection with the works; to be taken out by the Employer, including insurance premium tax (IPT).
- Fees and Charges in connection with fieldwork carried out by archaeologists.
- Fees and Charges in connection with fieldwork carried out by specialists.
- Capital Allowances.
- Other tax allowances.
- Incentives / Grants.
- Costs associated with alternative forms of procurement from that stated
- Costs for Internal planting.
- Value Added Tax.

Appendix A - WPD Network Plans

The following diagrams indicate an overview of the WPD Network in the Masterplan areas.

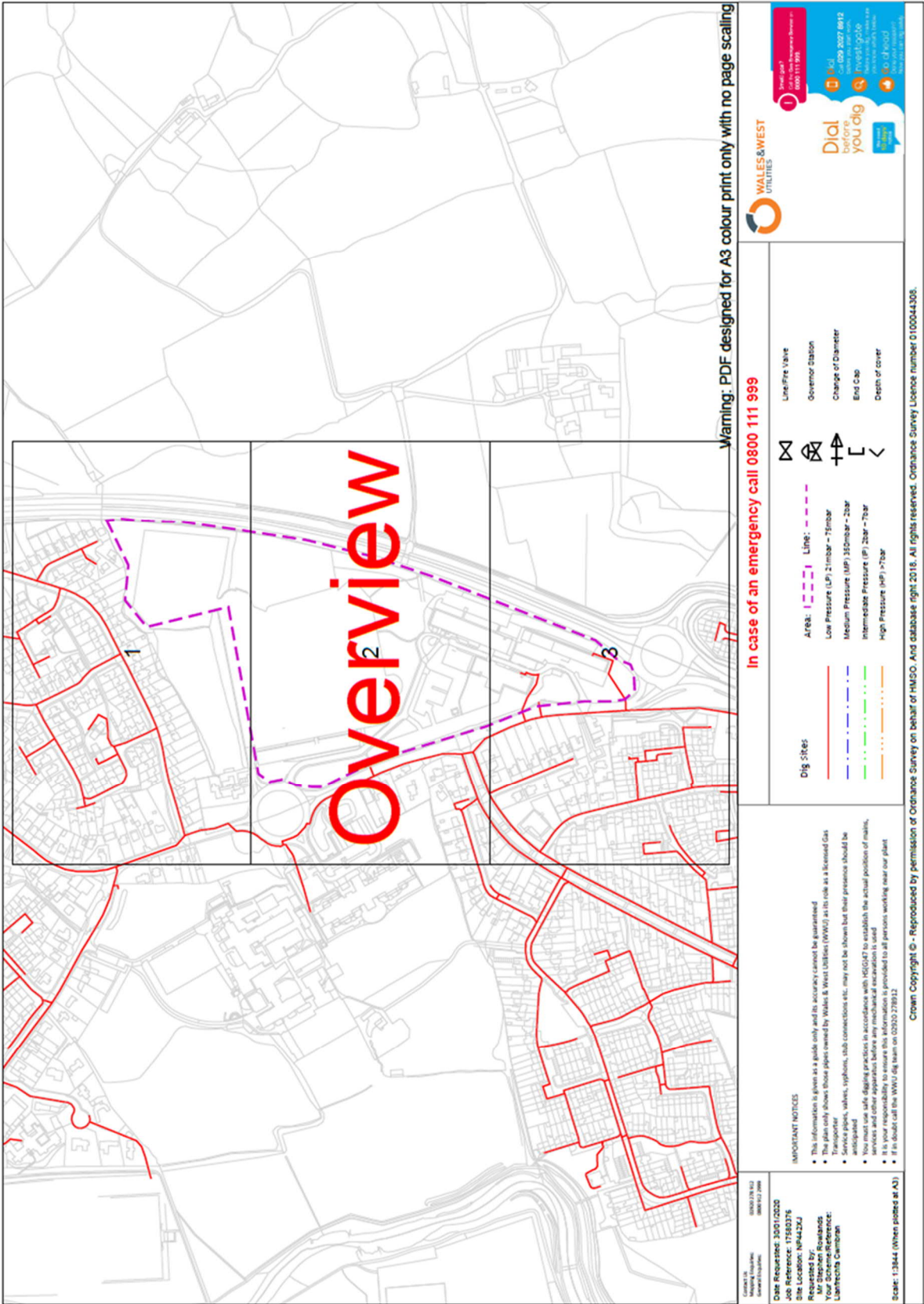


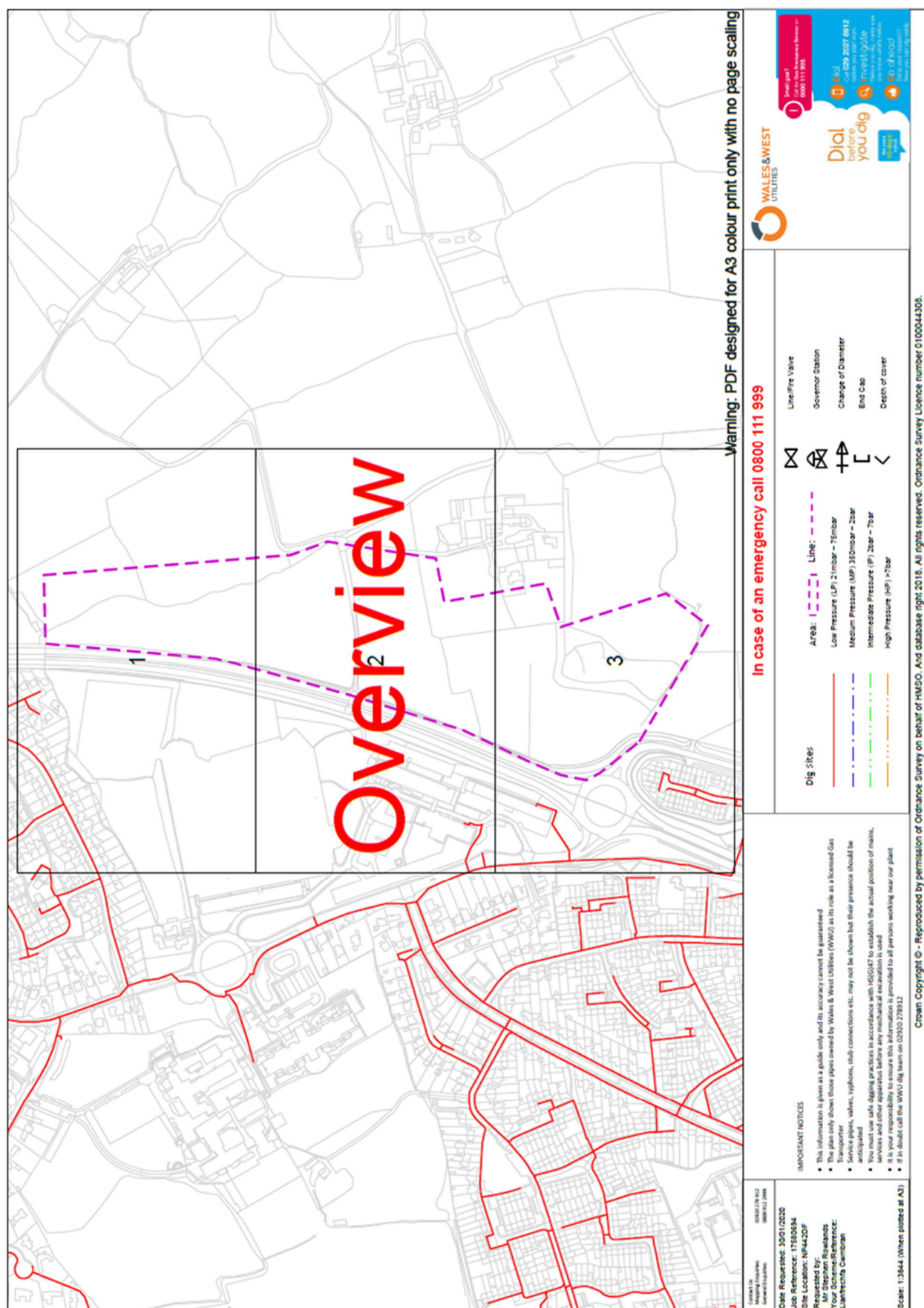




Appendix B W&W Network Plans

The following diagrams indicate an overview of the W&W Network in the Masterplan areas.



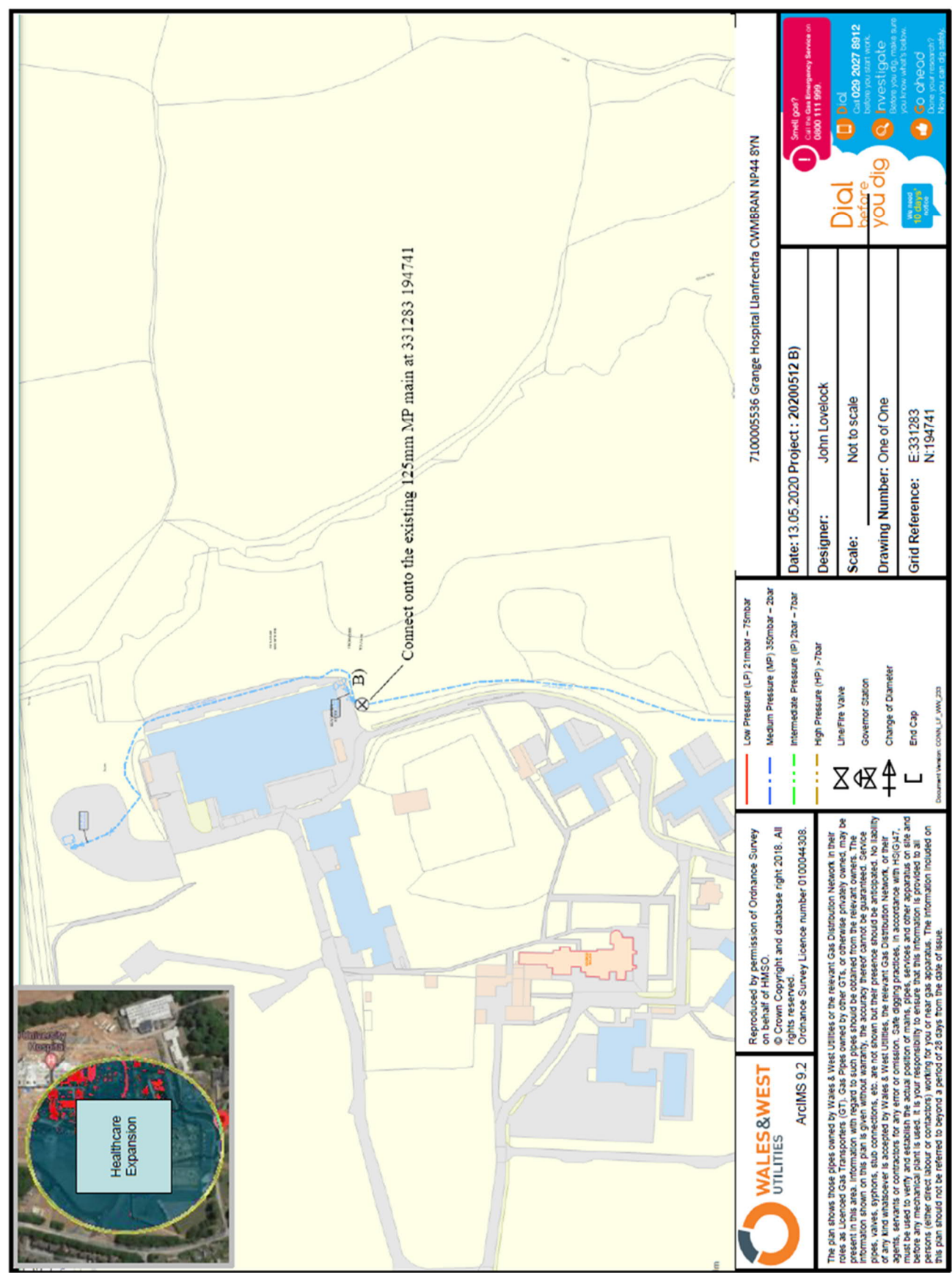


Appendix C W&W Initial Network Connection Locations

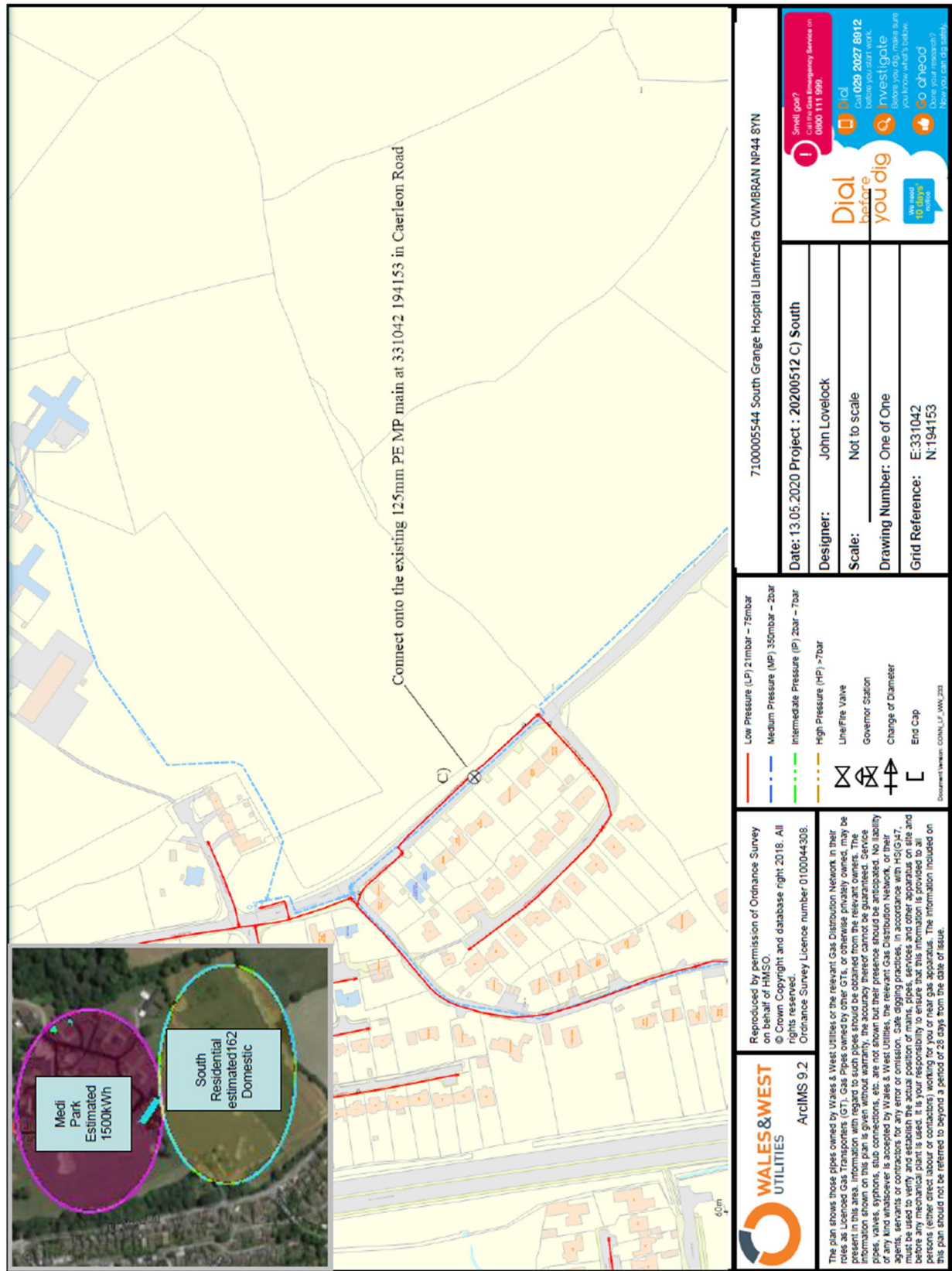
'Connection A' – North Site Residential (Low Pressure Gas)



‘Connection B’ – Healthcare (Medium Pressure Gas)



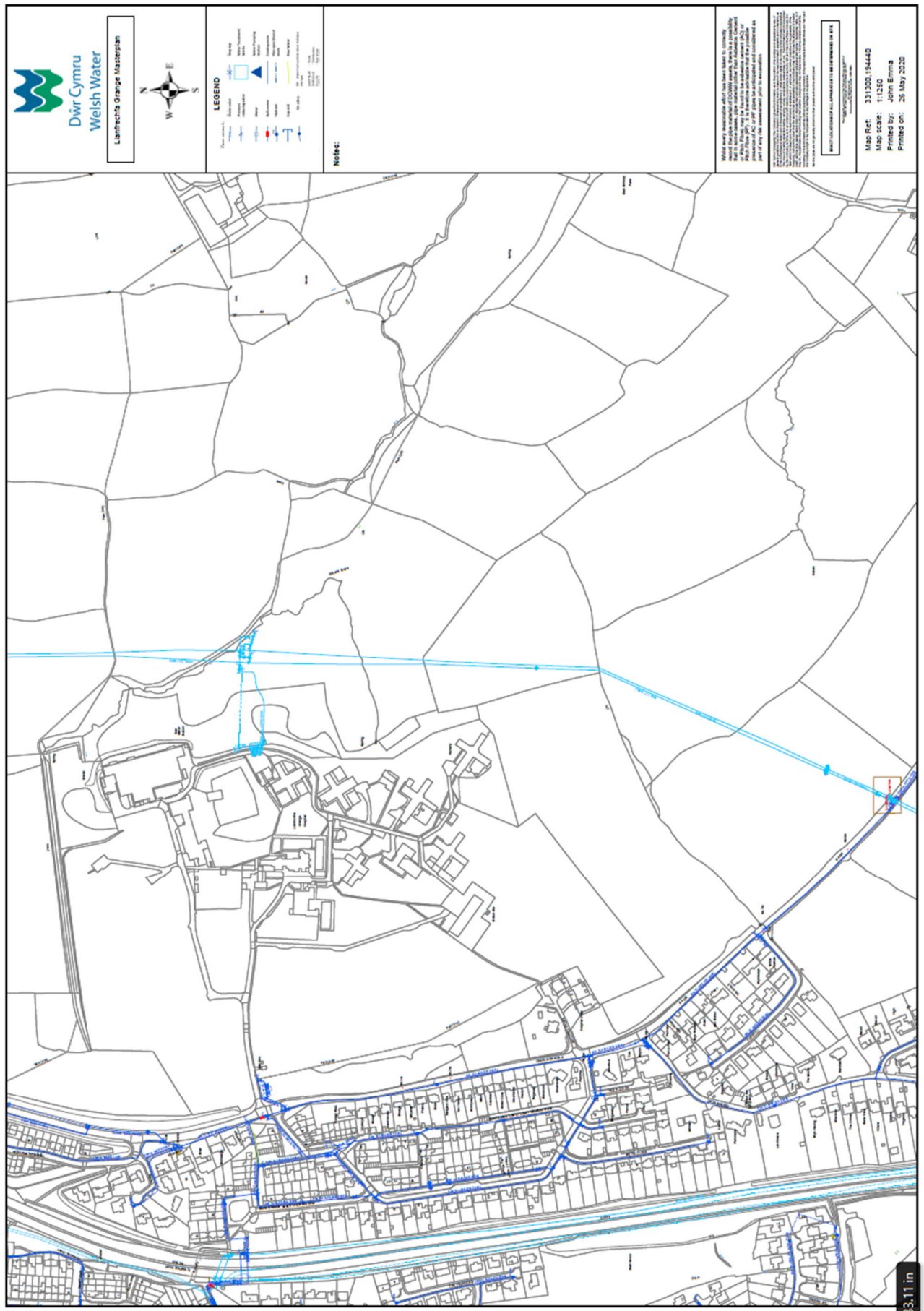
‘Connection C’ - Medi Park & South Site Residential (Medium Pressure Gas)



Appendix D Welsh Water Network Plans

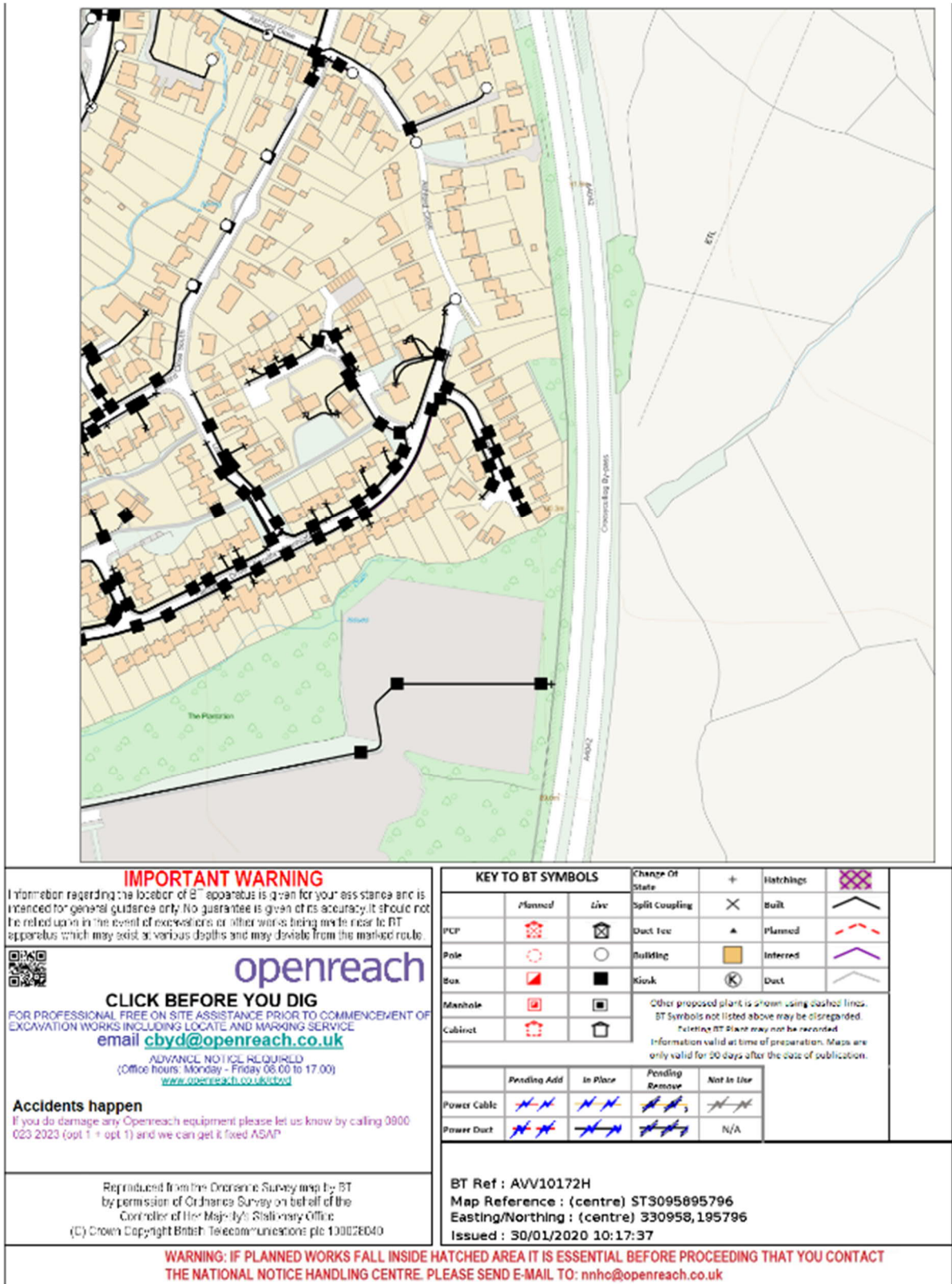
The following diagram indicates an overview of the Dwr Cymru Network in the Masterplan area.

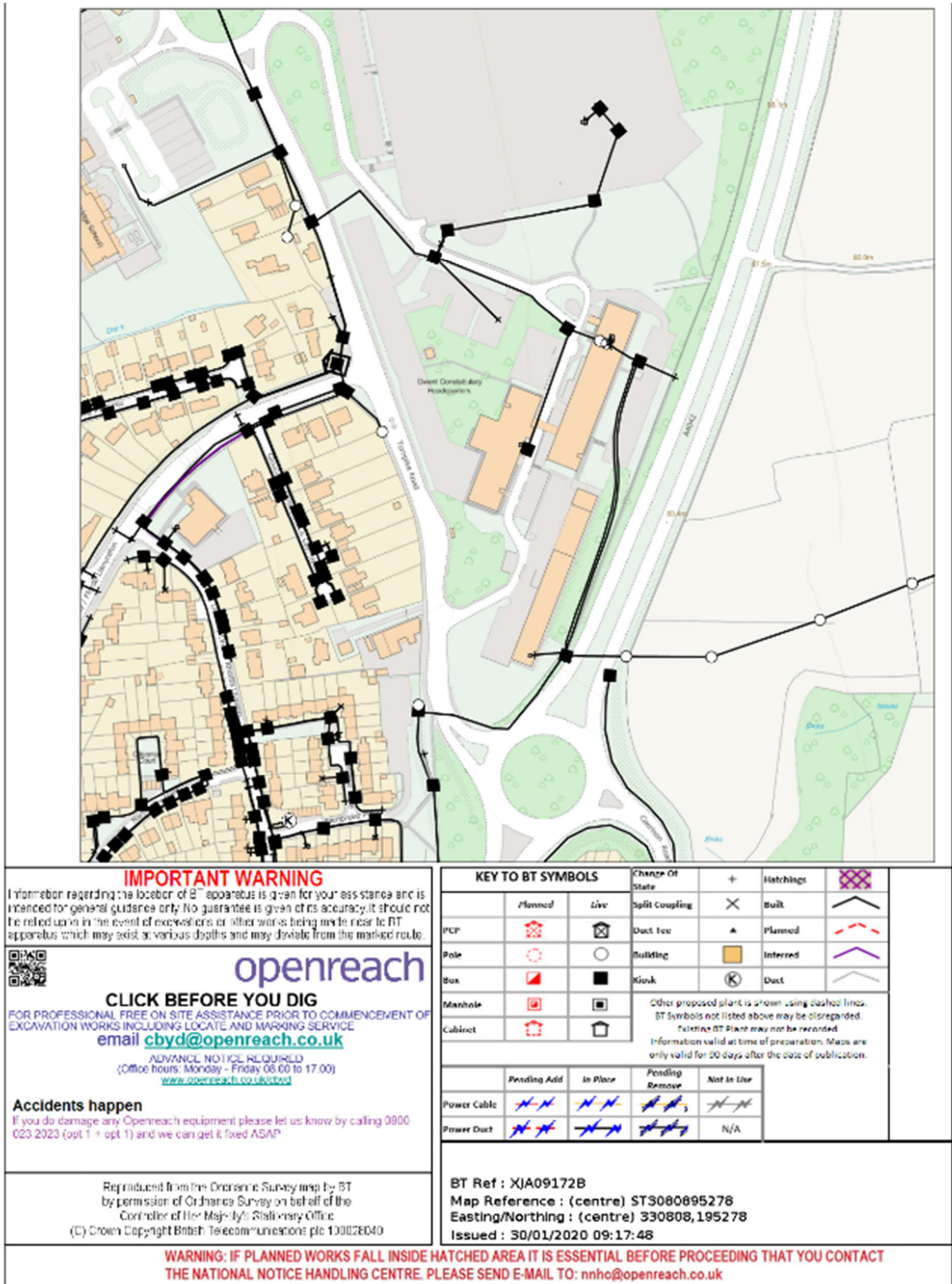


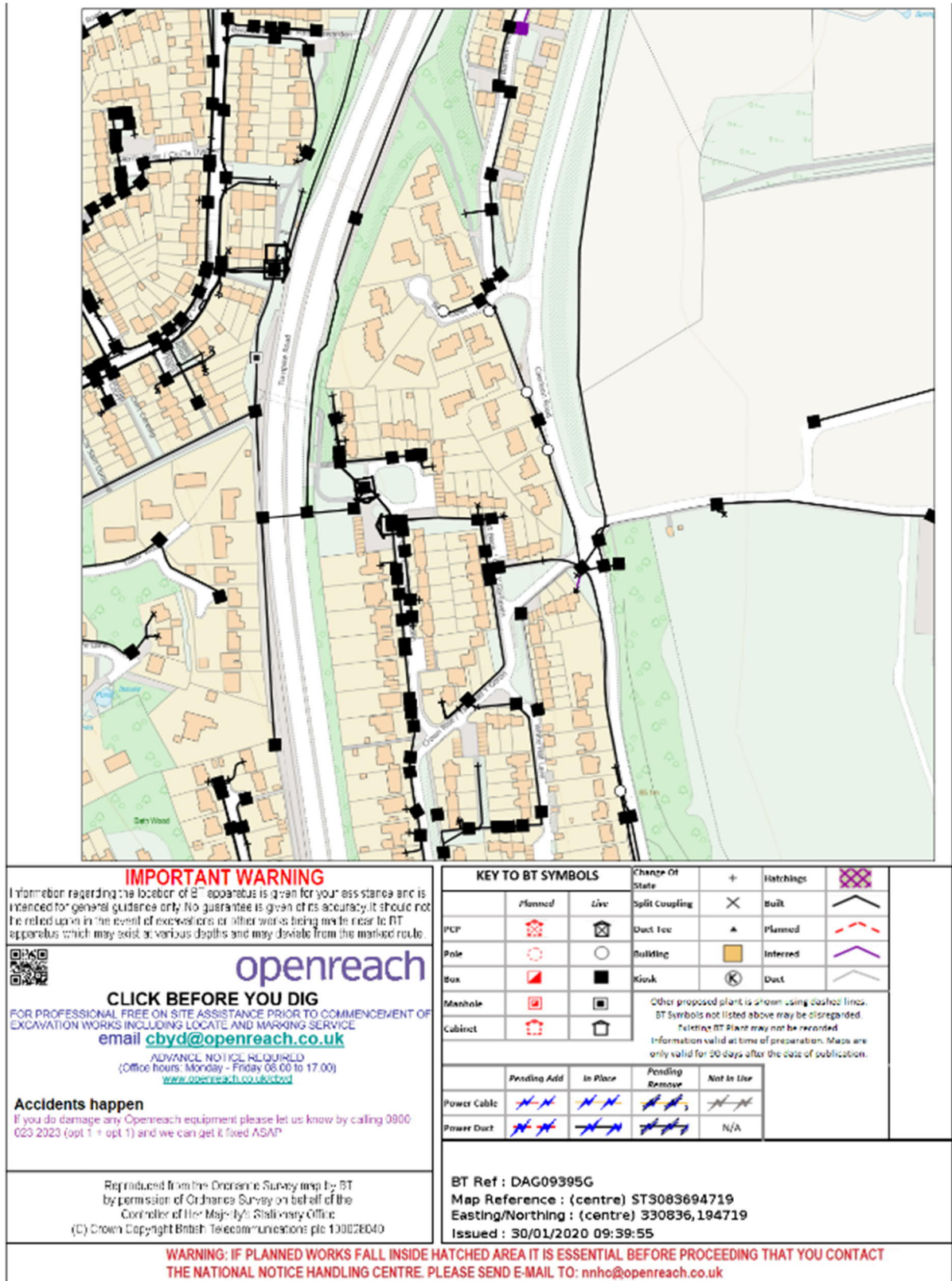


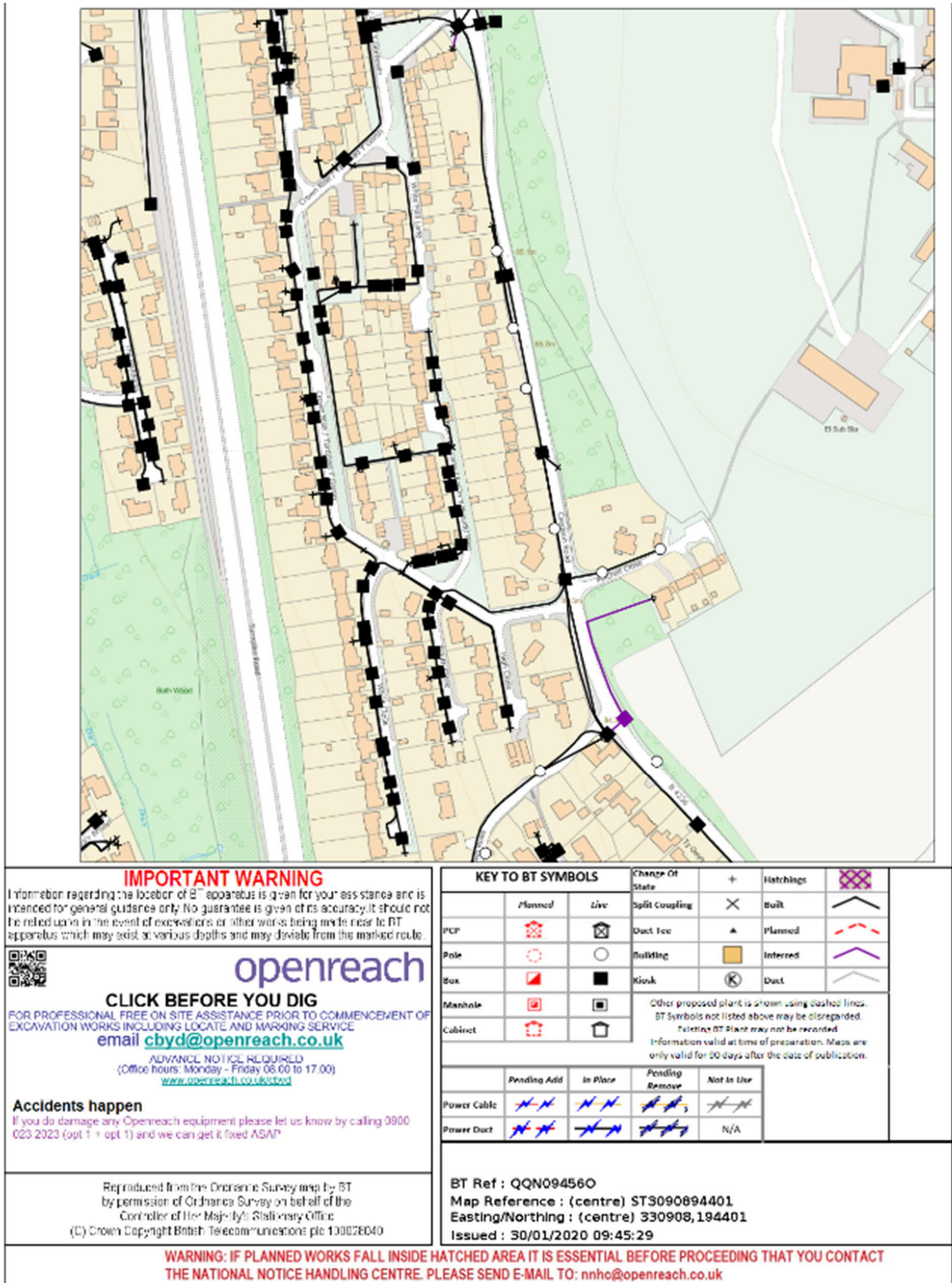
Appendix E Openreach Network Plans

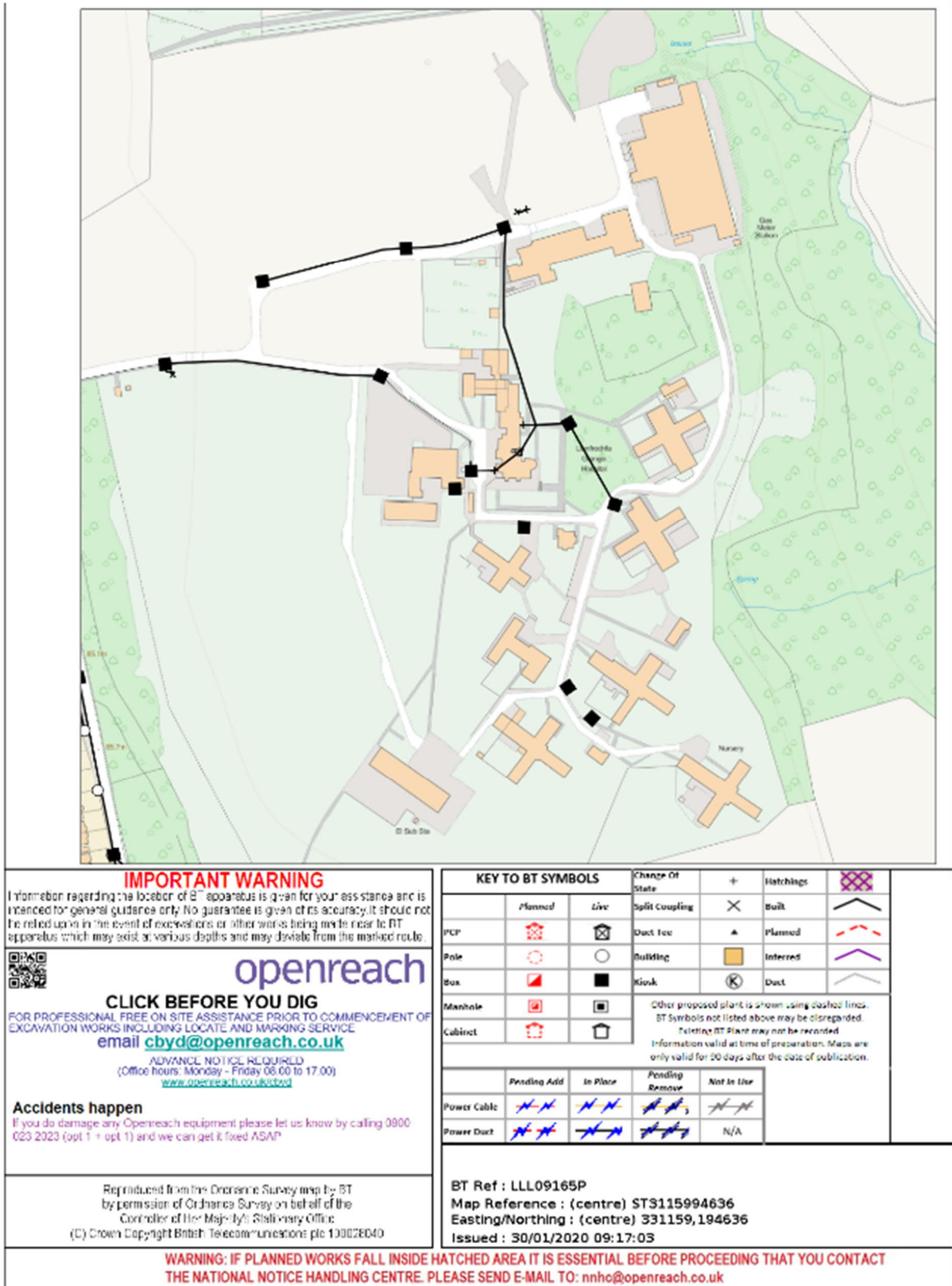
The following diagrams indicate an overview of the Openreach telecom Network in the Masterplan areas.



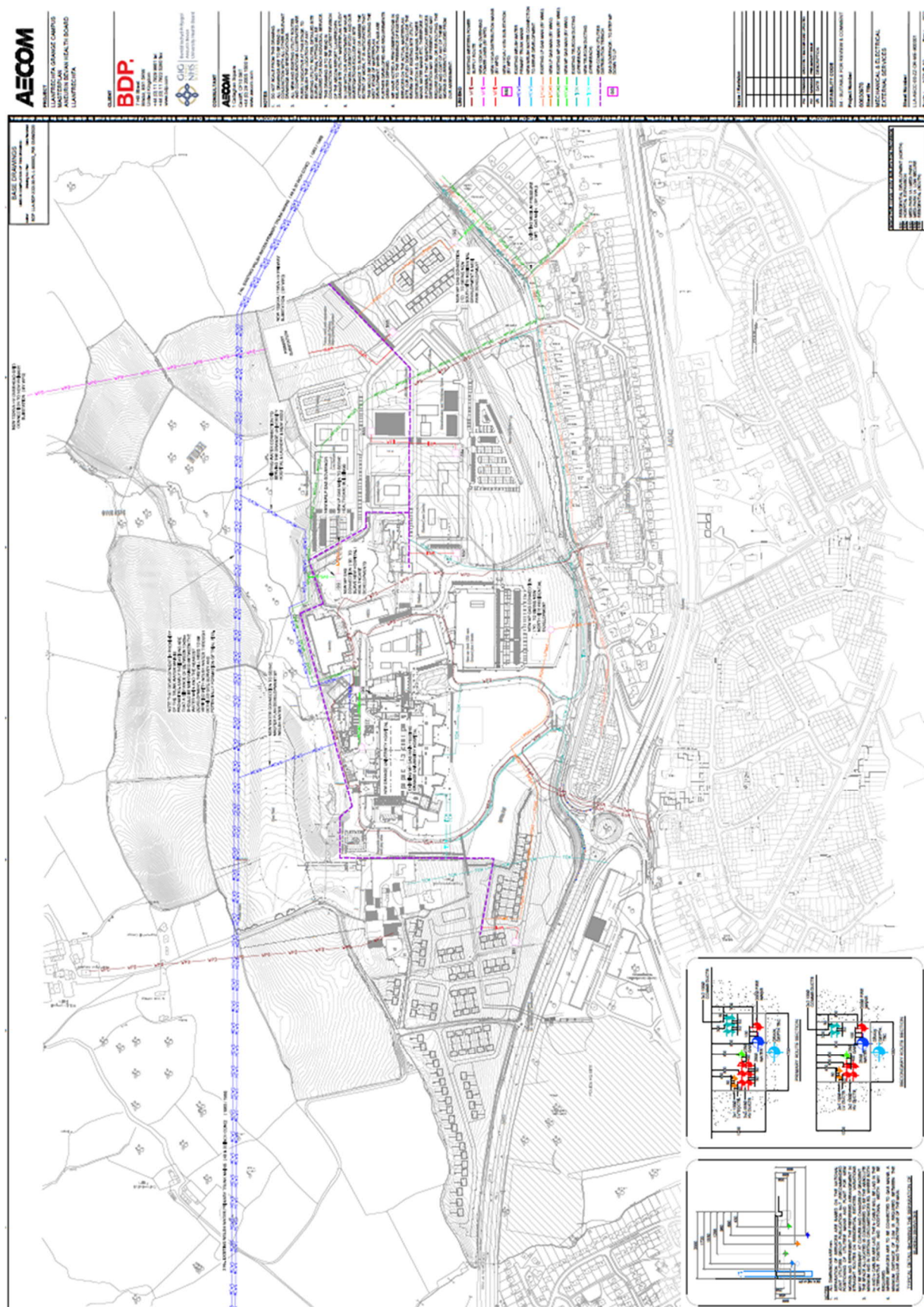









Appendix F Indicative Utilities Plan



Appendix G Vince Colby CV



Vince Colby, Associate

Key skills asset management, strategic utility procurement, connection negotiations, innovative market solutions, business case development, project management	Years of experience 30	Years with AECOM 1 year	
Education Professional Dip Mgmt HNC Electrical Engineering BTEC NIII Electronics City & Guilds 236 – Electrical Installations	Registrations/Certi fications	Professional affiliations None	
Training Various Sector Related Courses	Language skills English	Security clearance level	
Date of birth 22 November 1970	Nationality British		

Vince is currently based from our London office working on various consultancy assignments and is responsible for commercial and technical management of all aspects of utility infrastructure services for our Clients. His experience and background provides a market leading knowledge source on utilities and energy from the key perspectives e.g. contractor, utility and regulator.

Professional history

Operating at the forefront of the changing utility market with a sound practical and commercial understanding of all utility sectors Vince has the ability to understand the position of all stakeholders and is able to develop and implement practical solutions with balanced and mutually acceptable tensions to ensure a project is successfully delivered. His career started in the utility sector with Eastern Electricity followed by significant periods in utility construction with McNicholas PLC providing new utility infrastructure. Since 2005 he has had his own utility consultancy business before joining AECOM in 2018.

Selected project experience

Battersea Power Station Ph2 & 3A (Utility Project Management and Cost Management)

Presently Vince is working on the Battersea Power Station redevelopment project with the Client team across a range of energy and utility infrastructure projects namely; new 35MW electricity connection and network, new 60MW MP gas connection and LP gas network, new main energy centre and primary energy networks and the development and negotiation of the EScO Concession Agreement

Himley Village, P3, NW Bicester (Utilities Commercial Lead)

Onsite and offsite utility Infrastructure planning, design and procurement to serve 1700 unit residential led development. **Date:** 2015 to present

Various Schemes, Local Partnerships, Wales (District Heating Commercial Support)

Provide commercial review, strategic feedback and feasibility modelling as applicable on various DH scheme involving LP. **Date:** 2015 to present

TV Centre Development, Stanhope, London W12 (Utility & Energy Advisor)

Energy and Utilities adviser to Stanhope, providing technical, procurement and general advice in new utility and energy infrastructure. **Date:** 2014 -15

Imperial West, Imperial College, London W12 (Commercial & Procurement Adviser)

Procurement and technical adviser to Imperial Collage London on the new substantial power connection including 132kv offsite cable circuits, new 33MVA Substation, onsite infrastructure (11kv & LV) Date: 2013 to present

Alconbury Development, Urban & Civic, Alconbury (Commercial & Procurement Adviser)

Procurement strategy for new utilities and energy infrastructure including preparation and procurement of the utility packages. Date: 2013 to present

NW Cambridge Development, Cambridge University, Cambridge (Commercial & Procurement Adviser)

Development of energy and utilities procurement strategy, market engagement and tendering. Date: 2013 - 2016

Stratford City Development, Stratford City Development Ltd, London (Utility Commercial Lead)

Integral part of SCDL Utilities Team, working in conjunction with the ODA reporting directly to the SCDL Development Director. Responsible for all commercial and regulatory aspects with regard to the procurement and implementation of the site wide utilities, CCHP energy centres and district heat and cool networks. Development of; procurement and commercial strategy; concession agreement and associated supply and access agreements. Continued validation of the various utility business cases. Date: 2006 - 2013

White City Masterplan, Imperial College, London (Power Consultant)

Procurement of a new Primary substation and support to design team utilities and district heating. Date: 2013 to present

Various 5MW PV Schemes, Lark Energy, East Anglia (Power Consultant)

Development of project portfolios for large scale PV solar. Funder and developer validation. Date: 2012

Norwich Powerhouse, NPH, Norwich (Power Consultant)

Development and validation of a new generation station business case utilising new gasification technology. Date: 2013

Westfield London, Westfield, London (Utility Commercial Consultant)

Commercialisation of the private electricity and heating and cooling networks (condenser water loop). Development of end user tariff methods and tariff setting, matched to equivalent competitive market alternate fuel sources whilst achieving a rate of return for the investors. Date: 2010

End of Report

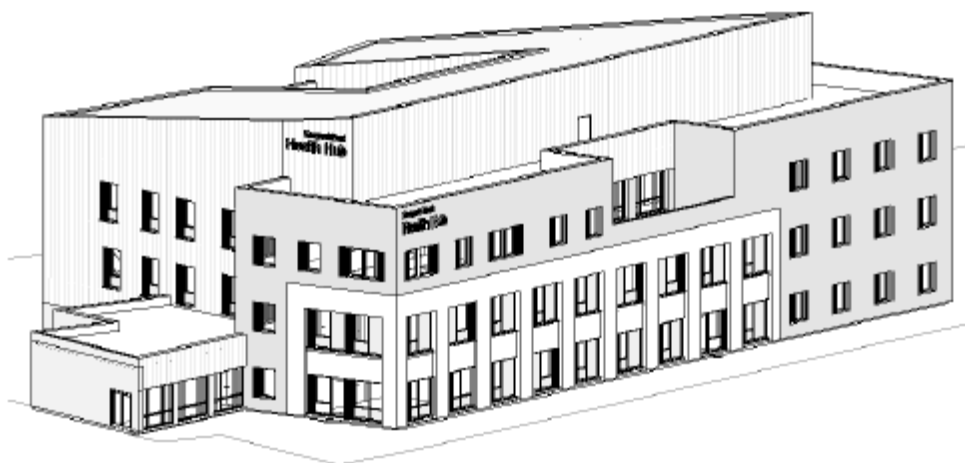


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University Health Board

DEVELOPMENT OF HEALTH AND WELL-BEING SERVICES IN NEWPORT EAST

OUTLINE BUSINESS CASE



Version No 8 – 10th September 2020

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Executive Summary

1.0 Background

1.1 The purpose of this Outline Business Case (OBC) is to set out a case for change and a preferred option to develop Health and Well-being services in Newport East.

1.2 The preferred way forward involves the construction of new Health and Well-Being Centre on the site of the existing Ringland Health Centre and on adjoining land owned by Newport City Council.

1.3 The estimated capital cost of the new Newport East Health & Wellbeing Centre is £26.275 million.

2.0 The Strategic Case

Part A – Strategic Context

2.1 The project has been developed in the context of clear National Policy and Strategy relevant to the development of Health and Well-Being services and more particularly to the ongoing development of Primary, Community, Social and out-of-hospital care.

2.2 '**A Healthier Wales**' sets out a long term, future vision of a whole system approach to health and social care which is focussed on health and wellbeing and on preventing illness. The ambition is for the continued development of a seamless, integrated system of health and social care, predicated on a place based approach to service delivery, to improve service sustainability, quality and safety and to improve population wellbeing. The delivery of a seamless system of health, care and wellbeing will continue to be through the framework to direct resources and service redesign across the following four tiers:



2.3 **The Social Services and Wellbeing (Wales) Act** and **Wellbeing of Future Generations (Wales) Act 2015** provide an enabling legislative framework which requires the Health Board and partners to work collaboratively in an integrated way across the whole system, involving the public in developing long term solutions to prevent avoidable illness and provide sustainable services in the future.

2.4 Through the **Clinical Futures Level 1** programme of service transformation and the Gwent Area Plan, the Health Board will build on the foundations already in place to drive forward system change at pace in primary and community care, CAMHS and hospital discharge.

2.5 The five **Public Service Boards** across Gwent have each agreed a Wellbeing Plan, all of which reflect, where relevant, aspects of the Health Board's individual Wellbeing Objectives. The Health Board members of the five Public Service Boards (PSBs) are taking an active role in leading PSB programmes of work to give children the

best start in life, to promote good child and adolescent mental wellbeing, to enable people to live healthy lives to prevent avoidable disease and to enable people to age well.

2.6 The Health Board is implementing the new model of Primary Care with increasing pace consistent with the national **Strategic Programme for Primary Care**. The new model of Primary Care will further develop the “Hub” model. Typically, these “Hubs” will contain the following services:

- Independent contractors
- Integrated
- Service Team
- Social Care Services
- Direct-access therapies and patient education groups
- Care Navigation
- More consultations through the Common Ailments Scheme as an alternative to a GP appointment
- Increased routine dental access

2.7 The “Hub” model is being further developed to include **“Specialist and Enhanced Services”**, therefore shifting demand from secondary care to primary care and place based care, is also progressing.

Part B – The Case for Change

2.8 The agreed Investment Objectives for this project are as follows:

Investment Objective 1	To support the co-location and further collaboration of Ringland Medical Practice and Park Surgery
Investment Objective 2	To support the increased provision and improved integration of Health and Well Being Services within Newport East NCN
Investment Objective 3	To address the significant estate infrastructure issues that exist at the Newport East NCN
Investment Objective 4	To support the effective use of clinical and non-clinical resources that are delivered within Newport East

Existing Arrangements

GMS Services

2.9 General Medical Services for a population of approximately 15,160 patients are currently being provided by two well established General Practitioner Practices within Newport East, Ringland Health Centre and Park Surgery.

2.10 Park Surgery is a two storey house, which is situated in Chepstow Rd Newport. The building is owned by the existing GP Partner. The building consists of rooms occupied by the GPs, Practice Nurses and attached community staff such as midwives, mental health counsellors etc. Third Sector also currently work collaboratively with the Practice i.e. Citizens Advice Bureau.

2.11 The surgery has 3.5 General Practitioners currently providing services to a practice list size of 6,879.

2.12 Ringland Health Centre was officially opened in April 1972. The building is a single storey with the community services operating from existing GP clinical accommodation, owned by the Health Board.

2.13 Ringland Health Centre is a six partner GP practice serving 8,281 patients.

Other AB Provided and Independent Contractor Services

2.14 There are currently 2 independent Pharmacies providing services to Ringland Health Centre (Lloyds Pharmacy, Ringland Centre) and Park Surgery (Giles Pharmacy, Chepstow Road). The Pharmacies provide a full range of essential, advanced and enhanced services.

2.15 The Community Dental Service is delivered from the existing Ringland Health Centre. The service operates every week day, patients are allocated to the service through the Dental Helpline.

2.16 Services currently being delivered from the existing GP Surgeries include Podiatry, Sexual Health, Speech & Language Therapy, Midwifery, Flying Start, Health Visitors, and Substance Misuse. Clinics are held on a sessional basis and provided on scheduled days throughout the week.

Service Needs

Increasing Demand

2.17 Over recent years Primary Care has faced considerable pressures with an increasingly elderly population, rising numbers of people suffering dementia, long-term health conditions and chronic pain. There are also challenging social issues which impact on health and well-being through substance misuse, depression and social exclusion resulting in loneliness and isolation. Poverty is associated with earlier onset of ill health, higher rates of co-morbidity and reduced life expectancy. The result is increased demand for GP and community services and consequential decreased access to Primary Care, particularly in areas of socio economic deprivation

2.18 This increasing demand is more difficult to meet because of the acute recruitment difficulties being experienced, particularly for GP services – this is a national problem, but within the ABUHB there are specific difficulties in Newport East.

Sustainability of GMS Services

2.19 General practice is facing unprecedented and well publicised pressures due to various factors, including GP recruitment and retention difficulties, workload, ageing patient population and increasing complexity of the caseload. These factors are causing vulnerability which puts practices at risk of closure and significant service reduction.

2.20 In light of identified sustainability challenges, particularly around workforce and existing estate, there is a risk that one or both practices in the Newport East area could seek support via the Sustainability Framework and/or serve notice on their GMS contract. There is a significant risk to the practices, patients and Health Board.

2.21 A potential worst case scenario would be the need for one or both practices to become directly managed. The Health Board has experience of this in four other areas of Gwent each of which have pose significant recruitment and associated financial challenges. This also impacts on the ability to provide adequate service provision and care to patients, potentially offering a much reduced service, i.e. limited enhanced services.

Implementation of the Health and Wellbeing Model

2.22 One factor that is increasingly accepted as crucial to GMS sustainability is working at larger scale, which can often provide the security of working as part of a larger team and therefore increased resilience. Also due to the GP workforce issues, this provides the opportunity for larger practices to consider a wider skill mix of staff in GP surgeries that enables patients to be seen by the most appropriate health care professional for their needs, including advanced practice nurses, pharmacists and health care support workers. Neither of the existing practices is large enough on its own to embrace this model fully, even without a full merger, there will be a need to work collaboratively to ensure longer term sustainability.

2.23 Within the ABUHB the new model is already being adopted, with the establishment of multi-disciplinary teams and MDT processes, care navigation and place based integrated teams. Where suitable estate is available these models are developing successfully. The Board is also planning for practices to work at scale, with more sharing of staff and premises, incentives for mergers and planning facilities which promotes this way of working. This cannot be achieved in Newport East due the limited space available in existing premises.

2.24 In the face of GP recruitment problems there will need to be multi-disciplinary team development to meet the current and future demand. Appropriate space is required for these expanded teams and to allow for training that orientates staff into primary care service provision. In addition, improved premises are required to enable the wider teams to work with the practices, aiming to intervene early to meet patient needs and prevent the deterioration in health and well-being which too often results in avoidable hospital admissions. Key to this will be the social care input and connection to the integrated well-being networks which will help widen the practice response beyond a purely medical one.

2.25 The proposed new model will support the transition and continuity of patient care upon impending General Practitioner retirements, ensuring the long term sustainability of new service models and provision of a General Practitioner and Nurse training facility. The Practices, whether they merge or not, will use the opportunity of the Hub model to develop further service delivery by enhancing their areas of special interest. They will also develop their patient and education groups emphasising the importance of health and well-being which is currently unable to be catered for from the existing premises. The practices will continue to provide core General Medical Services to their patients, in line with the Quality Assurance and Improvement Framework and also in line with the new Access Standards as issued in March 2019.

2.26 There is a unique opportunity in Ringland to link health and well-being services provision with the Ringland Neighbourhood Hub which is the first of a network of four multi-agency facility across the city developed by Newport City Council (NCC). NCC have been working in partnership with PLACEmaking to transform the existing community centre and library into a state-of-the-art building which has dramatically improved flow and use of the available space. Care navigation and active signposting

from primary care will provide routes into employment, financial, housing and family support services. It will also act as a gateway to social prescribing through adult learning, creative arts, social activities and gardening projects. The facility will support families, young people and adults to learn new skills, improve their health and well-being, find employment and develop the confidence to achieve their goals and transform their lives. GPs and other health and social care professionals will be able to directly access non-clinical solutions to health issues that are often caused by people's social, financial or personal circumstances. This will help to 'de-medicalise' some conditions that are currently treated pharmacologically and will address people's needs in a more holistic way.

The Estate Context

2.27 The impact of estate and premises cannot be underestimated in terms of implementing this new model. Newport East is in an area of severe recruitment difficulties with populations experiencing social deprivation and ill health. The new model of working is particularly necessary in these areas, but the following constraints need to be resolved:

- If practices are to work together and provide for multi-disciplinary practice teams they need the space to be able to do so. Both GP premises are particularly poor with no room for expansion and in need of replacement.
- The Health and Social care model is particularly needed in these areas with communities experiencing a combination of health and social care problems and with a need to build community resilience. This facilitates better sign-posting, provides community space as well as room for the wider community teams in addition to a more multi-disciplinary practice team. Current facilities in Newport East cannot absorb additional services and activities.

3.0 Economic Case

Short-listed Options

3.1 The recommended short list for further appraisal within the OBC is as follows:

Service Options	Estate Solution	Service Delivery	Implementation	Funding
Option 1 Business as Usual - General Medical Services and other Health and Well Being services in the Newport East would continue as now	Upgrade of existing premises	ABUHB / Independent Contractors	Phased	Public Sector Capital
Option 2 Do minimum - General Medical Services co-located and other Health and Well Being services in the Newport East area continue as now	New Build GMS only	ABUHB / Independent Contractors	Single Phase	Private Sector Capital/ leased
Option 3 - Develop Integrated General Medical and Health and Well-being services	New Build on the Ringland site	ABUHB / Independent Contractors	Single Phase	Public Sector Capital

3.2 Option 3 is the preferred way forward utilising public sector capital.

Qualitative Benefits Appraisal of the Shortlisted Options

3.3 The short list has been appraised by relevant stakeholders using the OBC Critical Success Factors. The ranking, weighting and scoring exercise would have been carried out via a workshop but due to the Covid 19 restrictions this has had to be done remotely.

3.4 All the individual score sheets have been aggregated to give an overall result for each options. The outcome is shown below:

CSFs		Option 1		Option 2		Option 3	
	W	S	T	S	T	S	T
Strategic Fit	10	9	90	10	100	16	160
Acceptability	20	6	120	10	200	17	340
Sustainability	30	7	210	8	240	17	510
Efficiency	25	9	225	9	225	15	375
Achievability	15	15	225	13	195	15	225
Totals	100	31	645	37	765	65	1385
Ranking			3		2		1

3.5 As indicated in the table above Option 3 ranks higher than the other options and is the preferred option from a non-financial / qualitative perspective.

Economic Appraisal of Shortlisted Options

3.6 This section describes the economic appraisal that has been undertaken to assess the overall value for money to the NHS of each short listed option.

3.7 The appraisal summarises the cost categories and values associated with each short listed option that are input into the cash flow model, in order to calculate net present costs and equivalent annual costs. The categories are:

- Capital costs.
- Lifecycle costs.
- Optimism Bias.
- Revenue costs.

3.8 The overall results of the Economic Appraisal are shown in the table below:

	Option 1 - Business as Usual	Option 2 - "Do Minimum"	Option 3 - New Build
Evaluation Results			
GEM Economic Appraisal	1	2	3
Non-Financial Benefits Appraisal	3	2	1
Revenue Risk Appraisal	3	1	1
Overall Rank	3	1	1

3.9 Option 3 is the preferred option by virtue of the fact that is the only option that meets the investment objectives of the project. Option 1 does nothing to address existing service deficiencies in the Newport East area and Option 2 does nothing to integrate services and to provide a broader / expanded range of local health care provision.

3.10 The Financial Case in section 5.0 is based on the capital costs and revenue costs of Option 3.

4.0 The Commercial Case

4.1 The Commercial Case sets out the planned approach the Health Board will be taking to ensure there is a competitive market for the supply of services.

4.2 The procurement route will involve the construction of a Health and Well-being Centre on the Ringland Health Centre site, funded through centrally funded public sector capital, utilising The Designed for Life: Building for Wales 4 Regional Framework (D4L:BfW4). This method of capital procurement implements the Welsh Government's construction policy to ensure the scheme complies with best practice models of procurement based on long-term strategic partnerships.

5.0 The Financial Case

5.1 This sets out the financial impact of the investment proposal from a capital and revenue perspective and assesses overall affordability.

5.2 The preferred option is Option 3 the construction of a new HWBC on the site of the existing Ringland Health Centre. The estimated outturn costs for the preferred option is £26.275 million excluding inflation, the detail of which is set out below:

	Option 3 - New Build (£)
Works Cost	14,852,620
Fees	2,371,186
Non-Works	2,352,691
Equipment	409,000
Contingency	1,998,550

Total Option Costs	<u>21,984,047</u>
VAT (net of reclaim)	4,291,369
Total Option Costs (including VAT)	<u>26,275,416</u>

5.3 Submission of the OBC to Welsh Government is currently programmed for end of September. Commencement of the Full Business Case (FBC) is currently planned to start in October 2020, concurrent with the Welsh Government OBC scrutiny and approval period.

5.4 To aid the programme it is proposed that an Enabling Works package is undertaken during the FBC period, which would entail:

- Demolition of the existing Ringland Health Centre
- Temporary re-provision of the existing services that utilise Ringland Health Centre
- Replacement of the NCC MUGA

5.5 The detailed cash flow for the preferred option is contained with the OB forms in the estates annex and is summarised below:

2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
£150,702	£505,007	£1,445,998	£6,405,749	£11,537,879	£6,190,895	£39,188

5.6 The OBC assumes all capital costs and inflation will be funded by Welsh Government in each of the years as per the above, in accordance with current Welsh Government policy.

Revenue Costs

5.7 The table below summarises the revenue costs associated with the preferred option compared to the existing ABUHB costs incurred at Ringland Health Centre and Park GP Surgery, Alway Clinic and Clytha Clinic excluding depreciation and impairment:

OBC Financial Case	Current Expenditure Incurred	Option 3 - Public Sector Capital Build of Integrated GMS, Health and Wellbeing Centre
	£'000	£'000
GMS Non Pay Practice Costs		
Rent	25	0
Rates	19	18
Other Non-pay (, maintenance, utilities, security, cleaning)	45	35
Total GMS Costs	89	53
Other H&WC Running Costs		
Workforce (Non-GMS)	0	55
GDS additional contract costs	0	260
Rates	22	102

Overhead running cost (excluding rates)	106	252
Total of Other Running Costs	128	669
Total Costs (Non Pay GMS Cost & Other H&WC Running Costs)	217	722
Income from Independent Contractors (rates, maintenance, cleaning, utilities)	8	47
Rent from Independent Contractors	0	16
Total Income	8	63
Net Cost to the ABUHB	209	659

5.8 The revenue costs presented are based on 2020/21 price levels and have been derived from a detailed analysis undertaken on:

- Clinical and service models
- Workforce requirements
- Estate and Non-pay implications
- Independent Contractor status and anticipated income from lease rentals and service charges

5.9 They assume that:

- Four existing health care facilities in Newport will close i.e. Ringland Health Centre, Park Surgery practice, Alway Clinic and Clytha Clinic
- Income will be received for General Dental services to cover rent, rates, utilities and maintenance
- The practices will not merge in the foreseeable future.
- Income will be received from GMS services to cover rates, utilities and maintenance. Other 'building' related new cost pressures of £659k will need to be budget funded, with a clear and sensible allocation of cost responsibilities to fit with divisional responsibilities i.e. Primary Care, Facilities and IM&T.
- The above includes an emerging cost pressure of £260k relating to the GDS contract value which needs to increase in tandem with a projected increase in activity. Whilst this has been included for completeness it should be noted that this cost pressure exists now and is not directly related to the proposed new building itself.
- An Operational Manager will be appointed to manage the new facility employed by ABUHB

6.0 The Management Case

6.1 The HWBC project is being managed in accordance with the requirements of the All Wales Designed for Life: Building for Wales Framework, the NHS capital investment manual and PRINCE 2 methodology. The HWBC project is being managed in the context of the aforementioned Clinical Futures programme management structure and has its own Project Board which reports to the above Strategic Capital and Estates Work stream. The HWBC project also has a dedicated Project Team.

6.2 Key Project Roles include the following:

- Senior Responsible Owner – Nick Wood Executive Director of Primary, Community and Mental Health Services
- Project Director – Andrew Walker Strategic Capital and Estates Programme Director
- Service / Clinical Lead – Will Beer NCN Lead

6.3 The high level project milestones are set out below:

- OBC to Health Board / WG - 23rd September 2020
- Enabling Works - June 2021
- FBC to Health Board / WG - August 2021
- Start main construction - December 2021
- Completion – September 2023

DRAFT

1.0 INTRODUCTION

PURPOSE OF BUSINESS CASE

1.1 The purpose of this Outline Business Case (OBC) is to set out a case for change and a preferred option to develop a Health and Well-being Centre in Newport East that will provide high quality and effective primary, community, social care and well-being services for the residents of Newport.

1.2 This development is at the heart of future service delivery in the Borough. The facility will include a range clinical services provided by Aneurin Bevan Health Board, General Practitioner, Community Pharmacist and General Dental Practice services together with social care and Third Sector provision.

1.3 The preferred way forward will allow the local population to access a broader range of integrated services, tailored to meet their specific needs, which should in turn improve the health of the population and address some of the significant health inequalities.

1.4 The estimated capital cost of the new Newport Health & Wellbeing Health & Wellbeing Centre is £26.275 million.

STRUCTURE OF THE DOCUMENT

1.5 This OBC has been prepared using the agreed standards and format for Business Cases, as set out in:

- HM Treasury Guide to Developing the Project Business Case 2018
- NHS Wales Infrastructure Planning Guidance (2015)
- HM Treasury, the Green Book: Central Government Guidance on Appraisal and Evaluation (2018)
- Public Sector Business Cases using the Five Case Model: A Toolkit Guidance and Templates (2018)

1.6 The approved format is the 5 Case Model, which comprises of the following key components:

- The **Strategic Case** which sets out the Strategic Context and the Case for Change, together with the supporting investment objectives for the Scheme.
- The **Economic Case** which demonstrates that ABUHB has selected a *preferred way forward*, following evaluation of a number of alternative solutions, which best meets the existing and future needs of the Service and is likely to optimise Value for Money (VFM).
- The **Commercial Case** which outlines the potential procurement strategy.
- The **Financial Case** which addresses the capital and revenue implications and the issue of affordability.
- The **Management Case** which demonstrates that the scheme is achievable and can be successfully delivered in accordance with accepted best practice.

2.0 THE STRATEGIC CASE

PART A - THE STRATEGIC CONTEXT

2.1 Organisational Overview

2.1.1 Aneurin Bevan University Health Board was established in October 2009 and achieved 'University' status in December 2013.

2.1.2 We serve an estimated population of over 639,000, approximately 21% of the total Welsh population. Approximately 30 per cent of the population live in the Caerphilly local authority area and 25 per cent live in the Newport local authority area.

2.1.3 With a budget of £1.4 billion we deliver healthcare services to people in Blaenau Gwent, Caerphilly, Monmouthshire, Newport, Torfaen and also provide some services to the people of South Powys.

2.1.4 The Health Board covers diverse geographical areas and had to take account of a mix of rural, urban and valley communities. The valleys experience high levels of social deprivation, including low incomes, poor housing stock and high unemployment.

2.1.5 The Health Board employs circa 16,700 staff (11,972wte) and is the largest employer in Gwent. The staff group has remained relatively unchanged in the last year. The largest staff group are Nursing & Midwifery at 30% of the total workforce followed by additional Clinical services at 20%.

2.1.6 The Health Board provides a comprehensive range of Acute hospital based, Community based, Mental Health and Primary Care services via a large and complex estate consisting of the following:

- 3 Acute Hospitals - Royal Gwent, Nevill Hall, Ysbyty Ystrad Fawr
- 5 Community Hospitals - County, Ysbyty Aneurin Bevan, St Woolos, Chepstow and Monnow Vale
- 4 Mental Health Hospitals - St Cadoc's, Llanfrechfa, Maindiff Court, Ysbyty'r Tri Chwm
- 8 Locality based Mental Health Units and 1 Residential Unit on LGH site, 4 unoccupied units across Gwent.
- 30 Locality based Community clinics

2.1.7 The Health Board contracts with independent practitioners in respect of primary care services which are delivered by General Practitioners, Opticians, Pharmacists and Dentists. Outside of normal practice hours the University Health Board has responsibility for and provides an Out of Hours Primary Care Service.

2.1.8 There are 292 WTE General Practitioners and Salaried GPs providing general medical services from 76 General Practices. Supporting these are 148 practice nurses, 89 health care support workers and a number of administrative staff, including practice managers, receptionists, secretaries and IT officers. Around 375 General Dental Practitioners provide general dental services from 79 practices. There are 131 Community Pharmacies and 69 Optometry premises across the University Health Board.

Population Projections

2.1.9 Newport has an ageing population and those aged 65 and over grew by 8.6% between 2011 and 2015. The population of Newport aged 65 and over is projected to rise to 37,241 by 2039 accounting for almost a quarter of the population. Pregnancy and childhood surveillance data shows that around third of children in Newport are living in poverty, teenage pregnancy rates and dental caries in 5 year olds are higher compared to Wales. Around a quarter of 4 and 5 year olds are either overweight or obese. Newport East has seen an increase in its homeless population as well as other vulnerable groups such as asylum seekers and refugees and people with substance misuse problems.

2.1.10 The Burden of Disease report in Wales showed that cardiovascular disease and cancer are the main causes of disability adjusted life years. The main behavioural risk factors are diet, smoking, alcohol and physical activity and the clinical risks being high blood pressure, high body-mass index, high total cholesterol and high fasting plasma glucose. Musculoskeletal disorders, mental health and substance misuse problems are the main causes of years lived with a disability. There is a complex interplay between lifestyle and clinical risk factors and people's living and working circumstances. A detailed profile of the social, economic and educational circumstances of people living in Ringland is outlined in **Appendix 1**.

2.1.11 Newport East NCN has a slightly lower recorded prevalence of hypertension and obesity in adults compared to the Health Board average. Similarly, the recorded prevalence of major chronic conditions, except diabetes, is lower than the ABUHB average. Smoking prevalence was shown to be the second highest of all the NCNs with around a quarter of adults reporting smoking. Data from the cancer registry shows that a high proportion of lung cancers in Newport East are diagnosed at a late stage. Newport East has among the lowest uptake of breast, bowel and cervical screening. All of these are below the national target. In relation to vaccine preventable diseases Newport East has a significantly lower uptake of flu vaccination and scheduled childhood immunisation than other NCNs. The uptake falls well below the level required for herd immunity.

2.1.12 Overall projections indicate that if current trends continue, the number of persons aged 65 and over resident in the UHB area will increase by almost 60 % by 2033. The proportion aged 75 and over is projected to increase from around 7% to 10% at local authority level to around 11% to 19% over this period, the sharpest increases being in Monmouthshire and Torfaen. At local authority level, the percentage aged 85 and over is projected to double from between 2% and 3% to between 5% and 8% by 2033, with the exception of Monmouthshire where a sharper increase is projected with the proportion set to treble in size.

2.1.13 The increase in the number of older people is likely to be associated with a rise in long-term conditions whose prevalence is strongly age-related, such as circulatory and respiratory diseases and cancers. Meeting the needs of these individuals will be a key challenge for the University Health Board. In the current economic climate, the relative (and absolute) increase in economically dependent and, in some cases, care-dependent populations will pose particular challenges to communities.

2.1.14 A Summary Health Profile for the Local Population is provided below: The largest population groups are in the 16-64 year or working age groups for all three

wards. In Ringland there is a **significantly higher proportion** of people over 65 years compared with the other two wards

- In terms of ethnicity Lliswerry has the **highest proportion** of people from the BAME population at 13.9%
- There are areas in all three wards which rank in the top 10% most deprived in Wales. The majority are in Ringland and Alway
- The unemployment rate for the 3 wards is above the average for Newport
- The majority of property in the three wards are owner occupied
- Overcrowding is **significantly higher** than the average for the ABUHB area in Ringland at 82%
- Life expectancy and Healthy Life expectancy is **significantly lower** for people living in the most deprived LSOAs
- There is a **significant increase** in cancer mortality in Ringland and the rate of deaths due to cardiovascular disease is **significantly above the average** for Ringland and Liswerry wards in particular
- Hospital admissions for respiratory disease have **increased significantly** for Ringland
- Mental health problems are **significantly higher** than the average for the Newport population¹
- Data shows that the suicide rate for the most deprived areas of the three wards is estimated to be **more than double the rate** in the least deprived areas of Newport. The suicide rate for males is on average **three times** the rate for females
- Over 15% of Ringland residents report a long term limiting illness which is **significantly higher** than the average for Newport
- Breastfeeding rates for ABUHB are significantly lower than the average for **Wales**
- Evidence suggests that obesity rates in 4-5 year olds living in the three wards are likely to be **higher** than the average for Wales
- Over a third of patients aged 65 years and above from both GP practices **live alone**
- Self-reported wellbeing is **significantly lower** in the three wards compared with the least deprived quintile
- There is **above average** green space and tree canopy in the area surrounding the planned NEHWBC
- Data suggests that air quality in the Ringland area is **above** the recommended mean Air Quality Objective

2.2 Alignment to Existing Policies and Strategies

National / Regional Policy Context

2.2.1 '**A Healthier Wales**' sets out a long term, future vision of a whole system approach to health and social care which is focussed on health and wellbeing and on preventing illness. The ambition is for the continued development of a seamless, integrated system of health and social care, predicated on a place based approach to

¹ Based on evidence in the absence of ward level mental health data

service delivery, to improve service sustainability, quality and safety and to improve population wellbeing.

2.2.2 **The Social Services and Wellbeing (Wales) Act** and **Wellbeing of Future Generations (Wales) Act 2015** provide an enabling legislative framework which requires the Health Board and partners to work collaboratively in an integrated way across the whole system, involving the public in developing long term solutions to prevent avoidable illness and provide sustainable services in the future. The Wellbeing of Future Generations (Wales) Act established 7 National goals and places a Well-being duty on Welsh Public Bodies. The legislation requires the Health Board to carry out Sustainable Development by taking action in accordance with the Sustainable Development Principle through applying five ways of working to its decision making, namely:

1. **Long term thinking** (where consideration should be given to the balance between current demands and longer term impacts over a 25 year period).
2. **An Integrated approach** (how wellbeing objectives impact upon each other and in turn on the objectives of other public bodies and then how decisions impact on supporting the 7 national well-being Goals).
3. **Preventative Action** (deploying resources now in order to prevent problems occurring or getting worse).
4. **Collaboration** (acting collaboratively with other bodies or with other parts of the Health Board to assist in the achievements of the objectives of all).
5. **Involvement** (involving the people and communities whose well-being is being considered and engaging them and others in finding sustainable solutions).

2.2.3 By applying these ways of working the Health Board will bring about the organisational culture change needed to deliver on the ambition of '**A Healthier Wales**'. The whole system redesign process the Health Board is undertaking to implement the Gwent Clinical Futures programme is providing the strategic opportunity to assess how well each of the proposed new service models demonstrates the five ways of working. Each part of the organisation is undertaking the Health Board's self-assessment programme to describe what full implementation of the five ways of working would mean for their part of the organisation and what changes are needed to how they work now.

2.2.4 The five Public Service Boards across Gwent have each agreed a Wellbeing Plan, all of which reflect, where relevant, aspects of the Health Board's individual Wellbeing Objectives. The Health Board members of the five Public Service Boards (PSBs) are taking an active role in leading PSB programmes of work to give children the best start in life, to promote good child and adolescent mental wellbeing, to enable people to live healthy lives to prevent avoidable disease and to enable people to age well. These PSB programmes of work are being developed with the five local authorities, Natural Resources Wales, South Wales Fire and Rescue, Gwent Police, Gwent Police and Crime Commissioner, Gwent Association of Voluntary Organisations and other PSB partners. Activity underway includes the first 1000 days programme and the development of a Gwent wide approach to tackling Adverse Childhood Experiences (ACE's). Progress is reported to the Public Partnerships and Wellbeing Committee who provide broad oversight of the Health Board's delivery of its PSB commitments.

Gwent Policy Context

2.2.5 During the last year the Health Board has continued to progress the Clinical Futures plan "***Caring for You and Your Future***". More services are provided in the community and closer to the people who need to use them. Construction of The Grange University Hospital is almost complete and could treat its first patients by the end of November 2020. More importantly this new hospital, a centre of excellence for specialist and critical care, will help to deliver the long standing clinical strategy designed to provide 21st century health care; a sustainable, value driven system of care designed to meet the needs of our population.

2.2.6 The Health Board is moving at pace to transform primary and community services in order to provide more care closer to home. A 'place based approach' is starting to be implemented to improve coordination across organisational boundaries. The Health Board has had some early success with implementing the new model of primary care utilising a new, multi-disciplinary workforce. Care navigation training has been provided for all practices and a range of community and health connectors are working with practices across Gwent. Using Pacesetter and Transformation Fund monies, the model is being tested in Brynmawr, Tredegar and other locations, bringing together primary care, social care and wider wellbeing services around a place based approach to service delivery and breaking down health and social care boundaries to provide a more seamless system of care. The Health Board has well developed plans to build on these early successes to develop sustainable primary and community services delivering accessible, integrated services to people living in communities across Gwent.

2.2.7 The ***Clinical Futures Programme*** provides the mechanism for moving services and resources from a hospital setting to a community setting and implementing new models of locality based care underpinned by the principles of Prudent and Value Based Healthcare. The Health Board is ambitious in its intention to re-model services to reduce unnecessary complexity and deliver more integrated, inter-professional ways of working across the public and third sector. Better quality and more accessible health and social care services are a key driver for change. Through the Clinical Futures Level 1 programme of service transformation and the Gwent Area Plan, the Health Board will build on the foundations already in place to drive forward system change at pace in primary and community care, CAMHS and hospital discharge.

2.2.8 The ***Gwent Regional Partnership Board*** (the Gwent RPB) has secured additional funding provided by the 'A Healthier Wales: National Transformation Fund' to fund the Gwent RPB transformation programme. With this funding, the Health Board is working in partnership with social services, housing and third sector partners across Gwent to deliver a transformational improvement programme which will start to build the sustainable foundations required to achieve a system shift to a seamless system of care and wellbeing, with more care provided closer to home. The improvement programme focuses on supporting people to stay healthy and well, to self-care and to access a wider range of integrated services in primary and community care. The following provide a summary of the initiatives that are being progressed:

Model of care	Initiatives / Solution	Impact
Integrated Well-being Network	<ul style="list-style-type: none"> Place-based co-ordination and development of well-being resources and hubs identified as centres for resources in the community Established systems for linking with Primary Care Developing the well-being workforce Communication and engagement to support whole system change 	<ul style="list-style-type: none"> People remain active and independent in their own homes People maintain good health and wellbeing for as long as possible
Primary Care Model	<ul style="list-style-type: none"> Integrated community teams in place Multidisciplinary primary care workforce Culture change creating an 'enabling environment' across the system Compassionate Communities model Primary Care Training Foundation 	<p>Reduction of:</p> <ul style="list-style-type: none"> Patients self-presenting to ED for non-medical emergencies Inappropriate referrals for social care Reduction in waiting times to see GP and reduction in GP locum expenditure Prudent pathways using alternative disciplines
Iceberg Model	<ul style="list-style-type: none"> Establish a new model of integrated working across organisational boundaries Strengthen prevention and early intervention Build emotional resilience in children and young people address the root causes Support emotional and mental well-being of children and young people 	<ul style="list-style-type: none"> Enable children and young people and families to have the right support at the right time in the right place Ensure that only those who need specialist intervention are able to access that service promptly Voice of children and young people to co-produce a more accessible, equitable and seamless service
Home First Model	<ul style="list-style-type: none"> Recruitment to domiciliary care market Joint training across whole system pathway Culture change to promote 'home first' Integrated discharge process 	<ul style="list-style-type: none"> Increase patients discharged to home first Reduction in inappropriate referrals to social services Improve access to assessment; Admission avoidance Single point of contact for ward managers and clinical teams

2.2.9 **'A Healthier Wales'** sets out a vision for a seamless system of care and wellbeing, providing more care closer to home through an enhanced range of integrated services provided in partnership by health, social care and housing. To achieve this will require a rebalancing of the system to create more prevention and early intervention services, to remodel primary and community care to provide a wider range of services closer to home, and to shift a number of models from a secondary care setting into the community. The aspiration of A Healthier Wales is also to reduce health inequalities and improve population health outcomes.

2.2.10 Over the next three years, services will be increasingly re-designed to provide more co-ordinated care, with fewer handoffs and reduced complexity. This will require a radical transformation of services which have been working in particular way for many years. The delivery of a seamless system of health, care and wellbeing will

continue to be through the framework to direct resources and service redesign across the following four tiers:



Tier 1 – Keeping People Healthy and Well

2.2.11 Details the approach, priorities and programmes for keeping people healthy and well; Improving Population Health and Wellbeing.

Tier 2 – Self Care

2.2.12 One of the most significant system shifts required is enabling patients, families and carers to become more empowered and informed about the services and support available to them.

2.2.13 A core element of the Gwent Area Plan is focused on providing patients, carers and families with the appropriate information, advice and assistance to better manage their needs, enabling continued independence and effective long term conditions management in their own homes. Access to information, advice and assistance for patients and the public will be enhanced in the coming years, beginning with the introduction of the 111 system and the continued development of DEWIS across primary and community care services.

2.2.14 The development and implementation of the wellbeing model of 'Compassionate Communities', in a way that aligns with the specific demographics and demography of Gwent, will dovetail with the development of Integrated Wellbeing Networks and the new model of primary care. 'Compassionate Communities' seeks to draw together existing community resources in order to maximise wellbeing. Its value in this context is the development of new networks of support and services to enable people to better improve self-care and reduce reliance on 'traditional' medical services.

2.2.15 In Gwent the 'Compassionate Communities' programme will embed social prescribing principles within primary care. The model features health connectors (1fte per 10,000 population) based within and working directly with colleagues in primary care to support patients with non-medical issues, such as housing, debt advice, bereavement, isolation, among other issues, through creating connections with the wider community. Health connectors will also support the wider adoption of 'risk-stratification' approaches, thereby proactively working with those who are at greatest risk of deterioration and putting in place measures to prevent this wherever possible through 'stay-well plans'.

Tier 3 – Primary Care and NCN Teams

2.2.16 The Health Board is implementing the new model of primary care with increasing pace consistent with the national Strategic Programme for Primary Care. Significant activity will be undertaken to increase the pace of transformational change over the next twelve months, supported by additional funding from the Transformation

Fund, to deliver care closer to home. The new model of Primary Care will:

- Use our experience of the Pacesetter Programme to increase pace and scale of change across the region through deployment of Transformation Funding.
- Implement six Integrated Wellbeing Networks over the next 12 months, in alignment with the delivery of the 'Compassionate Communities' model and consider extension of the Older Persons Pathway across the same 5 NCN areas through the recruitment of 24 health connectors by March 2020.
- Further develop the "Hub" model. Typically, these "Hubs" will contain the following services:
 - Independent contractors: General Medical Services, General Dental Services, and Community Pharmacy Services.
 - Integrated Service Teams: Integration of local nursing and community resource teams in the first instance, with opportunities to incorporate local mental health and complex care resources in the future.
 - Social Care Services: Including social work, housing & debt advice services as a core, with the option to include wider services
 - Facilities for provision of care: Including direct-access therapies and patient education groups as a core with the option to include wider services in the future
 - Care Navigation: All reception staff in primary care will be trained in the West Wakefield care navigation model in order to facilitate the re-direction of patients to an alternative professional within the practice or signposting to alternative services elsewhere, such as 111, Common Ailments Scheme, Eye Health Examination Wales, General Dental Services or others.
 - Offer more consultations through the Common Ailments Scheme as an alternative to a GP appointment and the increasing numbers of independent pharmacist prescribers within these services will mean that more and more patients will be able to access care quickly without the need to see a GP.
 - Allow for the integration of local nursing teams and intermediate care services to ensure fewer handoffs between professionals working within the same geographical area with many of the same skills.
 - Allow for increased routine dental access in areas of greatest need and extend appointment times.

Tier 4 – NCN Hub with Specialist and Enhanced Services

2.2.17 This tier will shift demand from secondary care to primary care, and provide place based care closer to home. The following points detail the actions required to facilitate:

- Increase the number of patients who access an urgent eye examination through optometry services without placing unnecessary pressure on GPs or hospital services with referral on to specialist Ophthalmology Service only when the severity of the condition requires it.
- Undertake a mid-year review of all endodontic, periodontal and sedation services and determine options to use national funding to move services to primary care and away from secondary care.
- Assess opportunities to move audiology services to a primary care setting
- Embed the new model of working of Urgent Primary Care Out-of-Hours, Clinical Nurse Specialists, reviewing the WAST stack and providing in-reach support to Nursing Homes.
- Conclude and evaluate the pilot use of healthcare support workers overnight in Blaenau Gwent to determine future expansion and integration with Integrated Nursing Teams and / or Urgent Primary Care Out-of-Hours

- Review Rapid Medical and Rapid Nursing Services to determine their relationship with local integrated teams and reduce any duplication or inefficiencies created by the segmented models current in place
- Finalise plans and begin implementation of a new, equitable Palliative Care model across Gwent, featuring improved utilisation of hospital and hospice capacity, Bereavement Support Service and enhanced training to hospital-based and community-based staff.
- Continue work to reduce falls and their adverse implications through evaluation of the extended Falls Response Service during the winter period, continued training and availability of equipment to care homes and development of a new Community Falls & Bone Health Strategy to standardise best practice.
- Implement a 'graduated care' model in community hospitals, featuring a range of interventions to best support patients outside of acute hospital settings including Frailty-led hot clinics, ambulatory care treatment centres, short-stay assessment beds, nurse-led rehabilitation wards and 'virtually-home' beds with full assistive technology.
- Further develop the Home First discharge to assess service by
- Embedding the Home First model and trusted assessors to ensure that patients do not experience unnecessary delays in discharge from hospital
- Developing Home First as an evidence based service model to support patient flow in readiness for The Grange University Hospital
- Creating a single point of contact for discharge with clear communication commitments
- Concluding the review of frailty services and developing improved pathways between GPs and Crisis Response Teams.

2.2.18 The population footprint for different services will range from local to regional as described in the following table.

	Initial self-help / signposting	Local Circa 10,000 population	Neighbourhood Circa 50,000 population	Borough Circa 100,000 population	North / South Gwent Circa 200,000 population	Gwent-wide Circa 600,000 population	Regional Circa 2,000,000 population
Patient / Family							
	111 Service DEWS	General Medical Services General Dental Services Community Pharmacy Services Optometry Services	Neighbourhood Nursing Services Integrated Health & Social Care Teams Social prescribing / community connectors Direct access Physiotherapy Community Dental Services Housing Support Services Domestic Care	Urgent Primary Care In-Hours Rapid Response Services GP assessment beds Rehabilitation Inpatient Beds Routine Outpatient Services Discharge to assess Emergency Homecare Specialist Chronic Disease Nursing	Local Emergency Centres Assessment Units Specialist Inpatient Beds Routine Elective Surgery Specialist Outpatient Services Palliative / hospice services	Emergency Department Specialist Assessment Units Intensive Care & High Dependency Units Urgent and Specialist Surgery Hyper Acute Inpatient Beds Specialist Palliative Care Services Urgent Primary Care Out-of-Hours	Tertiary Care

Key

Service provider

- Health Services
- Social Services
- Third Sector

Facility type

- Health & Wellbeing Hubs
- Urgent Care Hubs
- Community Hospitals
- Enhanced Local General Hospitals
- Specialist & Critical Care Centres

2.3 Health Board Estate Strategy

2.3.1 The Estate Strategy was approved by the Health Board in January 2019. Due to the large and complex nature of the Health Board estate, the Estate Strategy was developed under the following service headings:

- Acute Hospital Services
- Community Hospital Services
- Mental Health Hospital based Services
- Primary and Community Care Services
- Leased / non-clinical Services

2.3.2 The following is an overview of key financial and six facet information for the Primary / Community based owned estate and Community based Mental Health services:

• Property Asset Value	-	£26 million (<i>Existing use NBV</i>)
• Total floor area of	-	20,275 m2
• Total Operating cost	-	£1.28 million per annum
• Cost per metre	-	£63 (Carter Median £331)
• High/Significant Backlog	-	£1.220 million
• Underused Estate	-	26.29% (m2)
• Empty Estate	-	6.19% (m2)
• Maintenance Costs		£42,500 (£2.10 per m2)
• Energy Consumption		6.8 million kWh

2.3.3 The above data relating to the owned estate includes 26 Locality based clinics, 8 Locality based Mental Health Units and 5 Residential Units. Whilst the above data relates to the Health Board owned estate our understanding of the condition, utilisation, etc., of the GP owned estate will shortly be improved via the completion of a Six-Facet Estate review.

2.3.4 Leased accommodation includes recently completed Primary Care Resource Centres in Brynmawr, Blaenavon and Rhymney.

2.3.5 In the context of the clear policy and strategic direction outlined above in section 2.1 and 2.2 and the Six Facet Survey information, the Estate Strategy concluded that the following two Strategic Objectives should be taken forward for the Primary/Community and Community based Mental Health estate:

Strategic Objective 13 - Review location, content, condition and utilisation of existing Primary Care, Community Care and Mental Health Community based facilities in each NCN area in the context of other ABUHB/Public Sector facilities and the above clinical strategy.

Strategic Objective 14 - Following the above review to produce a costed and prioritised plan for the creation of the proposed “Hubs” and other proposed service changes utilising the existing estate as far as is possible.

2.3.6 One of the identified key priorities is to address significant service and infrastructure deficiencies in Ringland / Newport East via the creation of a new Health and Well Being Hub.

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PART B: THE CASE FOR CHANGE

2.4 Investment Objectives

2.4.1 The agreed Investment Objectives for this project are as follows:

Investment Objective 1	To support the co-location and further collaboration of Ringland Medical Practice and Park Surgery
Investment Objective 2	To support the increased provision and improved integration of Health and Well Being Services within Newport East NCN
Investment Objective 3	To address the significant estate infrastructure issues that exist at the Newport East NCN
Investment Objective 4	To support the effective use of clinical and non-clinical resources that are delivered within Newport East

2.5 Existing Arrangements

Current GMS Services

2.5.1 General Medical Services for a population of approximately 15,160 patients are currently being provided by two well established General Practitioner Practices within Newport East, Ringland Health Centre and Park Surgery.

Park Surgery

2.5.2 The surgery is a two storey house, which is situated in Chepstow Rd Newport. The building is owned by the existing GP Partner. The building consists of rooms occupied by the GPs, Practice Nurses and attached community staff such as midwives, mental health counsellors etc. Third Sector also currently work collaboratively with the Practice i.e. Citizens Advice Bureau.

2.5.3 The surgery has 3.5 General Practitioners currently providing services to a practice list size of 6,879. There is a Practice Nurse and three Health Care Support Workers supporting the provision of General Medical Services.

2.5.4 Park Surgery Staffing and Whole Time Equivalents (WTE) are listed below:

Position	Number of Staff	WTE	Vacancy
GPs	3.5	3.4	0
ANP	0	0	0
Practice Nurse	1	0.96	1
HCA/Phlebotomist	3	1.14	0
Practice Manager	1	1	0
Administration Staff	7	4.64	0
Total Number and WTE	15.5	11.14	0

2.5.5 The Surgery is not currently a Training Practice, but has applied to the Academic Fellows Scheme and it is an aspiration of the Practice for the future to become a full Training Practice.

Existing Condition of Park Surgery

2.5.6 A Six Facet Survey has been undertaken in March 2018 with the following key information identified:

- Total Backlog cost – 174,639.00
- Functional stability – B
- Space Utilization – F
- Quality Audit – B
- Statutory Compliance – D

Ringland Health Centre

2.5.7 Ringland Health Centre was officially opened in April 1972. The building is a single storey with the community services operating from existing GP clinical accommodation, owned by the Health Board.

2.5.8 Ringland Health is a six partner GP practice serving 8,281 patients.

2.5.9 Ringland Health Centre staffing and Whole Time Equivalents (WTE) is shown in the table below:

Position	Number of Staff	WTE	Vacancy
GPs	6	2.4	0
ANP	1	1	0
Pharmacist	0	0	0
Practice Nurses	2	0.57	0
Health Care Assistant	1	0.8	0
Practice Manager	1	1	0
Administration Staff	9	4.53	0
Total Number and WTE staff	20	10.3	0

Existing condition of Ringland Health Centre

2.5.10 A Six Facet Survey was undertaken in 2018 with the following information identified:

- Total Backlog - £530,782.00
- Functional Suitability – Grade B
- Space Utilisation – F
- Quality Audit – C
- Statutory Compliance – C

Other AB Provided and Independent Contractor Services

Community Pharmacy

2.5.11 There is currently 2 independent Pharmacies providing services to Ringland Health Centre (Lloyds Pharmacy, Ringland Centre) and Park Surgery (Giles Pharmacy, Chepstow Road). The Pharmacies provides a full range of essential, advanced and enhanced services which include Medicine Use Reviews (MURs), Discharge Medicine Reviews (DMRs), Out of Hours Pharmacy Rota, Common Ailment Service (Choose Pharmacy), Emergency Medicines Supply, Waste Reduction Service, Out of Hours on call Palliative Care, , Supervised Methadone Consumption, Medication Administration (Chart/MDS and Pivotell), Needle exchange, Smoking Cessation Level 2 and 3, Emergency Hormonal Contraception (EHC) and Seasonal Flu Vaccination. The Pharmacy also provides a home delivery service and blister packs of medication for patients.

Community Dental Service

2.5.12 Current service provision for the Community Dental Service is delivered from the existing Ringland Health Centre. The service operates every week day, patients are allocated to the service through the Dental Helpline.

'Other' Hospital Services

2.5.13 Services currently being delivered from the existing GP Surgeries include Podiatry, Sexual Health, Speech & Language Therapy, Midwifery, Flying Start, Health Visitors, and Substance Misuse. Clinics are held on a sessional basis and provided on scheduled days throughout the week.

2.5.14 There are no Community Dental services in the area and little mental health provision.

2.6 Service Needs

Local Service Context

2.6.1 This section focuses on the specific issues that need to be addressed within Newport East NCN for the Health Board to offer quality, sustainable and efficient Health and Well Being Services.

Increasing Demand

2.6.2 Over recent years Primary Care has faced considerable pressures with an increasingly elderly population, rising numbers of people suffering dementia, long-term health conditions and chronic pain. There are also challenging social issues which impact on health and well-being through substance misuse, depression and social exclusion resulting in loneliness and isolation. Poverty is associated with earlier onset of ill health, higher rates of co-morbidity and reduced life expectancy. The result is increased demand for GP and community services and consequential decreased access to Primary Care, particularly in areas of socio economic deprivation

2.6.3 This increasing demand is more difficult to meet because of the acute recruitment difficulties being experienced, particularly for GP services – this is a national problem, but within the ABUHB there are specific difficulties in Newport East.

Sustainability of GMS Services

2.6.4 General practice is facing unprecedented and well publicised pressures due to various factors, including GP recruitment and retention difficulties, workload, ageing patient population and increasing complexity of the caseload. These factors are causing vulnerability which puts practices at risk of closure and significant service reduction.

2.6.5 As part of the GMS Contract negotiations for 2016-17 an agreement was made to develop a framework for assessing the sustainability of GP practices due to the impact of a number of external factors which may impinge on the sustainability of a contracted GP practice.

2.6.6 The GP Sustainability Framework was issued by Welsh Government to assist Health Boards to identify practices at risk of having to reduce service provision and/or to give notice to terminate their GMS Contract and offer targeted support. Practices are able to apply for support from the Health Board to stabilise service provision.

2.6.7 In light of identified sustainability challenges, particularly around workforce and existing estate, there is a risk that one or both practices in the Newport East area could seek support via the Sustainability Framework and/or serve notice on their GMS contract. There is a significant risk to the practices, patients and Health Board. The Sustainability Framework enables practices to submit an application to the Health Board seeking support. If agreed this can be in the form of resources or financial support. Both practices could potentially seek this assistance, and the current offer of support available is financial support.

2.6.8 Where a contract resignation is received, the Health Board would implement the Vacant Practice Process to consider the future options in that instance. Given the location and population need, there would be an expectation to secure alternative GMS provision. However, as previous recruitment campaigns have demonstrated, this is likely to prove difficult. This is exacerbated given the current poor condition of GMS premises.

2.6.9 A potential worst case scenario would be the need for one or both practices to become directly managed. The Health Board has experience of this in four other areas of Gwent each of which have pose significant recruitment and associated financial challenges. This also impacts on the ability to provide adequate service provision and care to patients, potentially offering a much reduced service, i.e. limited enhanced services.

Implementation of the Health and Wellbeing Model

2.6.10 One factor that is increasingly accepted as crucial to GMS sustainability is working at larger scale, which can often provide the security of working as part of a larger team and therefore increased resilience. Also due to the GP workforce issues, this provides the opportunity for larger practices to consider a wider skill mix of staff in GP surgeries that enables patients to be seen by the most appropriate health care professional for their needs, including advanced practice nurses, pharmacists and health care support workers. Neither of the existing practices is large enough on its own to embrace this model fully, even without a full merger, there will be a need to work collaboratively to ensure longer term sustainability.

2.6.11 Within the ABUHB the new model is already being adopted, with the establishment of multi-disciplinary teams and MDT processes, care navigation and place based integrated teams. Where suitable estate is available these models are developing successfully. The Board is also planning for practices to work at scale, with more sharing of staff and premises, incentives for mergers and planning facilities which promotes this way of working. This cannot be achieved in Newport East due the limited space available in existing premises.

2.6.12 In the face of GP recruitment problems there will need to be multi-disciplinary team development to meet the current and future demand. Appropriate space is required for these expanded teams and to allow for training that orientates staff into primary care service provision. In addition, improved premises are required to enable the wider teams to work with the practices, aiming to intervene early to meet patient needs and prevent the deterioration in health and well-being which too often results in avoidable hospital admissions. Key to this will be the social care input and connection to the integrated well-being networks which will help widen the practice response beyond a purely medical one.

2.6.13 The proposed new model will support the transition and continuity of patient care upon impending General Practitioner retirements, ensuring the long term sustainability of new service models and provision of a General Practitioner and Nurse training facility. The Practices, whether they merge or not, will use the opportunity of the Hub model to develop further service delivery by enhancing their areas of special interest. They will also develop their patient and education groups emphasising the importance of health and well-being which is currently unable to be catered for from the existing premises. The practices will continue to provide core General Medical Services to their patients, in line with the Quality Assurance and Improvement Framework and also in line with the new Access Standards as issued in March 2019.

2.6.14 The Clinical Futures model and other models within Wales are designed to support the introduction of 'Care Closer to Home' by providing a broader range of services within the community. These services will avoid unnecessary hospital admissions and support early discharge after a hospital stay. This approach reflects international models that are successfully delivering more person centered, cost effective care.

2.6.15 In 2014, the Welsh Government published its Primary Care Plan for Wales up to 2018. This document outlined a new approach to meeting Primary Care demands with a focus on clusters of GP practices working together and the provision of place-based working with the wider primary care/community teams coalescing around these places – this included social care and the 3rd sector. After the publication of this plan there was additional Primary Care monies allocated to learn from new ways of working, including multi-disciplinary working in GP practices, working at larger scale with practices merging or working together and introducing some form of sign-posting or navigation or triage.

2.6.16 Initial pilots and pacesetter projects were extensively evaluated and from this emerged a new Primary Care model for Wales. This model has further been substantiated in the 2018 Welsh Government strategy "A Healthier Wales" which re-enforces the prudent multi-disciplinary practice model, the need to work at scale and with some form of sign-posting. This strategy also prioritises place based integrated

teams and the strategy is firmly a Health and Social Care plan, directing integrated working and a more social model of Primary Care.

2.6.17 In line with 'Care Closer to Home' and Living Independently in the 21st Century strategies, the service model proposes to co-locate Health and Social Care networks within shared accommodation. This will build on the current existing model of co-located Neighbourhood Care Network (NCN) West and East teams and will be further enhanced with the extension of the model through the additionality of representation from third sector and community focussed partners including a relocation of services currently provided from Ringland Health Centre & Park Surgery. The service will provide an opportunity to embed and develop innovation amongst partners, supporting Newport East citizens throughout their health and social care pathways. This will provide an opportunity for collaborative working across both statutory and community wellbeing support services including:

- District Nursing / Community Nursing
- Community Resource Team (CRT) including reablement and therapy service
- Early year's provision including health visiting and flying start
- Social Care including statutory Adult and Children support.
- Wellbeing support including Community Connectors and various Social prescribing models of support – non medical support to promote health and wellbeing.

2.6.18 By ensuring the colocation of key teams, communication will be improved for the benefit of patients and their families, ensuring that district nursing, GP's and other professionals will be able to plan with patients avoiding handoffs and referrals to improve experience and outcomes

2.6.19 Some examples of Wellbeing provision that could and should be available at the Hub facility includes, but not exclusively:

- Diabetic Eye Screening Wales
- AAA Screening
- Unpaid / Family Carers Support
- Gwent Drug and Alcohol Service (GDAS) and similar third sector programmes
- Podiatry Services
- Mental Health and Counselling support from both Primary Care and our third sector consortium arrangements (Mind / Hafal/ Mindfulness Support etc.)
- Supporting People and Housing solutions
- Families First programmes
- Specialist Third Sector providers i.e. Dementia Support / Carers Support/ Hospice and Palliative care services
- Welfare and Benefit support – Job Centre / Department of Work and Pension/ Citizens Advice
- Social Care private providers including Domiciliary Care Agencies working in the Newport area.
- Domestic Abuse / VAWDASV services and promotion
- Aneurin Bevan Leisure Trust including Adult Education/ Healthy Living and Gentle Exercise support.

2.6.20 The Hub will also be a key link to the development of Community Based support to promote wellbeing, promote ageing well activities, reduce social isolation and promote non-medical solutions to promote independence and reduce dependency on traditional models of health and social care. Through partnership working across Health, Social Services and the third sector the facility will exploit the opportunities through utilising the WCCIS (national health and social care database). It will also enable citizens and staff to explore opportunities for enhanced information technology solutions both in terms of accessing and signposting services, digital inclusion projects and promoting assistive technology / telecare solutions.

2.6.21 Central to the development and at the 'heart' of the Hub is an opportunity to develop the potential for a community café facility which ideally will be provided via a social or community enterprise and will focus on:

- Health and wellbeing – giving people access to simple but healthy food at affordable prices. The Café will aim to help locals to change their eating habits and help them to realise that healthy food can be appetising.
- Togetherness – bringing people together in an atmosphere that helps promote friendship and community spirit.
- Acceptance – a place free from judgment where everyone is welcome and treated with equal respect.
- Safety – a place where young and old feel safe in a welcoming environment.
- Creativity – a positive and vibrant space that celebrates creativity and inspires new ideas.
- Empowerment – the Café is a catalyst for positive action, a place where people are encouraged to develop their unique abilities and make positive life choices in order to develop self-esteem and confidence, and to build life skills.

2.6.22 There is a unique opportunity in Ringland to link health and well-being services provision with the Ringland Neighbourhood Hub which is the first of a network of four multi-agency facility across the city developed by Newport City Council (NCC). NCC have been working in partnership with PLACEmaking to transform the existing community centre and library into a state-of-the-art building which has dramatically improved flow and use of the available space. Care navigation and active signposting from primary care will provide routes into employment, financial, housing and family support services. It will also act as a gateway to social prescribing through adult learning, creative arts, social activities and gardening projects. The facility will support families, young people and adults to learn new skills, improve their health and well-being, find employment and develop the confidence to achieve their goals and transform their lives. GPs and other health and social care professionals will be able to directly access non-clinical solutions to health issues that are often caused by people's social, financial or personal circumstances. This will help to 'de-medicalise' some conditions that are currently treated pharmacologically and will address people's needs in a more holistic way.

General Dental Services

2.6.23 In July 2018 Welsh Government published '*A Healthier Wales: our Plan for Health and Social Care – the oral health and dental services response*'. The Health Board aims to:

- Improve population health, oral health and well-being through a greater focus on prevention;
- Improve access, experience and quality of dental care for individuals and families;
- Enrich the well-being, capability and engagement of the dental workforce; and;
- Increase the value achieved from funding of dental services and programmes through improvement, innovation, use of best practice, and eliminating waste.

2.6.24 *Taking Oral Health Improvement and Dental Services Forward in Wales* was published by the Welsh Government in March 2017. The GDS reform programme will allow dental teams and patients to:

- Understand the oral health risks and needs of individual patients and the whole 'practice population'
- Improve on delivery of evidenced-based prevention and treatment where indicated through the GDS
- Support implementation of dental recall periods based on oral health risk and needs assessment
- Facilitate development and implementation of dental care pathways/patient journeys that outlines principles and stages involved in achieving agreed oral health outcomes for patients
- Evaluate and understand the changes in key activities, outcome and quality indicators to inform development of new dental contracts
- Encourage increased skill-mix use in the GDS in Wales (Prudent Dental Care)
- Understand the changes that are required to improve on inequity in dental care use and lack of dental access for people who have high dental need
- Encourage clinical teams to develop a culture of continuous Quality Improvement to ensure enhanced patient Quality and Safety in Primary Dental Care
- Encourage establishing partnerships with other primary and social care services to improve patient care and outcome.

2.6.25 There is insufficient capacity within existing premises to expand service provision. By including dental service provision within the proposed HWBC, the above services will be able to be provided and additional new NHS patients will be able to access NHS dental services. The Health Board has made a provision within the dental contract for additional units of dental activity to be awarded in order to provide an increase in dental service. The practice has already joined the GDS Reform Programme, all new and existing patients will undergo a needs assessment, known as the ACORN (Assessment of Clinical Oral Risk and Needs) assessment, which will determine a patients oral health risk and need for any preventative treatment i.e. fluoride varnish application. This will enable the practice to deliver the dental health care that is needed, which will include advice, education and treatment, where necessary. This area is considered "high need" and access to high street dentistry remains a challenge. The additional investment will support delivery of care and increase access.

2.6.26 'The oral health and dental services response to The Healthier Wales: Our Plan for Health and Social Care' stipulates that 'the current ambition...is to keep children decay-free by age of 5.' The practice is already part of the child referral pathway – this allows the Designed to Smile team to refer children to the practice from Health Visiting Teams, Flying Start Teams and other child organisations. It is anticipated that the

provision of dental services within the Health and Well-being Centre will further enhance this, through partnership working with other service providers.

2.6.27 The most recent 'Dental Epidemiological Survey of 12 year olds 2016-17' highlights that the dental caries in 12 year olds in the Newport area is ranked 8 across the 22 boroughs in Wales.

The table below highlights the variance:

Local Health Board	Unitary Authority	D ₃ MFT	%D ₃ MFT	Mean D ₃ MFT of those with caries experience	D ₃ T	%D ₃ T>0	Mean D ₃ T of those with caries experience
Abertawe Bro Morgannwg	Bridgend	0.47	25.1	1.86	0.15	8.6	0.58
Abertawe Bro Morgannwg	Neath & Port Talbot	0.70	36.2	1.93	0.23	11.2	0.64
Abertawe Bro Morgannwg	Swansea	0.52	25.8	2.01	0.19	11.2	0.72
Aneurin Bevan	Blaenau Gwent	1.10	51.0	2.15	0.80	43.1	1.58
Aneurin Bevan	Caerphilly	0.95	39.6	2.39	0.60	29.1	1.50
Aneurin Bevan	Monmouthshire	0.50	25.9	1.93	0.24	12.9	0.93
Aneurin Bevan	Newport	0.63	29.8	2.11	0.27	15.9	0.91
Aneurin Bevan	Torfaen	0.94	49.2	1.92	0.61	33.6	1.23
Betsi Cadwaladr	Anglesey	0.84	41.5	2.02	0.39	23.6	0.94
Betsi Cadwaladr	Conwy	0.52	24.3	2.13	0.21	11.4	0.87
Betsi Cadwaladr	Denbighshire	0.71	36.0	1.97	0.39	23.8	1.09
Betsi Cadwaladr	Flintshire	0.60	27.3	2.21	0.20	11.3	0.75
Betsi Cadwaladr	Gwynedd	0.63	34.3	1.83	0.31	20.8	0.90
Betsi Cadwaladr	Wrexham	0.70	29.6	2.35	0.42	20.0	1.43
Cardiff and Vale	Cardiff	0.41	21.6	1.88	0.15	8.7	0.71
Cardiff and Vale	Vale of Glamorgan	0.32	17.3	1.83	0.12	5.9	0.70
Cwm Taf	Merthyr Tydfil	0.72	36.4	1.98	0.25	15.5	0.68
Cwm Taf	Rhondda Cynon Taf	0.66	30.1	2.18	0.22	13.1	0.73
Hywel Dda	Cardiff and Vale	0.45	22.4	2.03	0.22	11.3	0.97
Hywel Dda	Ceredigion	0.49	28.3	1.74	0.23	17.5	0.82
Hywel Dda	Pembrokeshire	0.63	26.3	2.38	0.29	13.4	1.11
Powys	Powys	0.41	23.4	1.74	0.20	13.9	0.84
Abertawe Bro Morgannwg		0.56	28.9	1.94	0.19	10.5	0.66
Aneurin Bevan		0.79	36.8	2.16	0.46	24.3	1.25
Betsi Cadwaladr		0.65	31.3	2.08	0.31	17.8	0.99
Cardiff and Vale		0.38	20.4	1.87	0.14	7.9	0.71
Cwm Taf		0.67	31.3	2.13	0.23	13.6	0.72
Hywel Dda		0.52	24.7	2.09	0.24	13.1	0.99
Powys		0.41	23.4	1.74	0.20	13.9	0.84
WALES		0.61	29.6	2.05	0.28	15.5	0.94

2.6.28 Supporting Ringland dental Practice to expand to provide additional dental services, will enable the Health Board to work collaboratively with the practices to help develop and deliver clinical pathways/services to address factors such as this.

2.6.29 General Dental Practices are also embracing new ways of working as a result of the COVID-19 pandemic, again with a particular focus on remote consultations/ pre-appointments where clinically appropriate. Appropriate IT and telephony infrastructure will need to be in place to support this.

Audiology Services

2.6.30 The Primary Care Audiology Service have successfully run a project from Brynmawr Resource Centre whereby patients from Newport East needing secondary care Audiology services are currently travel to Royal Gwent Hospital in Newport for hearing aid fittings, ongoing management and maintenance of their hearing aids.

2.6.31 The project allows patients with hearing tinnitus or balance problems to self-refer directly into Audiology without seeing their GP first. Evaluation and analysis of the project indicate the freeing up of GP time with onward referrals where necessary therefore increasing patient satisfaction improving outcomes with patients receiving care closer to home. Future provision for this service needs to be found in Newport East.

Workforce Context

2.6.32 As already referred to above workforce sustainability is an increasing problem within Wales. The current configuration of services is not at all conducive to future prospects of retention and recruitment.

2.6.33 The Health Board, in line with 'A Healthier Wales', plans for primary care to focus on providing a more integrated service for the wider community and these proposals would be attractive to ensuring recruitment of General Practitioners. This "Hub" model will enable more integrated working between primary care and community services which will ensure more robust integrated care. These services could be provided from purpose built premises, with no requirement to make personal investment, thus potentially attracting younger General Practitioners to the area.

2.6.34 Currently neither premise or practice list size are conducive to implementing the Transformation Model or Place Based Care both of which align to the Clinical Futures strategy and Care Closer to Home. This Model supports core GPs with larger multi-disciplinary teams of extended roles such as Advanced Nurse Practitioners, Pharmacists, Physiotherapist, Paramedics, Mental Health Practitioners and Occupational Therapists. These extended roles help to bridge the gap where there are GP shortages and ease pressure on existing GP resources ensuring that they are free to see the most complex of cases. This Model would also be supported by Care Navigation where the practice staff are trained to signpost patients to the most appropriate healthcare professional to meet their needs.

The Capacity of the Primary Care Estate

2.6.35 The current primary care estate is unable to support the new model of care through integrated ways of working, with the registered population of Newport East NCN currently accessing family and therapy services, mental health and community dental services across a number of locations including St Woolos Hospital, St Cadocs Hospital and Clytha Clinic. All these facilities are located on the other side of the river which bisects the city and require a number of changes to be accessed by public transport.

2.6.36 The impact of estate and premises cannot be underestimated in terms of implementing this new model. Newport East NCN is in an area with populations experiencing social deprivation and ill health. The new model of working is particularly necessary in these areas, but the following constraints need to be resolved:

- If practices are to work together and provide for multi-disciplinary practice teams they need the space to be able to do so. Both GP premises are particularly poor with no room for expansion and in need of replacement.
- The Health and Social care model is particularly needed in these areas with communities experiencing a combination of health and social care problems and with a need to build community resilience. Around the country the development of Health and Well-Being hubs have successfully helped to bring services together and provide a focus for community activity. This facilitates better sign-posting, provides community space as well as room for the wider community teams in addition to a more multi-disciplinary practice team. Current facilities in the Newport East NCN cannot absorb additional services and activities.

2.6.37 The current Primary Care estate is made up of relatively physically sound buildings that have reached their physical capacity. They are therefore unable to accommodate any additional enhanced or extended primary and community services that could be introduced.

2.6.38 There is therefore limited scope for service development or expansion, both due to the physical constraints of the current premises, but also due to the lack of larger facilities from which to deliver high volume services. As noted above the current model is based around GP-delivered services, rather than a more flexible and forward-looking model of multi-service delivery that facilitates a range of services being delivered from the same accommodation.

2.6.39 The existing Ringland Health Centre building is outdated and not fit for purpose; Particular areas of the building, such as the nursing bays, do not protect patient confidentiality. The existing infrastructure will be too costly to reconfigure in order to bring it to a standard which is suitable to deliver services for the 21st Century. There is significant backlog maintenance costs required to bring both premises up to current day standards.

2.6.40 The following summaries the constraints currently experienced by both practices:

Clinical Rooms

- No capacity within General Practitioner and Nurse consulting rooms
- Sharing of rooms
- No space for training, therefore unable to become a training practice at present
- Non availability of consulting rooms for General Practitioners
- Consulting rooms doubling up for different uses
- Consulting room are not Disability Discrimination Act compliant
- Current layout restrictive with small room sizes
- General Practitioners s have no means of escape from room with violent patients
- Minimal number of Treatment Rooms

Non Clinical

- Car parking facilities are limited
- No appropriate space for clinical waste
- Waiting rooms are restrictive in all buildings
- No appropriate area for quarantine and no appropriate route of exit

- Layouts are not conducive to either patient or staff confidentiality
- There is no baby changing facility
- Administration space is currently very limited
- No capacity to provide health promotion
- Ambulance access is inappropriate, patient has to be taken on stretcher out through the main waiting area
- Restrictive car parks with restrictive access for ambulances
- Staff facilities are limited with no secure staff facilities
- Lift only in one building

2.6.41 The information provided within this Case for Change demonstrates that the creation of a Health and Well-being Hub within Newport East NCN is a priority for the following reasons:

- The existing GMS services in Ringland Health Centre & Park Surgery are not sustainable in their current form.
- There is a risk of GMS contract resignation and the consequential service and financial risk of having to establish a Managed Practice / Practices.
- The existing facilities in Ringland Health Centre & Park Surgery are not sustainable in their current form.
- The constraints of the existing buildings do not allow for additional General Medical Services, GDS, Pharmacy, Community and Health and Well-Being Services to be expanded to meet the growing needs of the population, and in line with national and local strategies.

2.6.42 Section 2.8 which follows describes the project Investment Objectives and associated Benefits. This should be read in conjunction with the ***Health Impact Assessment which is attached at Appendix 2.***

2.7 Potential Scope

2.7.1 This section describes the potential scope of the project to meet the investment objectives and associated business needs:

- *Minimum scope* – essential or core requirements/outcomes
- *Intermediate scope* – essential and desirable requirements/outcomes
- *Maximum scope* – essential, desirable and optional requirements/outcomes.

2.7.2 The table that follows describes the potential scope against each continuum:

Minimum	Intermediate	Maximum
Retain existing services and upgrade existing estate to Condition B.	New Build GMS services only.	The provision of a Health and Well Being Centre including full range of Independent Contractor Services, ABUHB and Well-Being services.

2.8 Main Benefit Criteria

2.8.1 This section describes the main outcomes and benefits associated with the implementation of the potential scope in relation to business needs. Satisfying the potential scope for this investment will deliver the following high-level strategic and operational benefits. Benefits are expressed by investment objectives in the table below:

Investment Objective	Benefits
To support the co-location and of GP Practices within Newport East NCN	<ul style="list-style-type: none"> • Reduced duplication of scarce professional and specialist skills. • Improved recruitment and retention of professional staff. • Reduced reliance on agency and locum cover. • Improved training and development of junior medical staff. • Reduced delays for patients, right care in the right place. • Improves morale and motivation of professional staff.
To support the increased provision and improved integration of Health and Well Being Services within Newport East NCN	<ul style="list-style-type: none"> • Improved functionality and inter relationships between professional public sector and third sector services. • Reduced reliance on GP intervention. • Increase in social prescribing. • Minimises travel times for patients and their carers. • Improved access to a more comprehensive range of health and well-being services. • More reliable and robust local General Medical, primary care, community and social care services delivered through integrated teams with larger pools of staff. • Individuals receiving timely, responsive and proportionate services that avert crisis and promote independence • To address health inequalities in the local population
To address the significant estate infrastructure issues that exist at the Newport East NCN	<ul style="list-style-type: none"> • More appropriate environment for Health and Well-being services. • Provides a therapeutic environment that enhances the well-being of service users and carers. • Provides safe and appropriate settings for modern health care delivery. • Supports the rationalisation of the existing primary care and "Hospital" estate. • Complies with relevant Health and Safety regulations and building standards.
To support the effective use of clinical and non-clinical resources that are delivered within Newport East	<ul style="list-style-type: none"> • Improved clinical efficiency and productivity. • Reduced expenditure on Locums • Reduced waiting times for services. • Improved utilisation of assets. • Backlog Maintenance reduced. • Improved sustainability / energy efficiency. • Improved overall value for money. • Evidenced based design supports more efficient and effective working practices.

2.9 Main Risks and Countermeasures

2.9.1 The main business and service risks associated with the potential scope across

all the options for this project are shown below, together with their counter measures. In accordance with the ABUHB Corporate Risk Strategy, the Programme will use the National Patient Safety Agency (NPSA) risk matrix to score each risk based on the following simple calculation:

Potential Consequence x Likelihood of Adverse Outcome = Risk Score		
(Where consequence and likelihood are allocated a score of between 1 and 5)	1 - 3	Low risk
	4 - 8	Moderate risk
	8 - 12	High risk
	15 - 25	Extreme risk

Risk Category	Risk Description	Consequence 1-5	Likelihood 1-5	Risk Score	Mitigating Action Undertaken
Funding risk - Reduced availability of capital	May lead to a delay or reduction in scope of project	4	2	8	No contractual commitments will be made until affordability and availability of capital is assured.
Funding risk - Reduced availability of revenue funding	Insufficient funding available to implement new model	4	3	12	Scrutiny of revenue costs and improved utilisation of existing resources.
	BAU – Inability to sustain existing services	5	4	20	Key mitigation of service sustainability is an improved estate
Planning risk - planning constraints or issues relating to planning permission	May impede progression of preferred option	3	2	6	Early engagement with LA planning services and the local community.
Demand and usage risk	The size and capacity is not appropriate for eventual need	3	2	6	The preferred option will take into consideration future flexibility and the opportunity to 'right-size' at a later date to adapt to emerging and changing needs
	BAU will pose significant capacity issue for all services	4	4	16	Some services will need to limit access and / or provide services elsewhere
	New guidance / policy is issued	3	2	6	The preferred option will take into consideration

Risk Category	Risk Description	Consequence 1-5	Likelihood 1-5	Risk Score	Mitigating Action Undertaken
	requiring changes to working practices BAU would have difficulties adapting to changing policy	4	3	12	future flexibility and the opportunity to adapt to emerging and changing needs Some services will need to limit access and / or provide services elsewhere
Service Delivery risk	Lack of buy-in to new service model will result in not achieving predicted benefits and workforce efficiency savings	4	2	8	Full engagement with staff and key stakeholders is ongoing through the planning process
	Assumptions relating to technology and its potential impact under estimated	3	2	6	Ensure ICT infrastructure is designed to be flexible and resilient as possible.
	BAU will not have easy access to additional technology	3	3	9	May require significant IT improvements
	Staff are not appropriately trained and skilled in preparation for the service change	4	3	12	Ensure development of detailed workforce plans and early identification of training needs.
Affordability risk	Realignment of budgets does not provide anticipated level of savings	3	3	9	Budgetary forecasts are realistic and supported by detailed pay and non-pay costs. Income assumptions are realistic
	BAU – Inability to sustain existing services	5	4	20	Key mitigation of service sustainability is a new estate configuration
	Cost increases during design	4	3	12	Monitor and review design at all stage.

Risk Category	Risk Description	Consequence 1-5	Likelihood 1-5	Risk Score	Mitigating Action Undertaken
	development				Design to a cost. Strong project governance arrangements.
Implementation risk	Public and other external stakeholder support not secured	3	2	6	Extensive work undertaken with external stakeholders throughout the development of the project.
	UHB unable to deliver complex programme of change	3	3	9	Ensure project is adequately resourced with a clear project plan and strong project governance arrangements.

2.10 Constraints

2.10.1 The project is subject to following constraints:

- **Availability of capital** - In the current climate of NHS reform health services find themselves facing unprecedented efficiency savings, resulting in capital funding cuts that puts pressure on capital programmes for health, with many schemes competing for scarce funding. The availability of capital funding is therefore identified as a constraint which must be reflected in this OBC and the subsequent FBC document. All options will be rigorously tested for Value for Money in the OBC and alternative procurement strategies may have to be explored.
- **Site Constraints** – The development of new services on existing sites need to take account of potential other development priorities planned in the short to medium term and the effect on the wider area.
- **Revenue affordability** - The project must demonstrate revenue affordability and that sufficient savings will be achieved to justify any investment.
- **Ability to future proof against changing needs** - the design of any new facilities must be flexible and adaptable to take into account the changing needs of the organisation and future service delivery.
- **Timescale** – New services must be in place by autumn 2022 in line with Welsh Government expectations.
- **Workforce** - Ability to recruit additional staff and the mobility of the current workforce to change current working patterns. Potential need to remodel services within anticipated levels of resources and without the need for revenue investment.
- **Implementation** - A need to minimise disruption to services during the building

phases where existing sites are used.

2.11 Dependencies

2.11.1 The success of the project will be dependent on:-

- **Stakeholder Consultation** - The introduction of a new model of services will require consultation with existing staff and key users of the service. It is essential therefore to ensure a clear communication and engagement plan is in place so that stakeholders have a clear understanding of the model and can influence the way the new working environment is designed.
- **Leadership** - A commitment from the Board and within the Division is required to implement a shift to the agreed model of service delivery. Commitment to drive through the required changes is paramount, as a lack of this support to the project may lead to the inability to affect the change and lead to a failure of the project.
- **Transition** - A possible requirement for transitional costs in moving from one model of care to another.

3.0 ECONOMIC CASE

NON FINANCIAL OPTION APPRAISAL

3.1 Introduction

3.1.1 In accordance with the Capital Investment Manual and requirements of HM Treasury's Green Book (*A Guide to Investment Appraisal in the Public Sector*), this section of the OBC documents the wide range of options that have been considered in response to the potential scope identified within the Strategic Case.

3.2 Critical Success factors

3.2.1 The following Critical Success Factors (CSF) have been identified to allow evaluation of the potential options for the provision of improved Health and Well-being services in Newport East NCN.

CRITICAL SUCCESS FACTOR	CONSIDERATIONS
CSF 1 STRATEGIC FIT	<ul style="list-style-type: none">• Consistent with the national and regional strategies.• Consistent with local strategy as set out in the IMTP and the Clinical Futures Strategy.• Supports the HB in delivering some or all of its ten well-being objectives in supporting its contribution to the National Well being• Support the seven well-being goals and how this impacts on the health & well-being of the community• Can demonstrate how it's has applied the WBFGA Sustainable Development Principle and the five ways of working
CSF 2 ACCEPTABILITY	<ul style="list-style-type: none">• Has support from key internal and external stakeholders.• Compliance with legislation (service, workforce and building).• Meets expectations in terms of quality and accessibility.
CSF 3 SUSTAINABILITY	<ul style="list-style-type: none">• Allows for flexibility of use and adaptable to future changes.• Improves staff retention and recruitment.• Supports integrated working between professional health and social care teams and the 3rd Sector.
CSF 4 EFFICIENCY	<ul style="list-style-type: none">• Demonstrates effective use of resources.• Supports the delivery of efficient processes and systems.• Reduces duplication.• Facilitates economies of scale.• Supports space flexibility and agile working.
CSF 5 ACHIEVABILITY	<ul style="list-style-type: none">• Ability to keep existing services running during construction.• Likelihood to gain planning approval.• Likelihood to have facilities ready within programme milestones.• Minimises constraints on developing existing and new services.

These have been used alongside the investment objectives for the project to evaluate the long list of possible options.

3.3 Appraisal of the Long-List of Options

3.3.1 In line with the requirements of the Five Case Model the following framework of strategic options (or potential solutions) has been developed for initial assessment. It encompasses the five “categories of choice” recommended within the Five Case Model:

- Scope of service
- Estate solutions
- Service delivery
- Implementation/phasing
- Funding

Category of Choice	1	2	3	4
Service Scoping Options	<u>SO1</u> Business As Usual General Medical Services and other Health and Well Being services in the Newport East NCN area would continue to be provided as now	<u>SO2</u> Do Minimum Existing General Medical services in Newport East NCN are merged into one practice but not co-located	<u>SO3</u> Intermediate Existing General Medical Services in Newport East NCN are co-located but not merged	<u>SO4</u> Do Maximum Develop Integrated and co-located General Medical and Health and Well-being services
Estate Solutions	<u>ES1</u> Refurbishment of existing practice / health centre facilities.	<u>ES2</u> New build on existing Ringland site GMS services only.	<u>ES3</u> New Build on the Ringland Health Centre site. GMS and HWB services	<u>ES4</u> New Build on a non-NHS site in Newport East. GMS and HWB services
Service Delivery	<u>SD1</u> All services managed by ABUHB.	<u>SD2</u> Mix of ABUHB and Independent Contractor / GMS services	<u>SD3</u> All services externally managed.	
Implementation Options	<u>IO1</u> One Phase	<u>IO2</u> Phased		
Funding	<u>F1</u> Public Sector	<u>F2</u> Private Sector / Leased		

3.3.2 The evaluation has been undertaken using a simple scoring mechanism to record how well each option met the investment objectives and satisfied the critical success factors (CSFs).

- x - the option did not meet the investment objectives or the CSF's
- ✓ - the option did meet the investment objectives and satisfy the CSF's
- ? - the option partially met the investment objectives and CSF's but had an element of uncertainty

3.3.3 This has been done to reduce the long list to a shortlist of two or three other feasible and realistic alternative options which can then be assessed for value for money against the 'Business as Usual' benchmark.

Service Scoping Options

3.3.4 The following sections set out all of the service scoping options or categories considered applicable to this project:

Option SO1 "Business as Usual" - This option will maintain the existing level and disposition of GMS and Health and Well Being Services (HWBS) from a number of locations across the Newport East NCN area.

CSF1: STRATEGIC FIT Advantages	Disadvantages
	<ul style="list-style-type: none"> ▪ Does not align with national, regional and local strategies that propose integration of services. ▪ Do not directly enable the Health Board to deliver against its well-being objectives
CSF2: ACCEPTABILITY Advantages	Disadvantages
	<ul style="list-style-type: none"> ▪ Would not have the support of many stakeholders ▪ Would not improve the quality of existing services ▪ Would not address current infrastructure deficiencies ▪ Would not improve accessibility
CSF3: SUSTAINABILITY Advantages	Disadvantages
	<ul style="list-style-type: none"> ▪ The disparate nature of existing GMS services would not be improved and could threaten their future sustainability ▪ Does nothing to address the estate sustainability issues
CSF4: EFFICIENCY Advantages	Disadvantages

	<ul style="list-style-type: none"> ▪ Duplication of resources would continue ▪ There would be no economies of scale ▪ Service efficiency and effectiveness would not improve
CSF 5: ACHIEVABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> ▪ This option is achievable as nothing would change 	

Conclusion: This option is not viable and sustainable in the context of the need to address GMS, HWBS and Estate infrastructure issues within Newport East. It does not meet any of the investment objectives or critical success factors.

This option is rejected but is retained as a benchmark for cost comparison against other shortlisted options.

Option SO2 - Existing General Medical services in Newport East NCN are merged into one practice but not co-located.

CSF1: STRATEGIC FIT Advantages	Disadvantages
	<ul style="list-style-type: none"> ▪ Does not align with national, regional and local strategies that propose integration of services.
CSF2: ACCEPTABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> ▪ May have the support of some stakeholders ▪ May address some service quality issues 	<ul style="list-style-type: none"> ▪ Would not have the support of all stakeholders ▪ Would not improve the quality of all existing services ▪ Would not address current infrastructure deficiencies ▪ Would have little or no impact on accessibility
CSF3: SUSTAINABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> ▪ May address some GP sustainability issues 	<ul style="list-style-type: none"> ▪ The disparate nature of existing GMS and HWB services would not be improved.
CSF4: EFFICIENCY Advantages	Disadvantages
<ul style="list-style-type: none"> ▪ There may be some improvement in the efficiency of GP services 	<ul style="list-style-type: none"> ▪ Duplication of some resources would continue ▪ There would be no economies of scale ▪ Service efficiency and effectiveness would not markedly improve
CSF 5: ACHIEVABILITY Advantages	Disadvantages

<ul style="list-style-type: none"> ▪ This option is potentially achievable but would have very limited benefits 	
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Conclusion: This option does not meet all of the investment objectives or critical success factors. It offers some opportunity to improve the existing GP services but does little to improve the overall quality, sustainability and resilience of GMS and HWB services. Does nothing to improve integration and current GMS services would reject a merger.

This option is discounted

Option SO3 – Co-locate existing General Medical Services in Newport East.

CSF1: STRATEGIC FIT Advantages	Disadvantages
	<ul style="list-style-type: none"> ▪ Does not align with national, regional and local strategies that propose integration of GMS and HWB services.
CSF2: ACCEPTABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> ▪ May have the support of some stakeholders ▪ May address some infrastructure deficiencies ▪ Would improve the quality of some existing services 	<ul style="list-style-type: none"> ▪ Would not have the support of all stakeholders ▪ Would not improve the quality of existing HWB services ▪ Would not address all current infrastructure deficiencies ▪ Would have little impact on accessibility
CSF3: SUSTAINABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> ▪ May address some estate sustainability issues ▪ May help address some GMS sustainability issues 	<ul style="list-style-type: none"> ▪ The disparate nature of existing GMS and HWB services would not be improved.
CSF4: EFFICIENCY Advantages	Disadvantages
<ul style="list-style-type: none"> ▪ May improve economies of scale within GMS services and reduce some duplication ▪ May improve efficiency and effectiveness of GMS services 	<ul style="list-style-type: none"> ▪ Duplication of some resources would continue ▪ There would be little or no integration with other HWB services ▪ It would not maximise service efficiency and effectiveness
CSF 5: ACHIEVABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> ▪ This option is potentially achievable and could have some non-financial and financial benefits 	<ul style="list-style-type: none"> ▪ Capital unlikely to be available from WG to support this ▪ Probable need to develop via a 3PD with associated revenue implications ▪ Potential disruption to existing services ▪ Planning permission

	▪ Site availability
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Conclusion: This option does not meet all of the investment objectives or critical success factors but offers some opportunity to improve the existing estate and improve GP sustainability. Whilst GMS and HWB services would not be integrated this option would be possible.

This option is possible and is carried forward to the shortlist

Option SO4 - Develop Integrated General Medical and Health and Well-being services in one location.

CSF1: STRATEGIC FIT Advantages	Disadvantages
<ul style="list-style-type: none"> • Does align with National, Regional and Local Strategic Direction. • Clearly demonstrate a focus on the five ways of working with a particular focus on: Prevention, collaboration and long-term. • Supports the Health Board deliver against a number of its well-being objectives 	
CSF2: ACCEPTABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> ▪ Would have the support of the majority of key stakeholders internal and external ▪ Would improve quality of service provision ▪ Would improve accessibility for the majority of clinical services 	<ul style="list-style-type: none"> ▪ Some stakeholders may not support it ▪ Would require the relocation of some of the existing workforce
CSF3: SUSTAINABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> ▪ Supports the provision of more local health service provision ▪ Improves the sustainability of GMS services ▪ Improves flexibility of use ▪ Provides resilience ▪ Supports staff retention and recruitment 	
CSF4: EFFICIENCY Advantages	Disadvantages
<ul style="list-style-type: none"> ▪ Improves the utilisation of resources ▪ Improves integration between clinical services ▪ Would reduce duplication ▪ Would facilitate economies of scale 	<ul style="list-style-type: none"> ▪ May increase revenue costs
CSF 5: ACHIEVABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> ▪ Achievable from a service perspective subject to capital availability, planning permission and land availability ▪ Would not require 3PD support 	<ul style="list-style-type: none"> ▪ Requires significant capital investment ▪ Requires Planning Permission

	<ul style="list-style-type: none"> ▪ Could affect existing services and premises
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Conclusion: This option meets the investment objectives and critical success factors. It offers significant opportunities for the integration, development and improvement of GMS and HWB services within Newport East.

This option is possible and is carried forward to the shortlist.

Overall Conclusion: Service Scoping Options

The Table below summarises the assessment of each option against the investment objectives and critical success factors:

	SO1	SO2	SO3	SO4
CSF1: Strategic Fit	x	x	?	✓
CSF2: Acceptability	x	x	?	✓
CSF3: Sustainability	x	?	✓	✓
CSF4: Efficiency	x	?	?	✓
CSF5: Achievability	✓	x	?	?
Summary	Discounted but retained for appraisal purposes	Discounted	Shortlist	Shortlist

Estates Solution Options

3.3.5 This range of options considers potential estate solutions in relation to the preferred scope. The options are as follows:

Option ES1 - "Do Minimum", refurbish existing practice / health centre facilities.

CSF1: STRATEGIC FIT Advantages	Disadvantages
	<ul style="list-style-type: none"> ▪ Does not align with national, regional and local strategies that propose integration of services.
CSF2: ACCEPTABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> ▪ May have the support of some stakeholders ▪ May address some infrastructure deficiencies 	<ul style="list-style-type: none"> ▪ Would not have the support of all stakeholders ▪ Would not improve the quality of existing services ▪ Would not address all current infrastructure deficiencies ▪ Would have little or no impact on accessibility
CSF3: SUSTAINABILITY Advantages	Disadvantages

<ul style="list-style-type: none"> May address some estate sustainability issues 	<ul style="list-style-type: none"> The disparate nature of existing GMS and HWB services would not be improved.
CSF4: EFFICIENCY Advantages	Disadvantages
	<ul style="list-style-type: none"> Duplication of resources would continue There would be no economies of scale Service efficiency and effectiveness would not markedly improve
CSF 5: ACHIEVABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> This option is potentially achievable but would have very limited benefits Planning permission unlikely to be an issue 	<ul style="list-style-type: none"> Value for money, given the limited benefits Capital is unlikely to be available from WG Potential disruption to existing services

Conclusion: This option does not meet all of the investment objectives or critical success factors. It offers some opportunity to improve the existing estate but does little to improve the quality, sustainability and resilience of GMS and HWB services.

This option is discounted but is retained as a benchmark for cost comparison against other shortlisted options.

Option ES2 – New build on the existing Ringland Health Centre site. GMS services only.

CSF1: STRATEGIC FIT Advantages	Disadvantages
	<ul style="list-style-type: none"> Does not align with national, regional and local strategies that propose integration of GMS and HWB services.
CSF2: ACCEPTABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> May have the support of some stakeholders May address some infrastructure deficiencies Would improve the quality of some existing services 	<ul style="list-style-type: none"> Would not have the support of all stakeholders Would not improve the quality of existing HWB services Would not address all current infrastructure deficiencies Would have little impact on accessibility
CSF3: SUSTAINABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> May address some estate sustainability issues May help address some GMS sustainability issues 	<ul style="list-style-type: none"> The disparate nature of existing GMS and HWB services would not be improved.

CSF4: EFFICIENCY Advantages	Disadvantages
<ul style="list-style-type: none"> ▪ May improve economies of scale within GMS services and reduce some duplication ▪ May improve efficiency and effectiveness of GMS services 	<ul style="list-style-type: none"> ▪ Duplication of some resources would continue ▪ There would be little or no integration with other HWB services ▪ It would not maximise service efficiency and effectiveness
CSF 5: ACHIEVABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> ▪ This option is potentially achievable and could have some non-financial and financial benefits 	<ul style="list-style-type: none"> ▪ Capital unlikely to be available from WG to support this ▪ Probable need to develop via a 3PD with associated revenue implications ▪ Potential disruption to existing services ▪ Planning permission ▪ Site availability

Conclusion: This option does not meet all of the investment objectives or critical success factors but does offer some opportunity to improve the existing estate and improve the overall quality, sustainability and resilience of GMS service provision. GMS and HWB services would not however be integrated. WG capital is unlikely to be available therefore this option.

This option is possible and is carried forward to the shortlist.

Option ES3 – New Build on the Ringland Health Centre site. GMS and HWB services

CSF1: STRATEGIC FIT Advantages	Disadvantages
<ul style="list-style-type: none"> • Does align with National, Regional and Local Strategic Direction. • Supports the delivery of the Health Boards well-being objectives 	
CSF2: ACCEPTABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> • Would have the support of the majority of key stakeholders internal and external • Would improve quality of service provision • Would improve accessibility for the majority of clinical services • Retains some of the existing Tredegar Hospital from historical perspective 	<ul style="list-style-type: none"> ▪ Some stakeholders may not support it ▪ Would require the relocation of some of the existing workforce
CSF3: SUSTAINABILITY Advantages	Disadvantages

<ul style="list-style-type: none"> • Supports the provision of more local health service provision • Improves the sustainability of GMS services • Improves flexibility of use • Provides resilience • Supports staff retention and recruitment 	
CSF4: EFFICIENCY	
Advantages	Disadvantages
<ul style="list-style-type: none"> • Improves the use of resources • Improves integration between clinical services • Would reduce duplication • Would facilitate economies of scale 	<ul style="list-style-type: none"> • Retention of some of the existing estate could affect efficient functional relationships • Likely to increase revenue costs
CSF 5: ACHIEVABILITY	
Advantages	Disadvantages
<ul style="list-style-type: none"> • Achievable from a service perspective subject to capital availability, planning permission and land availability • Would not require 3PD support 	<ul style="list-style-type: none"> • Maintenance of existing services • May require additional land • Availability of capital.

Conclusion: This option meets the investment objectives and critical success factors. It offers significant opportunities for the integration, development and improvement of GMS and HWB services within Newport East.

This option is possible and is carried forward to the shortlist.

Option ES4 – New Build on a non-NHS site in Newport East. GMS and HWB services

CSF1: STRATEGIC FIT	
Advantages	Disadvantages
<ul style="list-style-type: none"> • Does align with National, Regional and Local Strategic Direction. 	
CSF2: ACCEPTABILITY	
Advantages	Disadvantages
<ul style="list-style-type: none"> • Could have the support of the majority of key stakeholders internal and external • Would improve quality of service provision • Could improve accessibility for the majority of clinical services 	<ul style="list-style-type: none"> ▪ Some stakeholders may not support it ▪ Would require the relocation of all of the existing workforce
CSF3: SUSTAINABILITY	
Advantages	Disadvantages

<ul style="list-style-type: none"> • Supports the provision of more local health service provision • Improves the sustainability of GMS services • Improves flexibility of use • Provides resilience • Supports staff retention and recruitment 	
CSF4: EFFICIENCY	
Advantages	Disadvantages
<ul style="list-style-type: none"> • Improves the use of resources • Improves integration between clinical services • Would reduce duplication • Would facilitate economies of scale 	<ul style="list-style-type: none"> • Likely to increase revenue costs
CSF 5: ACHIEVABILITY	
Advantages	Disadvantages
<ul style="list-style-type: none"> • Achievable from a service perspective subject to capital availability, planning permission and land availability • Would not require 3PD support 	<ul style="list-style-type: none"> • Will require additional land • Availability of capital • Planning permission

Conclusion: This option meets the investment objectives and critical success factors. It could offer significant opportunities for the integration, development and improvement of GMS and HWB services within Newport East and could provide a functional building. The availability of suitable additional land is however very questionable given the many attempts to address this over several recent years. There is also little to suggest that an alternative site would provide a better solution than the existing Ringland site which is adjacent to the Newport County Council Community Hub.

This option is discounted.

Overall Conclusion: Estate Solution Options

The Table below summarises the assessment of each option against the investment objectives and critical success factors:

	ES1	ES2	ES3	ES4
CSF1: Strategic Fit	X	?	✓	✓
CSF2: Acceptability	X	?	✓	x
CSF3: Sustainability	X	✓	✓	✓
CSF4: Efficiency	X	?	✓	✓
CSF5: Achievability	?	?	?	x

	ES1	ES2	ES3	ES4
Summary	Discounted but retained for appraisal purposes	Shortlist	Shortlist	Discount

Service Delivery

3.3.6 This range of options considers potential service delivery options in relation to the preferred scope. The options are as follows:

Option SD1 - Total provision by ABUHB, this option envisages that the Health Board will provide all relevant services.

CSF1: STRATEGIC FIT Advantages	Disadvantages
▪ May be advantageous for GMS services to be managed by ABUHB	▪ It would not be practical or indeed possible to provide Pharmacy and certain other independent contractor and local authority / 3 rd sector services
CSF2: ACCEPTABILITY Advantages	Disadvantages
	▪ Would not be acceptable to majority of stakeholders and would be resisted
CSF3: SUSTAINABILITY Advantages	Disadvantages
▪ May improve sustainability of GMS services	▪ There would be little or no practical benefit arising from ABUHB managing non-core services
CSF4: EFFICIENCY Advantages	Disadvantages
▪ Efficiency of GMS service may improve	▪ The efficiency of non-core services may be adversely effected
CSF 5: ACHIEVABILITY Advantages	Disadvantages
▪ Potentially achievable for GMS services	▪ Unlikely to be achievable for non-core services

Conclusion: This option is unlikely to be desirable and will not be practically achievable.

This option is discounted

Option SD2 - Mix of ABUHB and Independent Contractor / GMS services

CSF1: STRATEGIC FIT Advantages	Disadvantages
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▪ Consistent with National, Regional and Local Strategic Direction	
CSF2: ACCEPTABILITY Advantages	Disadvantages
▪ Will have the support of stakeholders	
CSF3: SUSTAINABILITY Advantages	Disadvantages
▪ Consistent with workforce planning assumptions ▪ Required for sustainability	
CSF4: EFFICIENCY Advantages	Disadvantages
▪ Provides most effective solution	
CSF5: ACHIEVABILITY Advantages	Disadvantages
▪ Largely reflects the status quo and is achievable	

Conclusion: This option is consistent with the investment objectives and critical success factors.

This option is possible

Option SD3 - This option envisages that all services are managed by the private sector

CSF1: STRATEGIC FIT Advantages	Disadvantages
	▪ This option is not consistent with National, Regional or Local strategic direction
CSF2: ACCEPTABILITY Advantages	Disadvantages
	▪ Has no support from key stakeholders and will not be supported by WG
CSF3: SUSTAINABILITY Advantages	Disadvantages
	▪ Reliance on the private sector ▪ Does not provide any flexibility ▪ Significant impact on existing staff
CSF4: EFFICIENCY Advantages	Disadvantages
	• Potential redundancy costs • Potential increased revenue costs
CSF5: ACHIEVABILITY Advantages	Disadvantages
▪ Potential no requirement to source	▪ May not meet programme timescales

alternative accommodation	due to the potential consultation issues and the process required to select a private sector partner
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Conclusion: This option does not meet many of the investment objectives or critical success factors and would not be supported by Welsh Government.

This option is discounted

Overall Conclusion Service Delivery Options

The Table below summarises the assessment of each option against the investment objectives and critical success factors:

	SD1	SD2	SD3
CSF1: Strategic Fit	x	✓	x
CSF2: Acceptability	x	✓	x
CSF3: Sustainability	x	✓	x
CSF4: Efficiency	x	✓	x
CSF5: Achievability	x	✓	x
Summary	Discount	Shortlist	Discount

Implementation Options

3.3.7 This section considers the choices for implementation in relation to the preferred scope, solution and method of service delivery.

Option IO1 - Single Phase, this option would consist of provision of a single new build solution.

CSF1: STRATEGIC FIT Advantages	Disadvantages
<ul style="list-style-type: none"> Complies with CSF - Delivers strategic change at the earliest opportunity 	
CSF2: ACCEPTABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> Complies with CSF 	
CSF3: SUSTAINABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> Complies with CSF 	
CSF4: EFFICIENCY Advantages	Disadvantages
<ul style="list-style-type: none"> Complies with CSF –likely to present the most cost effective solution 	

CSF 5: ACHIEVABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> Complies with CSF from a capital / building perspective 	<ul style="list-style-type: none"> Reliant on capital availability

Conclusion: This option meets all of the investment objectives and critical success factors.

This option is retained as the preferred Implementation option

Option IO2 - Phased development/occupation, this option would consist of the phased provision of new / additional services, potentially via a combination of new build and upgrade of existing accommodation.

CSF1: STRATEGIC FIT Advantages	Disadvantages
<ul style="list-style-type: none"> Complies with CSF 	<ul style="list-style-type: none"> May not deliver change soon enough
CSF2: ACCEPTABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> Complies with CSF 	
CSF3: SUSTAINABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> Complies with CSF 	
CSF4: EFFICIENCY Advantages	Disadvantages
	<ul style="list-style-type: none"> Unlikely to provide the most cost-effective or practical solution
CSF 5: ACHIEVABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> Could comply with CSF from a capital / building perspective 	<ul style="list-style-type: none"> Planning permission could be problematic Capital costs would be higher May not align with programme milestones

Conclusion: This option meets some of the investment objectives and critical success factors although it might not create the most efficient solution, could take longer to deliver all the benefits, may not align with programme milestones and may cost more.

This option is discounted

Overall Conclusion: Implementation

The following table summarises the assessment of each option against the investment objectives and critical success factors:

	IO1	IO2
CSF1: Strategic Fit	✓	✓
CSF2: Acceptability	✓	?
CSF3: Sustainability	✓	✓
CSF4: Efficiency	✓	x
CSF5: Achievability	?	x
Summary	Preferred	Discount

Funding Options

3.3.8 This section considers the choices for funding and financing in relation in relation to the preferred scope, solution, method of service delivery and implementation.

Option FO1 - Centrally funded Public Sector Capital.

CSF1: STRATEGIC FIT Advantages	Disadvantages
<ul style="list-style-type: none"> Complies with CSF - Delivers strategic change at the earliest opportunity 	
CSF2: ACCEPTABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> Complies with CSF 	
CSF3: SUSTAINABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> Complies with CSF 	
CSF4: EFFICIENCY Advantages	Disadvantages
<ul style="list-style-type: none"> Complies with CSF –likely to present the most cost effective solution 	
CSF 5: ACHIEVABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> Complies with CSF from a capital / building perspective 	<ul style="list-style-type: none"> Is reliant on capital availability

Conclusion: This is likely to present the most cost-effective solution subject to capital availability.

This option is retained as the preferred funding solution

Option FO2 - Private Sector Capital - Build and Lease. This assumes the construction of a new building or the upgrading of an existing non NHS facility, to a defined

specification, using private sector capital. All capital costs would be funded by the developer who would lease the facility over a defined lease term to the UHB. The leasing costs would be funded via the UHB.

CSF1: STRATEGIC FIT Advantages	Disadvantages
<ul style="list-style-type: none"> Complies with CSF 	
CSF2: ACCEPTABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> Complies with CSF 	<ul style="list-style-type: none"> May not be acceptable from an "Accounting Treatment" perspective
CSF3: SUSTAINABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> Complies with CSF 	<ul style="list-style-type: none"> Potentially less flexible than a NHS funded / owned solution
CSF4: EFFICIENCY Advantages	Disadvantages
<ul style="list-style-type: none"> Partly complies with CSF 	<ul style="list-style-type: none"> Would increase revenue costs
CSF 5: ACHIEVABILITY Advantages	Disadvantages
<ul style="list-style-type: none"> Complies with CSF from a capital / building perspective Does not rely on capital availability Potential for risk transfer 	<ul style="list-style-type: none"> May take longer due to the more complex procurement route

Conclusion: Whilst this option would increase revenue costs it does offer potential opportunities if public sector capital is not available

This option is possible

Overall Conclusion: Funding

The Table below summarises the assessment of each option against the investment objectives and critical success factors:

	FO1	FO2
CSF1: Strategic Fit	✓	✓
CSF2: Acceptability	✓	?
CSF3: Sustainability	✓	?
CSF4: Efficiency	✓	?
CSF5: Achievability	?	✓
Summary	Shortlist	Shortlist

3.4 Developing the Long List of Options: Inclusions and Exclusions

3.4.1 The long list has appraised a wide range of possible options. A summary of

inclusions, exclusions and possible options is given in the following table:

Options	Finding
1.0 Scoping Options	
SO1 – Business as Usual , General Medical Services and other Health and Well Being services in the Newport East area would continue to be provided as now.	Discounted - Does not satisfy any of the investment objectives or critical success factors, but is <u>retained as a benchmark for cost comparison against other shortlisted options.</u>
SO2 - Existing General Medical services in Newport East are merged into one practice but not co-located	Discounted - This option does not meet all of the investment objectives or critical success factors. It offers some opportunity to improve the existing GP services but does little to improve the overall quality, sustainability and resilience of GMS and HWB services. Does nothing to improve integration.
SO3 - Existing General Medical Services in Newport East are co-located	Possible - This option does not meet all of the investment objectives or critical success factors but does offer some opportunity to improve the existing estate, improve the overall quality of services, and address GMS sustainability. GMS and HWB services would however not be integrated. WG capital is unlikely to be available therefore requiring 3PD support and associated revenue funding.
SO4 - Develop Integrated General Medical and Health and Well-being services	Possible - This option meets the investment objectives and critical success factors. It offers significant opportunities for the integration, development and improvement of GMS and HWB services within Tredegar.
2.0 Estate Options	
ES1 - Do Minimum, Refurbishment of existing practice / health centre facilities.	Discounted - This option does not meet all of the investment objectives or critical success factors. It offers some opportunity to improve the existing estate but does little to improve the quality, sustainability and resilience of GMS and HWB services. <u>This option is discounted but is retained as a benchmark for cost comparison against other shortlisted options.</u>
ES2 - New build on Ringland Health Centre site. GMS services only.	Possible - This option does not meet all of the investment objectives or critical success factors but does offer some opportunity to improve the existing estate and improve the overall quality, sustainability and resilience of GMS services. GMS and HWB services would however not be integrated. WG capital is unlikely to be available therefore requiring 3PD support and associated revenue funding

Options	Finding
ES3 - New build on the Ringland Health Centre site, integrated GMS and HWB services	Possible - This option meets the investment objectives and critical success factors. It offers significant opportunities for the integration, development and improvement of GMS and HWB services within Tredegar and retains some of the existing building.
ES4 - New build on an alternative non-nhs site in Newport East	Discounted - This option meets the investment objectives and critical success factors. It could offer significant opportunities for the integration, development and improvement of GMS and HWB services within Newport East and could provide a functional building. The availability of suitable additional land is however very questionable given the many attempts to address this over several recent years. There is also little to suggest that an alternative site would provide a better solution than the existing Ringland site which is adjacent to the Newport County Council Community Hub.
3.0 Service Delivery Options	
SD1 - All services managed by ABUHB	Discounted - This option is unlikely to be desirable and will not be practically achievable.
SD2 - Mix of ABUHB and Independent Contractor / GMS services	Possible - This option is consistent with the investment objectives and critical success factors.
SD3 - All services externally managed	Discounted - This option does not meet many of the investment objectives or critical success factors and would not be supported by Welsh Government
4.0 Implementation Options	
IO1 - Single Phase	Possible - This option meets the majority of the investment objectives and critical success factors.
IO2 - Phased development/occupation	Discounted - This option meets some of the investment objectives and critical success factors although it might not create the most efficient solution, could take longer to deliver all the benefits, may not align with programme milestones and may cost more.
5.0 Funding Options	
F1 - Public Sector Capital	Possible - This is likely to present the most cost-effective solution.
F2 - Private Sector Capital - Lease by ABUHB	Possible - This could present a solution in the absence of public sector capital but would put added pressure on revenue budgets

3.5 Short-listed Options

3.5.1 The possible' options identified above have been carried forward into the short list for further appraisal and evaluation. All the options that were discounted as impracticable have been excluded at this stage.

3.5.2 On the basis of this analysis, the recommended short list for further appraisal within the OBC is as follows:

Service Options	Estate Solution	Service Delivery	Implement ation	Funding
Option 1 Business as Usual - General Medical Services and other Health and Well Being services in the Newport East would continue as now	Upgrade of existing premises	ABUHB / Independent Contractors	Phased	Public Sector Capital
Option 2 Do minimum - General Medical Services co-located and other Health and Well Being services in the Newport East area continue as now	New Build GMS only	ABUHB / Independent Contractors	Single Phase	Private Sector Capital/ leased
Option 3 - Develop Integrated General Medical and Health and Well-being services	New Build on the Ringland site	ABUHB / Independent Contractors	Single Phase	Public Sector Capital

Option 3 is the preferred way forward utilising public sector capital.

3.6 Qualitative Benefits Appraisal of the Shortlisted Options

3.6.1 As required by the Five Case Model the short list was then appraised using the Critical Success Factors in section 3.2. These have been discussed and weighted for use in appraising the options as shown in the table below:

CRITICAL SUCCESS FACTOR	CONSIDERATIONS	WEIGHTING
CSF 1 STRATEGIC FIT	<ul style="list-style-type: none"> Consistent with the national and regional strategies. Consistent with local strategy as set out in the IMTP and the Clinical Futures Strategy. Supports the HB in delivering some or all of its ten well-being objectives in supporting its contribution to the National Well being Support the seven well-being goals and how this impacts on the health & well-being of the community Can demonstrate how it's has applied the WBFGA Sustainable Development Principle and the five ways of working 	10
CSF 2 ACCEPTABILITY	<ul style="list-style-type: none"> Has support from key internal and external stakeholders. Compliance with legislation (service, workforce and building). 	20

	<ul style="list-style-type: none"> Meets expectations in terms of quality and accessibility. 	
CSF 3 SUSTAINABILITY	<ul style="list-style-type: none"> Allows for flexibility of use and adaptable to future changes. Improves staff retention and recruitment. Supports integrated working between professional health and social care teams and the 3rd Sector. 	30
CSF 4 EFFICIENCY	<ul style="list-style-type: none"> Demonstrates effective use of resources. Supports the delivery of efficient processes and systems. Reduces duplication. Facilitates economies of scale. Supports space flexibility and agile working. 	25
CSF 5 ACHIEVABILITY	<ul style="list-style-type: none"> Ability to keep existing services running during construction. Likelihood to gain planning approval. Likelihood to have facilities ready within programme milestones. Minimises constraints on developing existing and new services. 	15

3.6.3 The ranking, weighting and scoring exercise would have been carried out by a group of relevant stakeholders via a workshop but due to the Covid 19 restrictions this has had to be done remotely.

3.6.4 The criteria used to score the non-financial options is shown in the table below:

Assessment	Score
Does not meet criteria in any way	1
Does not meet significant element of the criteria	2
Goes some way to meeting the criteria	3
Goes a long way to meeting the criteria but some remain unresolved	4
Meets criteria in full	5

3.6.5 All the individual score sheets were aggregated to give an overall result for the options. The outcome of the workshop is shown below:

CSFs		Option 1		Option 2		Option 3	
	W	S	T	S	T	S	T
Strategic Fit	10	9	90	10	100	16	160
Acceptability	20	6	120	10	200	17	340
Sustainability	30	7	210	8	240	17	510
Efficiency	25	9	225	9	225	15	375
Achievability	15	15	225	13	195	15	225
Totals	100	31	645	37	765	65	1385
Ranking			3		2		1

3.6.6 As indicated in the table above Option 3 ranks higher than the other options and is the preferred option from a non-financial / qualitative perspective.

3.7 Economic Appraisal of Shortlisted Options

3.7.1 This section describes the economic appraisal that has been undertaken to assess the overall value for money to the NHS of each short listed option. A discounted cash flow for each of the options has been undertaken over 60 years (plus initial construction) in line with the requirements of HM Treasury and the Green Book.

3.7.2 Both the Net Present Cost (NPC) and Equivalent Annual Cost (EAC) have been calculated. The EAC is used for the main basis of comparison in this case due to the different life spans of the options, as it converts the NPC to an annual comparative figure.

3.7.3 The following sections of this chapter summarise the cost categories and values associated with each short listed option that are input into the cash flow model, in order to calculate net present costs and equivalent annual costs. The categories are:

- Capital costs.
- Optimism Bias
- Lifecycle costs.
- Revenue costs.

CAPITAL COSTS

3.7.4 The costs of each option have been quantified and compared over the life of the scheme using discounted cash flow techniques. Costs (i.e. cash flows) have been assigned to each year of the scheme and have been subjected to the technique of discounting which takes account of different timings of cash flows for options, so that more weight is given to earlier costs than to later costs.

3.7.5 The discounted cash flows for each year of the scheme are added together to calculate the Net Present Cost (NPC) of total expenditure. An alternative measure is the Equivalent Annual Cost (EAC) which is the total discounted cash flow divided by the sum of the discount factors, to give an average discounted cost per year. This allows schemes that span different time periods to be compared.

3.7.6 The general principles and assumptions used in this business case are:

- The economic appraisal has been completed using the Treasury developed Generic Economic Model (GEM) this is a standard template now used for all business cases.
- The economic appraisal focuses on the real economic consequences to the public sector as a whole. Indirect taxes (e.g. VAT), non-cash transfer (e.g. depreciation) and income from public sector bodies is excluded.
- The initial capital costs for each option outlined in the OB forms are based on BCIS PubSec Index Level 270.
- No residual values have been assumed at the end of the appraisal period for buildings, however, residual values have been included for equipment lifecycle replacements.

- Optimism Bias has been calculated and profiled for each option in line with Treasury Guidance and included in the GEM.
- Net Present Costs and Equivalent Annual Costs have been calculated for all short listed options. Options 1 and 3 are appraised over a 60 year period plus the construction period, with Option 2 appraised over a 25 year period (plus construction) to reflect the assumed lease term.

Capital Outturn Forecasts

3.7.7 The OBC Supply Chain Partner (SCP), Kier Construction, have used the schedules of accommodation to develop the functional content, high level design and associated risk issues for each short listed option. The following points should be noted:

- **Option 1** - Has been developed from the Estates annual returns quantifying backlog maintenance requirements for the Health Board relating to the existing GP facilities and Health Board premises. No capital costs
- **Option 2** – Capital costs are included for land purchase and associated enabling works. The new building is proposed to be built via a Third Party Developer. In line with IFRS16 treatment of leases, the annual rental payments have been included up-front within the initial capital costs in the GEM.
- **Option 3** - Capital cost estimates are based on 1:200 layouts, detailed plans and WG advice. They include for the demolition of the existing Ringland Health Centre, temporary reprovision, a replacement MUGA owned by NCC and land acquisition

3.7.8 The total capital costs, excluding sunk costs (which have already been funded by WG for preparation of this business case – as per Appendix 3), for all options are shown in the table below with full details contained in the OB forms in the Estates Annex:

	Option 1 - "Do Minimum"- Upgrade Existing Premises £000	Option 2 – New Build 3PD (land and enabling costs only) £000	Option 3 – New Build £000
Works Cost	877	2,386	14,853
Fees	154	473	1,855
Non-Works	642	1,214	2,214
Equipment	0	0	409
Contingency	167	424	1,998
Sub total	1,840	4,497	21,329
VAT*	189	885	4,192
Other – Capitalised Lease Costs	0	5,683	0
Total	2,029	11,065	25,521

* VAT recovery at this stage has been limited to 75% recovery against professional fees. VAT recovery against SCP costs will be assessed by the Health Board’s VAT advisors on agreement of target cost, and will be advised as part of the FBC process.

Capital Disposals

3.7.9 Alway Clinic and Clytha Clinic will be disposed of as a consequence of this development. The estimated value of Alway Clinic is circa £87k, and Clytha £250k. Up to date market valuations for both properties will be obtained from the District Valuer during the FBC stage of the project.

OPTIMISM BIAS

3.7.10 Optimism Bias has been included for the purpose of the economic appraisal in line with Department of Health guidance and templates. The Health Board Project Team, Supply Chain Partner, Project Manager and Cost Advisor have been involved in the evaluation and calculation of the same. The table below sets out the Optimism Bias percentage calculated and the resulting Net Present Cost applied for each option:

Calculation of Optimism Bias for Shortlisted Options

Option 1 - "Do Minimum"		Option 2 - New Build 3PD		Option 3 - New Build	
%	£000	%	£000	%	£000
16.32	300	16.32	734	5.35	1,142

3.7.11 The supporting schedules for all options are provided in **Appendix 4**. The results have also been included within the GEM appraisal included at **Appendix 5**.

3.7.12 It can be seen from the table above that whilst the level of risk is lower in option 3 the financial value is higher due to the higher capital costs.

Lifecycle Costs

3.7.13 Capital investment appraisals are required to demonstrate the full costs for all options for the life of the asset. The replacement costs of the building components can run to many times the initial capital cost. The design of the building and its utilisation can also influence the degree to which costs can differ between options. Lifecycle costs have been calculated by the Cost Advisors, verified internally, and are included in the discounted cash flow calculations.

3.7.14 Lifecycle costs for Equipment have been estimated by the Health Board based on average useful lives. The table below contains a summary of the lifecycle costs for each option with the detailed workings contained in the Estates Annex. Already existing HB equipment and IT infrastructure (and their associated lifecycles) are assumed to be the same for all options so have been excluded from the evaluation. Option 2 assumes that all equipment and IT is provided by the third party so does not incur a cost to the organisation. Similarly, the building lifecycle costs for this option would be also be borne by the third party.

Lifecycle Costs of Shortlisted Options

	Option 1	Option 2	Option 3
	£000	£000	£000
Building Lifecycle Costs	2,731	n/a	13,005
Equipment Lifecycle Costs	0	n/a	2,124
ICT Lifecycle Costs	0	n/a	2,033
Total Lifecycle Costs	2,731	n/a	17,162
Discounted Lifecycle Costs	933	n/a	5,483
Discounted EAC	35	n/a	205

3.7.15 A LCC Report has not been prepared for Option 2 as the Capital Costs included for that option only include for demolition of the existing Health Centre and a proportion of the site clearance, car park and access road into the site. The backlog maintenance is less as well because the existing Health Centre is demolished but we are not including the actual new building or the majority of the site road and paving works. Therefore a LCC report will not provide meaningful information regarding asset replacement.

REVENUE COSTS

3.7.16 The revenue costs presented are derived from a detailed analysis undertaken on:

- Estate and Non-pay implications
- Independent Contractor Income
- Workforce requirements

3.7.17 The assessed annual revenue costs for each option are outlined in the table below. A detailed analysis of the revenue costs of each option is also included in **Appendix 6**:

Economic Case	Option 1 Business as usual	Option 2 "Do Minimum"	Option 3 New Build – Yr 5 Recurrent
Year 5 Recurrent Costs	£000	£000	£000
GMS Non Pay Practice Costs			
Rent (*capitalised for option2)	25	0 *	0
Rates	19	49	18
Other Non-pay (maintenance, utilities, security, cleaning)	39	101	30
Total GMS Costs	83	150	48
Other H&WC Running Costs			
Workforce (Non-GMS)	0	0	55
GDS Additional contract costs	260	260	260
Rates	22	22	102
Overhead running cost (excluding rates)	93	93	215

Total of Other Running Costs	375	375	632
Total Costs (Non Pay GMS Cost & Other H&WC Running Costs)	458	525	680
Income from Independent Contractors (rates, maintenance, cleaning, utilities)	8	93	47
Rent from Independent Contractors	0	0	16
Total Income	8	93	63
Net Cost to the ABUHB	450	432	617

3.7.18 Option 1 identifies the current baseline cost of £450k, following the necessary exclusion of VAT. All other option costs noted above exclude VAT for the purposes of the Economic Case. This baseline position assumes that the provision of GDS is a priority for the Health Board, and will result in a cost pressure to the organisation regardless of the preferred option.

Incremental Revenue Position

3.7.19 The recurring effect of the incremental costs of each option against baseline is illustrated in the Table below:

Year 5 Recurrent	Option 1 - "Do Minimum"	Option2 - New Build 3PD	Option 3 - New Build
	£000	£000	£000
GMS Non Pay Practice Costs			
Rent	0	(25)	(25)
Rates	0	30	(1)
Other Non-pay maintenance, utilities, security, cleaning)	0	62	(9)
Total GMS Costs	0	67	(35)
Other H&WC Running Costs			
Workforce (Non-GMS)	0	0	55
GDS Additional contract costs	0	0	0
Rates	0	0	80
Overhead running cost (excluding rates)	0	0	122
Total of Other Running Costs	0	0	257
Total Costs (Non Pay GMS Cost & Other H&WC Running Costs)	0	67	222
Income from Independent Contractors (rates, maintenance, cleaning, utilities)	0	85	39
Rent from Independent Contractors	0	0	16
Total Income	0	85	55
Net Cost to the ABUHB	0	(18)	167

3.7.20 Individual elements of this analysis are described in more detail below and in **Appendix 6**:

- **Workforce** – The only direct Workforce implications relate to the planned appointment of a Centre Manager in Option 3.
- **Other Non-Pay costs / Utilities/ Maintenance / Rates** - Costs have been included based on existing costs of similar properties and the calculated floor area of the proposed new build and new build / refurb options.
- **Income** – This includes an assessment of the rent received now and that will be received from Independent Contractors in the new building. The latter is based on DV assessed market rates. It is also assumed that Independent Contractors will pay for rates and utility costs based on floor area utilised.

Net Present Cost Analysis

3.7.21 The GEM, discounted cash flow analysis, has been carried out for each option using the capital and revenue costs shown in the previous tables of this chapter. Summary outcome reports are included in **Appendix 5**. The following table summarises the results of the analysis on both a NPC and EAC basis due to the differing life spans of each option:

Summary Outcome of GEM for Shortlisted Options

	Option 1- Do Minimum		Option 2 – 3PD New Build		Option 3 - New Build	
	Total Cost	NPC	Total Cost	NPC	Total Cost	NPC
	£000	£000	£000	£000	£000	£000
Capital Costs	2,140	2,038	10,914	10,206	22,470	21,066
Capital Lifecycle Costs	2,731	932	0	0	17,162	5,483
Property Disposals	0	0	0	0	(337)	(296)
Revenue Costs including Lifecycle	27,310	11,007	11,128	6,979	37,759	14,888
Total Costs	32,181	13,977	22,042	17,185	77,054	41,141
EAC		524		940		1,536
Rank		1		2		3

3.7.22 Whilst Option 1 is more favourable in this analysis it does not achieve any of the benefits that are linked to the Investment Objectives. Option 2 does support efforts being made to sustain GMS services in Newport but does nothing to integrate those services with other health and social care services.

3.8 Risk Appraisal

3.8.1 This sub-section quantifies the risks associated with each of the short-listed options. This is so that the economic appraisal between the short listed options can properly reflect the risk differentials between the different options. The section outlines the methodology used to derive the risks.

Capital Risks

3.8.2 Project risk registers have been developed for the options and have been used as a basis to quantify risks for inclusion on the OB forms. The cumulative value of quantified risks have then been included within the capital costs and shown as either

SCP or Health Board risks within the OB forms. This information is contained in the Estates Annex.

3.8.3 Further work was carried out to identify the level of Optimism Bias for the project, as discussed previously in this chapter, using the Department of Health templates and guidance. The table below summarises the results of this work:

Capital Risks of the Shortlisted Options

	Option 1- "Do Minimum"	Option 2 – New Build 3PD	Option 3 - New Build
	£000	£000	£000
Quantified Risk Contingency	167	424	1,998
Optimism Bias	300	734	1,142

Revenue Related Risks

3.8.4 Individual risks from the risk register have been analysed in a workshop to derive an expected value for each by determining the probability of occurrence, the likely financial impact and the timeframe of the impact in order to derive an NPC of expected value. As the options have differing lives the NPC has been converted to an EAC to enable comparison. The results from the exercise are shown in the table below with full details shown in **Appendix 5**.

	Option 1- Do Minimum	Option 2 – New Build 3PD	Option 3 - New Build
	£000	£000	£000
Total Revenue Risks (NPC)	2,220	0	0
Total Revenue Risks (EAC)	82	0	0
Rank	3	1	1

3.8.5 The assessment of revenue risks has focused for options 1 on the potential future fragility of GP services in Newport East, i.e. Park Surgery and Ringland. For the latter it is considered that there could be a real risk that it may have to become a managed practice with associated additional costs.

3.9 Sensitivity Analysis

3.9.1 Sensitivity analysis has been undertaken to determine the robustness of the results of the appraisal. Details of these analyses are included within the GEM model.

3.9.2 The Project Team considered the main assumptions made in the OBC and modelled the following assumptions to illustrate the impact on movements in capital, revenue costs and activity:

Sensitivity 1 – Initial capital costs increase by 10% during construction due to changes in legislation and costs of materials.

Sensitivity 2 – Rental costs have to be waived for all Independent Contractors.

Sensitivity 3 – Utility costs increase by 20%.

3.9.3 The outcomes of the sensitivity analysis are shown in the table below:

Sensitivity Analysis Summary	Option 1- Do Minimum		Option 2 – New Build 3PD		Option 3 - New Build	
	NPC	EAC	NPC	EAC	NPC	EAC
	£000	£000	£000	£000	£000	£000
Base Case	13,977	524	17,185	940	41,141	1,536
Rank	1		2		3	
Sensitivity 1 Initial Capital Costs increase by 10%	14,181	532	17,754	971	43,248	1,614
Rank	1		2		3	
Sensitivity 2 Rental costs waived for Independent Contractors	13,977	524	17,185	940	41,509	1,549
Rank	1		2		3	
Sensitivity 3 Utilities Costs Increase by 20%	14,100	529	17,287	945	41,352	1,544
Rank	1		2		3	

3.9.4 The table illustrates that none of the tested sensitivities change the ranking of the options in any way.

3.10 Overall Conclusion of the Economic Appraisal

Results of the Economic Appraisal:

Evaluation Results	Option 1- "Do Minimum"	Option 2 – New Build 3PD	Option 3 - New Build
GEM Economic Appraisal	1	2	3
Non-Financial Benefits Appraisal	3	2	1
Revenue Risk Appraisal	3	1	1
Overall Rank	3	1	1

3.10.1 Option 3 is the preferred option by virtue of the fact that is the only option that meets the investment objectives of the project. Option 1 does nothing to address existing service deficiencies in the Newport East area and Option 2 does nothing to

integrate services and to provide a broader / expanded range of local health care provision.

3.10.2 The Financial Case in section 5.0 is based on the capital costs and revenue costs of Option 3.

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4.0 COMMERCIAL CASE

4.1 Introduction

4.1.1 This section of the Outline Business Case (OBC) outlines the proposed deal in respect of the preferred option outlined in the Economic case.

4.2 Potential for Risk Transfer

4.2.1 The general principle is that risks should be passed to “the party best able to manage them”, subject to value for money (VFM). The Health Board has carefully considered those risks best placed with the SCP and those it will bear itself. This has been achieved at OBC stage through a series of structured risk workshops involving the Health Board, SCP, Project Manager and Cost Advisor. Further information on the proposed Risk Management Strategy for the project, together with the quantified risk register has been included in the Estates Annex.

4.2.2 Under the Designed for life: Building for Wales Framework, which is described at length in the following section of the Procurement Strategy, the NEC 3 Engineering & Construction (ECC) form of contract is used. The Engineering & Construction contract is a “collaborative” contract that requires each project to include a Risk Register with risk allocated to the party best able to deal with it. The early involvement of a Supply Chain Partner means that they are fully briefed about risks in the project and are better placed to accept ownership and suitably mitigate and manage risks than what would normally be the case under a more traditional form of contract.

4.2.3 The table below shows how the project risks might be apportioned under a predominantly Public Capital Funded Procurement. Risk is currently costed at £ 1,998,550 exc. VAT for the preferred option.

Risk	Potential Allocation		
	ABUHB	SCP	Shared
Design			Y
Site Availability	Y		
Planning	Y		
Approval and Funding	Y		
Construction		Y	
Technical Commissioning		Y	
Operational Commissioning	Y		
Availability of Building		Y	
Operating Risk	Y		
Revenue Risk	Y		
Technological and Obsolescence	Y		
Legislative Change	Y		

The final risk allocation to be agreed for Stage 4 will be developed between all parties during the Stage 3 FBC period.

4.3 Required Services

4.3.1 This OBC states a requirement for the delivery of a Health and Well-Being Centre (HWBC) in Newport East under the NEC3 Engineering & Construction (ECC) Form of Contract (Option C) and Designed for Life: Building for Wales Framework.

4.3.2 A Schedule of Accommodation and Operational policies are available to support the functional content, based on Health building notes and latest available guidance. A full copy of the latest version of the Schedule of Accommodation is included as an appendix to the Estates Annex.

Design Considerations

4.3.3 As part of the Health Boards brief, a comprehensive Schedule of Accommodation has been prepared to inform the concept design for the HWBC.

4.3.4 To this end 1:200 layout plans have been prepared in full consultation with the Health Board end users and relevant stakeholder groups. The 1:200 plans illustrate the critical operational adjacencies in order to set the building footprint requirements and size and massing of the building for planning purposes.

4.3.5 In addition a site plan and elevations have been developed to inform the planning process. Further details relating to the specific design proposals are included in more detail within the Estates Annex. The Outline Planning Application for the project has been submitted.

ICT Infrastructure

4.3.6 ICT infrastructure requirements have been considered within the building with provision allowed for 2Nr IT hub rooms. Initial discussions have been held with the Health Board IT team. ICT design proposals will be further developed into a detailed design solution at Full Business Case Stage.

Equipment

4.3.7 A high level list of equipment was provided within the Health Boards original brief and this will be further developed into room data sheets during the FBC.

4.4 Proposed Charging Mechanisms

4.4.1 For the HWBC development there will be no ongoing service and therefore no recurring charges by the SCP following completion of the hospital building.

4.5 Proposed Contract Length

4.5.1 The overall programme is designed to allow the building to be completed as soon as possible as per Welsh Government funding requirements.

4.5.2 In terms of programme management for Stage 3, the SCP will submit a draft programme to the Employer and Project Manager for consideration in relation to the programming of the works for stage 3 / FBC. The SCP will also submit an overall programme for the provision of the works at Stage 4, 5 and 6, however it is noted that this will still be indicative at this stage and subject to further development during the FBC period.

4.5.3 The programme will fully comply with the requirements of the NEC3 ECC contract and contain a reasonable programme of activities with a Completion Date for Stage 3/FBC identified. The accepted programme will be required to be issued by the SCP to the Project Manager on a monthly basis for acceptance. It will need to include a mark-up of actual progress achieved in the month, in order to monitor progress as work proceeds.

4.5.4 The above process will be replicated at the Stage 4 Contract Stage In order to robustly manage the programme to ensure timely delivery of the project.

4.6 Proposed Key Contractual Clauses

4.6.1 The contract will be in accordance with the All Wales Designed for Life 4 Building for Wales Framework. The contract will be the NEC 3 Form of Contract. The conditions of contract are the core clauses and the clauses for main Option C: Target Contract and Secondary Options – X1, X2, X4, X5, X7, X15, X16, X18, Y(UK2), Y(UK3) and Z of the NEC Engineering and Construction Contract (April 2013), The additional Z clauses comprise the standard Designed for life: Building for Wales Framework amendments.

- This contract is based on the following key principles:
- Clarity – The Contract is written in plain language
- The Risk Register is a key project and contract management tool
- Foresight and Early Warning Notifications
- A Target Cost and Cost not to be exceeded.
- Timely two-way communication
- Compensation Events
- Monthly Accepted Programme is used as a key project and contract management tool

4.6.2 Key external professional roles appointed on behalf of the Employer include, direct client appointments for the Project Manager and Supervisor. A Cost Advisor will also be appointed to support the Project Manager and Health Board.

4.7 Personnel Implications (including TUPE)

4.7.1 It is anticipated that TUPE (Transfer of Undertaking and Protection of Employee) will not apply to this investment as there is no change to the employing organisation. However there may be an implication for some staff in terms of change in location of employment. This will be managed using the Health Boards management of Change Policy.

4.8 Procurement Strategy

4.8.1 The HWBC development, post OBC approval, will fall within the terms of the new All Wales Designed for Life 4 Building for Wales Framework.

4.8.2 Shared Services – Facilities – Estates Development Framework managers have participated in the development of the Outline Business case.

4.8.3 The Health Board had appointed External Project Managers and External Cost Advisers.

4.8.4 In terms of procurement, getting to the Target Price agreement is the most difficult stage of the whole Designed for Life: Building for Wales Framework process. There are conflicting objectives and the process requires firm management and significant negotiation.

4.8.5 The Target Price (total Of The Prices) will be established towards the end of the FBC stage. Prior to this "a price not to be exceeded" will have been agreed between the Health Board and the SCP and will have been included in the FBC submission to WG. While approval to the FBC is awaited, the total Of The Prices for the Stage 4 Contract is finalised and agreed and all necessary contractual documentation drawn up in readiness (once approval is received) for a speedy exchange of contracts and start on site.

Design Completion

4.8.6 It is a requirement of the Designed for Life Framework that 70-80% of the design (for each element including engineering services) should be progressed and completed at FBC. This has been clarified to mean the achievement of RIBA Stage 4. It does not mean 70-80% cost certainty as this should have been achieved earlier in the process. It is expected that good co-ordination of the building enclosure, structure and engineering services are part of this requirement.

4.8.7 The purpose of the requirement for 70-80% design completion is to ensure that robust market testing of works packages can take place to ensure that the "price not to be exceeded" in the FBC is sound and that everyone can have confidence in it. This level of design should also ensure there are no delays to construction activity because of incomplete or uncoordinated design proposals.

4.8.8 It is difficult to measure design completion. However, to assist this, the SCP will be required to provide detailed design sub-programmes linked back to the Accepted programme and the RBA plan of Work Stages showing design activities carried out by the design team within the supply chain. The supply chain comprises: architects, Civil and Structural Engineers and Building Service Engineers. The provision of such programmes will assist in identifying the key deliverables in achieving 70-80% design completion. In addition, an assessment of the design fee expended at completion of FBC as a proportion of the total fee will provide a supplementary "rule of thumb" guide as to whether the targeted level of required design completion has been achieved.

Target Price

4.8.9 The key to compiling the Target Price / total of the Prices is clearly stated in Clause 52.1 of the NEC3 Engineering & Construction Contract, which states that Defined Cost includes only amounts calculated using:

- Rates and percentages stated in the Contract Data
- Competitively targeted prices
- Other amounts at open market rate

With deductions for all:

- Discounts

- Rebates
- Taxes which can be recovered

The percentages stated in the contract Data would be:

- Direct Fee
- Subcontracted fee
- Working Area overheads
- Manufacture and fabrication overheads
- Design overheads

NEC Contract Data Rates and Percentages

4.8.10 At framework level, rates for the following cost centres have already been agreed:

- All pre-construction staff involved in taking forward the design to approval of Full Business Case. These rates will be adjusted annually in accordance with the Average Earnings Index, as confirmed by NWSSP-FS.
- All working Areas based staff – These rates will be used to cost Preliminaries. These rates will be adjusted annually in accordance with the Average Earnings Index, as confirmed by NWSSP-FS.

Competitively Tendered Prices

4.8.11 The elements essential to the successful conclusion of this process are dependent upon sufficient time being allowed for:

- Design to advance to a minimum of 70-80% completion;
- Comprehensive and complete tender documentation to be prepared;
- Tenderers to prepare their bids;
- Proper evaluation and negotiation with tenderers.

Open Market Rates

4.8.12 It is widely accepted that there will be elements of the work that are not competitively tendered. However, the extent of elements not competitively tendered will be limited to no more than 30% of the total target price. The SCP will be required to demonstrate to the Cost Advisor that “open market rates” are comparable to those that could be obtained in competitively tendered circumstances. This can be clearly demonstrated by benchmarking against other SCP’s or projects or by demonstrating how best value for money will accrue to the project.

Procurement Procedure

4.8.13 At commencement of FBC stage, a procurement strategy will be produced by the SCP and agreed with the Project manager. This will identify how the project is to be broken down into work packages and how each is to be procured. The Procurement Procedure or Strategy will be required at commencement of FBC. This is especially important where n-house organisations are to be utilised that may not be subject to

market testing. Failure to follow this procedure may result in Disallowed Cost being levied upon the SCP.

4.8.14 The Project Cost Plan will also be re-cast at this stage, to reflect the cost of the work packages (identified in the procurement procedure) from the previous elemental breakdown. Dependent upon the number of work packages subject to market testing the Project Risk Register may also need to be revised to suit.

4.8.15 Each of the works package elements in the Cost Plan should reflect the total expected cost of the works package aftermarket testing. They should not include any SCP design costs but may include subcontract design costs.

4.8.16 Sufficient time will be required to be built into the Accepted Programme for design to be advanced to a stage where clear and meaningful tender documentation can be drawn up to allow robust market testing to take place.

4.8.17 A minimum of three bids per works package should be obtained as part of the market testing process. The Health Board may insist on increasing the minimum number of bids in order to comply with their own procurement procedures. Bids will be opened jointly by the SCP and the Cost Advisor.

Evaluation

4.8.18 When the bids have been received they will be comprehensively evaluated, by the SCP and Cost Advisor, to ensure that like for like comparisons between tenders are being made. All bids will be "levelled" to achieve this and any adjustment will be made for any stated omissions or exclusions. The adjustments will be agreed with each works package subcontractor.

4.8.19 In the tender documentation the SCP will identify those "attendances" that it expects the bidding subcontractors to provide. All other attendances that are expected to be provided by the SCP to the subcontractors will be required to be priced for in the Contractors Preliminaries and not against the works packages.

4.8.20 SCP Risk in respect of work packages should be allowed for in the risk register and quantified in the SCP quantified Risk build-ups. There will be no SCP Risk in Work Package Costs. Subcontractor risk assessments will be required to be covered in their bids.

4.8.21 It is accepted that some work packages may still require further design development to be undertaken after bidding. The design fees for this portion of work will need to be allowed for by the subcontractor in his bid submission or, if the work is to be designed by the SCP, suitable provision will alternatively be made in the SCP fees.

4.8.22 The cost of the outstanding work will also need to be assessed. Theoretically it should be no more than the difference between the Works package element cost and the bid submission received from the subcontractor. If more funding is required it should be drawn from the Cost Plan Design Reserve or from savings made elsewhere. Unless previously agreed with the Cost Advisor, the cost effect of Design development should not amount to more than 5% of the value of an individual works package or 2.5% of the total of all work packages.

Post Target Price Re-Tendering of Works Packages

4.8.23 On occasions it may be the case that some work packages are required to be re-tendered after the Target Price has been agreed (i.e. in the event of subcontractor insolvency). If a packages has to be re-tendered then it will be required to be undertaken in full agreement with the Project manager ad under the same process and implications as Pre-Target Price market testing.

Pain /Gain Share

4.8.24 In term of the framework, Pain Share rest 100% with the SCP at all stages.
During Stages 2 (OBC) & 3 (FBC), there is no Gain Share.

In terms of Stage 4 onwards (Construction and Project Closure), the Gain Share will be limited to the first 5% of any savings between the total of the Prices and the Price for Work Done to Date arising during Stages 4, 5 and 6 and will be equally apportioned 50:50% between the Health Board and the SCP. Savings over this amount (i.e. less than 95% of the) will accrue 100% to the Health Board. To summarise:

The *Contractor’s* share percentages and the *share ranges* are:

<u>Share Range</u>	<u>Contractor’s Share Percentage</u>
Less than 95%	Nil
From 95% to 100%	50%
Greater than 100%	100%

5.0 FINANCIAL CASE

5.1 Introduction

5.1.1 The purpose of this section is to set out the indicative financial implications of the preferred option (as set out in the Economic Case) and proposed deal (as described in the Commercial Case).

5.2 Capital Costs

5.2.1 The preferred option is Option 3 the construction of a new HWBC on the site of the existing Ringland Health Centre. The estimated outturn costs for the preferred option is £26.275 million excluding inflation, the detail of which is set out below:

	Option 3 - New Build (£)
Works Cost	14,852,620
Fees	2,371,186
Non-Works	2,352,691
Equipment	409,000
Contingency	1,998,550
<u>Total Option Costs</u>	<u>21,984,047</u>
VAT (net of reclaim)	4,291,369
<u>Total Option Costs (including VAT)</u>	<u>26,275,416</u>

5.2.2 A more detailed breakdown of the capital cost calculations is contained within the OB Forms in the Estates Annex. The costs shown exclude optimism bias which was calculated in line with HM Treasury Guidance for the Economic Case only. The figures in the above table include £0.755m of sunk costs which have already been funded by WG.

5.2.3 In terms of design status BREEAM workshops have been undertaken and will continue to be reviewed and assessed throughout the project lifecycle. In the case of the preferred option, the project will be required to achieve a BREEAM 'Excellent' rating for industrial as a minimum, which remains within the acceptable benchmark standard for a new build project. Due to COVID 19 it has not been possible to undertake an AEDET Workshop.

5.2.4 A risk register has been prepared for the all of the options and developed in detail for the preferred option in order to inform the level of planning contingency required. The format of the risk register is consistent with the standard Designed for Life and the latest guidance for preparing Business cases. This will be further developed in due course for the Full Business case Stage by the External Project manager in conjunction with the Supply Chain Partner, Cost Advisor and Client Team.

5.2.5 Submission of the OBC to Welsh Government is currently programmed for end of September 2020. At present, commencement of the Full Business Case (FBC) is currently planned to start in October 2020, concurrent with the Welsh Government OBC scrutiny and approval period.

5.2.6 To aid the programme it is proposed that an Enabling Works package is undertaken during the FBC period, which would entail:

- Demolition of the existing Ringland Health Centre
- Temporary re-provision of the existing services that utilise Ringland Health Centre
- Replacement of the NCC MUGA

5.2.7 A separate BJC will be developed and submitted for approval, if required, to proceed with these works. The costs of these works have been included in the OB Forms. An Enabling Works package has the benefit of better informing the costs of the required grouting works, as discussed above, and will allow the main construction works to begin on site as soon as the FBC has been approved.

5.2.8 The detailed cash flow for the preferred option is contained with the OB forms in the estates annex and is summarised below:

2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
£150,702	£505,007	£1,445,998	£6,405,749	£11,537,879	£6,190,895	£39,188

5.2.9 The OBC assumes all capital costs and inflation will be funded by Welsh Government in each of the years as per the above, in accordance with current Welsh Government policy. The only exception to this is the anticipated capital receipt for the sale of two properties, Alway Clinic and Clytha. The carrying value of these assets at the time of disposal will be used to contribute to the funding of this project, and reduce the amount requested from WG by the same amount (circa £87k and £250k respectively).

5.2.10 The following key assumptions have been made in the capital case:

- Capital costs are reported at BCIS Pub Sec Index Level 270, Location factor 0.97
- Costs included for Fees are based on typical rates assuming the scheme is procured through the Designed for Life: Building for Wales procurement programme
- Non-Works Costs are based on estimated capital costs that will be incurred in developing the scheme through to Operational Completion and include Planning Fees, IT infrastructure, Artworks and Commissioning costs
- A Contingency allowance of £1.998 million has been included based on a quantified Risk Register. The Risk Register is included in the Estates Annex.
- VAT has been applied at the rate of 20% to all cost components and a modest reclaim of £105k has been assumed based on 75% recovery of professional fees only at this stage. Further advice on the VAT reclaim will be sought as the FBC progresses in the context of potentially complex calculations consequent upon the inclusion of independent contractors and eventual lease agreements.

5.3 Revenue Costs

Affordability

5.3.1 The table below summarises the revenue costs associated with the preferred option compared to the existing ABUHB costs incurred at Ringland Health Centre and Park GP Surgery, excluding depreciation and impairment. In order to reflect the full cost to the Health Board, VAT is included in the Financial Case, having been excluded (as prescribed) in the Economic Case. This results in a necessary variation in the figures for the preferred option between cases:

OBC Financial Case	Current Expenditure Incurred	Option 3 - Public Sector Capital Build of Integrated GMS, Health and Wellbeing Centre
	£'000	£'000
GMS Non Pay Practice Costs		
Rent	25	0
Rates	19	18
Other Non-pay (, maintenance, utilities, security, cleaning)	45	35
Total GMS Costs	89	53
Other H&WC Running Costs		
Workforce (Non-GMS)	0	55
GDS additional contract costs	0	260
Rates	22	102
Overhead running cost (excluding rates)	106	252
Total of Other Running Costs	128	669
Total Costs (Non Pay GMS Cost & Other H&WC Running Costs)	217	722
Income from Independent Contractors (rates, maintenance, cleaning, utilities)	8	47
Rent from Independent Contractors	0	16
Total Income	8	63
Net Cost to the ABUHB	209	659

Current Expenditure / Income

5.3.2 Costs are based on the following:

- All costs are at 2020/21 price levels
- VAT is included where appropriate

5.3.3 The following costs are excluded:

- The majority of GMS pay and non-pay costs other than those noted above related to the estate

- Pay and non-pay costs of ABUHB clinical services that utilise the existing Health Centre on a sessional basis and which will continue to be provided in the new facility in future. It is assumed that these costs will be neutral.

Option 3 Expenditure / Income

5.3.4 The revenue costs presented are derived from a detailed analysis undertaken on:

- Clinical and service models
- Workforce requirements
- Estate and Non-pay implications
- Independent Contractor status and anticipated income from lease rentals and service charges

5.3.5 They assume that:

- Four existing health care facilities in Newport will close i.e., Ringland Health Centre, Park Surgery practice, Alway clinic and Clytha clinic will close
- Income will be received for General Dental services to cover rent, rates, utilities and maintenance
- The practices will not merge in the foreseeable future.
- Income will be received from GMS services to cover rates, utilities and maintenance.
- Other 'building' related new cost pressures of £659k will need to be budget funded, with a clear and sensible allocation of cost responsibilities to fit with divisional responsibilities i.e. Primary Care, Facilities and IM&T.
- The above includes an emerging cost pressure of £260k relating to the GDS contract value which needs to increase in tandem with a projected increase in activity. It should be noted that whilst that cost pressure is included in the above analysis it would be an issue even if the new facility did not proceed.
- An Operational Manager will be appointed to manage the new facility employed by ABUHB

5.3.6 The following costs are excluded:

- All Independent Contractor pay costs and non-pay costs other than those associated with the Estate.
- Pay and non-pay costs of ABUHB clinical services that utilise the existing Health Centre on a sessional basis and which will continue to be provided in the new facility in future. It is assumed that these costs will be neutral.

Depreciation and Impairment

5.3.7 A profiled summary of the depreciation and impairment costs associated with the preferred option are set out in the table below:

Preferred Option Depreciation and Impairment

	2020/21	2021/22	2022/23	2023/24	2024/25 recurring
Option 3	£000	£000	£000	£000	£000
Depreciation - DEL Buildings	0	0	0	139	277
Depreciation - DEL Equipment & IT	0	0	0	47	93
Accelerated Depreciation	77	56	0	0	0
Impairment - AME	0	0	0	12,452	0
Total Costs	77	56	0	12,638	370

5.3.8 Impairment on the HWBC has been calculated based on advice from the District Valuer. The asset value post impairment has been depreciated over the estimates of useful economic life provided by the District Valuer.

5.3.9 The OBC assumes all impairment and depreciation will be funded by WG in each of the years as per the above, in accordance with current WG policy.

5.4 Impact on the Organisation's Operating Cost Statement and Balance Sheet

5.4.1 This section examines the impact of the proposed investment on the Health Board's accounts.

5.4.2 It should be noted that the following summarised extracts from the Statement of Comprehensive Net Expenditure (SOCNE) and Statement of Financial Position (SOFp) only model the impact of the capital and revenue changes of the proposed investment outlined in the tables below. It does not reflect the overall forecast position of the Health Board.

Impact on the Organisations Statement of Comprehensive Net Expenditure (SOCNE)

	2020/21	2021/22	2022/23	2023/24	2024/25 recurring
Option 3	£000	£000	£000	£000	£000
Revenue Cost Impact	0	0	0	0	450
Depreciation - DEL Buildings	0	0	0	139	277
Depreciation - DEL Equipment & IT	0	0	0	47	93
Accelerated Depreciation	77	56	0	0	0
Impairment - AME	0	0	0	12,452	0
Total Costs	77	56	0	12,638	820

Impact on the Organisations Statement of Financial Position (SoFP)

	2020/21	2021/22	2022/23	2023/24	2024/25
Option 3	£000	£000	£000	£000	£000

Non-Current Assets b/f:	672	2,024	8,374	19,912	13,465
Non-Current Assets Additions:					
Land	0	0	0	0	0
Equipment & IT	0	0	0	730	0
Assets Under Construction / Buildings	1,429	6,406	11,538	5,461	39
Total Additions	1,429	6,406	11,538	6,191	39
Non-Current Assets Impairment:					
Assets Under Construction / Buildings	0	0	0	(12,452)	0
Total Impairments	0	0	0	(12,452)	0
Non-Current Assets Depreciation:					
Buildings	0	0	0	(139)	(277)
Equipment & IT	0	0	0	(47)	(93)
Accelerated Depreciation	(77)	(56)	0	0	0
Total Depreciation	(77)	(56)	0	(186)	(370)
Closing NBV Impact on SoFP	2,024	8,374	19,912	13,465	13,134

5.4.3 As shown in the extracts above, all assets will be shown on the Health Board's balance sheet. Whilst the HWBC is being built it will be shown as a non-depreciating asset under construction. The asset will be valued on completion and recorded on the balance sheet at that value in accordance with the Health Board's accounting policies.

6.0 THE MANAGEMENT CASE

6.1 Introduction

6.1.1 This section sets out information on the Health and Well-Being Centre (HWBC) Project Management arrangements.

6.2 Programme Management Arrangements

6.2.1 The HWBC is an integral part of the Clinical Futures Programme and as such has been absorbed within the Project Management arrangements of the whole programme. The Health Board Clinical Futures Delivery Board oversees the management and implementation of the Clinical Futures Programme with specific work-streams for:

- Service Delivery
- Strategic Capital and Estates
- Workforce and OD
- Communications and Engagement
- Supporting Infrastructure
- Information Technology

6.3 Project Management Arrangements

6.3.1 The HWBC project is being managed in accordance with the requirements of the All Wales Designed for Life: Building for Wales Framework, the NHS capital investment manual and PRINCE 2 methodology. The arrangements build on the experiences gained and lessons learned from the Grange Hospital project and the effective delivery of the Pathfinder Projects at Ysbyty Ystrad Fawr and Ysbyty Aneurin Bevan. These projects have ensured appropriate involvement of key stakeholders throughout the project process, as well as effective strategic direction and timely decision making.

6.3.2 The HWBC project is being managed in the context of the aforementioned Clinical Futures programme management structure and has its own Project Board which reports to the above Strategic Capital and Estates Work stream. The HWBC project also has a dedicated Project Team.

6.4 Project Roles and Responsibilities

Senior Responsible Owner – Nick Wood Executive Director of Primary, Community and Mental Health Services

6.4.1 The Senior Responsible Owner (SRO) is responsible for ensuring that the Project's objectives are delivered on time and within the desired cost and quality constraints. The SRO oversees the effectiveness of the Project Management Team ensuring that the Project Management structure is appropriate to ensure the project objectives are delivered and that the benefits are realised.

Project Director – Andrew Walker Strategic Capital and Estates Programme Director

6.4.2 Is accountable to the Director of Planning and has specific responsibility for the project management structures and organisation of the project, including appropriate controls and monitoring mechanisms. The Project Director is ultimately

responsible for the Risk Register but delegate's day to day management to identified risk leads. The Project Director is supported by an External Project Manager for the day to day planning and design phases of the project as well the technical, procurement and construction phases.

Service / Clinical Lead – Will Beer NCN Lead

6.4.3 Is accountable for the effective co-ordination of clinical and user professional input to the project both from the perspective of the service / clinical provision and the internal allocation and utilisation of space within the HWBC.

Internal clinical and technical support

6.4.4 Other key project team members include internal ABUHB Primary Care, Community Care and Therapy representatives, Local Authority representatives and input from finance, personnel, estates, information and procurement.

External Scrutiny

6.4.5 The project will be subject to internal audit via NWSSP-Audit Assurance (Specialist Services) who provide the Health Board with internal capital audit services.

6.5 External Advisors

Project Manager and Cost Advisor

6.5.1 **Mace** have been selected from the All Wales Designed for Life 4: Building for Wales Framework to fulfil the role of external Project Manager.

6.5.2 The External Project Manager will perform the role from Stage 3 in accordance with the Outline Schedule of Duties for Project Managers, as defined at Framework level, unless otherwise amended and agreed with the Health Board. This role encompasses a project management role of the technical aspects of the business case process and subsequent design, procurement, construction and project closure stages under the NEC3 Form of Contract.

6.5.3 **Gleeds** have been selected from the All Wales Designed for Life 4: Building for Wales Framework to fulfil the role of Cost Advisor.

6.5.4 The Cost Advisor will oversee the financial management of the capital expenditure, in conjunction with the Health Board Finance Directorate. They will monitor project costs, implement rigorous verification and checking of all costs presented by the SCP, and deliver a project from a Health Board perspective which is affordable and provides value for money.

Framework Manager Services

6.5.5 NHS Shared Services - FS will provide a service that manages the interfaces between the overall framework procurement processes with those of the project.

6.6 Contract Management

6.6.1 This will be administered under the NEC3 Engineering & Construction (ECC) Form of Contract, Option C Target Contract with Activity Schedule, with standard Designed for Life: Building for Wales Framework amendments.

6.7 Project Plan

6.7.1 The high level project milestones are set out below, the Estates Annex includes the detailed programme:

- OBC to Health Board / WG - 23rd September 2020
- Enabling Works - June 2021
- FBC to Health Board / WG - August 2021
- Start main construction - December 2021
- Completion – September 2023

6.8 Benefits Realisation

6.8.1 It is important that the benefits claimed in the Economic Case are reviewed during the post project evaluation to assess whether they have been realised. Health Check 5 Review (Benefits Realisation) also gives a renewed focus to this assessment.

6.8.2 The ultimate responsibility for the delivery of the benefits is with the SRO but the register gives the detail on how the responsibility for delivering specific benefits has been delegated, how they will be delivered and the countermeasures required.

6.9 Communications and Engagement

6.9.1 The Clinical Futures Programme and its constituent project components are represented, along with partner organisations, on the Clinical Futures Stakeholder Programme Board. Partner organisations include Aneurin Bevan Community Health Council, Welsh Ambulance Services NHS Trust, Welsh Health Specialised Services Commission (WHSSC) and Powys Local Health Board.

6.9.2 With regard to the HWBC Project there has been extensive informal consultation with the public, politicians, the Local Authority, and Independent Contractors. A User group comprised of a range of professional medical, clinical and non-clinical staff has developed the User brief, the Schedule of Accommodation and the 1:200 plans in close collaboration with the external Design Team. This will continue and become more extensive and detailed as the project develops.

6.10 Staff Change Management

6.10.1 The organisation has an impressive record in relation to management of change from both a service and partnership perspective. This is evidenced by the work undertaken in relation to workforce modernisation which has been demonstrated with role development and substitution and integrated roles which span all areas of health and social care and the development of both Ysbyty Ystrad Fawr and Ysbyty Aneurin Bevan new hospitals.

6.10.2 The Health Board has an identified Organisation Development Strategy which focuses on the transformational change necessary to deliver the whole system redesign

for the Clinical Futures Strategy. This includes alignment of the organisational mission and strategy, leadership and culture and values.

6.10.3 This work will be underpinned by an organisational employee engagement strategy and will be taken forward under the auspices of the CF Workforce and OD Workstream.

6.11 Risk Management

6.11.1 The overall arrangements for the management of risk at Programme Level is set out in the CF Risk Management Strategy and Risk Register which is regularly updated and reviewed by the CF Delivery Board.

6.11.2 The HWBC project risk management process has included a number of risk workshops involving key personnel from the UHB and the Supply Chain Partner. The workshops covered:

- The range of risks that could occur which were not included within the planning contingency.
- Probability of the risk occurring.
- Period over which the risk item applies (1, 2, 3 years).
- Impact of risk item if it occurred.
- Pertinent capital value of the risk if it occurred.

6.11.3 The current project risk register for the HWBC is found in the attached Estates Annex.

6.12 Outline Arrangements for Post Project Evaluation

6.12.1 A Post Project Evaluation (PPE) incorporates the Project Evaluation Review (PER) and the Post Implementation Review (PIR). The Post Project Evaluation plan for both these elements will be developed and will be undertaken after the commissioning of the new HWBC.

6.12.2 Post Project Evaluation is a mandatory requirement on all Health Boards who are undertaking a project of this scope and scale. The following good practice guidance sets out plans which the Health Board will put in place to undertake a thorough and robust PPE at key stages in the process to ensure that positive lessons can be learnt from the project.

- evaluation of the project procurement stage;
- evaluation of the construction stage;
- evaluation during operational stages of the project shortly after the Hospital is open;
- evaluation of the longer term outcomes once the new unit is well established.

6.13 Post Evaluation Review (PER)

6.13.1 The purpose of the PER is to improve project appraisal at all stages of the project from preparation of the business case through to the design, management and implementation of the scheme and will be timed for 6 months following the commissioning of the HWBC.

6.14 Post Implementation Review (PIR)

6.14.1 PIR also sets in place a framework within which the benefits realisation plan can be tested to identify the benefits which have been achieved and which have not. PIR will assess whether the benefits that the project set out to achieve have been realised and this will be timed appropriately according to the benefits being assessed.

DRAFT



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University Health Board

DEVELOPMENT OF HEALTH AND WELL-BEING SERVICES IN TREDEGAR FULL BUSINESS CASE



Version No 3 – 10th Sepember 2020

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FULL BUSINESS CASE - EXECUTIVE SUMMARY

1.0 Background

- 1.1 The purpose of this Full Business Case (FBC) is to confirm the case for change and the preferred option to develop Health and Well-being services in Tredegar.
- 1.2 The preferred way forward involves the construction of new Health and Well-Being Centre on the site of the existing redundant Tredegar Hospital which will replace the existing Tredegar Health Centre and Glan-Yr-Afon Surgery.
- 1.3 The estimated capital cost of the new Tredegar Health & Wellbeing Centre is £17.195 million.
- 1.4 The project has been developed in the context of the **Wellbeing of Future Generations Act 2015** which requires the Health Board to apply the following five ways of working to its decision making:

Long Term Thinking – This project will significantly influence the longer term delivery and sustainability of health services in Tredegar
Integration – The project has been planned and designed as a fully integrated Health and Well Being Centre
Involvement – There has been extensive engagement with other public sector bodies, staff, users and the wider public.
Collaboration – The project has been planned and designed with the Local Authority, Third Sector and Health Board staff
Prevention – One of the key aims of the Health and Well Being model is to facilitate, via integrated working, the prevention of ill health

2.0 The Strategic Case

Part A – Strategic Context

2.1 The project has been developed in the context of clear National Policy and Strategy relevant to the development of Health and Well-Being services and more particularly to the ongoing development of Primary, Community, Social and out-of-hospital care.

2.2 '**A Healthier Wales**' sets out a long term, future vision of a whole system approach to health and social care which is focussed on health and wellbeing and on preventing illness. The ambition is for the continued development of a seamless, integrated system of health and social care, predicated on a place based approach to service delivery, to improve service sustainability, quality and safety and to improve population wellbeing. The delivery of a seamless system of health, care and wellbeing will continue to be through the framework to direct resources and service redesign across the following four tiers:



2.3 ***The Social Services and Wellbeing (Wales) Act*** and ***Wellbeing of Future Generations (Wales) Act 2015*** provide an enabling legislative framework which requires the Health Board and partners to work collaboratively in an integrated way across the whole system, involving the public in developing long term solutions to prevent avoidable illness and provide sustainable services in the future.

2.4 The Health Board's approved ***Integrated Medium Term Plan*** for the next three years is a statement of the Health Boards' ambition, working with partners, to improve the health and wellbeing of the population through services delivered closer to home.

2.5 Through the ***Clinical Futures Level 1*** programme of service transformation and the Gwent Area Plan, the Health Board will build on the foundations already in place to drive forward system change at pace in primary and community care, CAMHS and hospital discharge.

2.6 The five ***Public Service Boards*** across Gwent have each agreed a Wellbeing Plan, all of which reflect, where relevant, aspects of the Health Board's individual Wellbeing Objectives. The Health Board members of the five Public Service Boards (PSBs) are taking an active role in leading PSB programmes of work to give children the best start in life, to promote good child and adolescent mental wellbeing, to enable people to live healthy lives to prevent avoidable disease and to enable people to age well.

2.7 The ***Gwent Regional Partnership Board*** has secured additional funding provided by the 'A Healthier Wales: National Transformation Fund' to fund the Gwent RPB transformation programme. With this funding, the Health Board is working in partnership with social services, housing and third sector partners across Gwent to deliver a transformational improvement programme which will start to build the sustainable foundations required to achieve a system shift to a seamless system of care and wellbeing, with more care provided closer to home.

2.8 The Health Board is implementing the new model of Primary Care with increasing pace consistent with the national ***Strategic Programme for Primary Care***. The new model of Primary Care will further develop the "Hub" model. Typically, these "Hubs" will contain the following services:

- Independent contractors
- Integrated
- Service Team
- Social Care Services
- Direct-access therapies and patient education groups
- Care Navigation
- More consultations through the Common Ailments Scheme as an alternative to a GP appointment
- Increased routine dental access

2.9 The "Hub" model is being further developed to include ***"Specialist and Enhanced Services"***, therefore shifting demand from secondary care to primary care and place based care, is also progressing.

Part B – The Case for Change

2.10 The agreed Investment Objectives for this project are as follows:

Investment Objective 1	To support the co-location and potential merger of GP Practices within Tredegar
Investment Objective 2	To support the increased provision and improved integration of Health and Well Being Services within Tredegar
Investment Objective 3	To address the significant estate infrastructure issues that exist at the Tredegar Hospital site
Investment Objective 4	To support the effective use of clinical and non-clinical resources that are delivered within Tredegar

3.0 Economic Case

3.1 As with the Strategic Case factors contributing to the Economic Case have also not changed significantly since submission of the OBC. As the capital costs of the preferred option are less than that approved at OBC stage it has been confirmed by Welsh Government that a full re-write of the Economic Case and Economic Appraisal will not be required.

3.2 Additional GDS contract expenditure of £250k annually has been included within the updated financial case to support additional dental treatments. As this requirement is common to all options, it does not change the GEM outcome.

3.3 A full Economic Appraisal was undertaken in the OBC the overall results of which are shown in the table below:

Results of the OBC Economic Appraisal

	Option 1 - Business as Usual	Option 2 - "Do Minimum"	Option 3 - New Build & Refurb	Option 4 - New Build
Evaluation Results				
GEM Economic Appraisal	1	2	4	3
Non-Financial Benefits Appraisal	4	3	1	2
Revenue Risk Appraisal	3	4	2	1

3.4 Whilst it is clear from the above that option 4 provides the best overall value for money the only difference between with that and option 3 is that the latter retains a small element of the existing Tredegar Hospital which is seen as crucial from the perspective of local history and heritage, i.e. the "birth-place" of the NHS. Key stakeholders would not support an option that demolished the whole of the existing hospital and for this reason **Option 3 is the preferred option.**

4.0 The Commercial Case

4.1 The Commercial Case sets out the overall approach the Health Board has taken to ensure there is a competitive market for the supply of services.

4.2 The procurement route involves the construction of a purpose built centre HHWBC on the Tredegar Hospital site, funded through centrally funded public sector capital, utilising The Designed for Life: Building for Wales 4 Regional Framework (D4L:BfW4). This method of capital procurement implements the Welsh Government's construction policy to ensure the scheme complies with best practice models of procurement based on long-term strategic partnerships.

4.3 In accordance with the requirements of this Framework and the business case process a Target Cost is in the process of being agreed with the Supply Chain Partner, Kier Construction, for the construction of the proposed new HWBC.

5.0 The Financial Case

5.1 This sets out the financial impact of the investment proposal from a capital and revenue perspective and assesses overall affordability.

Capital Costs

5.2 The preferred option is Option 3, the construction of a new HWBC on the Tredegar Hospital site whilst retaining the "Heart" of the existing redundant Tredegar Hospital. The updated capital costs are highlighted in the table below and these are compared with the OBC approved costs updated for inflation:

	FBC Option 3 - New Build HWBC £m	OBC Approved Option 3 (updated for inflation) £m
Works Cost	10.912	9.319
Fees	2.006	1.704
Non-Works	0.835	0.989
Equipment	0.190	0.186
Contingency	0.492	1.025
Total Option Costs	14.435	13.223
VAT	2.887	2.645
VAT Recovery on fees	(0.127)	(0.097)
Total Inc. VAT	17.195	15.771
Additional Funding Requirements incl. VAT (Bat House / decarbonisation measures / Covid- 19)	Incl. above	0.393
Inflation	n/a	1.041
Total Capital Cost	17.195	17.205

5.3 In the table above, the approved OBC sum has been uplifted for inflation and the additional requirements in relation to the Bat House, decarbonisation measures and Covid-19 expenditure (items that were previously excluded from the OBC approval). The FBC Target cost is within this uplifted OBC sum.

Revenue Costs

5.4 The table below summarises the revenue costs associated with the preferred option compared to the existing ABUHB costs incurred at Tredegar Health Centre, excluding depreciation and impairment:

FBC Financial Case	Current Expenditure Incurred	Develop Integrated General Medical and Health and Well-being services. (Refurbish)
GMS Non Pay Practice Costs	Current Position	Option 3
	£m	£m
Rates	0.016	0.023
Other Non-pay (, maintenance, utilities, security, cleaning)	0.103	0.035
GP Net Pay Expenditure	0.498	0.048
Total GMS Costs	0.617	0.106
Other H&WC Running Costs		
Workforce (Non-GMS)	0.000	0.055
Additional GDS costs	0.000	0.250
Rates	0.000	0.087
Overhead running cost (excluding rates)	0.050	0.146
Total of Other Running Costs	0.050	0.538
Total Costs (Non Pay GMS Cost & Other H&WC Running Costs)	0.667	0.644
Income from Independent Contractors (rates, maintenance, cleaning, utilities)	0.014	0.034
Rent from Independent Contractors	0.027	0.049
Total Income	0.041	0.083
Net Cost to the ABUHB	0.626	0.561

5.5 The revenue costs presented are derived from a detailed analysis undertaken on Clinical and service models, Workforce requirements, Estate and Non-pay implications and Independent Contractor status and anticipated income

They assume that:

- The existing Tredegar Health Centre and the Glan-Yr-Afon practice will close
- The majority of Tredegar Hospital will be demolished
- There will be a reduction of circa £0.450m in current expenditure that is related to running a managed practice with premium rate locum staffing. It is assumed that the new facility will facilitate the creation of a merged independent practice thus removing the need for locums. There are obvious risks around this assumption as it will be challenging to return the Practices to the independent market.
- Additional expenditure will be required to expand the GDS contract value to support additional dental treatments
- Income will be received for Pharmacy services as per current arrangements
- Income will be received for General Dental services to cover rent, rates, utilities and maintenance
- Income will be received from the practices to cover rates, utilities and maintenance.

6.0 The Management Case

6.1 The HWBC is an integral part of the Clinical Futures Programme and as such has been absorbed within the Project Management arrangements of the whole programme. The Health Board Clinical Futures Delivery Board oversees the management and implementation of the Clinical Futures Programme with specific work-streams for:

- Service Delivery
- Strategic Capital and Estates
- Workforce and OD
- Communications and Engagement
- Supporting Infrastructure
- Information Technology

6.2 The HWBC project is being managed in accordance with the requirements of the All Wales Designed for Life: Building for Wales Framework, the NHS capital investment manual and PRINCE 2 methodology. The HWBC project is being managed in the context of the aforementioned Clinical Futures programme management structure and has its own Project Board which reports to the above Strategic Capital and Estates Work stream. The HWBC project also has a dedicated Project Team.

6.3 Key Project Roles include the following:

- Senior Responsible Owner – Nick Wood Executive Director of Primary, Community and Mental Health Services
- Project Director – Andrew Walker Strategic Capital and Estates Programme Director
- Service / Clinical Lead – David Minton NCN Lead

6.4 The high level project plan is set out in the following table:

Milestone	Date
Submission of FBC to WG	23rd September 2020
WG Approval	20th November 2020
Agreement of Target Cost	23rd November 2020

Start on Site Phase 1	4 th May 2021
Handover Phase 1	6 th August 2022
Commence Phase 2 – Demolish old Health Centre & Complete External Works	19 th August 2022
Completion Phase 2	12 th April 2023
Project Closure	12 th July 2023

DRAFT

1.0 INTRODUCTION

Purpose of Business Case

1.1 The purpose of this Full Business Case (FBC) is to:

- Confirm that the case for change and the preferred option as set out in the approved Outline Business Case (OBC) are still relevant and that no significant changes have occurred since OBC approval.
- Confirm that no significant changes have been necessary to the Economic Case
- Confirm that a Target Cost has been agreed with the Supply Chain Partner and that the total project cost of £17.195m is within that approved in the OBC, allowing for increases in inflation.
- Confirm that the preferred option involves the construction of new Health and Well-Being Centre on the site of the existing redundant Tredegar Hospital which will replace the existing Tredegar Health Centre and Glan-Yr-Afon Surgery.

Structure of Document

1.2 This FBC has been prepared using the agreed standards and format for Business Cases, as set out in:

- HM Treasury Guide to Developing the Project Business Case 2018
- NHS Wales Infrastructure Planning Guidance (2015)
- HM Treasury, the Green Book: Appraisal and Evaluation in Central Government: Treasury Guidance (2003).
- Public Sector Business Cases using the Five Case Model: A Toolkit Guidance and Templates (2007)

1.3 The approved format is the 5 Case Model, which comprises of the following key components:

- The **Strategic Case** which sets out the Strategic Context and the Case for Change, together with the supporting investment objectives for the Scheme.
- The **Economic Case** which demonstrates that ABUHB has selected a *preferred way forward*, following evaluation of a number of alternative solutions, which best meets the existing and future needs of the Service and is likely to optimise Value for Money (VFM).
- The **Commercial Case** which outlines the potential procurement strategy.
- The **Financial Case** which addresses the capital and revenue implications and the issue of affordability.
- The **Management Case** which demonstrates that the scheme is achievable and can be successfully delivered in accordance with accepted best practice.

2.0 THE STRATEGIC CASE

The Strategic Context and the associated Case for Change has not changed since submission and approval of the Outline Business Case and is summarised below for completeness.

PART A - THE STRATEGIC CONTEXT

2.1 Organisational Overview

2.1.1 Aneurin Bevan University Health Board was established in October 2009 and achieved 'University' status in December 2013.

2.1.2 We serve an estimated population of over 639,000, approximately 21% of the total Welsh population. Approximately 30 per cent of the population live in the Caerphilly local authority area and 25 per cent live in the Newport local authority area.

2.1.3 With a budget of **£1.281 billion** we deliver healthcare services to people in Blaenau Gwent, Caerphilly, Monmouthshire, Newport, and Torfaen and also provide some services to the people of South Powys.

2.1.4 The Health Board covers diverse geographical areas and had to take account of a mix of rural, urban and valley communities. The valleys experience high levels of social deprivation, including low incomes, poor housing stock and high unemployment.

2.1.5 The Health Board employs 11,252 staff (October 18) and is the largest employer in Gwent. The staff group has remained relatively unchanged in the last year. The largest staff group are Nursing & Midwifery at 30% of the total workforce followed by additional Clinical services at 20%.

Services

2.1.6 The Health Board provides a comprehensive range of acute hospital based, Community based, Mental Health and Primary Care services via a large and complex estate consisting of the following:

- 3 Acute Hospitals - Royal Gwent, Nevill Hall, Ysbyty Ystrad Fawr
- 5 Community Hospitals - County, Ysbyty Aneurin Bevan, St Woolos, Chepstow and Monnow Vale
- 4 Mental Health Hospitals - St Cadoc's, Llanfrechfa, Maindiff Court, Ysbyty'r Tri Chwm
- 8 Locality based Mental Health Units and 1 Residential Unit on LGH site, 4 unoccupied units across Gwent.
- 30 Locality based Community clinics

2.1.7 In-patient acute and community beds across the above sites total 1,551 broken down as follows:

	RGH	NHH	YYF	SWH	YAB	County	Chepstow	M. Vale
In-patient beds	695	401	164	100	94	48	32	19

2.1.8 The University Health Board contracts with independent practitioners in respect of primary care services which are delivered by General Practitioners, Opticians, Pharmacists and Dentists. Outside of normal practice hours the University Health Board has responsibility for and provides an Out of Hours Primary Care Service.

2.1.9 There are 292 WTE General Practitioners and Salaried GPs providing general medical services from 76 General Practices. Supporting these are 148 practice nurses, 89 health care support workers and a number of administrative staff, including practice managers, receptionists, secretaries and IT officers. Around 375 General Dental Practitioners provide general dental services from 79 practices. There are 131 Community Pharmacies and 69 Optometry premises across the University Health Board. The distribution of these services is set out below:

Locality	General Practice	Community Pharmacies	Dental	Optometry	CRTs	DNs	Specialist
Blaenau Gwent	11	16	10	11	1	Work across all areas	Complex Care Team, Palliative Care Team
Caerphilly	23	44	23	20	1		
Monmouthshire	13	18	13	14	1		
Newport	17	32	18	15	1		
Torfaen	12	21	15	9	1		
Total	76	131	79	69	5	29	

2.1.10 A wide and growing range of community based services are increasingly being delivered in patient's homes, through community hospitals, health centres and clinics. There are a number of smaller community hospitals, integrated health and social care centres, and health centres providing important clinical services to our residents closer to home.

2.1.11 The University Health Board also provides comprehensive Mental Health and Learning Disabilities services in both hospital and community settings to the population of Gwent and South Powys

Population Projections

2.1.12 Projections indicate that if current trends continue, the number of persons aged 65 and over resident in the UHB area will increase by almost 60 % by 2033. The proportion aged 75 and over is projected to increase from around 7% to 10% at local authority level to around 11% to 19% over this period, the sharpest increases being in Monmouthshire and Torfaen. At local authority level, the percentage aged 85 and over

is projected to double from between 2% and 3% to between 5% and 8% by 2033, with the exception of Monmouthshire where a sharper increase is projected with the proportion set to treble in size.

2.1.13 The increase in the number of older people is likely to be associated with a rise in long-term conditions whose prevalence is strongly age-related, such as circulatory and respiratory diseases and cancers. Meeting the needs of these individuals will be a key challenge for the University Health Board. In the current economic climate, the relative (and absolute) increase in economically dependent and, in some cases, care-dependent populations will pose particular challenges to communities.

2.2 Alignment to Existing Policies and Strategies

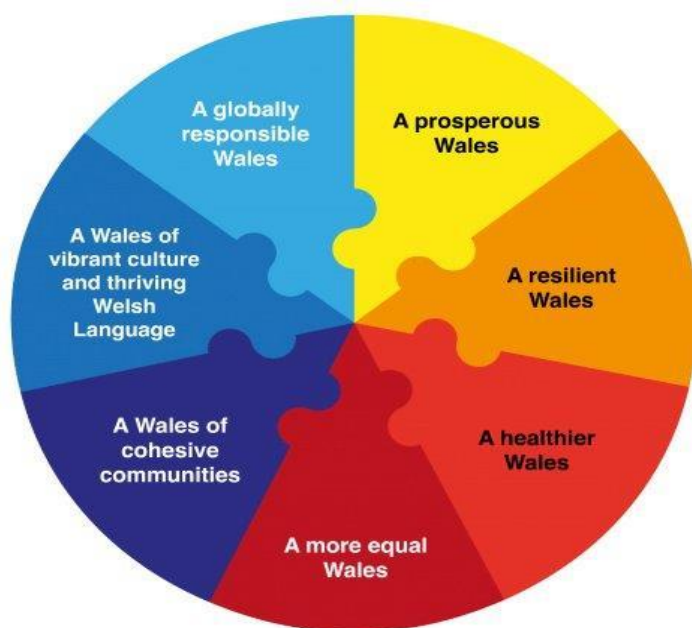
2.2.1 The project has been developed in the context of clear National Policy and Strategy relevant to the development of Health and Well-Being services and more particularly to the ongoing development of Primary, Community, Social and out-of-hospital care.

2.2.2 **'A Healthier Wales'** sets out a long term, future vision of a whole system approach to health and social care which is focussed on health and wellbeing and on preventing illness. The ambition is for the continued development of a seamless, integrated system of health and social care, predicated on a place based approach to service delivery, to improve service sustainability, quality and safety and to improve population wellbeing. The delivery of a seamless system of health, care and wellbeing will continue to be through the framework to direct resources and service redesign across the following four tiers:



2.2.3 **The Social Services and Wellbeing (Wales) Act** and **Wellbeing of Future Generations (Wales) Act 2015** provide an enabling legislative framework which requires the Health Board and partners to work collaboratively in an integrated way across the whole system, involving the public in developing long term solutions to prevent avoidable illness and provide sustainable services in the future. The **Wellbeing of Future Generations (Wales) Act** established 7 National goals as illustrated below:

Figure 1 WoFGA 7 Goals



2.2.4 The Health Board's approved ***Integrated Medium Term Plan*** for the next three years is a statement of the Health Boards' ambition, working with partners, to improve the health and wellbeing of the population through services delivered closer to home.

2.2.5 Through the ***Clinical Futures Level 1*** programme of service transformation and the Gwent Area Plan, the Health Board will build on the foundations already in place to drive forward system change at pace in primary and community care, CAMHS and hospital discharge.

2.2.6 The five ***Public Service Boards*** across Gwent have each agreed a Wellbeing Plan, all of which reflect, where relevant, aspects of the Health Board's individual Wellbeing Objectives. The Health Board members of the five Public Service Boards (PSBs) are taking an active role in leading PSB programmes of work to give children the best start in life, to promote good child and adolescent mental wellbeing, to enable people to live healthy lives to prevent avoidable disease and to enable people to age well.

2.2.7 The ***Gwent Regional Partnership Board*** has secured additional funding provided by the 'A Healthier Wales: National Transformation Fund' to fund the Gwent RPB transformation programme. With this funding, the Health Board is working in partnership with social services, housing and third sector partners across Gwent to deliver a transformational improvement programme which will start to build the sustainable foundations required to achieve a system shift to a seamless system of care and wellbeing, with more care provided closer to home.

2.2.8 The Health Board is implementing the new model of Primary Care with increasing pace consistent with the national ***Strategic Programme for Primary Care***. The new model of Primary Care will further develop the "Hub" model. Typically, these "Hubs" will contain the following services:

- Independent contractors

- Integrated
- Service Team
- Social Care Services
- Direct-access therapies and patient education groups
- Care Navigation
- More consultations through the Common Ailments Scheme as an alternative to a GP appointment
- Increased routine dental access

2.2.9 The “Hub” model is being further developed to include **“Specialist and Enhanced Services”**, therefore shifting demand from secondary care to primary care and place based care, is also progressing.

2.3 Health Board Estate Strategy

2.3.1 The Estate Strategy was approved by the Health Board in January 2019. Due to the large and complex nature of the Health Board estate, the Estate Strategy was developed under the following service headings:

- Acute Hospital Services
- Community Hospital Services
- Mental Health Hospital based Services
- Primary and Community Care Services
- Leased / non-clinical Services

2.3.2 The following is an overview of key financial and six facet information for the Primary / Community based owned estate and Community based Mental Health services:

• Property Asset Value	-	£26 million (<i>Existing use NBV</i>)
• Total floor area of	-	20,275 m2
• Total Operating cost	-	£1.28 million per annum
• Cost per metre	-	£63 (Carter Median £331)
• High/Significant Backlog	-	£1.220 million
• Underused Estate	-	26.29% (m2)
• Empty Estate	-	6.19% (m2)
• Maintenance Costs		£42,500 (£2.10 per m2)
• Energy Consumption		6.8 million kWh

2.3.3 The above data relating to the owned estate includes 26 Locality based clinics, 8 Locality based Mental Health Units and 5 Residential Units. Whilst the above data relates to the Health Board owned estate our understanding of the condition, utilisation, etc., of the GP owned estate has since been improved via the completion of a Six-Facet Estate review.

2.3.4 Leased accommodation includes recently completed Primary Care Resource Centres in Brynmawr, Blaenavon and Rhymney.

2.3.5 In the context of the clear policy and strategic direction outlined above in section 2.1 and 2.2 and the Six Facet Survey information, the Estate Strategy concluded that the following two Strategic Objectives should be taken forward for the Primary/Community and Community based Mental Health estate:

Strategic Objective 13 - Review location, content, condition and utilisation of existing Primary Care, Community Care and Mental Health Community based facilities in each NCN area in the context of other ABUHB/Public Sector facilities and the above clinical strategy.

Strategic Objective 14 - Following the above review to produce a costed and prioritised plan for the creation of the proposed "Hubs" and other proposed service changes utilising the existing estate as far as is possible.

Part B – The Case for Change

2.3.6 The agreed Investment Objectives for this project are as follows:

Investment Objective 1	To support the co-location and potential merger of GP Practices within Tredegar
Investment Objective 2	To support the increased provision and improved integration of Health and Well Being Services within Tredegar
Investment Objective 3	To address the significant estate infrastructure issues that exist at the Tredegar Hospital site
Investment Objective 4	To support the effective use of clinical and non-clinical resources that are delivered within Tredegar

2.4 Existing Arrangements

Current GMS Service and Estate Provision

2.4.1 General Medical Services for a population of approximately 13,000 are currently being provided by two well established General Practitioner Practices within Tredegar, Glan-Yr-Afon Surgery and Tredegar Health Centre which is adjacent to the former Hospital.

Glan-Yr-Afon Surgery

2.4.2 The surgery was purpose built in 1991 and is a two storey building, which is situated in central Tredegar town. There is some land attached to the premises, but this is in the ownership of Blaenau Gwent Council. The building is owned by 3 GP Partners (2 retired, 1 remaining GP). The building consists of rooms occupied by the GPs, Practice Nurses and attached community staff such as midwives, mental health counsellors etc. Third Sector also currently work collaboratively with the Practice i.e. Citizens Advice Bureau.

2.4.3 The surgery has two General Practitioners currently providing services to a practice list size of 6721. There is an Advanced Nurse Practitioner and a Practice Nurse supporting the provision of General Medical Services.

2.4.4 The Surgery is not currently a Training Practice, but has applied to the Academic Fellows Scheme and it is an aspiration of the Practice for the future to become a full Training Practice.

Existing Condition of Glan-Yr-Afon Surgery

2.4.5 A Six Facet Survey has been undertaken in March 2019 with the following key information identified:

- Total Backlog cost - £61,928
- Functional stability – Grade B
- Space Utilization - 100%
- Quality Audit – Condition B
- Statutory Compliance – Condition D

Tredegear Health Centre

2.4.6 Tredegear Health Centre was officially opened in 1980 and adjoins the former Tredegear General Hospital, based in Tredegear Town Centre. The building consists of two floors with the community services operating mainly from the upper floor. In 2010 there was a transfer of services to Ysbyty Aneurin Bevan, leaving only the primary care, community clinics and other community services on the site.

2.4.7 Tredegear Health Centre was a 2-partner GP practice serving 5,600 patients. The GP partners were both beyond state retirement age and wished to reduce their commitment to the practice. However, despite advertising over a period of time, they failed to attract other permanent GPs into the practice. Furthermore, locum GP availability was inconsistent, expensive, and did not always bring the same level of commitment or productivity.

2.4.8 It was for these reasons that the GP partners gave notice to terminate their contract with effect from 1 April 2017. Following the Vacant Practice Process it was agreed that the best course of action was for the practice to become directly managed from the 1st April 2017. The practice remains directly managed by the Health Board to this date.

2.4.9 The practice currently does not have a substantive GP workforce but is able to continue providing core GMS services by engaging regular locums and is supported by an ABUHB Clinical Director who is currently providing clinical leadership at the practice. In addition to this, there is one Advanced Nurse Practitioner, three part time Practice Nurses, a Health Care Assistant and Clinical Pharmacist. Due to the current workforce issues, whilst providing core GMS services, Tredegear Health Centre is currently only able to offer a very limited number of Enhanced Services.

Existing condition of Tredegear Health Centre

2.4.10 A Six Facet Survey was undertaken in 2018 with the following information identified:

- Total Backlog - £560,705
- Functional Suitability – B
- Space Utilisation – Underutilised
- Quality Audit – B
- Statutory Compliance – B

2.4.11 As stated above the Health Centre is on the same site as **Tredegear Hospital** which is illustrated below. The Hospital opened in December 1904 as a Park Cottage Hospital, where Aneurin Bevan, founder of the NHS became a member of the Cottage Hospital Management Committee between 1929 and 1930. The Hospital closed in 2010 with all services transferring to Ysbyty Aneurin Bevan, Ebbw Vale. Since 2010 the condition of the building has significantly deteriorated, is in a bad state of repair and been subjected to extensive vandalism. There have been ongoing security issues with the old Tredegear Hospital site, which includes a number of break-ins and vandalism to the IT and telephony services providing services to the Health Centre. It should be noted as well that the Health Centre is physically linked to the Hospital and receives certain utilities from it.



2.4.12 Despite its condition Tredegear General Hospital is still a much loved hospital and seen by many as the birthplace and spiritual home of the NHS. For this reason there is significant local and political interest in the future of the building and the site as a whole. Past attempts by the Health Board to obtain permission to dispose of or demolish the Hospital have failed.

Current Tredegear Health Centre Income and Expenditure

2.4.13 Outlined below are the current income and expenditure costs associated with the Tredegear Health Centre, excluding Pay and Clinical non-pay costs. In addition, there is a direct cost of providing security to the existing Old Hospital, and income received from the lease allocated to the Community Pharmacy within Tredegear Health Centre.

CURRENT REVENUE COSTS FOR TREDEGAR HEALTH SERVICES												
Occupier		GMS Reimbursed	GMS Reimbursed									
	Rent	General Rates	Trade/Clinical Waste/Water Rates	IT Costs	Maintenance	Cleaning materials	Domestic Staff Cost	Energy Charges	Security Costs	Tredegar Net Y/E Position	Income	Expenditure
	£	£	£		£	£	£	£	£		£	£
Expenditure												
TOTAL Expenditure	43,175	25,698	8,344	11,009	50,900	2,011	6,656	26,457	49,834	552,244	0	776,328
Income												
Total Income	27,000	0	0	0	0	0	0	0	0		13,848	40,848

	Rent	General Rates	Trade/Clinical Waste/Water Rates	IT Costs	Maintenance	Cleaning materials	Domestic Staff Cost	Energy Charges	Security Costs	Tredegar Net Y/E Position 19-20	Service Charges/Rental Income	Expenditure
	£	£	£		£	£	£	£	£		£	£
Expenditure												
TOTAL Expenditure	0	15,843	6,027	11,009	50,900	2,011	6,656	26,457	49,834	498,000	0	666,737
Income												
Total Income	27,000	0	0	0	0	0	0	0	0	0	13,848	40,848

2.4.14 As mentioned above Tredegar Health Centre is currently a Health Board managed practice employing locum cover for salaried GPs. Locum GPs charge a premium rate and in 2019/20 this contributed to the Health Board having a £498,000 overspend for the Tredegar Managed Practice.

Other AB Provided and Independent Contractor Services

Community Pharmacy

2.4.15 There is currently an Independent Pharmacy providing services from Tredegar Health Centre. The Pharmacy provides a full range of essential, advanced and enhanced services. The Pharmacy also provides a home delivery service and blister packs of medication for patients.

Community Dental Service

2.4.16 Current service provision for the Community Dental Service is delivered from the 1st floor of Tredegar Health Centre. The service operates every 2nd week of the month, patients are allocated to the service through the Dental Helpline.

'Other' Hospital Services

2.4.17 Services currently being delivered from the existing Tredegar Health Centre are Podiatry, Sexual Health, Speech & Language Therapy, Midwifery, Flying Start, Health Visitors, and Substance Misuse. Clinics are held on a sessional basis and provided on scheduled days throughout the week. Flying Start Health Visitors are based in the Hillside Basement of Tredegar Health Centre along with Administrative staff.

2.5 Service Needs

Local Service Context

2.5.1 This section focuses on the specific issues that need to be addressed within Tredegar for the Health Board to offer quality, sustainable and efficient Health and Well Being Services.

Increasing Demand

2.5.2 Over recent years Primary Care has faced considerable pressures with an increasingly elderly population, rising numbers of people suffering dementia, long-term health conditions and chronic pain. There are also challenging social issues which impact on health and well-being through substance misuse, depression and social exclusion resulting in loneliness and isolation. Poverty is associated with earlier onset of ill health, higher rates of co-morbidity and reduced life expectancy. The result is increased demand for GP and community services and consequential decreased access to Primary Care, particularly in areas of socio economic deprivation

2.5.3 This increasing demand is more difficult to meet because of the acute recruitment difficulties being experienced, particularly for GP services – this is a national problem, but within the ABUHB there are specific difficulties in North Caerphilly, Blaenau Gwent, North Torfaen and Newport East.

The Health and Well Being Model

GMS services

2.5.4 The Clinical Futures model and other models within Wales are designed to support the introduction of 'Care Closer to Home' by providing a broader range of services within the community. The model is further supported by the opening of Ysbyty Aneurin Bevan, which provides a focus for services that are configured around the needs of individuals based in their local communities. These services will avoid unnecessary hospital admissions and support early discharge after a hospital stay. This approach reflects international models that are successfully delivering more person centered, cost effective care.

2.5.5 In 2014, the Welsh Government published its Primary Care Plan for Wales up to 2018. This document outlined a new approach to meeting Primary Care demands with a focus on clusters of GP practices working together and the provision of place-based working with the wider primary care/community teams coalescing around these places – this included social care and the 3rd sector. After the publication of this plan there was additional Primary Care monies allocated to learn from new ways of working, including multi-disciplinary working in GP practices, working at larger scale with practices merging or working together and introducing some form of sign-posting or navigation or triage.

2.5.6 Initial pilots and pacesetter projects were extensively evaluated and from this emerged a new Primary Care model for Wales. This model has further been substantiated in the 2018 Welsh Government strategy "A Healthier Wales" which re-enforces the prudent multi-disciplinary practice model, the need to work at scale and with some form of sign-posting. This strategy also prioritises place based integrated teams and the strategy is firmly a Health and Social Care plan, directing integrated working and a more social model of Primary Care.

2.5.7 The Strategic Programme for Primary Care document sets out the strategic programme of work for primary care which has been developed following the publication of *A Healthier Wales*. The Primary Care Model for Wales describes the key components of this model as:

- Empowered citizens
- Support for self-care
- Community services
- First point of contact
- Urgent care

- Direct access
- People with complex care needs
- MDT working

2.5.8 Within the ABUHB the new model is already being adopted, with the establishment of multi-disciplinary teams and MDT processes, care navigation and place based integrated teams. Where suitable estate is available these models are developing successfully. The Board is also planning for practices to work at scale, with more sharing of staff and premises, incentives for mergers and planning facilities which promotes this way of working.

2.5.9 In the face of GP recruitment problems there will need to be multi-disciplinary team development to meet the current and future demand. Appropriate space is required for these expanded teams and to allow for training that orientates staff into primary care service provision. In addition, improved premises are required to enable the wider teams to work with the practices, aiming to intervene early to meet patient needs and prevent the deterioration in health and well-being which too often results in avoidable hospital admissions. Key to this will be the social care input and connection to the integrated well-being networks which will help widen the practice response beyond a purely medical one.

2.5.10 The proposed new model will support the transition and continuity of patient care upon impending General Practitioner retirements, ensuring the long term sustainability of new service models and provision of a General Practitioner and Nurse training facility. The Practices, whether they merge or not, will use the opportunity of the Hub model to develop further service delivery by enhancing their areas of special interest. They will also develop their patient and education groups emphasising the importance of health and well-being which is currently unable to be catered for from the existing premises. The practices will continue to provide Core General Medical Services to their patients, in line with the Quality and Outcomes Framework and also in line with the targets required under "Access".

General Dental Services

2.5.11 In July 2018 Welsh Government published '*A Healthier Wales: our Plan for Health and Social Care – the oral health and dental services response*'. The Health Board aims to:

- Improve population health, oral health and well-being through a greater focus on prevention;
- Improve access, experience and quality of dental care for individuals and families;
- Enrich the well-being, capability and engagement of the dental workforce; and;
- Increase the value achieved from funding of dental services and programmes through improvement, innovation, use of best practice, and eliminating waste.

2.5.12 The Health Board has made a provision within the dental contract for additional units of dental activity to be awarded in order to provide an increase in dental service. The provider will be required to participate in the General Dental Service (GDS) Reform Programme, which will support the practice to utilise a multi-disciplinary team to help deliver oral health advice, education and treatment to patients.

2.5.13 By including dental service provision within the proposed Hub the above services will be able to be provided and additional new NHS patients will be able to access NHS dental services. Once the practice joins the GDS Reform Programme, all new and existing patients will undergo a needs assessment, known as the ACORN (Assessment of Clinical Oral Risk and Needs) assessment, which will determine a patients oral health risk and need for any preventative treatment i.e. fluoride varnish application. This will enable the practice to deliver the dental health care that is needed, which will include advice, education and treatment, where necessary.

2.5.14 'The oral health and dental services response to The Healthier Wales: Our Plan for Health and Social Care' stipulates that 'the current ambition...is to keep children decay-free by age of 5.' The practice is already part of the child referral pathway – this allows the Designed to Smile team to refer children to the practice from Health Visiting Teams, Flying Start Teams and other child organisations. It is anticipated that the provision of dental services within the Health and Well-being Centre will further enhance this, through partnership working with other service providers.

2.5.15 Supporting Castle Street Dental Practice to expand to provide additional dental services, will enable the Health Board to work collaboratively with the practices to help develop and deliver clinical pathways/services to address factors such as this.

Community Pharmacy Services

2.5.16 The Pharmacy Operator is an Independent Prescriber and currently operates from Tredegar Health Centre. It is envisaged the Pharmacy service will become more focused on developing more patient facing services. A new independent prescriber service will commence in 2019 as one of the Health Boards pathfinder sites for 'common ailments plus'. This will focus on the management of common conditions such as minor infections and other ailments for patients registered with GP practices in Tredegar. This will help move the Pharmacy from a supply chain service to providing Pharmacy Services that will meet local need and help improve health outcomes within the local community. The Pharmacy wishes to provide services which integrate all of the providers, focused on local need. The Pharmacy will be an integral component of the new model to achieve these aims.

Audiology Services

2.5.17 The Primary Care Audiology Service have successfully run a project from Brynmawr Resource Centre whereby patients from Blaenau Gwent needing secondary care Audiology services are currently travel to Nevill Hall Hospital in Abergavenny for hearing aid fittings, ongoing management and maintenance of their hearing aids, this is due to the lack of secondary care facilities in Blaenau Gwent.

2.5.18 The project allows patients with hearing tinnitus or balance problems to self-refer directly into Audiology without seeing their GP first. Evaluation and analysis of the project indicate the freeing up of GP time with onward referrals where necessary therefore increasing patient satisfaction improving outcomes with patients receiving care closer to home. Future provision for this service needs to be found.

Other Clinical Services

2.5.19 It is envisaged that the Health and Well Being Hub will include the provision of services that are currently being delivered from the existing Health Centre e.g. Podiatry, Sexual Health, Safeguarding, Speech & Language Therapy, Midwifery, Flying Start, Health Visitors, Substance Misuse and Memory Assessment Service.

Community Services

2.5.20 The H&WC services will be delivered through an approach focused on achieving the outcomes necessary to promote a person's well-being as an individual, as part of a family and as part of their community by promoting self-help and independence with an ethos of shared understanding, and a joint commitment to deliver care. The H&WC service provision has been planned with a holistic approach to Health Care by bringing together Health Care and Non Health Care services. "Pharmacy First" is the primary model that is being adopted joint working with General Practitioners, alongside this Care Navigators and Community Connectors sign posting patients to other more appropriate non healthcare services. Non health care services include Citizens Advise, Debt Housing and other social prescribing initiatives to support the patient along their journey to achieve better health outcomes.

Health, Well-Being and Prevention

2.5.21 Embedding the five ways of working defined in the Wellbeing of Future Generations (Wales) Act 2015 across the organisation is how the Health Board will bring about the organisational culture change needed to deliver on the ambition of 'A Healthier Wales'. The whole system redesign process the Health Board is undertaking to implement the Gwent Clinical Futures programme is providing the strategic opportunity to assess how well each of the proposed new service models demonstrates the five ways of working.

2.5.22 It will enable citizens to access a provision that support the development of a 'one stop shop' including the facilitation of information, advice and assistance (IAA) as defined within Part 2 of the Act offering a broad holistic range of services so young people, families and adults can find help for both their most immediate problems and longer term challenges.

2.5.23 In line with 'Care Closer to Home' and Living Independently in the 21st Century strategies, the service model proposes to co-locate Health and Social Care networks within the shared accommodation. This will build on the current existing model of co-located Neighbourhood Care Network (NCN) West and East teams and will be further enhanced with the extension of the model through the additionality of representation from third sector and community focussed partners including a relocation of services currently provided from Tredegar Health Centre. The service will provide an opportunity to embed and develop innovation amongst partners, supporting Tredegar citizens throughout their health and social care pathways. This will provide an opportunity for collaborative working across both statutory and community wellbeing support services including:

- District Nursing / Community Nursing
- Community Resource Team (CRT) including reablement and therapy service
- Early year's provision including health visiting and flying start
- Social Care including statutory Adult and Children support.

- Wellbeing support including Community Connectors and various Social prescribing models of support – non medical support to promote health and wellbeing.

2.5.24 Some examples of Wellbeing provision that could and should be available at the Hub facility includes, but not exclusively:

- Diabetic Eye Screening Wales
- AAA Screening
- Unpaid / Family Carers Support
- Gwent Drug and Alcohol Service (GDAS) and similar third sector programmes
- Podiatry Services
- Mental Health and Counselling support from both Primary Care and our third sector consortium arrangements (Mind / Hafal/ Mindfulness Support etc.)
- Supporting People and Housing solutions
- Families First programmes
- Specialist Third Sector providers i.e. Dementia Support / Carers Support/ Hospice and Palliative care services
- Welfare and Benefit support – Job Centre / Department of Work and Pension/ Citizens Advice
- Social Care private providers including Domiciliary Care Agencies working in the Tredegar area.
- Domestic Abuse / VAWDASV services and promotion
- Aneurin Bevan Leisure Trust including Adult Education/ Healthy Living and Gentle Exercise support.

2.5.25 The Hub will also be a key link to the development of Community Based support to promote wellbeing, reduce social isolation and promote non-medical solutions to promote independence and reduce dependency on traditional models of health and social care. Through partnership working across Health, Social Services and the third sector the facility will exploit the opportunities through utilising the WCCIS (national health and social care database). It will also enable citizens and staff to explore opportunities for enhanced information technology solutions both in terms of accessing and signposting services, digital inclusion projects and promoting assistive technology / telecare solutions.

Workforce Context

2.5.26 As already referred to above workforce sustainability is an increasing problem within Wales, specifically within the valley areas and particularly within Tredegar. The current configuration of services is not at all conducive to future prospects of retention and recruitment. One of Glan-Yr-Afon GP's is at retirement age and there are currently no substantive GP's in Tredegar Health Centre. Both surgeries are practicing with a less than optimum ratio of GP's to patients, which is very concerning from a Clinical perspective.

2.5.27 The Health Board, in line with 'A Healthier Wales', plans for primary care to focus on providing a more integrated service for the wider community and these proposals would be attractive to ensuring recruitment of General Practitioners. This "Hub" model will enable more integrated working between primary care and community services

which will ensure more robust integrated care. These services could be provided from purpose built premises, with no requirement to make personal investment, thus potentially attracting younger General Practitioners to the area.

2.5.28 Currently neither premise or practice list size are conducive to implementing the Transformation Model or Place Based Care both of which align to the Clinical Futures strategy and Care Closer to Home. A merger of the two practices will allow the scale required to support the Transformation Model in Primary Care. This Model supports core GPs with larger multi-disciplinary teams of extended roles such as Advanced Nurse Practitioners, Pharmacists, Physiotherapist, Paramedics, Mental Health Practitioners and Occupational Therapists. These extended roles help to bridge the gap where there are GP shortages and ease pressure on existing GP resources ensuring that they are free to see the most complex of cases. This Model would also be supported by Care Navigation where the practice staff are trained to signpost patients to the most appropriate healthcare professional to meet their needs.

The Capacity of the Primary Care Estate

2.5.29 The impact of estate and premises cannot be underestimated in terms of implementing this new model. Tredegar is in an area of severe recruitment difficulties with populations experiencing social deprivation and ill health. The new model of working is particularly necessary in these areas, but the following constraints need to be resolved:

- If practices are to work together and provide for multi-disciplinary practice teams they need the space to be able to do so. Tredegar's GP premises are particularly poor with no room for expansion and in need of replacement.
- The Health and Social care model is particularly needed in these areas with communities experiencing a combination of health and social care problems and with a need to build community resilience. Around the country the development of Health and Well-Being hubs have successfully helped to bring services together and provide a focus for community activity. This facilitates better sign-posting, provides community space as well as room for the wider community teams in addition to a more multi-disciplinary practice team. Current facilities in Tredegar cannot absorb additional services and activities.

2.5.30 The current Primary Care estate is made up of relatively physically sound buildings that have reached their physical capacity. They are therefore unable to accommodate any additional enhanced or extended primary and community services that could be introduced.

2.5.31 There is therefore limited scope for service development or expansion, both due to the physical constraints of the current premises, but also due to the lack of larger facilities from which to deliver high volume services. As noted above the current model is based around GP-delivered services, rather than a more flexible and forward-looking model of multi-service delivery that facilitates a range of services being delivered from the same accommodation.

2.5.32 The existing Tredegar Health Centre building is outdated and not fit for purpose; it was built as an extension on the edge of the site of the Tredegar General Hospital and has limited capacity for expansion and is limited by design and poor layout. Particular

areas of the building, such as the nursing bays, do not protect patient confidentiality. There have been ongoing security issues with the old Tredegar Hospital site including a number of break-ins and vandalism, including arson, causing damage to the IT and Telephony services and utilities that also service the Health Centre. This has resulted in some services moving out of the area for a period of time until these issues can be addressed. The existing infrastructure will be too costly to reconfigure in order to bring it to a standard which is suitable to deliver services for the 21st Century. There is significant backlog maintenance costs required to bring both premises up to current day standards.

Conclusion

2.5.33 The information provided within this Case for Change demonstrates that the creation of a Health and Well-being Hub within Tredegar is a priority for the following reasons:

- The existing GMS services in Tredegar are not sustainable in their current form.
- The existing facilities in Tredegar are inadequate and are not sustainable in their current form.
- The constraints of the existing buildings do not allow for additional General Medical Services, GDS, Pharmacy, Community and Health and Well-Being Services to be expanded to meet the growing needs of the population, and in line with national and local strategies.
- The constraints of the existing buildings will not support the promotion of the 'Pharmacy First' Model and other supporting health/non care services to provide a greater holistic approach to health care through long term thinking, integration, prevention, co-production, and engagement and involvement.

3.0 ECONOMIC CASE

As with the Strategic Case factors contributing to the Economic Case have also not changed significantly since submission of the Outline Business Case. As the capital costs of the preferred option are less than that approved at OBC stage it has been confirmed by Welsh Government that a full re-write of the Economic Case and Economic Appraisal is not required. What follows therefore is a summary of the previous Economic Case and Economic Appraisal with any changes highlighted.

NON FINANCIAL OPTION APPRAISAL

3.1 Introduction

3.1.2 In accordance with the Capital Investment Manual and requirements of HM Treasury's Green Book (*A Guide to Investment Appraisal in the Public Sector*), the OBC considered a wide range of options to form a long list and then a short list which was appraised in more detail.

3.2 Appraisal Process

3.2.1 In line with the requirements of the Five Case Model the following framework of strategic options (or potential solutions) were developed for initial assessment. It encompassed the five "categories of choice" recommended within the Five Case Model:

- Scope of service
- Estate solutions
- Service delivery
- Implementation/phasing
- Funding

3.2.2 The evaluation was undertaken, and a simple scoring mechanism used to record how well each option met the investment objectives and satisfied the critical success factors (CSFs).

- x - the option did not meet the investment objectives or the CSF's
- ✓ - the option did meet the investment objectives and satisfy the CSF's
- ? - the option partially met the investment objectives and CSF's but had an element of uncertainty

3.2.3 A summary of the resulting long list, inclusions, exclusions and possible options is outlined in the following table:

Options	Finding
1.0 Scoping Options	
SO1 – Business as Usual , General Medical Services and other Health and Well Being services in the Tredegar area would continue to be provided as now.	Discounted - Does not satisfy any of the investment objectives or critical success factors, but is <u>retained as a benchmark for cost comparison against other shortlisted options.</u>
SO2 - Do Minimum , Existing General Medical services in Tredegar are merged into one practice but not co-located	Possible - This option does not meet all of the investment objectives or critical success factors. It offers some opportunity to improve the existing GP services but does little to improve the overall quality, sustainability and resilience of GMS and HWB services. Does nothing to improve integration.
SO3 - Existing General Medical Services in Tredegar are merged and co-located	Discounted - This option does not meet all of the investment objectives or critical success factors. It offers some opportunity to improve the existing estate but does little to improve the overall quality, sustainability and resilience of local health service provision. GMS and HWB services would not be integrated. WG capital is unlikely to be available therefore requiring 3PD support and associated revenue costs which are unlikely to be affordable.
SO4 - Develop Integrated General Medical and Health and Well-being services	Possible - This option meets the investment objectives and critical success factors. It offers significant opportunities for the integration, development and improvement of GMS and HWB services within Tredegar.
2.0 Estate Options	
ES1 - Do Minimum, Refurbishment of existing practice / health centre facilities.	Discounted - This option does not meet all of the investment objectives or critical success factors. It offers some opportunity to improve the existing estate but does little to improve the quality, sustainability and resilience of GMS and HWB services. <u>This option is discounted but is retained as a benchmark for cost comparison against other shortlisted options.</u>
ES2 - New build on Tredegar Hospital site. GMS services only.	Discounted - This option does not meet all of the investment objectives or critical success factors. It offers some opportunity to improve the existing estate but does little to improve the overall quality, sustainability and resilience of local health service provision. GMS and HWB services would not be integrated. WG capital is unlikely to be available therefore requiring 3PD

Options	Finding
	support and associated revenue costs which are unlikely to be affordable
ES3 - New build and refurbishment of the Tredegar Hospital, integrated GMS and HWB services	Possible - This option meets the investment objectives and critical success factors. It offers significant opportunities for the integration, development and improvement of GMS and HWB services within Tredegar and retains some of the existing building.
ES4 - New build on the Tredegar Hospital site, integrated GMS and HWB services	Possible - This option meets some of the investment objectives and critical success factors. It offers significant opportunities for the integration, development and improvement of GMS and HWB services within Tredegar and will provide the most functional building. It will however require the demolition of the whole of existing Hospital and may not obtain planning permission.
ES5 - New build on an alternative non-NHS site in Tredegar, integrated GMS and HWB services	Discounted - This option meets the investment objectives and critical success factors. It could offer significant opportunities for the integration, development and improvement of GMS and HWB services within Tredegar and could provide a functional building. The availability of suitable additional land is questionable and there is little to suggest that an alternative site would provide a better solution than the existing Tredegar hospital site. In addition the issues with the existing Tredegar Hospital site will remain and in that context demolition could be resisted.
3.0 Service Delivery Options	
SD1 - All services managed by ABUHB	Discounted - This option is unlikely to be desirable and will not be practically achievable.
SD2 - Mix of ABUHB and Independent Contractor / GMS services	Possible - This option is consistent with the investment objectives and critical success factors.
SD3 - All services externally managed	Discounted - This option does not meet many of the investment objectives or critical success factors and would not be supported by Welsh Government
4.0 Implementation Options	
IO1 - Single Phase	Possible - This option meets the majority of the investment objectives and critical success factors.
IO2 - Phased development/ occupation	Discounted - This option meets some of the investment objectives and critical success

Options	Finding
	factors although it might not create the most efficient solution, could take longer to deliver all the benefits, may not align with programme milestones and may cost more.
5.0 Funding Options	
F1 - Public Sector Capital	Possible - This is likely to present the most cost-effective solution.
F2 - Private Sector Capital - Lease by ABUHB	Discounted - This is unlikely to be affordable from a revenue funding perspective.

3.3 Short-listed Options

3.3.1 The possible' options identified above have been carried forward into the short list for further appraisal and evaluation. All the options that were discounted as impracticable have been excluded at this stage.

3.3.2 On the basis of this analysis, the recommended short list for further appraisal within the OBC was as follows:

Service Options	Estate Solution	Service Delivery	Implementation	Funding
Option 1 Business as Usual - General Medical Services and other Health and Well Being services in the Tredegar area would continue to be provided as now.	Status Quo + demolition of existing hospital	ABUHB / Independent Contractors	N/A	N/A
Option 2 Do minimum - General Medical Services and other Health and Well Being services in the Tredegar area would continue to be provided as now.	Upgrade of existing premises + demolition of existing hospital	ABUHB / Independent Contractors	Single Phase	Public Sector Capital
Option 3 - Develop Integrated General Medical and Health and Well-being services	Retain some of existing hospital and new build + part demolition of existing hospital and health centre	ABUHB / Independent Contractors	Single Phase	Public Sector Capital
Option 4 - Develop Integrated General Medical and Health and Well-being services	New Build on the Tredegar Hospital site + demolition	ABUHB / Independent Contractors	Single Phase	Public Sector Capital

	of existing hospital and health centre			
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3.4 Qualitative Benefits Appraisal of the Shortlisted Options

3.4.1 The short-list was then appraised using the Benefit Criteria which were agreed and weighted for use in appraising the options.

3.4.2 The ranking and weighting exercise was carried out by a large group of diverse stakeholders as part of the Option Appraisal workshop held in December 2018.

3.4.3 The outcome of that workshop is shown below:

Total									
IOs		Option 1		Option 2		Option 3		Option 4	
	W	S	T	S	T	S	T	S	T
IO 1	10	17	170	24	240	67	670	67	670
IO 2	40	17	680	24	960	65	2600	66	2640
IO 3	20	16	320	39	780	69	1380	64	1280
IO 4	30	25	750	33	990	68	2040	69	2070
Totals	100	75	1920	120	2970	269	6690	266	6660
Ranking		4	4	3	3	1	1	2	2

3.4.4 As indicated in the table above Option 3 ranks higher than the other options and is the preferred option from a non-financial / qualitative perspective.

3.4.5 As there has not been significant changes since the OBC process there has been no need to revisit the non-financial appraisal in this FBC

3.5 Economic Appraisal of Shortlisted Options

3.5.1 A full Economic Appraisal was undertaken in the OBC, the overall results of which are shown in the table below:

Evaluation Results	Option 1 - Business as Usual	Option 2 - "Do Minimum"	Option 3 - New Build & Refurb	Option 4 - New Build
GEM Economic Appraisal	1	2	4	3
Non-Financial Benefits Appraisal	4	3	1	2
Revenue Risk Appraisal	3	4	2	1
Overall Rank	3	4	2	1

3.5.2 Additional GDS contract expenditure of £250k annually has been included within the updated financial case to support additional dental treatments. As this requirement is common to all options, it does not change the GEM outcome.

3.5.3 Whilst it is clear from the above that option 4 provides the best overall value for money the only difference between with that and option 3 is that the latter retains a small element of the existing Tredegar Hospital which is seen as crucial from the perspective of local history and heritage, i.e. the “birth-place” of the NHS. Key stakeholders would not support an option that demolished the whole of the existing hospital and for this reason **Option 3 was and still is the preferred option.**

3.5.4 The following sections of this chapter summarises where changes have occurred since completion of the OBC largely as a result of updating the capital costs and revenue costs. Lifecycle costs and Optimism Bias have not been revisited.

Capital Costs

3.5.5 The FBC Supply Chain Partner (SCP), Kier Construction, have used the schedules of accommodation to develop the functional content, high level design and associated risk issues for each short listed option. The following points should be noted:

- **Option 1** - costs only include for the demolition of the existing redundant hospital and its decoupling from the existing Health Centre.
- **Option 2** - has been developed from the Estates annual returns quantifying backlog maintenance requirements relating to the existing Tredegar Health Centre, demolition of the existing redundant Hospital and its decoupling from the health centre. Indicative costs are also included to address backlog in the Glan-Yr-Afon Surgery. Temporary accommodation has been included to allow both buildings to be vacated while works are being undertaken.
- **Option 3** - capital cost estimates are based are based on 1:200 layouts, detailed plans and WG advice. They include for the demolition of most of the existing Tredegar Hospital and all of the existing Health Centre.
- **Option 4** - capital cost estimates are based on the information available for Option 3 but do not include for any retained accommodation. They include for the total demolition of all buildings on the Tredegar Hospital site and decoupling.

3.5.6 The total capital costs for all options are shown in the table below with full details contained in the FB forms in the Estates Annex:

	Option 1- Business as Usual £000	Option 2 - “Do Minimum”- £000	Option 3 - New Build & Refurb £000	Option 4 – New Build £000
Works Cost		2,910	10,912	10,862
Fees		685	2,006	2,006
Non-Works		1,532	835	835
Equipment		0	190	190
Contingency		333	492	493
Sub total		5,459	14,435	14,385

VAT		1,092	2,887	2,877
VAT Recovery *		(36)	(127)	(127)
Total Capital Cost		6,515	17,195	17,136

* VAT recovery at this stage has been limited to full recovery against professional fees. VAT recovery against SCP costs will be assessed by the Health Board's VAT advisors on agreement of target cost and will be further informed via ongoing discussions regarding the "Agreements for Lease" process.

3.5.7 There are no Estate disposals costs / income associated with this FBC.

Revenue Costs

3.5.8 The revenue costs presented are derived from a detailed analysis undertaken on:

- Estate and Non-pay implications
- Independent Contractor Income
- Workforce requirements

3.5.9 The assessed annual revenue cost to the UK public sector for each option is outlined in the table below. A detailed analysis of the revenue costs of each option is also included in **Appendix 4**:

Economic Case	Option 1 Business as usual	Option 2 "Do Minimum"	Option 3 New Build & Refurb	Option 4 New Build
	£m	£m	£m	£m
GMS Expenditure				
GMS Expenditure as per funding	1.633	1.633	1.633	1.633
Additional HB GMS Expenditure	0.498	0.498	0.000	0.000
GMS Enhanced Services	0.000	0.000	0.048	0.048
Total GMS Expenditure	2.131	2.131	1.681	1.681
Other H&WC Running Costs				
Workforce (Non-GMS)	0.000	0.000	0.055	0.055
Additional GDS Contract expenditure	0.250	0.250	0.250	0.250
Rates	0.016	0.016	0.110	0.110
Overhead running cost (excluding rates)	0.099	0.099	0.177	0.177
Total of Other Running Costs	0.115	0.115	0.334	0.334
Subtotal Costs	2.496	2.496	2.273	2.273
Income from Independent Contractors (rates, maintenance, cleaning, utilities)	0.000	0.000	0.034	0.034
Rent from Independent Contractors	0.027	0.027	0.049	0.049
Total Income	0.027	0.027	0.83	0.83
Net Cost	2.469	2.469	2.190	2.190

3.5.10 Option 1 identifies the current baseline cost of £2.469m, following the necessary exclusion of VAT. All other option costs noted above exclude VAT for the purposes of the Economic Case.

Incremental Revenue Position

3.5.11 The recurring effect of the incremental costs of each option is illustrated in the Table below:

Economic Case	Option 1 Business as usual	Option 2 "Do Minimum"	Option 3 New Build & Refurb	Option 4 New Build
	Option 1	Option 2	Option 3	Option 4
	£m	£m	£m	£m
GMS Expenditure				
GMS Expenditure as per funding	0.000	0.000	0.000	0.000
Additional HB GMS Expenditure	0.000	0.000	(0.498)	(0.498)
GMS Enhanced Services	0.000	0.000	0.048	0.048
Total GMS Expenditure	0.000	0.000	(0.450)	(0.450)
Other H&WC Running Costs				
Workforce (Non-GMS)	0.000	0.000	0.055	0.055
Additional GDS Contract expenditure	0.000	0.000	0.000	0.000
Rates	0.000	0.000	0.094	0.094
Overhead running cost (excluding rates)	0.000	0.000	0.078	0.078
Total of Other Running Costs	0.000	0.000	0.219	0.219
Subtotal Costs	0.000	0.000	(0.223)	(0.223)
Income from Independent Contractors (rates, maintenance, cleaning, utilities)	0.000	0.000	0.034	0.034
Rent from Independent Contractors	0.000	0.000	0.022	0.022
Total Income	0.000	0.000	0.056	0.056
Net Cost	0.000	0.000	(0.279)	(0.279)

3.5.12 Individual elements of this analysis are described in more detail below and in **Appendix 4**:

GMS – Options 3 and 4 identify a reduction in expenditure of circa £0.5m. This relates to the assumption that the new facility will facilitate the creation of a merged independent practice thus removing the need for locums. There are risks associated with this assumption as it will be challenging to return the Practices to the independent market. An element of this reduced cost may remain a pressure if tapering support is required to incentivise an independent practitioner taking over the practice, however this is not included within the case, other than £488k of growth for enhanced services.

Workforce – The only direct workforce implications relate to the planned appointment of an Operational Manager in Options 3 and 4 which is seen as crucial to the successful utilisation of the building and integration of services.

Other Non-Pay costs / Utilities/ Maintenance / Rates - Costs have been included based on existing costs of similar properties and the calculated floor area of the proposed new build and new build / refurb options. These 'building' related cost pressures of £167k plus VAT will need to be budget funded, with a clear and sensible allocation of cost responsibilities to fit with divisional responsibilities i.e. Primary Care, Facilities and IM&T.

Income – This includes an assessment of the rent received now and that will be received from Independent Contractors in the new building. The latter is based on DV assessed market rates. It is also assumed that Independent Contractors will pay for rates and utility costs based on floor area utilised.

Overall Conclusion of the Economic Appraisal

3.5.13 As stated in 3.5.1 although a full Economic Appraisal has not been redone as part of the FBC the overall conclusion reached at OBC stage is still valid, i.e. Option 3 is favoured from the Non-financial perspective and Option 3 is the favoured option overall.

3.5.14 The Financial Case in section 5.0 is therefore based on the capital and revenue costs of Option 3

4.0 COMMERCIAL CASE

4.1 Introduction

4.1.1 As required by the Five Case Model template this section of the Full Business Case (FBC) explains the proposed Deal in respect of the preferred option outlined in the Economic Case.

4.2 Required Services

4.2.1 This FBC states a requirement for the delivery of a Health and Well Being Centre on the site of Tredegar Hospital, under the NEC3 Engineering & Construction (ECC) Form of Contract and Designed for Life: Building for Wales Framework.

4.2.2 Schedules of Accommodation and Operational Policies are available to support the functional content, based on Health Building Notes. A full copy of the final Schedule of Accommodation is included in the Estates Annex.

4.3 Proposed Charging Mechanisms

4.3.1 For the HWBC development there will be no ongoing service provision and therefore no recurring charges by the SCP following completion of the hospital buildings.

4.4 Risk Transfer

4.4.1 The general principle is that risks should be passed to “the party best able to manage them”, subject to value for money (VFM). The UHB has carefully considered those risks best placed with the Supply Chain Partner (SCP) and those it will bear itself. This has been achieved at FBC stage through series of structured risk workshops and regular risk register review meetings, involving the UHB, SCP, Project Manager and Cost Advisor. Further information on the proposed Risk Management Strategy for the project, together with the quantified risk registers for the preferred option, is included in the Estates Annex.

4.4.2 Under the Designed for Life: Building for Wales Framework, which is described at length in the following section of the Procurement Strategy, the NEC3 Engineering & Construction (ECC) Form of Contract is used. The Engineering & Construction Contract is a “collaborative” contract that requires each project to include a Risk Register with risk allocated to the party best able to deal with it. The early involvement of the Supply Chain Partners means that they are fully briefed about risks in the project and accept ownership of risks than would normally be the case under a more traditional form of contract.

4.4.3 The table below shows how the project risks have been apportioned under a predominately Public Capital Funded procurement. The total assessed “Risk” cost at FBC stage is currently £491,800 plus VAT for the preferred option. This is split UHB £234,500 and SCP £257,300.

Risk	Potential allocation		
	ABHB	SCP	Shared
Design			Y
Site availability	Y		
Planning	Y		

Risk	Potential allocation		
	ABHB	SCP	Shared
Approval and Funding	Y		
Construction		Y	
Technical Commissioning		Y	
Operational Commissioning	Y		
Operating risk	Y		
Revenue risk	Y		
Technological and Obsolescence	Y		
Legislative Change	Y		

4.5 Contract Length

4.5.1 A stage 4, 5 & 6 Programme has been prepared by the SCP in full consultation with the Project Manager and UHB. The Programme fully complies with the requirements of the NEC3 ECC contract and the Designed for Life Framework. The Accepted Programme as required by the contract contains a detailed and comprehensive Programme of activities and the Completion Date is clearly identified.

4.5.2 Throughout Stages 5 & 6 the Accepted Programme will continue to be issued by the SCP to the Project Manager on a monthly basis for acceptance, including a mark-up of actual progressed achieved in the month and a strategy for recovering any lost time, in order to effectively monitor progress as work proceeds and robustly manage the project programme to ensure timely delivery of the project.

4.6 Proposed Key Contractual Clauses

4.6.1 The contract will be in accordance with the All Wales Designed for Life 4 Building for Wales Framework. The contract will be the NEC 3 Form of Contract. The conditions of contract are the core clauses and the clauses for main option C: Target Contract and Secondary Options – X1, X2, X4, X5, X7, X15, X16, X18, Y(UK) and Z of the NEC Engineering and Construction Contract (June 2005), with amendments dated September 201. The additional Z clauses comprise the standard Designed for life: Building for Wales Framework amendments.

- This contract is based on the following key principals:
- Clarity – The Contract is written in plain language
- The Risk Register is a key project and contract management tool
- Foresight and Early Warning Notifications
- A Target Cost and Cost not to be exceeded.
- Timely two-way communication
- Compensation Events
- Monthly Accepted Programme is used as a key project and contract management tool

4.6.2 Key external professional roles appointed on behalf of the Employer include, direct client appointments for the Project Manager and Supervisor. A Cost Advisor has also been appointed to support the Project Manager and Health Board.

4.7 Personnel Implications (including TUPE)

4.7.1 TUPE (*Transfer of Undertaking Protection of Employment*) does not apply to this investment as there is no change to the employing organisation. However, there will

be significant implications for a range of staff in terms of a change in location of employment. This will be managed using the UHB's Management of Change Policy.

4.8 Procurement Strategy

4.8.1 The HWBC development falls within the terms of the new All Wales Designed for Life 4 Building for Wales Framework.

4.8.2 The Health Board had appointed External Project managers and External Cost Advisers.

4.8.3 A Target Price has been agreed with the SCP.

4.8.4 The Health Board is also in the process of procuring the appointment of a Supervisor, in order to perform the required duties in the NEC3/ECC Contract.

Design Completion

4.8.5 It is a requirement of the Designed for Life Framework that 70-80% of the design (for each element including engineering services) should be progressed and completed at FBC. This has been clarified to mean the achievement of RIBA Plan of Work Stage H for Partnering type contracts. It does not mean 70-80% cost certainty as this should have been achieved earlier in the process. It is expected that proper co-ordination of the building enclosure, structure and engineering services is part of this requirement.

4.8.6 The purpose of the requirement for 70-80% design completion is to ensure that robust market testing of works packages can take place to ensure that the "Price Not to be Exceeded" in the FBC is sound and that everyone can have confidence in it. This level of design should also ensure there are no delays to construction activity because of incomplete or uncoordinated design proposals.

Target Price

4.8.7 The key to compiling the Target Price is clearly stated in Clause 52.1 of the NEC3 Engineering & Construction Contract, which states that Defined Cost includes only amounts calculated using:

- Rates and percentages stated in the Contract Data;
- competitively tendered prices;
- other amounts at open market rates.

With deductions for all:

- discounts;
- rebates;
- taxes which can be recovered.

The percentages stated in the Contract Data are:

- direct fee;
- subcontracted fee;
- working area overheads;
- manufacture and fabrication overheads;
- design overheads.

NEC Contract Data Rates and Percentages

4.8.8 At Framework level, rates for the following cost centres have already been agreed:

- All pre-construction staff involved in taking forward the design to approval of Full Business Case. These rates will be adjusted annually in accordance with the Average Earnings Index, as confirmed by NWSSP-FS.
- All Working Area based staff – These rates will be used to cost Preliminaries. These rates will be adjusted annually in accordance with the Average Earnings Index, as confirmed by NWSSP-FS.

Competitively Tendered Prices

4.8.9 The elements essential to the successful conclusion of this process are dependent upon sufficient time being allowed for:

- design to advance to a minimum of 70-80% completion;
- comprehensive and complete tender documentation to be prepared;
- tenderers to prepare their bids;
- proper evaluation and negotiation with tenderers.

Open Market Rates

4.8.10 It is widely accepted under the DFL Framework that there will be elements of work that are not competitively tendered. However, the extent of elements not competitively tendered will be limited to no more than 30% of the total Target Price. The SCP will be required to demonstrate to the Cost Advisor that "open market rates" are comparable to those that could be obtained in competitively tendered circumstances. This can be clearly demonstrated by benchmarking against other SCPs or projects or by demonstrating how best value for money will accrue to the project.

Procurement Procedure

4.8.11 At commencement of the FBC stage, a Procurement Strategy was produced by the SCP and agreed by the Project Manager identifying how the project is to be broken down into work packages and how each is to be procured. The Procurement Procedure or Strategy was incorporated into the Works Information at commencement of FBC and has informed the Price not to be exceeded

4.8.12 The Project Cost Plan was re-cast at this stage, to reflect the cost of the work packages (identified in the Procurement Procedure) from the previous elemental breakdown and the project risk register allowances were also revised. In addition, the Project Risk Register was also revised to suit, during the market testing process.

4.8.13 Each of the works package elements in the Cost Plan reflect the total expected cost of the works package after market-testing. They do not include any SCP design costs but do include allowable subcontract design costs.

4.8.14 Sufficient time was built into the Accepted Programme for design to be advanced to a stage where clear and meaningful tender documents were able to be drawn up to allow robust market testing to take place.

4.8.15 A minimum of three bids per works package have been obtained where possible, as part of the market testing process. All sub-contract bids were opened jointly by the SCP and Cost Advisor, to ensure openness and full transparency.

Evaluation

4.8.16 After bids had been received they were comprehensively evaluated, by the SCP and Cost Advisor, to ensure that fair and like for like comparisons between tenders were made. All bids have been "levelled" to achieve this and all adjustments have been made for any stated omissions or exclusions. These adjustments have been agreed with each works package subcontractor.

4.8.17 In the tender documents the SCP has identified those "attendances" that it expects the bidding subcontractors to provide. All other attendances that are expected to be provided by the SCP to the subcontractors have been priced for in the Contractors Preliminaries and not against the works package.

4.8.18 SCP Risk in respect of Work Packages has been accounted for in the Risk Register and quantified in the SCP Quantified Risk build-ups. There is no SCP Risk in Work Package costs. Subcontractor risk assessments are required to be covered in their respective bids.

4.8.19 It is accepted that some Work Packages may still require further design development to be undertaken after bidding. The design fees for this portion of work will be required to be allowed for by the subcontractor in his bid submission or, if the work is to be designed by the SCP, suitable provision has alternatively be made in the SCP fees.

4.8.20 The cost of the outstanding work has also been assessed. Theoretically it should be no more than the difference between the Work Package element cost and the bid submission received from the subcontractor. If more funding is required it will be drawn from the Cost Plan Design Reserve or from savings made elsewhere, as appropriate. Unless otherwise agreed with the Cost Advisor, the cost effect of Design Development should not amount to more than 5% of the value of an individual works package or 2.5% of the total of all work packages.

Post Target Price Re-Tendering of Works Packages

4.8.21 On occasions it may be the case that some Work Packages are required to be re-tendered after the Target Price has been agreed (i.e. in the event of subcontractor insolvency). If a package has to be re-tendered then it will be required to be undertaken in full agreement with the Project Manager and under the same process and implications as Pre-Target Price market testing.

4.9 Accountancy Treatment

4.9.1 It is envisaged that the assets underpinning delivery of service will be on the balance sheet of the UHB.

5.0 THE FINANCIAL CASE

5.1 Introduction

5.1.1 The purpose of this section is to set out the indicative financial implications of the preferred option (as set out in the Economic Case) and proposed deal (as described in the Commercial Case).

5.2 Capital Costs

5.2.1 The preferred option is Option 3 the construction of a largely new HWBC on the site of the Tredegar Hospital whilst retaining the “heart” of the old Hospital. The estimated outturn costs for the preferred option is £17.195 million, the detail of which is set out below:

	FBC Option 3 - New Build HWBC £m
Works Cost	10.912
Fees	2.006
Non-Works	0.835
Equipment	0.190
Contingency	0.492
Total Option Costs	14.435
VAT	2.887
VAT Recovery on fees	(0.127)
Total Inc. VAT	17.195
Additional Funding Requirements incl. VAT (Bat House / decarbonisation measures / Covid-19)	Incl. above
Inflation	n/a
Total Capital Cost	17.195

5.2.2 A more detailed breakdown of the capital cost calculations is contained within the FB Forms in the Estates Annex. The costs shown exclude optimism bias which was calculated in line with HM Treasury Guidance for the Economic Case only.

5.2.3 To aid the programme an Enabling Works package has been undertaken during the FBC period, which entails asbestos strip, demolition and preparation of the site ready for the main works. These works are well underway but have been delayed to the presence of significant amounts of asbestos and bat mitigation measures.

5.2.4 The detailed cash flows for the preferred option is contained with the FB forms in the estates annex and is summarised below:

Prior years	2020/21	2021/22	2022/23	2023/24
£1.892m	£1.711m	£9.524m	£3.839m	£0.229m

5.2.5 The FBC assumes all capital costs and inflation will be funded by Welsh Government in each of the years as per the above, in accordance with current Welsh Government policy.

5.2.6 The following key assumptions have been made in the capital case:

- Capital costs are reported at BCIS Pub Sec Index Level 266, Location factor 1
- Costs included for Fees are based on typical rates assuming the scheme is procured through the Designed for Life: Building for Wales procurement programme
- Non-Works Costs are based on estimated capital costs that will be incurred in developing the scheme through to Operational Completion and include Planning Fees, IT infrastructure, Artworks and Commissioning costs
- A Contingency allowance of £0.492 million plus VAT has been included based on a quantified Risk Register. The Risk Register is included in the Estate Annex
- VAT has been applied at the rate of 20% to all cost components and a very modest reclaim of £127k has been assumed. VAT recovery at this stage has been limited to full recovery against professional fees. VAT recovery against SCP costs will be assessed by the Health Board's VAT advisors on agreement of target cost and will be further informed via ongoing discussions regarding the "Agreement for Lease" process.

5.2.7 It should be noted that the capital costs **exclude any works for grouting of mining voids** which has been identified as part of the Ground Investigations surveys (both desktop and intrusive surveys/boreholes). Based on the information currently available, the extent of the voids are considered to be c.2m depth across the full footprint of the existing hospital building. However, the extent of the void can only be determined in detail once the buildings have been completely demolished. Additional capital funding to address the ground stability will then be informed by more detailed intrusive surveys once the demolition has been completed. As noted above in 5.2.3 the demolition is underway and is projected to be completed in December 2020.

5.3 Revenue Costs

Affordability

5.3.1 The table below summarises the revenue costs associated with the preferred option compared to the existing ABUHB costs incurred at Tredegar Health Centre, excluding depreciation and impairment. In order to reflect the full cost to the Health Board, VAT is included in the Financial Case, having been excluded (as prescribed) in the Economic Case. This results in a necessary variation in the figures for the preferred option between cases:

FBC Financial Case	Current Expenditure Incurred	Develop Integrated General Medical and Health and Well-being services. (Refurbish)
GMS Non Pay Practice Costs	Current Position	Option 3
	£m	£m
Rates	0.016	0.023
Other Non-pay (maintenance, utilities, security, cleaning)	0.103	0.035
GP Net Pay Expenditure	0.498	0.048
Total GMS Costs	0.617	0.106
Other H&WC Running Costs		
Workforce (Non-GMS)	0.000	0.055
Additional GDS costs	0.000	0.250
Rates	0.000	0.087
Overhead running cost (excluding rates)	0.050	0.146
Total of Other Running Costs	0.050	0.538
Total Costs (Non Pay GMS Cost & Other H&WC Running Costs)	0.667	0.644
Income from Independent Contractors (rates, maintenance, cleaning, utilities)	0.014	0.034
Rent from Independent Contractors	0.027	0.049
Total Income	0.041	0.083
Net Cost to the ABUHB	0.626	0.561

Current Expenditure / Income

5.3.2 Costs are based on the following:

- All costs are at 2019/20 price levels
- VAT is included where appropriate
- Tredegar Managed Practice costs only
- Overhead – Security costs for the Old Hospital Site
- Income – Service Charges
- Rent – Pharmacy Lease

5.3.3 The following costs are excluded:

- The majority of Glan-Yr-Afon pay and non-pay costs other than those noted above related to the estate
- Pay and non-pay costs of ABUHB clinical services that utilise the existing Health Centre on a sessional basis and which will continue to be provided in the new facility in future. It is assumed that these costs will be neutral.

Option 3 Expenditure / Income

5.3.4 The revenue costs presented are derived from a detailed analysis undertaken on:

- Clinical and service models
- Workforce requirements
- Estate and Non-pay implications
- Independent Contractor status and anticipated income

5.3.5 They assume that:

- The existing health care facilities in Tredegar, Tredegar Health Centre and the Glan-Yr-Afon practice will close
- For GMS services there will be a reduction of circa £0.450m in current expenditure that is related to running a managed practice with premium rate locum staffing. It is assumed that the new facility will facilitate the creation of a merged independent practice thus removing the need for locums. There are obvious risks associated with this assumption as it will be challenging to return the Practices to the independent market.
- An element of this reduced cost may remain a pressure if tapering support is required to incentivise an independent practitioner taking over the practice, however this is not included within the case, other than £40k of growth for enhanced services.
- Additional expenditure will be required to expand the GDS contract value to support additional dental treatments. This would be required regardless of whether the new facility progresses.
- Other 'building' related new cost pressures of £135k will need to be budget funded, with a clear and sensible allocation of cost responsibilities to fit with divisional responsibilities i.e. Primary Care, Facilities and IM&T.
- Tredegar Hospital will be demolished
- Income will be received for Pharmacy services as per current arrangements
- Income will be received for General Dental services to cover rent, rates, utilities and maintenance
- Income will be received from the merged practice to cover rates, utilities and maintenance.
- An Operational Manager will be appointed to manage the new facility employed by ABUHB

5.3.6 The following costs are excluded:

- All Independent Contractor pay costs and non-pay costs other than those associated with the Estate.
- Pay and non-pay costs of ABUHB clinical services that utilise the existing Health Centre on a sessional basis and which will continue to be provided in the new facility in future. It is assumed that these costs will be neutral.

Depreciation and Impairment

5.3.7 A profiled summary of the depreciation and impairment costs associated with the preferred option are set out in the table below:

Preferred Option Depreciation and Impairment

	2019/20	2020/21	2021/22	2022/23	2023/24 recurring
Option 3	£000	£000	£000	£000	£000
Depreciation - DEL Buildings		0	0	124	124
Depreciation - DEL Equipment & IT	0	0	0	70	70
Accelerated Depreciation	92	184	138	0	0
Impairment - AME	0	0	0	10,398	229
Total Costs	92	184	138	10,592	423

5.3.8 Impairment on the HWBC has been calculated based on advice from the District Valuer. The asset value post impairment has been depreciated over the estimates of useful economic life provided by the District Valuer.

5.3.9 The FBC assumes all impairment and depreciation will be funded by WG in each of the years as per the above, in accordance with current WG policy.

5.4 Impact on the Organisation's Operating Cost Statement and Balance Sheet

5.4.1 This section examines the impact of the proposed investment on the Health Board's accounts.

5.4.2 It should be noted that the following summarised extracts from the Statement of Comprehensive Net Expenditure (SOCNE) and Statement of Financial Position (SOFP) only model the impact of the capital and revenue changes of the proposed investment outlined in the tables below. It does not reflect the overall forecast position of the Health Board.

Impact on the Organisations Statement of Comprehensive Net Expenditure (SOCNE)

	2019/20	2020/21	2021/22	2022/23	2023/24 recurring
Option 3	£000	£000	£000	£000	£000
Revenue Cost Impact	0	0	(65)	-(65)	-(65)
Depreciation - DEL Buildings	0	0	0	124	124
Depreciation - DEL Equipment & IT	0	0	0	70	70
Accelerated Depreciation	92	184	138	0	0
Impairment - AME	0	0	0	10,398	229
Total Costs	92	184	73	10,527	358

Impact on the Organisations Statement of Financial Position (SoFP)

	2020/21	2021/22	2022/23	2023/24
Option 3	£0	£0	£0	£0
Non Current Assets b/f:	2,214	9,299	6,589	6,395
Non Current Assets Additions:				
Equipment & IT			446	
Assets Under Construction / Buildings	1,711	9,524	3,393	229
Total Additions	3,925	18,823	10,428	6,624
Non Current Assets Impairment:				
Assets Under Construction / Buildings			-10,398	-229
Total Impairments	0	0	-10398	-229
Non Current Assets Depreciation:				
Buildings			-124	-124
Equipment & IT			-70	-70
Accelerated Depreciation	-184	-138		
Total Depreciation	-184	-138	-194	-194
Closing NBV Impact on SoFP	3,741	18,685	-164	6,201

5.4.3 The costs of the grouting required (c £2m), currently sitting outside of this FBC, are unlikely to increase the valuation of the building provided by the District Valuer. It should be noted that these costs will require additional AME impairment funding coverage.

5.4.4 As shown in the extracts above, all assets will be shown on the Health Board's balance sheet. Whilst the HWBC is being built it will be shown as a non-depreciating asset under construction. The asset will be valued on completion and recorded on the balance sheet at that value in accordance with the Health Board's accounting policies.

6.0 THE MANAGEMENT CASE

6.1 Introduction

6.1.1 This section sets out information on the Health and Well-Being Centre (HWBC) Project Management arrangements.

6.2 Programme Management Arrangements

6.2.1 The HWBC is an integral part of the Clinical Futures Programme and as such has been absorbed within the Project Management arrangements of the whole programme. The Health Board Clinical Futures Delivery Board oversees the management and implementation of the Clinical Futures Programme with specific work-streams for:

- Service Delivery
- Strategic Capital and Estates
- Workforce and OD
- Communications and Engagement
- Supporting Infrastructure
- Information Technology

6.3 Project Management Arrangements

6.3.1 The HWBC project is being managed in accordance with the requirements of the All Wales Designed for Life: Building for Wales Framework, the NHS capital investment manual and PRINCE 2 methodology. The arrangements build on the experiences gained and lessons learned from the Grange Hospital project and the effective delivery of the Pathfinder Projects at Ysbyty Ystrad Fawr and Ysbyty Aneurin Bevan. These projects have ensured appropriate involvement of key stakeholders throughout the project process, as well as effective strategic direction and timely decision making.

6.3.2 The HWBC project is being managed in the context of the aforementioned Clinical Futures programme management structure and has its own Project Board which reports to the above Strategic Capital and Estates Work stream. The HWBC project also has a dedicated Project Team.

6.4 Project Roles and Responsibilities

Senior Responsible Owner – Nick Wood Executive Director of Primary, Community and Mental Health Services

6.4.1 The Senior Responsible Owner (SRO) is responsible for ensuring that the Project's objectives are delivered on time and within the desired cost and quality constraints. The SRO oversees the effectiveness of the Project Management Team ensuring that the Project Management structure is appropriate to ensure the project objectives are delivered and that the benefits are realised.

Project Director – Andrew Walker Strategic Capital and Estates Programme Director

6.4.2 Is accountable to the Director of Planning and has specific responsibility for the project management structures and organisation of the project, including appropriate controls and monitoring mechanisms. The Project Director is ultimately responsible for

the Risk Register but delegate's day to day management to identified risk leads. The Project Director is supported by an External Project Manager for the day to day planning and design phases of the project as well the technical, procurement and construction phases.

Service / Clinical Lead – David Minton NCN Lead

6.4.3 Is accountable for the effective co-ordination of clinical and user professional input to the project both from the perspective of the service / clinical provision and the internal allocation and utilisation of space within the HWBC.

Internal clinical and technical support

6.4.4 Other key project team members include internal ABUHB Primary Care, Community Care and Therapy representatives, Local Authority representatives and input from finance, personnel, estates, information and procurement.

External Scrutiny

6.4.5 The project will be subject to internal audit via NWSSP-Audit Assurance (Specialist Services) who provide the Health Board with internal capital audit services.

Project Plan

6.4.4 The Estates Annex includes the detailed construction programme. The table below highlights the key project milestones:

Milestone	Date
Submission of FBC to WG	23rd September 2020
WG Approval	20th November 2020
Agreement of Target Cost	23rd November 2020
Start on Site Phase 1	4 th May 2021
Handover Phase 1	6 th August 2022
Commence Phase 2 – Demolish old Health Centre & Complete External Works	19 th August 2022
Completion Phase 2	12 th April 2023
Project Closure	12 th July 2023

6.5 Use of Specialist Advisors

6.5.1 The following are the main external specialist advisors that have been commissioned to support the project:

Project Manager (External) – Gleeds Management Services - The External Project Manager has been appointed from the All Wales Designed for Life: Building for Wales Framework. In summary, this role encompasses a project management role of the technical aspects of the business case process and subsequent design, procurement, construction and project closure stages under the NEC3 Form of Contract.

Cost Adviser services – Lee Wakeman's - The External Cost Advisor has also been appointed from the Design for Life, Building for Wales Framework, and will oversee the financial management of the capital expenditure. They will monitor project costs,

implement rigorous verification and checking of all costs presented by the SCP, and deliver a project from a UHB perspective which is affordable and provides value for money.

6.5 Change Management

6.5.1 The overall approach to Change Management and the management of that process will be overseen by the Director of Workforce and Organisational Development who chairs the Clinical Futures Workforce and Organisational Development Group, a sub-group of the Clinical Futures Programme Board.

6.5.2 The Health Board has an identified Organisation Development Strategy which focuses on the transformational change necessary to deliver the whole system redesign for the Clinical Futures Strategy. This work is underpinned by an organisational employee engagement strategy.

6.6 Arrangements for Benefits Realisation

6.6.1 It is important that the benefits claimed in the Economic Case are reviewed during the post project evaluation to assess whether they have been realised.

6.6.2 The identified benefits will need to be tracked and monitored in order to ensure that they are successfully achieved and thus reported to the Clinical Future Programme Board. A Benefits Realisation Plan is attached at **Appendix 2** which details the potential benefits and associated outcomes and the framework for monitoring their realisation.

6.7 Arrangements for Risk Management

6.7.1 The overall arrangements for the management of risk is undertaken at Clinical Futures Programme Level via the collation of information from the various work streams identified in 6.6.1 above. Issues with the highest risk scores are routinely discussed at the Clinical Futures Delivery Board.

6.7.2 The HWBC project risk management process has run alongside the project planning process including a number of risk workshops involving key personnel from the Health Board, the Supply Chain Partner, the Project Manager and the Cost Advisor.

6.7.3 The current project risk register for the HSDU is found in the attached Estates Annex.

6.8 Arrangements for Contract Management

6.8.1 This FBC states a requirement for the delivery of a Health and Well Being Centre on the site of the Tredegar Hospital, under the NEC3 Engineering & Construction (ECC) Form of Contract and Designed for Life: Building for Wales Framework.

6.8.2 The Commercial Case sets out in detail the overall approach and arrangements for the management of the contract.

6.9 Arrangements for Post Project Evaluation

6.9.1 A Post Project Evaluation (PPE) incorporates the Project Evaluation Review (PER) and the Post Implementation Review (PIR). The Post Project Evaluation plan for both these elements will be developed and will be undertaken after the operational commissioning of the new HSDU.

Post Evaluation Review (PER)

6.9.2 The purpose of the PER is to improve project appraisal at all stages of the project from preparation of the business case through to the design, management and implementation of the scheme and will be timed for 6 months following the commissioning of the HWBC.

6.10 OGC Gateway Review Arrangements

6.10.1 The project has to date not been the subject of a Gateway Reviews but the appropriate RPA documentation has been completed.

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