

## Appendix 9 - Economic Appraisal Supporting Information

- NPV calculations
- Village Health System Benefits by year
- Short list detailed appraisal

### NPV Calculations

Summary CBA – Preferred Option UK Perspective

Villages CBA (Simplified) - Preferred Implementation																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
	Project Period				Post-Project												15 Yr
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total	
<b>Costs</b>																	
City Deal Capital Investment	0	3,076,923	3,076,923	3,076,923	3,076,923	3,076,923	3,076,923	3,076,923	3,076,923	3,076,923	3,076,923	3,076,923	3,076,923	3,076,923	3,076,923	40,000,000	
Investment (discounted/bias factored)		3,692,308	3,563,077	3,438,369	3,318,026	3,201,895	3,089,829	2,981,685	2,877,326	2,776,620	2,679,438	2,585,658	2,495,160	2,407,829	-	39,107,220	
Cumulative Costs (discounted/bias)	-	3,692,308	7,255,385	10,693,754	14,011,780	17,213,676	20,303,505	23,285,190	26,162,516	28,939,135	31,618,573	34,204,231	36,699,391	39,107,220	39,107,220	39,107,220	
<b>Benefits</b>																	
Cumulative Benefits (discounted)*	-	579,000	41,249,482	39,916,149	40,691,077	41,989,713	44,408,015	47,975,664	52,688,149	58,537,049	65,510,408	73,520,716	82,485,211	92,325,653	102,968,113	102,968,113	
<b>NPV</b>	-	3,113,308	33,994,097	29,222,395	26,679,297	24,776,037	24,104,510	24,690,474	26,525,633	29,597,913	33,891,834	39,316,485	45,785,820	53,218,434	63,860,893	63,860,893	

Base Analysis		Sensitivity Analysis						Optimism Bias	
Scenario Summary	BCR	20% reduction in Wider Benefit	BCR	1Yr Delay in Benefits	BCR	20% increase in costs	BCR	0.20	
10Yr NPV	29,597,913	10Yr NPV		10Yr NPV	23,749,014	1.82	10Yr NPV	23,810,086	1.68
15Yr NPV	63,860,893	15Yr NPV		15Yr NPV	24,753,674	2.36	15Yr NPV	56,039,449	2.19
		40% reduction in Benefits	BCR	Slow Mobilisation (6month delay)	BCR	1Yr Delay and -20% Wider Benefit	BCR		
		10Yr NPV	6,183,094	1.21	10Yr NPV	26,673,464	1.92	10Yr NPV	
		15Yr NPV	22,673,648	1.58	15Yr NPV	58,539,664	2.50	15Yr NPV	



## Village Health System Benefits Breakdown by Year

					Post-Project											15 Yr		
			2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total		
<b>Benefits</b>	Population	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320		
Resident - Reduced GP Visits #		640	640	640	640	640	640	640	640	640	640	640	640	640	640	640	640	8,320
Resident - Reduced GP Visits £		24,320	24,320	24,320	24,320	24,320	24,320	24,320	24,320	24,320	24,320	24,320	24,320	24,320	24,320	24,320	24,320	316,160
Resident - Reduced Admittance #		64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	832
Resident - Reduced Admittance £		52,224	52,224	52,224	52,224	52,224	52,224	52,224	52,224	52,224	52,224	52,224	52,224	52,224	52,224	52,224	52,224	678,912
Resident - Improved Return (wks)		64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	832
Resident - Improved Return £		159,360	159,360	159,360	159,360	159,360	159,360	159,360	159,360	159,360	159,360	159,360	159,360	159,360	159,360	159,360	159,360	2,071,680
Community - Reduced GP Visits #		640	1,280	3,840	3,840	3,840	3,840	3,840	3,840	3,840	3,840	3,840	3,840	3,840	3,840	3,840	3,840	44,160
Community - Reduced GP Visits £		48,640	48,640	145,920	145,920	145,920	145,920	145,920	145,920	145,920	145,920	145,920	145,920	145,920	145,920	145,920	145,920	1,702,400
Community - Reduced Admittance #		128	128	384	384	384	384	384	384	384	384	384	384	384	384	384	384	4,480
Community - Reduced Admittance £		104,448	104,448	313,344	313,344	313,344	313,344	313,344	313,344	313,344	313,344	313,344	313,344	313,344	313,344	313,344	313,344	3,655,680
Community - Improved Return (wks)		64	64	192	192	192	192	192	192	192	192	192	192	192	192	192	192	2,240
Community - Improved Return £		159,360	159,360	478,080	478,080	478,080	478,080	478,080	478,080	478,080	478,080	478,080	478,080	478,080	478,080	478,080	478,080	5,577,600
																		-
<b>Total Benefits</b>		548,352	548,352	1,173,248	1,173,248	1,173,248	1,173,248	1,173,248	1,173,248	1,173,248	1,173,248	1,173,248	1,173,248	1,173,248	1,173,248	1,173,248	1,173,248	14,002,432
Total Benefits (discounted)		510,639	492,767	1,017,417	981,808	947,444	914,284	882,284	851,404	821,605	792,849	765,099	738,320	712,479				10,428,398
<b>Cumulative Benefits (discounted)</b>		510,639	1,003,406	2,020,823	3,002,631	3,950,075	4,864,359	5,746,643	6,598,046	7,419,651	8,212,500	8,977,599	9,715,919	10,428,398				10,428,398
<b>NPV</b>		510,639	1,003,406	2,020,823	3,002,631	3,950,075	4,864,359	5,746,643	6,598,046	7,419,651	8,212,500	8,977,599	9,715,919	10,428,398				10,428,398

## Short-list Detailed Appraisal

The 4 short listed options identified are described in more detailed below along with an assessment of the potential outcomes.

### Status Quo

Each constituent organisation matures their strategic business plans in relative isolation. The ILS in Swansea continues to progress research and business development opportunities in Swansea, with growth and development on the existing University campus. There is strong competition for development space from other initiatives and University main stream business and grant application priorities across the institution. Partnership working continues in existing capacity and environments. CCC pushes ahead with development at Delta Lakes but it lacks strategic connection.

#### Resulting impact:

- Delay in realising the opportunities for economic development and risk for a further decline in demographics
- Loss of identified private and public sector funding due to lack of pace and responsiveness
- Missed opportunities to contribute to ARCH and partner organisation objectives
- Reputational risk and loss of confidence in partners due to slow progress being achieved
- Competitiveness of the region compromised due to lack of timely investment
- Exacerbation of current economic and health needs of the region, making it much more challenging to achieve positive impact in the future.

### Do Minimum

Attract publically funded investment for the public sector partners to develop key areas of the life science and wellbeing village within existing affordability and timing constraints. A new business development site, including a satellite of the ILS network, is developed at Delta Lakes that has a 'sector focus' and incrementally enhances partnership working.

#### Resulting impact:

- Failure to meet full economic development potential
- Potential time delays in delivery of any Public Sector deliverables due to not being fully involved and engaged
- Questionable overall affordability for SMEs and growing enterprise in the sector due to lack of integration with Public Sector resources
- Will result in regional disparity and potential widening of the social gap – particularly in terms of delivering affordable health and wellbeing services
- Benefits for the Llanelli area will be realised, but not replicated elsewhere
- Living Laboratory potential reduced, making engagement of the full population unlikely
- Failure to enhance Research Impact and Research Excellence Framework (REF) outputs to full potential
- Creating competition rather than collaboration within the Life Science & Well-Being Ecosystem

### Preferred Way Forward – Limited Scope

Funding secured through a combination of private and other public sector investment. Private sector investment attracted through property development. ILS, I2 business incubation and acceleration facilities are created alongside a new Wellbeing Skills Centre, (funded by University-secured grant/loan rather than City Deal), which complements new health and social care facilities funded through private and other public sector investment. Incremental development over medium-long term, as funding opportunities materialise and can be secured. NHS integration achieved through either NHS Wales capital funding (when available) or private sector property investment.

#### Resulting impact:

- Considerable economic development potential
- Improvements in health and wellbeing of people with the region
- Access to business incubation and acceleration capabilities with access to the market
- Leisure and tourism facilities partially linked to health, research and tourism. However, opportunities for development not maximised
- Realisation of a comprehensive benefits programme through developing the links between all elements of the Villages, albeit over a longer period. Therefore whilst there will be a strong environment for co-production between skills, employment and business development, some opportunities may take longer to be realised
- Some improvement in the current ecosystem within the life science and health sector in the region
- Links between research and development and sustainability within related sectors not optimised.

### Preferred Way Forward – Full Scope

City Deal investment secured with 50/50 match funding requirement exceeded, allowing the full ambition of the Life Science and Wellbeing Village to be realised in the short-medium term, catalysing and accelerating economic development. In addition to the ILS, I2 and the Wellbeing Skills Centre, state-of-the-art leisure and tourism facilities are created for the local communities and a critical mass of business activity attracts global brands for collaborative working with the partners. NHS integration achieved through private sector investment – economies of scale (financial and knowledge) achieved.

#### Resulting impact:

- Impact of investment would have regional and national significance maximising the potential of a UK-leading initiative.
- Integrated business, skills, health and leisure resources for communities in the region
- Large scale collaboration across public, private and third sectors addressing the needs of the region; the whole being greater than the sum of the parts
- Diversified and upskilled fit-for-purpose workforce
- Living Laboratory for research and development and service improvement across multiple sites working towards inclusion of all citizens
- Maximised opportunities for job creation and economic impact

The short-listed options were evaluated in the following matrix (table 9) to ensure each is appraised on merit. A RAG scoring system has been utilised, with green taken to mean optimum/best outcome, yellow an intermediate outcome and red an undesirable output. The matrix assumes that we will achieve more than the status-quo scenario, and hence this is not included.

	<b>Do minimum</b>	<b>PWF – limited scope (Intermediate)</b>	<b>PWF – Full Scope (Do Maximum)</b>
<b>Scope</b>	Development of publically funded business space at Delta Lakes, anchored in a specialist sector including an ILS satellite facility	ILS and I2 in Llanelli, alongside Wellbeing Skills Centre. Some private sector property investment	ILS and I2 and Wellbeing Skills Centre in Llanelli, featured as part of a whole Village concept (leisure centre, assisted living, hotel) with property and knowledge investments from industry
<b>Service Solution</b>	Creation of business park with specific service focus which includes some ILS activity linked to Swansea University and the wider network	Specific life science focus with multiplier effect due to integration with education, health service delivery, skills and training	Specific life science focus with enhanced and accelerated economic impact due to integrated development alongside full remit of the Wellbeing Village, including tourism and assisted living
<b>Service Delivery</b>	Tendency to focus on a silo approach. Resources available to deliver services are limited due to availability of public capital investment and individual partner revenue implications	Specific business development and education partnership working. Delayed service development due to availability of grant and loan funding. Challenging revenue implications of repaying any private-only property investment	Innovative, enhanced partnership working across public and private partners with the development of fully integrated services: economic development, health care, social care, and leisure/tourism. Includes 'living laboratory' for enhanced R&D opportunities. Economies of scale and cost-effective funding
<b>Implementation Timing</b>	Long term	Medium-long term	Short-medium term
<b>Funding</b>	Publically funded from some already	Mixed funding solution. Public	Potential for public funding from

	identified sources and some unidentified, but traditional, sources. Limitations and delays due to pressures on the public purse	funding from some already identified sources and some unidentified, but traditional, sources. Limitations and delays due to pressures on the public purse. Accelerated with private investment (property-only). Lacks ongoing private sector engagement.	identified sources (CCC and City Deal) with appropriate scope and no delays. Private investment (property and knowledge) aligned with public sector investment. Ongoing collaborative approach to project delivery. Economy of scale for private sector loan/equity. Integrated master planning and workflows.
<b>Outcomes</b>	Some job creation without integrated skills and development programme. Distributed activity minimises impact	Enhanced job creation through opportunities to link skills development, improving over medium-long term. Benefits from co-location and collaboration between public sector partners.	Maximised impact; projected job creation of 1,853 and training across life science & wellbeing, leisure and tourism sectors. Benefits from co-location and collaboration between all partners. 'The whole is greater than the sum of the parts'.

The key rationale for co-location of services is to maximise the potential benefits and interconnectivity of economic development, training and healthy lifestyles to identify and facilitate opportunities for co-production. Llanelli Life Science and Wellbeing Village will not focus on providing an environment for business and services to be delivered as they currently are but through collaboration and co-production to enable benefits to be maximised through working in a different way to meet this transformational economic aim. This is the driver behind the preferred option of a full scope development incorporating and enhancing the diversity and full potential of all partners. The carefully chosen location will give critical land masses with integrated infrastructure and resources to deliver this revolutionary concept at regional scale and of national significance