Appendix A

Swansea Bay City Deal

Construction Impact Assessment Summary Report

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Date	April 2024
Version	**V17.0**

1.0 Executive Summary

The Construction Impact Assessment (CIA) provides a combined assessment of costs, risks, and issues, to quantify and highlight the effect of rising construction costs across the SBCD Portfolio.

The CIA covers 15 construction-related project elements within the 9 SBCD programmes and projects. At the date of this report:

- 3 elements are completed (known cost)
- 5 elements are procured and subject to contract (known cost)
- 7 elements yet to be procured (estimated)

This current assessment estimates a **£43.5m** gross funding gap because of inflationary pressures and rising construction costs between business case development, sign off, and now. See Table 1, Sect 4.1.
This includes a reduction of £569.6k since last reported due to Campuses value engineering exercise that has reduced cost estimates for Singleton and there has been some additional clarification of costs on other projects (increase of £1.2m in SILCG) within the narrative of the report see Sect 4.1.

Mitigating actions by Lead Delivery Organisations have reduced the residual impact to **£12.75m** as shown in Table 2, Section 4.2.

Although there are several mitigating options available to project leads, the common approaches to address the funding shortfall are to:

- Secure additional funding
- Revisit the construction brief
- Open dialogue with contractors.

The risk assessment shows that 3 areas of high concern persist, these being the potential effects on Scope, Time and Costs. Summarised in Table 3, Section 4.2.

It should be noted that this CIA does not include future phases of some projects and programmes that are part of the project Business Cases. There remains a risk that increased costs may affect delivery of future stages, which, in some cases, may subsequently affect achievability of programme and project deliverables and benefits.

Inflationary uncertainties aside, the Construction sector seems more settled (March 2024) than in 2022 when the original CIA was compiled and the spike in prices and material supply issues were at a peak. Although prices remain high, they are more consistent, and supply is much improved. Some market volatility remains with metal doors and windows, ready mix concrete and some insulation materials seeing significant price increases in Q4 23, but fabricated structural steel, concrete reinforcing bars (steel), imported sawn or planed wood and imported plywood all seeing significant reductions. Contract terms, recruitment and labour costs are currently big issues across the sector.

The PoMO continues to monitor the impact of inflation, cost and effect of mitigating actions on a monthly basis. SROs and Project Managers are required to notify the PoMO and record key changes via the change management process and submit appropriate paperwork via their local and SBCD regional governance arrangements.

2.0 Background

In response to several macro-economic factors affecting the construction industry, in mid-2022 the PoMO set out to identify and forecast the likely impact of increasing construction costs on the Business Case estimates across the SBCD Portfolio. The result was the creation of a point-in-time report titled Assessment of Increasing Construction Costs (September 2022) that was subsequently

reported through SBCD Programme Board and Joint Committee. The initial report estimated a £30m gross funding gap due to inflationary pressures and construction costs.

The purpose of the Construction Impact Assessment (CIA) is to add a combined risk/issues assessment with the cost impact assessment. The combined assessment highlights and quantifies the potential effect on SBCD Programmes and Projects of specific issues currently being experienced throughout the construction industry.

SBCD Programme Board and Joint Committee have requested that all Lead Delivery Organisations continue to assess and monitor the status of their SBCD Programmes and Projects and report the potential or actual impact of construction related challenges on successful delivery of their Programmes or Projects.

3.0 Definitions

For the purposes of this report the term Construction Costs is defined as those costs directly attributable to the building, refurbishing, or delivering items or services that are specified in the procurement tendering process and the construction contract awarded for each individual element of the SBCD projects or programmes.

The non-exhaustive list includes groundworks, site works, costs of materials, labour, consultancy, mechanical and electrical items, fuel, machinery and operation, PPE, and on-site staff facilities.

It should not include any ancillary consultancy fees, or similar activities, that are associated with the wider delivery of projects or programmes.

4.0 Project and Programme Risk Impact Assessment March 2024

The Construction Impact Assessment provides a combined assessment of costs, risks, and issues to quantify and highlight the effect of rising construction costs across the SBCD Portfolio.

The Assessment covers 15 construction-related project elements within the 9 SBCD programmes and projects. At the date of this report:

- 3 elements are completed (known cost - no further risks or issues)
- 5 elements are procured and subject to contract (known cost – some risk remains)
- 7 elements yet to be procured (estimated cost – risks and issues remain)

The HAPS Project and Skills and Talent Programme are not included in this assessment. These programmes do not directly fund any construction activity. However, increased construction costs and inflationary pressures could have an indirect effect on the realisation of project and programme outcomes. This will be monitored separately via the benefits and risk reporting processes.

Tables 1 and 2, Sect 4.1, detail the current situation of cost variances, key mitigations, and their associated impact across the Portfolio.

4.1 Project and Programme Cost Assessment Summary

The initial Construction Costs report was mostly based on estimates contained in the programme and project business cases, which would become more certain as projects procured and awarded contracts and when actual costs are known.

This report is reviewed monthly to align costs with current risks and circumstances. Reported costs will change as and when contracts are awarded, or during delivery. The estimation methodology is detailed in Appendix 1.

The current estimate, as of March 2024, has been derived using a combination of actual costs, current tender pricing, and cost estimation. These are based on actual and anticipated delivery

timelines i.e. build of infrastructure. The funding gap is caused by inflationary pressures and rising construction costs between business case development, sign off, and now. See Table 1, Sect 4.1.

The report to Programme Board 26th March showed a decrease of overall costs from £42.9 to £42.3m, however, this current assessment estimates a **£43.5m** gross funding gap.
This is resulting from a reduction of £569.6k due to Campuses value engineering exercise that has reduced cost estimates for Singleton. However, following March 2024 Programme Board an increase of £1.2m was notified due to SILCG now including groundworks not previously reported. This also affects the residual as shown below.

Mitigating actions by Lead Delivery Organisations have reduced the residual impact which now stands at **£12.75m** as shown in Table 2, Section 4.2.

Costs that are outside of the original budget allocations are expected to be managed by Local Authorities and Lead delivery partners. An explanation of mitigating actions and the consequences of mitigation are given in Table 2.

The report does not include future procurements that are yet to be designed and costed, such as future zones/phases in respect of the life science projects (Pentre Awel Zones 2,3,4 and Campuses Phase 2). These have been omitted as SBCD funding is not directly utilised to develop them, and due to their nature, a reliable estimate is unobtainable at present.

It should be noted that the above phases are part of the project Business Cases and there remains a risk that increased costs may affect delivery of future stages which, in some cases, may affect achievability of programme and project benefits and deliverables.

Table 1 Construction Cost Assessment

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Construction Cost Assessment

Programme/Project	Construction Estimate (Per BC) (£)	Current Estimation (April 2024)(£)	Variance (£)	Development Position
SILCG				
Bay Technology Centre	8,500,000	8,883,000	- 383,000	Delivered
SWITCH	15,000,000	23,000,000	- 8,000,000	Estimated
Advanced Manufacturing	17,200,000	21,595,189	- 4,395,189	Estimated
	40,700,000	**53,478,189**	**- 12,778,189**	
Pentre Awel	**79,000,000**	**84,056,756**	**- 5,056,756**	**Procured**
Yr Egin				
Phase 1	14,868,348	14,868,348	-	Delivered
Phase 2	10,301,653	12,956,872	- 2,655,219	Estimated
	25,170,001	**27,825,220**	**- 2,655,219**	
Swansea Waterfront				
Arena and Public Realm	68,975,842	73,398,769	- 4,422,927	Delivered
71/72 Kingsway	48,540,125	48,540,125	-	Procured
Hotel	0	0	0	Not yet procured
Innovation Matrix/DLF	13,232,099	15,984,542	- 2,752,443	Estimated
Innovation Precinct	17,424,458	21,092,933	- 3,668,475	Estimated
	148,172,524	**159,016,369**	**- 10,843,845**	
Campuses				
ILS Innovation Centre - Singleton	12,790,000	16,945,955	- 4,155,955	Estimated
ILS Innovation Centre - Morriston Planning	960,000	960,000		Estimated
ILS Innovation Centre - Morriston Construction	1,250,000	1,250,000	-	Estimated
	15,000,000	**19,155,955**	**- 4,155,955**	
PDM				
Pembroke Dock Infrastructure	41,593,611	48,105,228	- 6,511,617	Estimated
	41,593,611	**48,105,228**	**- 6,511,617**	
Digital Infrastructure	**20,500,000**	**22,097,114**	**- 1,597,114**	**Estimated**
Total	**370,136,136**	**413,734,831**	**- 43,598,695**	

Table 2 Cost Variance from Business Case and Residual Variance after Mitigating Actions

Project/Programme	Lead deliverer	Cost variance	Key mitigation(s)	Residual variance	Mitigations to address Residual/Notes
Swansea Waterfront - Arena and Public realm	Swansea Council	£4.4M	Shortfall to be met by Swansea Council. 71/72 Kingsway shortfall estimated between £2m-3m, Fixed price contracts with tier 1 contractor, however cost inflation is having a negative impact which is being monitored closely.	£0	n/a Hotel yet to be procured
Swansea Waterfront - Innovation Matrix and Precinct	University of Wales Trinity Saint David	£6.4M	Innovation Matrix shortfall met by UWTSD. Value engineering on design and build.	£0	Innovation Precinct yet to be assessed for cost variance and will be subject to a change request.
Pentre Awel	Carmarthenshire County Council (CCC)	£5.05M	Shortfall to be met by CCC. Value engineering exercise undertaken. Changes to materiality and some omissions undertaken. Reduction of building area by 750m^2. Increased use of digital and remote delivery for education and training, health and research/innovation.	£0	NB The £84,056,756 is the total value of the current construction contract, but the total costs incurred in relation to Zone 1 of Pentre Awel are projected as £96m. This includes an additional sum of £2.6million for fit out costs which sits outside of the current construction contract, which will be procured once further tenants are confirmed
Campuses	Swansea University	£4.15M	Shortfall met by Swansea University of up to £4.15M for Singleton Phase 1. Currently at RIBA Stage 3. Exploration of further design, materials, and any value engineering.	£0	Value Engineering exercise undertaken for Singleton resulting in a reduction of ££569.6k cost estimate.
Pembroke Dock Marine – Pembroke Dock Infrastructure	Pembroke Port	£6.5M	Competitive tenders and further review of Best and Final with additional scrutiny. Value Engineering has resulted in a reduction of costs circa £10m which brings costs down from circa £55m to £45m. Additional WEFO funding secured.	£0.5M	Innovative trading and phasing within overall programme to deliver the individual phased outputs and outcomes.
Supporting Innovation and Low Carbon Growth	Neath Port Talbot Council	£12.77M	Shortfall for BTC met by NPT Council (£0.38M). SWITCH element, the overall budget for the project is £28m split into £23m build and £5M for specialist equipment	£8M	SWITCH: on-going review and value engineering. Seeking other funding opportunities. AMPF element not yet procured
Yr Egin phase 2	University of Wales Trinity Saint David	£2.65M	Change Request being developed for Phase 2, which aligns to current regional demand.	£2.65M	Potential to value engineer, secure funding from additional sources or reduce infrastructure size. The Egin 2 delivery solution is currently under review by the University's new

					senior management team. Consideration of several options is likely to result in the commencement of a change control process. The current budget projections (based on the original Business Case) are likely to change in accordance with the outcome of this process.
Digital Infrastructure	CCC	£1.6M	Calculation is based on forecasted inflationary increases.	£1.6M	Mitigations yet to be determined.
TOTAL (*allowing for rounding)		**£43.5M***	**Key mitigation(s)**	**£12.75M**	

4.2 Summary of Risks and areas of concern

The Construction Impact Assessment has 10 questions that represent broader issues being experienced in the construction industry that may affect project delivery; these are mapped across 8 fields to score potential impact and probability of occurrence leading to a high, medium, low (Red, Amber, Green RAG) rating.

The result is shown in the following example return from a Project or Programme:

Ref No.	Risk		Scope and key objectives	Targets	Timescales	Reputation if project fails to deliver	Stakeholders/ partnerships commitment	Project costs	Procurement	Staff resourcing
		Risk or Issue								
	People									
1	labour and/or suitable subcontractors and suppliers	Risk	Low	Low	Low	Low	Low	Medium	Medium	Low
2	main contractor delivery/management team -	Issue	Low	Low	Low	Low	Low	Medium	Medium	Low
	Materials									
3	Lack of availability of construction materials	Risk	Low	Medium	Medium	Low	Low	Medium	Medium	Low
4	Quality of materials	Issue	Low	Low	Low	Low	Low	Medium	Low	Low
	Finance									
5	Rising construction costs	Risk	High	Medium	Low	Medium	Medium	High	Medium	Low
6	Contractor / subcontractor / experiencing financial difficulty	Risk	Medium	Medium	High	Medium	Medium	Medium	Low	Low
	Timelines									
7	Delays in due to traditional infrastructure project factors	Risk	Low	Medium	High	Low	Low	Medium	Low	Low
8	delay in obtaining relevant construction related / operational approvals	Risk	Medium	Medium	High	Medium	Medium	Medium	Low	Low
	Policy/political									
9	industry/governmental statatory & mandatory requirements	Issue	medium	medium	low	low	low	Medium	low	low
	Other									
10	other risks/issues in relation to construction not highlighted above									

The programme and projects returns are summarised at Portfolio level in Table 3

Impact Field / Risk / Issue	Scope	Targets	Time	Reputation	Stakeholder/ Partnerships	Costs	Procurement	Resources
Red	1	0	7	0	0	4	0	0
Amber	11	20	17	19	12	23	18	5
Green	33	25	21	26	33	18	27	40

Table 3: Portfolio construction impact risk assessment summary

There are currently 3 areas of high concern, these being: Scope, Time and Project costs.

Pentre Awel have closed a Risk regarding Programme delay due to discharging pre-commencement conditions which has reduced total in each column by one.

A full summary by project is shown in Appendix 2

Areas of concern will continue to be monitored, and as any issues arise, along with associated change requirements, the change notifications and change requests will be submitted to the PoMO and reported/escalated accordingly to stakeholders as per the SBCD change procedures.

This will ensure that:

- All change is reported, recorded, escalated, and approved appropriately.
- Any mitigations required are implemented.
- The overall success of outcomes, outputs and impacts are not affected.

An explanation of methodology is given in Appendix 1

7.0 Conclusion

Although there are several recommended mitigating options available to project leads (see Section 8), the common approaches to address the funding shortfall are to:

- Secure more funding
- Revisit the construction brief
- Open dialogue with contractors.

Inflationary uncertainties aside, the Construction sector seems more settled now than in 2022 when the original CIA was compiled and the spike in prices and material supply issues were at a peak. Although prices remain high, they are more consistent, and supply is much improved. Some market volatility remains with metal doors and windows, ready mix concrete and some insulation materials seeing significant price increases in Q4 23, but fabricated structural steel, concrete reinforcing bars (steel), imported sawn or planed wood and imported plywood all seeing significant reductions. Contract terms and recruitment/labour costs remain big issues across the sector.

Inflation rates seem to be falling against predictions which will help future procurements.

While value management is always important, it is particularly so at a time when budgets are under pressure. Regular reviews should be undertaken to look for opportunities and to ensure the best use of available resources.

Altering the specification and reducing floorspace needs caution as it may affect the projects' ability to achieve its intended targets; this could be attracting tenants and thus achieving rental income, being able to deliver jobs or being fit for original intended purpose.

Those projects that are in early procurement stages are assessing the procurement pathways available. Entering dialogue with contractors to manage any cost issues is recommended as best practice by industry bodies.

Mitigating actions by Lead Delivery Organisations reduce the headline shortfall figure but significant residual shortfall remains.

The PoMO continues to monitor the impact of inflation, cost and effect of mitigating actions. Any changes will be recorded via the change notification process with any significant change being manged via the change request process.

It is important to note that the report does not include future procurements that are yet to be designed and costed, such as future zones/phases in respect of the life science projects (Pentre Awel Zones 2,3,4 and Campuses Phase 2). These have been omitted as SBCD funding is not directly utilised to develop them, and due to their nature, a reliable estimate is unobtainable at present.

The above phases are part of the project Business Cases and there remains a risk that increased costs may affect delivery of future stages which, in some cases, may affect achievability of programme and project benefits and deliverables.

A Construction Costs/Community Benefits sub-group has been formed to allow programmes and projects to share best practice and discuss lessons learned.
This sub-group reports to the PoMO and Project Leads group and Programme (Portfolio) Board.

Appendix 1 - Methodology

Cost Estimates

Current estimated costs (October 23) have been provided by the SBCD Programmes and Projects; these can be based on either:

- Actual cost- where current tender prices have been provided or
- Estimated cost - where projects are pre-tender

UK inflation rates at 1.25% have been applied to financial years 2017/18 – 2022/23 to demonstrate projected estimation figures. This was the rate when the original Construction Cost report was created.

It should be noted that from September 2022 the rate of inflation rose to 5.25% (October 2023) and currently sits at 3.9% (Jan 2024).

Building Cost Information Service All-in Tender Price Index (TPI) (bcis.co.uk) indices were used to calculate projected estimations for future years (2023/24 – 3.2%, 2024/25 – 3.9%). These indices are industry specific and were deemed most appropriate to apply. The BCIS 4Q 2023 TPI figure now shows a decrease to 3.5% down from 4.9%.

Inflationary rates are estimated and where Building Cost Information Service indices have been used these by their nature do not account for volatile or unexpected adjustments.

Construction impact assessment (CIA) Requirements

The CIA has been developed with 9 key questions listed below, whilst providing projects the opportunity to highlight specific risks or issues under question 10:

		Risk or Issue
	People	
1	Decreased available labour and/or suitable subcontractors and suppliers	
2	main contractor delivery/management team - skills and capacity issues in terms of project delivery	
	Materials	
3	Lack of availability of construction materials	
4	Quality of materials (due to lack of stock of preferred option)	
	Finance	
5	Rising construction costs results in exceeding/increasing programme / project budget	
6	Contractor / subcontractor / supplier going bankrupt/experiencing financial difficulty	
	Timelines	
7	Delays in project programme due to traditional infrastructure project factors such as ground/weather/construction site issues etc.	
8	delay in obtaining relevant construction related / operational approvals	
	Policy/political	
9	revised industry/governmental statutory & mandatory requirements - including technological/policy/political advancements since initial planning phases	
10	**Other** Please highlight any other risks/issues in relation to construction not highlighted above	

These questions are scored across 8 fields of potential impact of low/medium/high (probability x impact).

Impact Field **Risk / Issue**	Scope	Targets	Time	Reputation	Stakeholder/ Partnerships	Costs	Procurement	Resources
Red								
Amber								
Green								

The example in Sect 4, 4.2 shows a completed assessment**.**

Once completed, the author must then identify mitigations that are/will be put in place along with any resource requirements in enacting these mitigations. The PoMO collate the returns and total the number of red/amber/green occurrences and report in Table 3, Section 4 above.

Quantification of impact

Once known the impact of these risks becoming issues will likely result in a change, the CIA has been developed so that all quantification links to the 5 categories of change derived in the SBCD change procedures, namely:

- Financial/costs
- Timescales
- Quality
- Programme and/or project benefits are impacted.
- Portfolio benefits are impacted.

Appendix 2

Programme and Project Construction Risk Assessment Summary

		Impact Criteria							
Project/Programme	Notes	Scope and key objectives	Targets	Timescales	Reputation if project fails to deliver	Stakeholders/ partnerships commitment	Project costs	Procurement	Staff resourcing
Swansea Waterfront		All Green	Amber x 2	Amber x 5	Amber x 6	Amber x 1	Amber x 2	Amber x 2	Amber x 2
Campuses		Red Risk x 1 - Finances Amber x 3	Amber x 6	Red Risks x 3 - Finances (2) / Timeline Amber x 1	Amber x 3	Amber x3	Red Risk x 1 Finances Amber x 8	Amber x 4	All All Green
PDM		Amber x 8	Amber x 9	Red Issue - Finances Red Risk - Finances Red Risk - Timeline Red Risk - Other (Post Brexit scenarios) Amber x 6	Amber x 8	Amber x 7	Red Issues x 2 - Finances Red Risk x 1 - Other(Post Brexit scenarios) Amber x9	Amber x 7	Amber x 1
Pentre Awel		All Green	All Green	Amber x 1	Amber x 3	All Green	Amber x 3	Amber x 3	All All Green
SILCG		All Green	Amber x 2	Amber x 5	Amber x 6	Amber x 1	Red Issue x 1 - Finances Amber x 1	Amber x 2	Amber x 2
Yr Egin	stage 2 stc								
Digital	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Skills	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
HAPS	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a