

PICK EVERARD



WEST OXFORDSHIRE
DISTRICT COUNCIL

Issue Number 3
Dated 29/02/2024

Issue 3
IN05-7



Quality checking and version control

Quality check

	NAME	INITIAL	DATE
Author:	Mitchell Carr / Charlotte Reid Rowland	MC / CRR	29/02/2024
Checked:	Charlotte Reid Rowland	CRR	29/02/2024
Approved:	Will Phillips	WP	29/02/2024

Issue register

Name	Company	Role
Hannah Kenyon	Publica Group	Climate Change Manager

Version control

Issue	Revision	Dated
1	Draft for Comment	01/02/2024
2	-	15/02/2024
3	-	29/02/2024

File location

S:\2024\240098 - WODC - Windrush LC\Quantity Surveyors\17-0 Technical\17-2 Reports\Report\03. Revision 03\West Ox District Council - Decarbonisation Cost Review Windrush Leisure Centre Issue 3.xlsm

Copyright

The copyright of this document is vested in Pick Everard and may not be reproduced in part or in whole without their express written permission.

Disclaimer

This document and the information contained therein is for the exclusive use of the named client and Pick Everard accept no responsibility for any consequences arising from unauthorised use by any other person(s).

Issue 3
IN05-7



Contents

- I.1 Introduction
- I.2 Windrush Leisure Centre - Cost Review
- I.3 Summary

Issue 3
IN05-7

Cost Review

1.1 - Introduction

- 1.1.1 GEP Environmental (GEP) have submitted a report to West Oxfordshire District Council (WODC) with proposed costs for undertaking decarbonisation measures at the Windrush Leisure Centre in Witney. The date of the report is October 2023, and it is understood the intention for this report and other associated documentation is to support the WODC with securing Salix funding via the Public Sector Decarbonisation Scheme (PSDS).
- 1.1.2 The report identifies three separate decarbonisation interventions and provides capital and revenue costs for the building. The measures include the replacement of two end-of-life boilers with low carbon heating sources, including a CO2 Air Source Heat Pump (ASHP) and a new Air Handling Unit (AHU) with integrated direct expansion heating system, Solar PV to be installed and located on the roof, as well as a new roof covering to the main sports hall roof, and new insulation to roof top pipework and other ancillary areas.
- Pick Everard note that the findings of the structural survey are still outstanding and GEP have therefore excluded any structural works to the roof to accommodate the PV installation.
- 1.1.3 Pick Everard have been appointed undertake a review of the Salix application documents completed by GEP Environmental and assess whether the costs included are fair, reasonable and sufficient. A cost comparison will be drawn between the Windrush Leisure Centre (PSDS 3c) and Carterton Leisure Centre (PSDS 3b) schemes in support of establishing whether the costs are adequate to deliver project. Furthermore, a benchmark review of the costs with industry and in-house cost data from similar schemes will also be undertaken to further substantiate the findings.
- 1.1.4 In October 2023, GEP forecast the total cost of £1,873,879 based on the decarbonisation measures mentioned earlier within this report. Supporting information demonstrating how costs have been estimated, has been provided to assist with the review.

- 1.1.5 The below table summarises the PSDS 3c costs included in the GEP report:

Scope	Total	£/m2
ASHP + DX AHU	1,349,653	291
Insulation	5,250	1
Solar PV	348,624	75
BWIC	-	0
PM + CM	170,353	37
Total	1,873,879	404

1.2 Windrush Leisure Centre - Cost Review

1.2.1 **General Observations**

Generally, the cost information provided is limited in detail which could be a reflection of the current design stage and does not lend itself to a comprehensive cost review. In addition, there is limited detail regarding GEPs assumptions and clarifications, particularly in relation to capital costs, making it difficult to fully gauge what their costs include. Despite this, a high-level review of the budgets should aid in providing an understanding on whether there could be a potential funding gap for WODC.

It is noted there are no allowances made for any demolition or alteration works in relation to the equipment and finishes within the existing building. Without knowledge of the site and an understanding of the affected areas it is not possible to assess or comment on these associated costs. There is an expectation that an allowance for works of this nature should have been considered within the application and GEP have confirmed that demolition or alteration works in relation to the equipment and finishes within the existing building but would be captured in the benchmark costs.

Issue 3
IN05-7

Cost Review

1.2.2 ASHP and DX AHU

The cost breakdown for the ASHP and DX AHU are summarised in the below table:

Element	ASHP	AHU	Gross Floor Area from GEP (m2):		Oct-23 £/m2
			Installation (30%)	Total	
Heat Pumps, incl. buffer vessels, exchangers etc.	170,500	-	51,150	221,650	48
Pumps incl. valves, pipes etc.	180,000	-	54,000	234,000	50
Civils	15,000	-	4,500	19,500	4
BMS Controls	100,000	-	30,000	130,000	28
Supporting	40,000	-	12,000	52,000	11
Packaged AHU with integrated DX heating/cooling	-	250,000	Included	250,000	54
Sub Total	505,500	250,000	151,650	907,150	195
Design (10%)	50,550	25,000	15,165	90,715	20
Implementation (5%)	25,275	12,500	7,583	45,358	10
Contingency (10%)	50,550	25,000	15,165	90,715	20
Contractor prelims (10%)	50,550	25,000	15,165	90,715	20
Total	682,425	337,500	204,728	1,224,653	264

ASHP are complicated items to assess in terms of costs due to the complexity in the buildings requirements, consequently dictating the outputs, the unit capacity and ultimately the cost when selecting the most suitable ASHP.

When reviewing the £/m2 for comparison purposes, the heat pumps total £48/m2 which falls below the expected range of £60 to £75/m2. However, based on other projects of this nature such as Cirencester Leisure Centre (6,492m2), Bourton on the Water scheme (1,739m2), and Carterton Leisure Centre (4,523m2), these costs were £40/m2, £97/m2, and £84/m2 respectively. Pick Everard have contacted Clade, the proposed ASHP manufacturer and they have advised a cost of £65k per pump. When compared against costs included by GEP, £58k per pump, it appears to be reported below the supply cost of the pumps obtained from Clade.

Similarly to Carterton Leisure Centre, the pipework, fittings, valves and brackets cost is a major element of the project cost at £180k and amounts to 26% of the total cost, as summarised above. The breakdown includes some significant costs, and in particular a significant number of pumps and valves. Without a more detailed breakdown we are unable to comment on why the pipes, strainers, dosing pots, flanges and gauges total £40k. These costs are entirely dependant on the pipe lengths and diameters, number of valves and components such as flanges, bends and unions and, with the limited detail provided, it is challenging to identify the key drivers for this cost. However, as a percentage of the total cost of works, it is less than the Carterton Leisure Centre costs, in which these items resulted in nearly 50% of the total cost.

The pipework element costs work out to £50/m2 but, as the new pipework is not applicable to the entire building footprint and only to the affected work areas, applying a m2 rate can be misleading. When compared to the Carterton Leisure Centre, the pipework element cost totalled £702,256 which is significantly greater than what has been included for this project. This worked out as £155/m2 but involved upsizing and upgrading the pipework to suit the new system. Clarification from GEP Environmental was sought by WODC in relation to this particular aspect of works. Due to the level of design at this stage, GEP have assumed the additional pipework planned is to be contained within the plant room and will integrate the new equipment into existing circuits for distribution throughout the building. Therefore suggesting the length of pipework required is not as extensive as the Carterton Leisure Centre project. Although the assumptions GEP made seem reasonable, without design or condition information for the existing fittings to confirm the rationale, Pick Everard are not able to provide an assessment on whether the assumptions, and therefore the costs, are an accurate reflection of the works required.

Issue 3
IN05-7

Cost Review

1.2.3 Pipework Insulation

The capital cost allowances for internal and external pipe insulation seem to have been calculated on the basis £100 and £30 per meter respectively. Quantities of 45 and 25 meters for internal and external pipe insulation have been provided to generate the £5,250 cost which, without scaled drawings, we are unable to verify. The costs for insulating pipework can vary depending on the diameter of pipework and the number of junctions it passes through. The cost allowances included internally at £100 per meter seem reflective of the complexity of the task, likewise the external insulation allowance of £30 per meter reflects the fact that not all insulation is being replaced. Practically, it is not known whether this would be advisable, and WODC should seek clarification around whether all the affected pipework system located on the roof should be subject to a full replacement of insulation. As an overall value the cost of £5,250 appears low if there are substantial lengths of pipework that need insulating.

Based on Carterton the total cost for insulation was £133,208, and equating to £29/m² and when compared to the Windrush Leisure Centre which totals £5,250, equating to £1/m². It is important to note that Carterton was inclusive of trace heating which has been considered by GEP and they have confirmed a cost allowance for either trace heating or the use of antifreeze is included. As noted above, GEP confirmed that the length of pipework required, when compared with Carterton, is far less and as a result, pipework insulation and associated costs will be also reduced.

1.2.4 Solar PV & Roof

The cost breakdown for the Solar PV and Roof are summarised in the below table:

Element	% Uplift	Total	Comments
Main equipment capital		138,240	£1,200 / 115.2kW
Installation & commissioning		-	
Enabling Measures		120,000	Roof covering replacement £125/m ²
Works Cost		258,240	
Design and Engineering	10%	25,824	
Project delivery	5%	12,912	
Contingency	10%	25,824	
Contractor Prelims	10%	25,824	
Total		348,624	

The capital costs included within the Salix application for Solar PV is calculated using the rate of £1,200/kW. Comparing this to other projects within our in-house cost database, the allowance seems to be sufficient and would be considered reasonable for this project. GEP have confirmed their costings are based upon a turnkey solution from a solar installer with the aim to provide a one off price to design, supply, and install, hence a separate installation fee is not included. If this procurement strategy is not realised, WODC could be subject to further costs and a suggestion would be to price the works based upon a main contractor delivering the works.

The roof covering replacement to the main sports hall has been included within the Solar PV costs and have been calculated using £125/m². It assumes the affected area is 960m². It is noted that GEP have approached the market and obtained a cost in relation to the roof covering replacement to the areas which will have Solar PV installation only, and included an allowance for sub-base repairs to the same area. Without a condition and works specification, the assessment of the costs can only be provided based upon what is achievable with the allowance included.

An acceptable cost range would be between £150/m² and £250/m² and this is typically driven by the specification of the product. The £125/m² included is below the expected range and we would recommend this allowance to be increased (for a recent roof replacement project in Hove the costs to remove the existing surfaces and replace with a Bituminous Waterproofing Roof System equated to £215/m²).

It is understood that the roof covering replacement is in relation to the areas which will have Solar PV installation only and GEP have also confirmed that rainwater goods are excluded from their cost allowance. Pick Everard are not aware of the condition of the existing rainwater goods but if a new roof covering system is installed which is not compliant with the current system, this could result in issues occurring in the future. If the intention is for this cost to include rain water goods, then we would recommend the allowance to be uplifted by £20/m² to £35/m². The cost per m² for roofing systems can also vary depending on the insulation thickness specified, which might be driven by the requirement to improve U values. Our assessment assumes no overlap with existing rooflights or structures which may require relocation.

Issue 3
IN05-7



Cost Review

GEP confirmed the cost of scaffolding is included within their budget figure and advised that a typical installation would include cantilevered edge protection off the roof plus maybe 2 or 3 access points as opposed to a full scaffold solution. It is noted that there is a £10k allowance for scaffolding included within the "Supporting" cost element and without understanding the programme of works, it is difficult to verify this cost and this appears to be for installing the ASHPs at roof level. It is difficult to comment on the practicality of the scaffolding solution included but if it is deemed to be impractical when tendered, Pick Everard advise that the £10k would not be sufficient to scaffold the entire perimeter of the leisure centre for the roof replacement.

Another component which may not be eligible to be claimed through the PSDS funding process, is the potential requirement for man safe equipment to roof for solar PV maintenance purposes. This cost can vary considerably from project to project due to the various factors such as building shape, size and the specification of the equipment itself. If the inclusion of this cost is eligible under the Salix application, we would expect this cost to be between £20-30/m².

It is understood that the current roof structure is to be surveyed and confirmation of the loading capacity is to be provided. The allowances included within the application, does not consider any works to improve this loading capacity, which could be significant risk to the project.

1.2.5 Distribution Network Operators

An provisional sum of £125k has been included within the Salix application. Without information on the expectations of the DNO, the allowance included could fall short of the final requirements. On a recent project, we recently received a quote from UKPN for a 800kVA sub-station totalling £170k. The £125k provisional allowance included for the Windrush Leisure Centre is similar in cost to the DNO cost allowed for within Carterton Leisure Centre, however, this cost did not include for a new substation.

Without knowing the exact requirements of the substation and load requirements, Pick Everard suggest the allowance could be increased by at least another £50k to provide more comfort within the target allowance, especially given the requirement to trench cabling across an existing road, to avoid any funding gap.

1.2.6 BWIC

Builders work in connection did not seem to have been included within the Salix application and typically we would expect this to be around 5% of the mechanical and electrical works total cost. It was noted there is a 30% uplift for the installation of the equipment and a further 5% for implementation and they seem to be sufficient for the scope of works. GEP have subsequently confirmed that the BWIC is included within the 30% uplift, but did not clarify what proportion of the uplift is attributable to BWIC.

1.2.7 Design

The uplift applied for the design services at 10% of the works cost, totalling £90,715 seem fair and reasonable for the total works value. Pick Everard note that the Solar PV and pipework insulation costs are inclusive of design fees. There is a further £15,000 included within the support cost element for planning application fees. The total design and planning fees total £131,539, and this is expected to suitable to deliver the scope of works outlined within the report.

1.2.8 Preliminaries

The main contractor preliminaries have been calculated on the basis of a 10% uplift to the total works value at £116,539. Based on the scale of the works, this percentage uplift is well below an expected allowance and we would expect to see a percentage of 15% up to 25% applied to the works. GEP have provided a reasoned explanation for the percentage uplift for their preliminaries uplift to the works and although the rationale is deemed sensible, Pick Everard would suggest increasing this due to the significance of the DNO works and potential risks with lead in times on equipment. Our market research indicates that AHU and ASHP equipment is currently on 16 – 18 week lead times.

Furthermore, the preliminaries cost uplift does not apply to the provisional allowance for the works with the DNO and we would recommend the uplift also consider this within the works cost, as there will be an element of supervision and site involvement/interface between the main contractor and the DNO. GEP have confirmed that subcontractor preliminaries have been accounted for within their cost allowances.

The nature of the works being at height means a greater requirement for lifting equipment and, combined with the DNO requirements, should be factored in when considering any rise in costs. The low preliminaries cost could therefore be another potential risk and could create a funding gap. We therefore recommend budgeting be based on Prelims of 15%.

Issue 3
IN05-7

Cost Review

1.2.9 **Contingency**

The uplift applied for the contingency at 10% of the works cost, totalling £90,715 seems reasonable. Pick Everard would suggest that this uplift should also be applied to the design fees, implementation and contractor preliminaries as the percentage uplift currently excludes these costs. It is understood that the Solar PV and pipework insulation works already include contingency so it would not require a further uplift.

1.2.10 **Project and Cost Management**

The uplift applied for the project and cost management services at 10% of the works cost, totalling £170,353 seem excessive for the works value if this is solely for the Project Manager and Cost Manager. We would expect this cost to include for the design team in addition to the PM and CM, however, design and planning fees are included elsewhere at £132k.

1.2.11 **Review of Funding Splits (Years 1 & 2)**

The cost breakdown for the funding allocation is summarised in the below table:

Year 1 Costs	Total	% of Total
Equipment ASHP, AHU	600,500	32%
DNO	125,000	7%
PM for year 1	92,178	5%
Design and planning costs	131,539	7%
Total Year 1	949,217	58%
Year 2 Costs	Total	% of Total
Enabling works on roof	120,000	6%
Equipment PV	104,490	6%
Equipment insulation	5,250	0%
Installation costs and enabling works	409,494	22%
PM	60,562	3%
Total Year 2	699,796	42%
Grant Total	1,649,013	
Council Contribution	224,866	12%
Grand Total	1,873,879	

It is assumed Year 1 covers April 2024 through to March 2025 and Year 2 covers April 2025 through to March 2026. Providing the design is complete, verified and signed off by the client, it is plausible to procure some of the equipment in Year 1 with the installation scheduled in the following year. On the condition that the equipment is procured in Q1 2025 and installed in Q2 2025, then this sequence would result in exposing WODC to the least amount of risk due to minimising issues around availability of in demand equipment such as the ASHP, liability of ownership, storage costs, and contract administration processes. However, as encountered on the 3B Carterton project, if the design is not finalised and agreed prior to the end of the financial year then the Contractor will not be in a position to place the order for the equipment, creating an issue with the Year 1 funding not being expended.

The design and management fees seem to be sensibly distributed across the two years. The allocation of the DNO to Year 1 is dependant on how quickly discussions and the requirements imposed by the DNO are implemented into the design. At this stage there seems to be sufficient time within the programme for DNO works to be completed, however it could potential a risk to the programme and spend allocation if early discussions and timelines established with the DNO.

Issue 3
IN05-7

Cost Review

1.3 Summary

1.3.1 Summary

In summary, the cost detail provided is reflective of the current design stage and therefore does not lend itself to a comprehensive review into the allowances made, meaning that Pick Everard have carried out a high level review of costs appropriate to the level of information available.

Pick Everard have provided commentary on the key elements of the Salix application and identified areas where the WODC may be exposed to risk within the given cost allowances. The table below summarises the potential risks and the associated cost.

Costs have been benchmarked to establish whether the cost allowances included have been calculated with reasonable and realistic consideration and in the main appear reasonable for the mechanical and electrical works (with the exception of the pipework insulation cost).

Other notable omissions include demolition and alteration works and inflation, which potentially suggests they have been overlooked with the budget preparation. Current BCIS All-in-tender price indices forecast a 4.12% inflationary increase through to May 2025 (taken from Salix application form). Based on the overall cost of £1,873,879, the inflationary increase could total a further £77k and create future funding issues.

As a total cost per m2, the Windrush Leisure Centre is £404/m2 and compared to Carterton Leisure Centre at £677/m2, it is considerably lower, however, Carterton Leisure Centre does include significant external works such as the solar car ports, battery storage etc. Other projects such as Cirencester and Bourton on Water, total £107/m2 and £247/m2 respectively, however, these project were subject to different requirements and is reflected within their cost per m2. Given the position of the cost per m2 for Windrush Leisure Centre, when compared to the other projects, the costs appear to be lower than what we would expect. Pick Everard recommend that consideration for the additional cost allowances summarised in the table below to be given within the Salix application.

GEP Cost	Total (£)
GEP Cost	1,873,879.00
Inflationary Risk	77,000.00
Potential Cost Risk Items:	Total (£)
ASHP	126,650.00
Substation additional allowance	25,000.00
Scaffold (if required to entire Sports Hall elevations)	100,000.00
Fall protection system	25,000.00
Rainwater Goods	Excluded
Pipework Insulation	20,000.00
Structural Improvements	25,000.00
Preliminaries @ 15%	58,269.50
Inflation on Risk Items	15,652.68
Forecast Construction Cost	2,346,451.18
Potential Funding Gap	472,572.18

Please note that the above potential cost risk items do not include any allowance for council contributions to the scheme. There is potential to offset some of these costs against the PM and CM costs which are included at circa £170k, or 10%, of the overall costs, and which we consider to be on the high side. Discussion around these items could be held with GEP as part of the final contract negotiations.