Committees:		Dates:
Finance Committee of Barbican Centre Board		30/09/2015
Projects Sub Committee		08/10/2015
Barbican Centre Board		14/10/2015
Subject:		Public
Gateway 7 Outcome Report:		
Building Energy Management S	ystem (BEMS)	
Report of:		For Decision
Managing Director, Barbican Centre		
	Summary	
	Dudant Carren	
Project Status Compared to	Budget : Green	
GW2	Specification: Green	
Droiget Status Compared to	Programme: Red	
Project Status Compared to GW5	Budget: Green Specification: Green	
6005	Programme: Red	
Timeline	The project is complete pend	ting approval of
	this report and final retention	• • •
	contractor.	payment to
Total Estimated Cost @	£788,922.42 (plus staff costs	s of £30.000)
Gateway 5		
Currently Approved Budget	£788,922.42	
Spend to date	£767,680.84 (plus staff costs of £47,466)	
Spend Profile	2007/08 - £7k (pre evaluation	
	2010/11 - £41k	
* all expenditure, where appropriate, includes	2011/12 - £116k	
amounts 'accrued' at end of year based upon the estimated outturn position at the time.	2012/13 - £588k	
Occasionally the full amount is not required and	2013/14 - £22k	
the balance is 'returned', which then shows as negative expenditure.	2014/15 – (£2k)*	
	2015/16 –(£4k)*	
Overall project risk	Green	

# Summary of Project Completed

Please see section 2, assessment of project success against criteria.

#### Recommendations

It is recommended that the lessons learnt be noted and, following processing of the final contractors payment, the project be closed.

## <u>Main Report</u>

1.	Brief description of project	<ul> <li>This project was to migrate the remaining plant controlled by the Centre's obsolete 'Satchwell' Building Energy Management System to the new 'Trend' System, previously installed as part of an air handling replacement scheme. The scheme involved:-</li> <li>Provision of new control graphics</li> <li>Replacement of 59 Satchwell Outstations with new Trend Units</li> <li>Upgrade of 22 Mechanical Control Centres</li> <li>Connection of 2,548 existing control points</li> </ul>
		<ul> <li>Provision of a new Energy Monitoring and Targeting Package</li> </ul>
2.	Assessment of project against success criteria	<ol> <li>Migrate plant from obsolete to new control system – this was the main objective of the project and was achieved.</li> <li>Project Completed within the (Gateway 5) budget - achieved.</li> </ol>
		<ul><li>achieved.</li><li>3. Project completed on time – not achieved (see section 4).</li></ul>
		<ol> <li>Project to the required specification/quality – achieved</li> </ol>
		<ol> <li>Reduction in energy costs of £72k per annum – achieved – during the 17 month period from the end of July 2013 and the end of December 2014 cost savings were £180,127 at an average of £10,596 per month. This was achieved via system 'optimisation' actions carried out by the engineering dept.</li> </ol>
		<ol> <li>Reduction in carbon emissions of 500 tonnes per annum – not achieved – during the same 17 month period mentioned above the estimated reduction in carbon emissions was 305 tonnes.</li> </ol>
		7. Reduction in maintenance costs of £13k per annum – assumed achieved – because of the way the Centre is invoiced for BRM it has not been possible to confirm that this saving has been made but, as we are now using a single company instead of two, and that was the basis on which the saving was calculated, it is a safe assumption to make.
3.	Was the project specification fully delivered (as agreed at Gateway 5 or any subsequent Issue report)	Yes

4. Programme	The project was not completed within the agreed programme			
	<ul> <li>The contractor's progress on site suffered from</li> <li>The contractor being initially slow to familiarise themselves with the site and did not provide the initial graphics packages and method statements. This led to a delayed start on site.</li> <li>Once on site the contractor's progress was further delayed by the required IT data points not being installed in advance of the contractor starting work. This was the Centre's responsibility.</li> <li>Changes in project scope requested from the Client department which necessitated works being carried out in the subsequent summer months (because it involved taking heating units off line) following the original completion date.</li> </ul>			
5. Budget	The project was completed within the agreed budget The project was commenced prior to the introduction of the Gateway process so there isn't a report that is equivalent to a Gateway 2 report. The budget at the various stages of the project are set out in the table below:-			
	Ref:	Gateway 3/4 (Evaluation) £'000	Gateway 5 (Tender Report) £'000	Gateway 7 £'000
	Pre Evaluation	6,720	6,720.00	6,720.00
	Works	971,000	656,452.42	691,383.84
	Fees	75,000	75,000.00	69,577.00
	Contingency	60,000	50,750.00	0.00
	Total	1,106,000	788,922.42	767,680.84
	Staff Costs	30,000	30,000	47,466
	Total	1,142,720	818,922.42	815,146.84
Final Account Verification	Chamberlain's	d fee final accour Department. Dutstanding issue		erified by the

# **Review of Team Performance**

6. Key strengths	The project manager for taking over the project after the tender stage and resolving, as best he could, the numerous technical difficulties that arose throughout this project.
7. Areas for improvement	Communication across all parties to this contract could have been better. These communication failings led to several misunderstandings about what should have been in/out of project scope and how plant is required to operate.
8. Special recognition	The project manager mentioned in section 6. This was an exceptionally technically complex project carried out in a live operational environment

#### Lessons Learnt

9. Key lessons	There was a lot of confusion about what was in/out of scope and how plant is required to operate.	
10. Implementation plan for lessons learnt	For future projects of this nature it is essential that the project manager ensures that the client dept. is fully aware of the project scope, and that it is signed off by the relevant manager in advance of seeking tenders for the work.	

## <u>Contact</u>

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