

Committees:		Dates:
Projects Sub-Committee Planning and Transportation Committee (For Information) Culture, Heritage and Libraries (For Information)		07 September 2016 13 September 2016 24 September 2016
Subject: Tower Bridge – Replacement of Heating System Serving the High Level Walkways and Towers	Gateway 1&2 Project Proposal Regular	Public
Report of: Director of Culture Heritage and Libraries Report Author: Jamie Bottono, Operations Manager, Tower Bridge, Culture Heritage and Libraries		For Information

Recommendations

1. Approval track and next Gateway	Approval track: 2. Regular Next Gateway: Gateway 3/4 - Options Appraisal (Regular)										
2. Resource requirements to reach next Gateway	<table border="1"> <thead> <tr> <th>Item</th> <th>Reason</th> <th>Cost (£)</th> <th>Funding Source</th> </tr> </thead> <tbody> <tr> <td>Appoint consultant</td> <td>To identify options and progress outline designs</td> <td>£10,000</td> <td>Bridge House Estates 50 Year Plan</td> </tr> </tbody> </table>			Item	Reason	Cost (£)	Funding Source	Appoint consultant	To identify options and progress outline designs	£10,000	Bridge House Estates 50 Year Plan
Item	Reason	Cost (£)	Funding Source								
Appoint consultant	To identify options and progress outline designs	£10,000	Bridge House Estates 50 Year Plan								
3. Next steps	Employ consultant to provide a detailed brief and outline costs/designs for options appraisal.										

Project Summary

4. Context	<p>The Bridge House Estates 50 Year Maintenance Plan for 2017/18 includes provision to replace the heating distribution system at Tower Bridge.</p> <p>Parts of the heating system, including the control panels, are 32 years old and have reached the end of their recommended life. The boilers and flues were installed approximately 10 years ago, however, they are inefficient by modern standards and there are a number of performance and under-capacity issues.</p> <p>In 2013 there was a requirement to improve the heating in the walkways and the local ceiling mounted electric radiant heaters were replaced with hot water radiators connected to the</p>
-------------------	---

	<p>heating system. However, due to the existing systems not having the capacity to heat all areas concurrently it is necessary to have a daytime and evening setting to divert the majority of the heating to the occupied areas i.e. public spaces/ towers during the day and event spaces/ under floor heating during the evening.</p> <p>In addition, there have been regular boiler faults and lock-outs resulting in a number of instances of under-heating or total loss of heating to some or all areas of the Bridge during the winter period. The four boilers (two in each tower) only have the capacity and functionality to heat one tower or one walkway and in the event of a fault it is not currently possible to provide heating to the affected areas.</p> <p>In these circumstances electric heaters have to be sourced on extended hire as a 'back up' to provide additional heating where needed in the towers and walkways.</p>
5. Brief description of project	<p>This project is for the replacement of the heating distribution system which is identified in the Bridge House Estates 50 Year Plan for 2017/18. A number of options need to be further investigated and considered in consultation with the City Surveyor's Department and Department of the Built Environment.</p>
6. Consequences if project not approved	<p>The heat losses to the walkways can be excessive due to lack of insulation (which is currently being addressed through another project to replace the walkway roof coverings) and the nature of the steel structure (high thermal transmittance). The temperature of the heating in the towers is kept low as the current system includes underfloor heating and is therefore limited to maintain structural integrity.</p> <p>The low reliability and lack of resilience of the current set up results in an inefficient and unreliable system prone to breakdowns resulting in loss of heating to public spaces which leads to dissatisfied visitors/ clients and staff.</p> <p>This project also has the potential to reduce on-going maintenance costs due to a lower level of calls to attend to breakdowns.</p>
7. Success criteria	<p>Improved environmental conditions in both towers and the walkways for staff, paying visitors and event clients.</p> <p>Reduced breakdowns and additional costs incurred replacing boiler parts etc.</p> <p>Improved resilience and reliability.</p>
8. Notable exclusions	<p>This project is for the towers and high level walkways only and heating for other parts of the asset are not being considered.</p>
9. Governance	<p>Spending Committee: Planning and Transportation</p>

arrangements	Senior Responsible Officer: Chris Earlie, Head of Tower Bridge Project Board: No
---------------------	---

Prioritisation

10. Link to Strategic Aims	SA2: To provide modern, efficient and high quality local service and policing within The Square Mile for workers, residents and visitors with a view to delivering sustainable outcomes. SA3: To provide valued services to London and the nation
11. Links to existing strategies, programmes and projects	S2 City Destination: To transform the sense of The City as a destination
12. Project category	7a. Asset enhancement/improvement (capital)
13. Project priority	B. Advisable

Options Appraisal

14. Overview of options	<ol style="list-style-type: none"> 1) Do Nothing – the current system is functional but limited as explained above in relation to both capacity and flexibility. 2) Defer the entire project – the proposal is for the works to be completed over the summer period of 2017 but an option could be to defer until later. 3) Provide Additional Local Supplementary Electric Heating – the current system will still be unreliable and additional heating will require works to increase existing electricity capacity to deal with the extra loading. 4) Upgrade Low Pressure Hot Water Plant, Controls and Emitters – consultant to investigate and advise as part of their remit. 5) Remove existing Low Pressure Hot Water Plant and replace with air or water source heat pump system – consultant to investigate and advise as part of their remit.
--------------------------------	--

Project Planning

15. Programme and key dates	Overall programme: Key dates: Gateway Report 1/ 2 to Projects Committee – 7 th September
------------------------------------	---

	2016 Appoint Consultant Service Engineer - October 2016 Gateway 3/ 4 Options Appraisal – 17 th February 2017
16. Risk implications	Overall project risk: Green Delays obtaining statutory consents. Conditions Imposed by statutory consents.
17. Stakeholders and consultees	Culture, Heritage and Libraries, Chamberlain's, City Surveyor's, Built Environment, Comptroller and Solicitor's, Tower Hamlets/ Southwark planners, Heritage England

Resource Implications

18. Total estimated cost	2. £250k to £5m Likely cost range: Up to £500,000
19. Funding strategy	These works are identified in the Planning and Transportation Committee's Bridge House Estates 50 year Plan for 2017/ 18.
20. On-going revenue implications	The proposed works will result in a reduction in expenditure on repairs and maintenance in the medium and long term. The works will be programmed so as not to impact on income generation and allow for the exhibition and events business to operate as normal.
21. Investment appraisal	Not applicable.
22. Procurement strategy	The project will be progressed with the City Surveyor's Department and be considered by the Tower Bridge Steering Group to procure Tower Bridge projects in an efficient and effective manner. The option to add this to other identified projects such as the Walkway Roof Insulation Works will therefore be investigated. <u>Works</u> <u>The work required can be classified as falling within the definition of works according to Public Contracts Regulations 2015.</u> The reported likely cost range places the value of the work below the EU Works threshold. Where the opportunity to undertake procurement by combining with another project is not available the procurement route to market options at this contract value include: a. Advertised competition, b. Construction Framework, c. Existing CoL minor works framework

	<p>The optimum route to market, procurement method and form of contract remains to be agreed in consultation with City Surveyor's Department, and Controller.</p> <p><u>Consultant Appointment</u></p> <p>Consultant fees for a project of this value to completion can be estimated as falling under both the EU Services threshold and the Corporations requirement to advertise. The optimum procurement route will be sought from either:</p> <ul style="list-style-type: none"> a. Project consultant framework, b. Request for quotation <p>The initial appointment at Gateway 1/ 2 will include an option to extend to deliver subsequent stages of the project subject to committee approval.</p>
23. Legal implications	Not applicable.
24. Corporate property implications	Not applicable.
25. Traffic implications	Not applicable.
26. Sustainability and energy implications	The new plant will be more efficient using comparatively less fuel. Any likely reduction has not been quantified but will be assessed as part of the project.
27. IT implications	Not applicable.
28. Equality Impact Assessment	<p>Tower Bridge is committed to achieving equality and diversity in accordance with the City of London Equality Scheme and as such welcomes visitors and clients from London, the United Kingdom and overseas whilst eliminating any forms of discrimination.</p> <p>Equality Impact Assessments are carried out for any new or significantly changed policies - there is no significant equality impact expected from the completion of this project.</p>

Contact

Report Author	Jamie Bottono
Email Address	jamie.bottono@cityoflondon.gov.uk
Telephone Number	020 7940 8391