

## Options Appraisal Matrix

<b>Option Summary</b>	<b><i>Option 1 (Revisit brief and amend the scope to cater for alternate work streams undertaken through the government grant scheme)</i></b>	<b><i>Option 2 (Local ultrasonic humidifiers (plus water treatment system and controls modifications) to serve 'essential' areas only)</i></b>	<b><i>Option 3 (Steam Humidifiers to serve all areas)</i></b>
<b>1. Brief description of option</b>	<ul style="list-style-type: none"> <li>Stand down current design development</li> <li>Revisit GW 2 report to revise, accounting for parallel workstreams including localised humidifier installations to essential areas.</li> <li>Incorporate alternate options and recommence design development as a single project.</li> </ul>	<ul style="list-style-type: none"> <li>Installation of local ultrasonic humidifiers alongside a new central water treatment plant to control the water quality throughout the system.</li> </ul>	<ul style="list-style-type: none"> <li>Installation of localised steam humidification utilising existing ductwork and infrastructure in combination with new chiller/ventilation system.</li> <li>Electronic steam production then injected into ventilation system.</li> <li>Controlled volume throughout the Guildhall Complex</li> </ul>
<b>2. Scope and exclusions</b>	<ul style="list-style-type: none"> <li>Project to re-enter into the capital building cycle with confirmed and consolidated brief.</li> <li>Revisit budgets to confirm allocation depending on confirmed scope.</li> </ul>	<ul style="list-style-type: none"> <li>To include the following close control 'essential' areas: <ul style="list-style-type: none"> <li>TBC by MD.</li> </ul> </li> <li>Excludes main circulation areas and office spaces.</li> <li>Installation of water treatment plant at a</li> </ul>	<ul style="list-style-type: none"> <li>Serves both essential and non-essential areas.</li> <li>Would require element of water treatment from mains fed system.</li> </ul>

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		central location to feed decentralised humidifiers	
<b>Project Planning</b>			
<b>3. Programme and key dates</b>	<ul style="list-style-type: none"> <li>• Revise Brief and seek Chief Officer sign off July 21.</li> <li>• Re-submit GW3 report with updated outlined options appraisal – Oct 21</li> <li>• GW4 – Feb 22</li> <li>• GW5 – Sept 22</li> </ul>	<ul style="list-style-type: none"> <li>• GW 4 - Nov 21</li> <li>• GW4C – March 22</li> <li>• GW5 – Sept 22</li> </ul>	<ul style="list-style-type: none"> <li>• GW 4 - Nov 21</li> <li>• GW4C – March 22</li> <li>• GW5 – Sept 22</li> </ul>
<b>4. Risk implications</b>	<ul style="list-style-type: none"> <li>• Programme unable to meet requirements of the grant funding which means the monies are lost.</li> <li>• Current humidification system fails, which could impact the required close</li> </ul>	<ul style="list-style-type: none"> <li>• Project budget to be considered against option.</li> <li>• May put additional load on chiller systems in office spaces if humidification is not used to enhance comfort.</li> </ul>	<ul style="list-style-type: none"> <li>• May not be able to meet CoLC's decarbonisation goals.</li> <li>• Working within heritage environment to install local humidifiers.</li> <li>• ACM's within the building fabric</li> </ul>

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	control conditions required in the 'essential' areas.	<ul style="list-style-type: none"> <li>• Obligation on CoLC to properly maintain the system. Expertise may not currently exist given the existing system.</li> <li>• ACM's within the building fabric</li> <li>• Current condition of the distribution pipework and system</li> <li>• Working within a heritage environment</li> </ul>	<ul style="list-style-type: none"> <li>• Current condition of the distribution pipework and system</li> </ul>
<b>5. Stakeholders and consultees</b>	<ol style="list-style-type: none"> <li>1. Chamberlains,</li> <li>2. Corporate Property,</li> <li>3. Town Clerks,</li> <li>4. City Surveyors, including: <ol style="list-style-type: none"> <li>a. Energy Team;</li> <li>b. PPG;</li> <li>c. FM &amp; R&amp;M</li> </ol> </li> <li>5. Departments occupying or using the Guildhall.</li> </ol>	Same as Option 1	Same as option 1

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<b>6. Benefits of option</b>	<ul style="list-style-type: none"> <li>• Clear consultation and a consolidated project brief. No double handling of information/workstreams</li> <li>• Potential efficiencies and cost savings if the grant application funds can be used during this project.</li> </ul>	<ul style="list-style-type: none"> <li>• Low energy and low carbon solution if used with green electricity generation.</li> <li>• Small and quick installation</li> <li>• Efficient reactions to change in demand.</li> <li>• Can reduce loads on chiller energy during mid-season thus representing a further saving.</li> <li>• Further reductions due to reduced requirement throughout the Guildhall complex vs option 2b.</li> <li>• Comparatively lower operating costs</li> </ul>	<ul style="list-style-type: none"> <li>• Lowest capital cost</li> <li>• Hygienic system</li> <li>• Simple to retrofit to match existing infrastructure.</li> <li>• Use standard mains water, but comparatively reduced requirement for water treatment.</li> <li>• Flexible mounting position and locations.</li> </ul>

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<b>7. Disbenefits of option</b>	<ul style="list-style-type: none"> <li>Negative impact on delivery programme as GW 2 would need to be revisited. Work done to date would be somewhat redundant</li> <li>Increase in design team fees to revisit and re-do design/options appraisal work.</li> </ul>	<ul style="list-style-type: none"> <li>Still a requirement for a centralised water treatment plant</li> <li>Higher initial capital cost</li> <li>Pre-heating of space required vs no pre-heat required in isothermal system.</li> <li>Local builders work required at each handling unit.</li> <li>Impact on environmental conditions in 'non-essential' areas</li> </ul>	<ul style="list-style-type: none"> <li>Comparatively higher operating costs and regular maintenance costs.</li> <li>Highest energy usage with exception of centralised steam system</li> <li>Expensive replacement items.</li> </ul>
<b>Resource Implications</b>	<b>Option 1 (Revisit brief and amend the scope to cater for alternate work streams undertaken through the government grant scheme)</b>	<b>Option 2 (Local ultrasonic humidifiers (plus water treatment system and controls modifications) to serve 'essential' areas only)</b>	<b>Option 3 (Steam Humidifiers to serve all areas)</b>
<b>8. Total estimated cost</b>	To be determined (TBD)	£898,042 (excluding £163,958 CRP)	£1,483,384 (excluding £270,912 CRP)

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<b>9. Funding strategy</b>	To be determined (TBD)	The funding source is split across three funds: 1. City Fund £0.744m, 2. City Cash £0.396m, 3. BHE £0.060m	To be determined (TBD)
<b>10. Investment appraisal</b>	To be determined (TBD)	To be determined (TBD)	To be determined (TBD)
<b>11. Estimated capital value/return</b>	To be determined (TBD)	To be determined (TBD)	To be determined (TBD)
<b>12. Ongoing revenue implications</b>	To be determined (TBD)	To be determined (TBD)	To be determined (TBD)
<b>13. Affordability</b>	To be determined (TBD)	This option is within budget but there is substantial change in brief that would require a formal change instruction to be issued with the outcome leaving a number of areas classed as	This option is overbudget by £283,384 (excluding risk)

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		'Unessential,' left without any humidification support.	
<b>14. Legal implications</b>	None	None	None
<b>15. Corporate property implications</b>	To be determined (TBD)	To be determined (TBD)	To be determined (TBD)
<b>16. Traffic implications</b>	None	None	None
<b>17. Sustainability and energy implications</b>	To be determined (TBD)	To be determined (TBD)	To be determined (TBD)
<b>18. IS implications</b>	None	None	None
<b>19. Equality Impact Assessment</b>	An equality impact assessment has not been undertaken	An equality impact assessment has not been undertaken	An equality impact assessment has not been undertaken

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<b>20. Data Protection Impact Assessment</b>	The risk to personal data is less than high or non-applicable and a data protection impact assessment will not be undertaken.	The risk to personal data is less than high or non-applicable and a data protection impact assessment will not be undertaken.	The risk to personal data is less than high or non-applicable and a data protection impact assessment will not be undertaken.
<b>21. Recommendation</b>	Recommended	Not recommended	Not recommended