

## Appendix 2: PSDS Project LMA Ventilation

### City of London: Projects Procedure Corporate Risks Register

Project name: LMA Ventilation PSDS Project

Unique project identifier: TBC

Total est cost (exc risk) £112694

Corporate Risk Matrix score table

PM's overall risk rating	Medium		Minor impact	Serious impact	Major impact	Extreme impact
Avg risk pre-mitigation	9.7	Likely	4	8	16	32
Avg risk post-mitigation	4.2	Possible	3	6	12	24
Red risks (open)	7	Unlikely	2	4	8	16
Amber risks (open)	13	Rare	1	2	4	8
Green risks (open)	12					

Costed risks identified (All)

£82,000.00	73%
------------	-----

Costed risk as % of total estimated cost of project

Costed risk pre-mitigation (open)

£82,000.00	73%
------------	-----

" "

Costed risk post-mitigation (open)

£0.00	0%
-------	----

" "

Costed Risk Provision requested

£0.00	0%
-------	----

CRP as % of total estimated cost of project

- (1) Compliance/Regulatory
- (2) Financial
- (3) Reputation
- (4) Contractual/Partnership
- (5) H&S/Wellbeing
- (6) Safeguarding
- (7) Innovation
- (8) Technology
- (9) Environmental
- (10) Physical

Number of Open Risks	Avg Score	Costed impact	Red	Amber	Green
2	3.0	£3,000.00	0	0	2
0	0.0	£0.00	0	0	0
1	12.0	£0.00	0	1	0
12	6.2	£24,500.00	1	6	5
11	15.6	£23,000.00	6	3	2
2	4.0	£1,000.00	0	0	2
0	0.0	£0.00	0	0	0
0	0.0	£0.00	0	0	0
1	12.0	£0.00	0	1	0
3	9.0	£30,500.00	0	2	1

Issues (open)

2
---

Open Issues

Extreme	Major	Serious	Minor
---------	-------	---------	-------

All Issues

2
---

All Issues

0	1	0	1
---	---	---	---

0	1	0	1
---	---	---	---

Cost to resolve all issues  
(on completion)

£11,771.00

Total CRP used to date

£0.00

## Appendix 2 PSDS Project LMA Ventilation

### City of London: Projects Procedure Corporate Risks Register

Project Name:			LMA Ventilation PSDS Project					PM's overall risk rating:		Medium		CRP requested this gateway		£ -		Average unmitigated risk		9.7		Open Risks		32			
Unique project identifier:			TBC					Total estimated cost (exc risk):		£ 112,694		Total CRP used to date		£ -		Average mitigated risk score		4.2		Closed Risks		2			
General risk classification										Mitigation actions										Ownership & Action					
risk ID	Gateway	Category	Description of the Risk	Risk Impact Description	Likelihood Classification pre-mitigation	Impact Classification pre-mitigation	Risk score	Costed impact pre-mitigation (£)	Costed Risk Provision requested Y/N	Confidence in the estimation	Mitigating actions	Mitigation cost (£)	Likelihood Classification post-mitigation	Impact Classification post-mitigation	Costed impact post-mitigation (£)	Post-Mitigation risk score	CRP used to date	Use of CRP	Date raised	Named Departmental Risk Manager/Coordinator	Risk owner (Named Officer or External Party)	Date Closed OR/Realised & moved to issues	Comment(s)		
R1	5	(2) Financial	Asbestos survey fees higher than expected Cause: inaccurate budget assumptions, scope changes, project delays Event: fees higher than budget	Project delays while either a budget increase is approved or project is value engineered	Possible	Major	12	£0.00	N	B – Fairly Confident	Early engagement with suppliers to obtain a quotation or budget estimation. Careful specification of the works. Good project controls to minimise scope creep.	£0.00	Unlikely	Serious	£0.00	4	£0.00	Allow for increased budget to meet the higher costs.	06/07/21	Camel McGowen (Col. Project Manager)	Camel McGowen (Col. Project Manager)	14/12/21			
R2	5	(4) Contractual/Partnership	Fan electrical connections Cause: unsuitable electrical connections to the new fans Event: loss of service for an extended period of time	Additional project costs and time delay.	Possible	Serious	6	£0.00	N	A – Very Confident	An electrical engineer should be brought to the team to assess the capacity of the existing installation and to give advice. Wiring diagrams to be provided.	£0.00	Rare	Serious	£0.00	2	£0.00		06/07/21	Camel McGowen (Col. Project Manager)	Contractor				
R3	5	(4) Contractual/Partnership	Wider ventilation system issues Cause: unstable internal conditions due to unbalanced system (e.g. fire dampers closed, issues with the distribution system) Event: client expectations not meet	Additional project costs and time delay.	Unlikely	Serious	4	£5,000.00	N	B – Fairly Confident	A provisional sum should be set aside for any commissioning works if needed	£0.00	Unlikely	Serious	£0.00	4	£0.00		06/07/21	Camel McGowen (Col. Project Manager)	Camel McGowen (Col. Project Manager)				
R4	5	(1) Compliance/Regulatory	Smoke sensors Cause: smoke sensors not fitted in the extract duct as the AHU is recirculating the air Event: non-compliance with BS9999	Additional project costs and time.	Possible	Minor	3	£2,000.00	N	C – Uncomfortable	Smoke sensors should be included in the specifications and integrated into the BEMS system, unless existing smoke sensors are already in place.	£0.00	Rare	Minor	£0.00	1	£0.00		06/07/21	Camel McGowen (Col. Project Manager)	Designer (Beveridge Associates)				
R5	5	(1) Compliance/Regulatory	Fire override controls Cause: unknown location or existence of provision of override controls for fire and rescue service use. Event: non-compliance with BS9999	Additional project costs.	Possible	Minor	3	£1,000.00	N	C – Uncomfortable	Location or existence of such controls should be confirmed by the client at the earliest convenience. The controls for the ventilation system should be located adjacent to the fire detection and fire alarm control and indication panel. The following should be clearly marked, where applicable: • "Fire and rescue service ventilation control"; • "Automatic"; • "Off"; • "Extract only".	£0.00	Rare	Minor	£0.00	1	£0.00		06/07/21	Camel McGowen (Col. Project Manager)	Designer (Beveridge Associates)		To be discussed further with Beveridge Associates before 9th June 2021.		
R6	5	(10) Physical	Equipment handling Cause: equipment handling Event: damage caused to goods lifts and walls	Additional project time delay.	Possible	Minor	3	£500.00	N	B – Fairly Confident	The goods lift should be covered in protective material. The weight limit should not be exceed. Contractor to be instructed about what lifts should be used and about the maximum capacity of each lift.	£0.00	Unlikely	Minor	£0.00	2	£0.00		06/07/21	Camel McGowen (Col. Project Manager)	Contractor				
R7	5	(10) Physical	Environmental close-control interruption Cause: ventilation downtime for the works Event: temperature and humidity levels exceed those required to protect the artifacts on display or in storage	Damage to artifacts, insurance implications, reputational (and risk to hosting future exhibitions) risk from damage to any loaned works.	Possible	Major	12	£10,000.00	N	B – Fairly Confident	Programme works for time of year which will minimise impact. Minimise duration of interruption by programming enabling works in advance. Interruption, aiming for the steam system to be kept on for as long as possible before replacing with new humidifiers.	£0.00	Unlikely	Major	£0.00	8	£0.00		06/07/21	Camel McGowen (Col. Project Manager)	Camel McGowen (Col. Project Manager)				
R8	5	(2) Financial	Tender costs higher than budget Cause: inaccurate budget assumptions, scope creep, poor specification, project delays Event: tender/quote costs higher than budget, or additional costs incurred during the project	Project delays while either a budget increase is approved or project is value engineered	Possible	Major	12	£0.00	N	B – Fairly Confident	Early engagement with suppliers to obtain a quotation or budget estimation. Careful specification of the works. Good project controls to minimise scope creep.	£0.00	Unlikely	Serious	£0.00	4	£0.00	Allow for increased budget to meet the higher costs.	06/07/21	Camel McGowen (Col. Project Manager)	Camel McGowen (Col. Project Manager)	14/12/21			
R9	5	(3) Reputation	Weather Cause: weather is very hot or very cold during AHUs refurbishment Event: while AHUs are offline during the refurbishment this could result in unstable conditions (temperature and humidity) within the served spaces and risk damage to the stored artifacts.	Additional project costs. Parts of the building might need to be closed to public.	Possible	Major	12	£0.00	N	B – Fairly Confident	Ventilation shut-down should be scheduled during period of anticipated milder weather.	£0.00	Possible	Serious	£0.00	6	£0.00	Hire of temporary heating, cooling or humidification plant as required.	06/07/21	Camel McGowen (Col. Project Manager)	Camel McGowen (Col. Project Manager)				

## Appendix 2 PSDS Project LMA Ventilation

R10	5	(4) Contractual/Partnership	Supply delivery disruption Cause: disruption to the transport system Event: delays for materials and personnel	Additional project time delay.	Unlikely	Minor	2	£1,000.00	N	B – Fairly Confident	Equipment order should be placed at the beginning of the project. Materials could be shipped in batches. Works to specific system should only start when the materials are available.	£0.00	Rare	Minor	£0.00	1	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Camel McGowen (Col. Project Manager)			
R11	5	(4) Contractual/Partnership	Contractor liquidity Cause: contractor cash liquidity Event: contractor insolvency	Additional project costs and time delay.	Unlikely	Extreme	16	£1,000.00	N	B – Fairly Confident	Due diligence on the company profile	£0.00	Unlikely	Serious	£0.00	4	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Contractor			
R12	5	(4) Contractual/Partnership	Commissioning and snagging delays Cause: commissioning and snagging not performed on time Event: the quality of remaining works might be jeopardised if repeated mistakes are not spotted on time	Additional project time delay.	Possible	Serious	6	£0.00	N	B – Fairly Confident	Quality checks should be performed on a daily basis	£0.00	Unlikely	Minor	£0.00	2	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Contractor			
R13	5	(4) Contractual/Partnership	Contract dispute Cause: disputes between the client and the contractor Event: legal actions delays or pause in the project	Additional project time delay.	Unlikely	Serious	4	£2,500.00	N	B – Fairly Confident	All contracts should be signed before starting the project. Provide clear and concise specifications.	£0.00	Rare	Minor	£0.00	1	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Camel McGowen (Col. Project Manager)			
R14	5	(4) Contractual/Partnership	Contractor performance Cause: contractor not performing to expectations Event: programme of works altered and delays in delivering key milestones	Additional project time delay.	Likely	Serious	8	£1,000.00	N	B – Fairly Confident	Careful contractor selection, using established frameworks. Good project management and controls with frequent meetings, key milestones, regular contract reports, regular site inspections.	£0.00	Unlikely	Serious	£0.00	4	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Camel McGowen (Col. Project Manager)			
R15	5	(4) Contractual/Partnership	Faulty equipment Cause: faulty equipment delivered to site Event: unstable internal (humidity and temperature) conditions and delays in the programme	Additional project time delay.	Unlikely	Serious	4	£1,500.00	N	B – Fairly Confident	The contractor should test the equipment at their facility prior to delivering it to site for installation. All equipment should come with a "good working condition" certificate	£0.00	Rare	Minor	£0.00	1	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Contractor			
R16	5	(4) Contractual/Partnership	Equipment availability Cause: Unavailability of equipment and materials Event: delays in starting the project or delivering key milestones	Additional project costs and time delay.	Possible	Serious	6	£500.00	N	B – Fairly Confident	The contractor should place an order with the manufacturer at the earliest convenience. Consult with suppliers early to make allowance in the programme for lead-in times.	£0.00	Unlikely	Serious	£0.00	4	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Contractor			
R17	5	(4) Contractual/Partnership	Coordination with other site works and maintenance Cause: poor coordination with other site project works or maintenance works Event: disruption to both works	Project delays	Unlikely	Serious	4	£0.00	N	B – Fairly Confident	Early and ongoing engagement with all key stakeholders	£0.00	Unlikely	Minor	£0.00	2	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Camel McGowen (Col. Project Manager)			
R18	5	(5) H&S/Wellbeing	Asbestos Cause: unsurveyed areas of work Event: asbestos discovery	Additional project costs and time delay while asbestos is managed.	Unlikely	Serious	4	£2,500.00	N	B – Fairly Confident	Asbestos R&D survey completed and no risks found.	£0.00	Rare	Serious	£0.00	2	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Camel McGowen (Col. Project Manager)			
R19	5	(5) H&S/Wellbeing	Air contamination Cause: contractor works and type of material used (e.g. paint, cleaning regime, etc) Event: damage to artifacts on display or in storage, irritation to people in the space	Additional project costs and time delay while damages created to works of art	Unlikely	Extreme	16	£10,000.00	N	B – Fairly Confident	The contractor should keep the working areas very tidy and clean at all times. The materials used that might cause direct or indirect damages to the artifacts should be thoroughly checked and specified in the spec (e.g.: paint with no VOC, bringing the AHUs slowly into action, duct cleaning, plantroom cleaning, etc)	£0.00	Rare	extreme	£0.00	8	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Contractor			
R20	5	(5) H&S/Wellbeing	Electrical works Cause: accident while working on or near electrical equipment, unsafe works or installation. Event: injury or death to those working in the vicinity of the works, electrical fire, damage to property.	Project delays. Reputational risk.	Possible	Extreme	24	£1,000.00	N	B – Fairly Confident	Selection of experienced and competent contractors. Scrutiny of plans and monitoring of works to ensure compliance with CDM, Col. H&S Policy, and any specific site requirements.	£0.00	Rare	Extreme	£0.00	8	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Contractor			
R21	5	(5) H&S/Wellbeing	Plant room working Cause: number of typical plant room hazards from trip hazards to low heights, to slippery surfaces, hot surfaces, moving parts, dust, noise. Event: injury to persons or property	Project delays. Reputational risk.	Possible	Extreme	24	£1,000.00	N	B – Fairly Confident	Selection of experienced and competent contractors. Scrutiny of plans and monitoring of works to ensure compliance with CDM, Col. H&S Policy, and any specific site requirements.	£0.00	Rare	Extreme	£0.00	8	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Contractor			
R22	5	(5) H&S/Wellbeing	Mechanical works Cause: accident while working on or near mechanical equipment, unsafe works or installation. Event: injury or death to those working in the vicinity of the works, damage to property.	Project delays. Reputational risk.	Possible	Extreme	24	£1,000.00	N	B – Fairly Confident	Selection of experienced and competent contractors. Scrutiny of plans and monitoring of works to ensure compliance with CDM, Col. H&S Policy, and any specific site requirements.	£0.00	Rare	Extreme	£0.00	8	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Contractor			

## Appendix 2 PSDS Project LMA Ventilation

R23	5	(5) H&S/Wellbeing	Working at height Cause: accident while working at height, such as accessing ductwork from a ladder. Event: injury people falling from height or landing on someone from height	Project delays, Reputational risk.	Possible	Extreme	24	£1,000.00	N	B – Fairly Confident	Selection of experienced and competent contractors. Scrutiny of plans and monitoring of works to ensure compliance with CDM, Col. H&S Policy, and any specific site requirements.	£0.00	Rare	Extreme	£0.00	8	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Contractor			
R24	5	(5) H&S/Wellbeing	Power tools Cause: accident while working with power tools Event: injury to persons or property	Project delays, Reputational risk.	Possible	Extreme	24	£1,000.00	N	B – Fairly Confident	Selection of experienced and competent contractors. Scrutiny of plans and monitoring of works to ensure compliance with CDM, Col. H&S Policy, and any specific site requirements.	£0.00	Rare	Extreme	£0.00	8	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Contractor			
R25	5	(5) H&S/Wellbeing	Smoke clearance fan down-time Cause: Smoke clearance fans will be unavailable during their replacement works period Event: Area served by those fans is not protected from smoke in the event of a fire during the works	If there is a fire in the area served by the smoke extract fans, there are no other means for smoke clearance and the personnel is put in danger	Unlikely	Major	8	£5,000.00	N	B – Fairly Confident	The areas served by those fans should not be used during the works (approx. 3 days for each smoke extract fan)	£0.00	Rare	Minor	£0.00	1	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Camel McGowen (Col. Project Manager)			
R26	5	(5) H&S/Wellbeing	Covid-19 Cause: Covid-19 outbreak Event: disruption to contractor or supply-chain, infections between personnel, restricted or no access to the building.	Additional project time delay and closure of the building	Likely	Serious	8	£500.00	N	B – Fairly Confident	Work in accordance with Col. COVID-19-safe guidelines, including the use of face masks and social distance between teams, limiting personnel within confined plant rooms where possible. Vaccination of site personnel.	£0.00	Possible	Serious	£0.00	6	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Camel McGowen (Col. Project Manager)			
R27	5	(5) H&S/Wellbeing	Noise nuisance Cause: use of power tools for cutting Event: noise is audible to occupants	Nuisance cause to occupants.	Unlikely	Serious	4	£0.00	N	B – Fairly Confident	Consultation with stakeholders to understand potential impacts. Careful planning of works to avoid time when this may be an issue.	£0.00	Unlikely	Minor	£0.00	2	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Contractor			
R28	5	(5) H&S/Wellbeing	Fresh air interruption Cause: fan and humidifier replacements require downtime of the ventilation for a period of time (~5 days) Event: No fresh air during the down-time period. Any persons within the areas served by the ventilation plant which is offline may be at a higher risk of covid-19 transmission. Difficulties in arranging a time for the works to as to minimise this impact.	Project delays	Possible	Major	12	£0.00	N	B – Fairly Confident	Early consultation with key stakeholders. Careful planning to minimise duration of interruption.	£0.00	Unlikely	Serious	£0.00	4	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Camel McGowen (Col. Project Manager)			
R29	5	(6) Safeguarding	Loading/un-loading Cause: Loading and un-loading of materials Event: Members of the public might enter the building unauthorised	Additional project costs	Unlikely	Serious	4	£500.00	N	B – Fairly Confident	Extra security during the loading time. There should be a process where the contractor announces the security in advance of their actions.	£0.00	Rare	Minor	£0.00	1	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Contractor			
R30	5	(6) Safeguarding	Vehicle access Cause: Vehicle access to LMA site Event: Possible injuries to pedestrians	Reputation damage and financial loss	Unlikely	Serious	4	£500.00	N	B – Fairly Confident	Good contractor management, ensuring construction plan and RAMS are in place. Only authorised drivers should be granted permission for access to the Guildhall Road	£0.00	Rare	Extreme	£0.00	8	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Contractor			
R31	6	(10) Physical	Ongoing Environmental close control Cause: a fault with the design, installation or commissioning results in the maintained conditions not meeting requirements. Event: temperature and humidity levels exceed those required to protect the stored artifacts.	Damage to artifacts, insurance implications, reputational (and risk to hosting future exhibition) risk from damage to any loaned works. Discomfort to occupants, reputational risk if impacting visitors or even guests.	Possible	Major	12	£20,000.00	N	B – Fairly Confident	Careful design and specification. Selection of contractor experience with these types of works for these types of environments. Good project control and monitoring to ensure installation meets specification. Extended commissioning and ongoing monitoring.	£0.00	Unlikely	Major	£0.00	8	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Designer (Beveridge Associates)			
R32	6	(4) Contractual/Partnership	Ventilation rates lower than required Cause: incorrect specification, faulty equipment, incorrect installation or commissioning Event: ventilation rates not meeting specification	Not meeting fresh air requirements and potentially the temperature and humidity requirements. This could lead to poor air quality, higher risk of COVID-19 transmission, damage to artifacts.	Possible	Serious	6	£10,000.00	N	B – Fairly Confident	Careful fan specification, based on available design information supplemented by survey validation check measurements. Specification of high quality products, supplier and installer. Good project monitoring to ensure correct installation, verified during commissioning witnessing.	£0.00	Unlikely	Minor	£0.00	2	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Designer (Beveridge Associates)			
R33	6	(4) Contractual/Partnership	Failure of new fans Cause: faulty equipment or installation, incorrect enabling works Event: reduced air flow rates	Not meeting fresh air requirements and potentially the temperature and humidity requirements. This could lead to poor air quality, higher risk of COVID-19 transmission, damage to artifacts.	Unlikely	Major	8	£2,000.00	N	B – Fairly Confident	Provide modular design for multiple fans to improve resilience	£0.00	Unlikely	Minor	£0.00	2	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Contractor			

## Appendix 2 PSDS Project LMA Ventilation

R34	4	(F) Environmental	Savings lower than estimated Cause: inaccurate assumptions or calculations, installation does not meet specification, post-installation changes to the control settings of the ventilation systems, post-installation maintenance issues with the wider ventilation system, future energy prices lower than anticipated, future electric grid carbon factor lower than anticipated, weather deviates from typical ranges Event: actual energy cost and carbon savings are lower than estimated	Unable to verify project meets the PSDS lifetime carbon eligibility criteria. Project provides less support to the Climate Action strategy than anticipated. Guildhall energy costs remain higher than anticipated.	Possible	Major	12	£0.00	N	B – Fairly Confident	Base saving estimates on conservative assumptions. Refine estimations based on final design. Verify assumptions throughout the project.	£0.00	Possible	Serious	£0.00	6	£0.00	06/07/21	Camel McGowen (Col. Project Manager)	Camel McGowen (Col. Project Manager)			
R35																							
R36																							
R37																							
R38																							
R39																							
R40																							
R41																							
R42																							
R43																							
R44																							
R45																							
R46																							
R47																							
R48																							
R49																							
R50																							
R51																							
R52																							
R53																							
R54																							
R55																							
R56																							
R57																							
R58																							
R59																							
R60																							
R61																							
R62																							
R63																							
R64																							
R65																							
R66																							
R67																							
R68																							
R69																							
R70																							
R71																							
R72																							
R73																							
R74																							
R75																							
R76																							
R77								£0.00				£0.00				£0.00							
R78								£0.00				£0.00				£0.00							
R79								£0.00				£0.00				£0.00							
R80								£0.00				£0.00				£0.00							
R81								£0.00				£0.00				£0.00							
R82								£0.00				£0.00				£0.00							
R83								£0.00				£0.00				£0.00							
R84								£0.00				£0.00				£0.00							
R85								£0.00				£0.00				£0.00							
R86								£0.00				£0.00				£0.00							
R87								£0.00				£0.00				£0.00							
R88								£0.00				£0.00				£0.00							
R89								£0.00				£0.00				£0.00							
R90								£0.00				£0.00				£0.00							
R91								£0.00				£0.00				£0.00							
R92								£0.00				£0.00				£0.00							
R93								£0.00				£0.00				£0.00							
R94								£0.00				£0.00				£0.00							
R95								£0.00				£0.00				£0.00							
R96								£0.00				£0.00				£0.00							
R97								£0.00				£0.00				£0.00							
R98								£0.00				£0.00				£0.00							
R99								£0.00				£0.00				£0.00							
R100								£0.00				£0.00				£0.00							