Risk Assessment Form (RAAC)

Space covered by this Risk Assessment	01.042 Physics Plant Room	Date of assessment	6th October 2023
Department	Warwick Estates	Date review due	6th November 2024
Description of Task/Process	To facilitate the safe access into the building by identifying any risks in the space.		
Assessment carried out by	Steve Twynholm / Geoff O'Hara		

Additional information	**Emergency Response:** • Establish communication protocols and emergency response procedures. • Keep emergency contact information readily available. **Inspections and Maintenance:** • Regularly inspect the RAAC roof for signs of damage or degradation. • Implement a maintenance schedule to address any identified issues promptly. **Review and Monitoring:** • Regularly review and update the risk assessment as conditions change or new hazards emerge. • Monitor the effectiveness of control measures and adjust them as needed. **Record Keeping:** • Maintain records of risk assessments, training, inspections, and incident reports. **Communication:** • Establish clear lines of communication among all parties involved in the project, including workers, supervisors, and emergency responders.

Potential RAAC hazard identified, location and how they may cause harm	Who may be at Risk?	Existing Control Measures (See Appendix 1)	Current Risk Level* (Critical, High, Medium, Low)	What additional Control Measures are required? (See Appendix 1)	Action required by whom & by when?	Final Risk Level* (Critical, High, Medium, Low
Physics Plant Room has RAAC roof panels	Estates Staff (specifically mechanical	Structural assessment by a qualified engineer before entry.	MEDIUM	All staff and contractors to complete an induction to the	Geoff O'Hara End Oct 2023	LOW

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Structural Integrity: Potential collapse or damage to the RAAC roof due to age, weathering, or structural weaknesses. Risk of falling debris from the roof. Weather conditions (e.g., rain, snow) affecting roof stability	and electrical) Contractors Nominated Lab technicians.	Ensure proper signage warning of RAAC on ceiling. Monitor weather conditions and delay entry if adverse conditions could affect safety. Clear all access and egress routes of obstructions. Access restricted via SALTO Provide adequate lighting for safe movement within the building. Ensure all personnel with a potential to access the building have suitable training in roof safety procedures and RAAC awareness.		Physics Plant Room – to include the following advice: Assess space before entering for debris, dampness (water ingress), any changes, any adverse loading. To escalate to university contact or line manager and Space controller (Geoff O'Hara) Review SALTO access Establish Faculty access requirement. Provide copy of this risk assessment. And abridged inductions Arrange for space to be cleared of existing materials to ensure any change of condition is visible	Geoff O'Hara End Oct 2023 Heather Loosemore/ Simon Oke Geoff O'Hara End Oct 2023 Geoff O'Hara End Oct 2023	

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				Limit time in the space to only essential need and as little time as possible. Any activity that involves creating vibrations (over and above those normally associated with the plant in the space), loading to the roof, or contact with the roof panels must not take place without full consideration of the impact on the RAAC panels and the advice of a structural engineer. Weekly monitoring to be carried out. Records of visual inspections kept. REFER TO ADDITIONAL CONTROL MEASURES AS ADVISED BY QUALIFIED/COMPETENT STRUCTURAL ENGINEER	By Estates/ structural surveying team. End OCT 23 By Estates/ structural surveying team. End OCT 23	

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				USING APPENDIX 1 AS GUIDANCE.		

*See Risk Matrix below

Risk Matrix (Taken from the Institute of Structural Engineers publication 'Reinforced Autoclaved Aerated Concrete (RAAC) Investigation and Assessment – Further Guidance, April 2023')

Assessment category	Risk category	
Red	Critical risk	Requires urgent remedial works which may include taking out of use or temporary propping to allow the safe ongoing use of a building. Depending on the extent, this may be part or all of the building. Combined with awareness campaign for occupants including exclusion zones.
	High risk	Requires remedial action as soon as possible. Combined with awareness campaign for occupants, which may include exclusion zones, signage, loading restrictions and the need to report changes of condition, eg, water leaks, debris, change in loading, etc.
Amber	Medium risk	Requires inspection and assessment on a regular basis, eg, annually. Combined with awareness campaign for occupants, which may include signage, loading restrictions and the need to report changes of condition, eg, water leaks, debris, etc.
Green	Low risk	Requires inspection and assessment occasionally, say three year period depending on condition. Combined with awareness campaign for occupants, which may include signage, loading restrictions and the need to report changes of condition, eg, water leaks, debris, etc.

Overall Final Risk Rating (Highest level in final column above)	**LOW**

Additional Comments from Risk Assessor	

	Upon reviewing the space Geoff O'Hara is now taking control. The RAAC risk assessment is going to combined into a general space one, to ensure all hazards are worked through. This will not delay the inductions.

Approved By	Steven Twynholm
Date	06/10/2023

Position	Director Of Operations

Please print a copy, sign it and keep for your records

Document History

Version	Date	Reviewer	Comments
1	18-10-23	Heather Loosemore and Geoff O'Hara	Updated after site visit – additional actions added.

Appendix 1 Risk Control Measures (Taken from the Institute of Structural Engineers publication 'Reinforced Autoclaved Aerated Concrete (RAAC) Investigation and Assessment – Further Guidance, April 2023')

Remediation

Remedial action should be undertaken on any panels assessed to be Red (High or Critical risk) condition, with planned remedial action determined for Amber (Medium risk) condition panels. In some instances, it may be appropriate to apply remedial action only to the affected panels. Alternatively, depending on the remedial works, this may be applied to all panels within the building being assessed. The response to Red (High or Critical risk) panels should be considered as time dependent. In some instances, immediate exclusion zones or the introduction of temporary propping to allow the safe ongoing use of a building may be recommended. In all instances, the ongoing use of buildings with RAAC panels identified to be in a Red (High or Critical risk) category should be risk assessed. Engineers undertaking the risk assessments should be aware of the approach being developed for the management of high-risk buildings under the Building Safety Act. Remediation strategies may include:

- The addition of secondary supports or beams at the end bearing to provide an increased effective bearing length. This is applicable to panels with short bearings length and misplaced transverse anchorage bars. This strategy will not be suitable for cut panels with no transverse anchorage reinforcement
- Positive remedial supports to actively take the loading from the panels. This could include the addition of new timber or lightweight structures to support the panels directly
- Passive fail safe supports to mitigate catastrophic failure of the panels if a panel was to fail. Such as a secondary structure designed to support the panels
- Removal of individual panels and replacement with an alternative lightweight solution • Entire roof replacement

Management Strategy

A management strategy should be applied to Amber (Medium risk) and Green (Low risk) RAAC panels. This should be developed by the building occupant/owner. It is expected that panels presenting a Low or Medium risk will deteriorate over time, but precise details of the mechanism that causes this, or the rate at which it will occur is not yet known. The management strategy should consider the current condition of the RAAC panels and include:

- Monitoring plans for RAAC panels and inspection regime
- Risk assessment details • Areas for proposed future remediation

• The assumption on degradation of RAAC panels that have informed the plans – this should be informed by the structural engineer, based on site conditions

• The management strategy should also include plans for reducing the risks associated with RAAC panels

These should include plans for limiting:

o Applied operational loads, for example no-walk zones on RAAC roofs, maintaining roof drainage and removal of ponding water

o Applied fixed loads, for example, restricting new or removal of existing building services equipment

o Durability risks, for example reducing humidity in plant or kitchen spaces, re-roofing including insulation laid to falls

An awareness campaign should be implemented so that all occupants are aware of the concerns about RAAC. This should provide reassurance that measures are being undertaken, but also help involve occupants in the management. Occupants should be encouraged to notify the responsible person if conditions change, for example, if leaks are detected, debris is found, or adverse loading noted.