Dunbartonshire and Argyll & Bute
Valuation Joint Board

RAAC Management Plan

Version	Author	Changes	MT Approved	Board Approved
0.1	R Hewton	New policy and Procedure		
0.2	R Hewton	Updates to building procedures		
0.3	R Hewton	Management Team Review	10/03/2025	
0.4	R Hewton	Changes following feedback on space requirements		
0.5	R Hewton	Update to refer to new building plans in Appendix 6		
0.6	R Hewton	Minor updates to plan		

Contents

1. Introduction

1.1 Dunbartonshire and Argyll & Bute Valuation Joint Board ("the Board") commissioned a survey to check for the presence of Reinforced Autoclaved Aerated Concrete ("RAAC") in its office building at 235 Dumbarton Road, Clydebank, G81 4XJ ("the building").

1.2 A report (Appendix 1), was received by the Assessor on Monday 3 March 2025. The report advises that the roof of the building is formed of RAAC planks and that all areas with RAAC planks should now be actively managed until a permanent solution can be found and implemented.

1.3 This document forms the Board's response, and updated procedures for the occupation of the building.

2. More about RAAC

2.1 RAAC is a reinforced form of lightweight concrete used to form panels or planks. It has no aggregate unlike common concrete. These were mainly used in flat roofs but also in some floor and wall panel construction in the UK from the mid-1950s to the mid-1990s. RAAC was used in a range of building types, both public and private sector, but is believed to be more common in schools, hospitals and public buildings.

2.2 Problems with RAAC have been known about since the 1980s, when some structures containing the material were required to be demolished.[1] Its 'bubbly' texture and tiny holes throughout makes it much more vulnerable to moisture, which leads to decay, rusting, degradation and eventually, collapse.

2.3 There is a risk it can fail, particularly if it has been damaged by water ingress from leaking roofs which causes corrosion of the reinforcement, excessive thermal degradation, or if it was not formed correctly when originally made.

2.4 The Health and Safety Executive has said that RAAC is now beyond its lifespan, and structures containing the material may collapse with little or no notice.[2]

2.5 The Standing Committee on Structural Safety ("SCSS") issued an alert in May 2019 (Appendix 2) which provides guidance for owners of RAAC affected buildings.

2.6 The guidance from SCSS is that the lifespan of RAAC planks is considered to be around 30 years.

[1] https://www.theguardian.com/uk-news/2023/sep/04/raac-crisis-who-knew-what-when-crumbling-concrete-england
[2] https://www.hse.gov.uk/reinforced-autoclaved-aerated-concrete/index.htm

3. Areas affected by RACC (“affected area”)

3.1 The plan of affected areas can be seen in Appendix 6, with the affected areas on each floor being shaded in red. The grey shaded areas are confirmed as unaffected. The orange shaded areas were not able to be inspected, and as such are presumed to be RAAC affected.

3.2 For clarity, the affected areas of the whole building are:

- All areas in the top floor
- The main file hall on the ground floor
- The bin/general store accessed from the file hall
- The cleaners store accessed from the file hall
- The gents toilets accessed from the main front foyer
- The accessible toilet and the corridor outside it.
- The ladies toilet accessed from the corridor outside the training room
- The main entrance foyer (the double height part)

3.3 In the above areas, RAAC has been identified as having been used in the planks which form the roof covering.

3.4 Although not included in the plans in Appendix 6, the basement areas are unaffected.

4. Considerations which have influenced Risk Management

4.1 The use of space beneath a roof will affect the associated risk e.g. an office will be a higher risk than a store.

4.2 Spending less time in an affected area decreases the likelihood of encountering the hazard, thereby reducing the overall risk.

4.3 There is doubt about the structural adequacy of the planks due to multiple evidence of water ingress, which has been evident in the building over a number of years.

4.4 The use of the space beneath the roof should be discontinued until the roof has been strengthened or replaced.

4.5 There is evidence of roof ponding, roof leaks, and other signs of deterioration of the planks.

4.6 There have been many instances of re-surfacing that have taken place on the roof which may have affected the load on a roof.

4.7 Many parts of the roof have been repaired with black coloured surfacing - this may indicate enhanced sensitivity to thermal effects.

4.8 Those who enter affected areas should be made aware that they must report any leaks, cracks and or other potential defect issues immediately.

4.9 The presence of Asbestos Containing Materials (“ACMs”) in ceiling voids will introduce an additional risk in the event of the failure of a RAAC plank above it, in that Asbestos could be disturbed and released into the air.

4.10 If there are sudden changes such as audible cracking sounds or increased water ingress, or observable deflection (changes or sagging to the roof or ceilings), then the area should be immediately closed off. This would apply to any form of structure.

4.11 Any such observations could be warning signs and should merit expert attention from an appropriately experienced Chartered Structural Engineer or Chartered Building Surveyor.

4.12 All floor plates are believed to be formed of reinforced concrete. A failure of a roof panel on a floor above is unlikely to have any impact on lower floors underneath the affected area.

4.13 Sight must not be lost of the fact that the 2018 collapse in a school building (see Appendix 2, page 1) was sudden with very little noticeable warning. This is indicative of shear failure in cement based materials and can only be protected against by knowing that there is sufficient shear resistance in the material, the reinforcement, or both.

5. Asbestos

5.1 When asbestos-containing materials (ACMs) are disturbed, dangerous asbestos fibres are released into the air. When a person is exposed to (or inhales) such fibres, the person is at risk of developing a fatal or serious disease, such as mesothelioma, asbestos-related lung cancer, asbestosis and pleural thickening.

5.2 An Asbestos Survey was obtained by the Board in 2013. The Report covered the entire building (for the avoidance of doubt, this includes the part formerly occupied by WDC as the Education Resource Centre).

5.3 Insulation Board containing asbestos, was positively confirmed as being present above the ceiling tiles in the upper floor ladies toilets. Remedial works were carried out, but the ACM remains above the ceiling tiles.

5.4 Ceiling voids in a number of areas on the upper floor were unable to be inspected due to the nature of the fixed ceiling tiles. It must therefore be assumed (until proven otherwise), that those voids which were not inspected will contain ACMs.

5.5 The presence of RAAC above ACMs increases the risk of asbestos exposure. In the event of collapse of a RAAC plank, the ACM below can be disturbed. This disturbance can release dangerous asbestos fibres into the air, which can cause serious health problems if inhaled.

6. Initial Response

6.1 The Board's Business Continuity Team convened on the morning of 3 March 2025 to consider the Surveyors report and the initial response.

6.2 A hybrid meeting of staff based in the Clydebank office took place later that morning. Staff were advised of the content of the surveyor's report, and some background information about RAAC.

6.3 Staff were asked to work from home until the Risk Management could be undertaken and a short-term solution implemented.

7. Short Term Solution

7.1 The following changes to the occupation of the building have been made to allow staff to return to the building.

7.2 The main entrance (fronting on to Dumbarton Road) will cease to be used for day-to-day access and egress from the building. It will remain as an emergency escape route.

7.3 Staff can continue to use the rear door (from the back car park) to access the ground floor of the building.

7.4 Main entry to the building will be via the side entrance (beside the ramp to the rear car park), via steps to the gate, and onward through the door marked entrance.

7.5 A reception area exists inside this door, which will be used for accepting deliveries, receiving visitors and contractors, and dealing with public enquiries. Reception will be staffed by our clerical/admin team.

7.6 The Business Support Team will move from the affected upper floor to the office adjacent to the reception area.

7.7 The Valuation Team (including valuation managers) will move from the affected upper floor to the former clerical/admin room adjacent to the old reception and large file hall. Access to this is past the new reception, and through the foyer, remaining in the area under the upper landing which provides protection from any fall from the roof above.

7.8 Clerical/admin team will move to the large room beside the new reception area.

7.9 The kitchen adjacent to the new reception will be brought back in to use, resulting in the upper floor kitchen no longer being used.

7.10 The upstairs toilets and shower will no longer be in use.

7.11 There are three toilets available in unaffected areas: adjacent to the new reception, and in the wing directly opposite. The other toilets on the ground floor will no longer be in use.

7.12 The scanning room, library, stationery store and training room are in an unaffected area and can continue to be used.

7.13 A seating/break area will be formed in the room which is parallel to the corridor containing the accessible toilet. This will also contain the Multi-Function Device (“MFD”) for the office, and a table and chairs for visitors inspecting registers etc.

7.14 The main file hall will still hold our domestic files, and the non-domestic files will remain in the two rooms on the upper floor. All of these are affected areas, and guidance (including that shown later in this document at part 10) should be followed when access is required to these areas.

7.15 There will be no access to the roof, by either staff or contractors without a further thorough individual risk assessment being conducted. This is a direct recommendation from the surveyors' report.

8. Longer Term Plans

8.1 An initial report will be presented to the Board at its meeting in March 2025.

8.2 It is proposed that the Board's property sub-committee will convene. Options will be discussed and investigated, and any required development appraisals procured. These could include:

- Removal of RAAC panels, and reinstatement of roofs.
- Demolition of the building, and new build.
- Sell the existing building/site and buy a new building.
- Sell the existing building/site and rent an office building.

8.3 A paper will be presented to the next full meeting of the Board, with a recommendation on the best long term accommodation solution for the Board.

9. Risk Management

9.1 Risk Management Procedures have been formulated, incorporating guidance from the Institution of Structural Engineers' ("ISE") document *"RAAC Investigation and Assessment – Further Guidance"* (Appendix 4).

9.2 Survey information has been used to assess a risk classification for the planks and the affected areas. The following table was developed by the ISE for risk rating purposes.

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.

9.3 There are significant examples of water ingress through and on the RAAC planks. This is evidenced by signs of staining on the planks, and on ceilings below. There is also extensive evidence of salt crystallisation on the planks.

9.4 The presence of water within RAAC panels is of concern and therefore a panel with observed historic water ingress has an elevated risk level. The table below is to be used for panels that have been subject to long term water ingress.

Risk assessment if water ingress is observed				
Deflection	Major cracking or spalling	Minor cracking/ or spalling within 500mm of support	Minor cracking or spalling away from the supports	No visible defect
Deflection >span/100	Red	Red	Red	Red
Span/100<deflection<span/200	Red	Red	Red	Red
Span/200<deflection<span/250	Red	Red	Amber	Amber
Deflection<span/250	Red	Red	Amber	Amber

9.5 Due to the known issues with water penetration in the building, there is a high likelihood, without carrying out further destructive surveys, that the planks attract a Red rating.

9.6 With the planks now having lasted twice their expected lifespan of 30 years, there would appear to be no benefit of carrying out a full destructive survey of the planks. A full destructive survey would require all furniture removed from affected areas, the removal of all light fittings and electrical services (emergency lighting, alarm system, fire alarm sensors/sounders) in ceilings, and the removal of ceilings themselves.

9.7 Risk Management has proceeded on the basis that the planks have attracted a Red risk rating.

9.8 The response to a Red risk rating should be remedial action, with exclusion zones being set up. The response should be time dependent. The organisation's initial response is reflective of this advice.

9.9 A Risk Assessment gauges the likelihood of a hazard occurring, and the severity of it happening to arrive at a risk score.

9.10 A full RAAC Risk Assessment (Appendix 5) has been undertaken, the resultant actions from which have been used to formulate the new and update procedures in relation to:

- Opening and Locking the Building
- Lone Working Procedures
- Fire Evacuation Plan
- Visitors and Contractors Arrangements
- This RAAC Management Plan

9.11 The following is a summary of the risk mitigation strategies:

1. **Injury to staff from falling planks/ceilings (Initial Phase)**:
    - Finalise RAAC Management Plan.
2. **Injury to staff from falling planks/ceilings (Short-term Phase)**:
    - Move offices/staff out of affected areas.
    - Update procedures for safe entry/exit.
    - Install clear signage.
    - Restrict access to non-essential areas.
    - Update caretaker procedures.
    - Relocate frequently used files.
    - Allocate resources for scanning projects.
    - Provide staff guidance on safety measures.
    - Introduce a reporting system for damage.
    - Implement regular inspections of affected areas.
3. **Injury to visitors from falling planks/ceilings**:
    - Close existing visitors entrance
    - Install external signage for new entrance.
    - Hold visitor meetings in safe areas.
4. **Injury to contractors from falling planks/ceilings**:
    - Make RAAC Management Plan available at Reception.
    - Provide G4S Keyholding service with the plan.
    - Introduce a permit scheme for work in affected areas.
5. **Injury from falling through fragile roof**:
    - Update contractor procedures for roof access.
    - Attach warning tags to roof keys.
6. **Inhalation of Asbestos**:
    - Include asbestos survey in RAAC Management Plan.
    - Instruct staff to close doors in case of collapse.
    - Doors to affected areas should be kept closed at all times.
7. **Confusion during fire evacuation**:
    - Update Fire Evacuation Plan.
    - Ensure clear processes for temporary presence in affected areas.
    - Conduct regular fire drills.
8. **Slips/Trips/Falls**:
    - Check and repair paths and handrails.
    - Mark steps outside new entrance.
9. **Confusion in the event of a collapse**:
    - Update Fire Evacuation Plan with specific guidance.
10. **Financial Risk from injury claims**:
    - Update insurance coverage.
11. **Risk of injury to lone workers**:
    - Update caretaker procedures.
    - Ensure appropriate arrangements for cleaners.
    - Move cleaning cupboard.
    - Include lone working instructions in RAAC Management Plan.
12. **Psychological Stress**:
    - Seek staff input on the RAAC Management Plan.
    - Communicate safety measures clearly.
    - Invite staff feedback and address concerns.

10. Updated Guidance for building users

10.1 The existing front entrance (fronting on to Dumbarton Road), will no longer be used for day-to-day access to the office. Use to be restricted to emergency exit, and for locking/unlocking the building until changes to the alarm system can be made.

10.2 New signage will direct visitors and contractors to the new entrance at the side of the building, accessed via the stairs and gate.

10.3 Staff may access the building through the new entrance, or the existing back door from the rear car park. This allows everyone to access and exit the building, and get to their place of work via unaffected areas.

10.4 There will be a single 'ticking in and out folder' for all staff, in the MFD Room.

10.5 Business Support Team will be based from a room adjacent to the new reception.

10.6 Clerical/admin staff will be responsible for staffing the new reception, which will handle incoming mail, and scanning.

10.7 The clerical/admin team (11 staff) will move to the large room adjacent to the new reception. An element of hot desking may be required.

10.8 The valuation team and managers (15 staff) will move from the affected upper floor, to the former clerical/admin office.

10.9 The Assessor and Depute Assessor will move from the affected upper floor to the Library and current Scanning Project Room on the ground floor.

10.10 Breakout rooms/meeting rooms will be formed in due course.

10.11 Staff should be able to carry out the majority (if not all) of their roles, without entering affected areas of the building.

10.12 The toilets accessed off the main foyer, the training room corridor, and the accessible toilet are all in affected areas and will be out of use. Toilets adjacent to the new reception, and in the wing opposite are in unaffected areas.

10.13 The upstairs toilets and canteen/kitchen are out of use and will be signposted as so. There is a kitchen for staff use adjacent to the new reception. A break area will be formed in the MFD Room.

10.14 Affected areas of the building will be clearly signposted. This will be by way of notices affixed to doors leading to affected areas, and in the case of the main two storey foyer, a line marking will be placed on the floor to delineate

the protected area under the landing from the unprotected (full height) affected area.

10.15 Persons working alone in the building should not enter affected areas, unless in possession of a Board Lone Working device. The device should have an Amber Alert set on it to expire at the expected exit time from the affected area. This will alert the 24/7 monitoring service if the timer expires, and it is not acknowledged.

10.16 Entry to an affected area should only be made where absolutely necessary. Staff should ensure a colleague is aware where they are going and when expected to be back.

10.17 The time spent in the affected area should be as short as possible. By reducing the time spent in the affected areas, the likelihood of harm to persons is hugely reduced.

10.18 The risk of collapse of a RAAC plank is increased during periods of inclement weather. Entry to an affected area during any of the following should be strictly limited:

- **Rain and Moisture**: Avoid entering the area during or immediately after heavy rain, as moisture can weaken RAAC planks.
- **Temperature Extremes**: Be cautious during extreme heat or cold, as thermal expansion and contraction can stress RAAC planks.
- **Wind**: Avoid entering the area during strong winds or storms, as high winds can exacerbate structural weaknesses.
- **Snow**: The additional weight from snow lying on the roof could overload planks, causing them to fail.

10.19 All persons entering the affected areas should be fully familiar with this RAAC Management Plan.

10.20 On entering the affected areas, you should carry out a visual inspection of the area, looking for anything that looks unusual or out of place. This could be:

- signs of dust or debris on the floor or falling from ceilings,
- new cracks in walls or ceilings,
- light fittings or ceiling tiles having moved,
- water dripping from the ceiling,
- sagging of the roof or ceiling,
- visible signs of the roof/ceiling not being straight,
- unusual noises - cracking/rumbling/groaning

10.21 If anything is noted as being out of place during the above checks, the affected areas should not be entered, and concerns immediately reported to line managers/BST.

10.22 Ensure staff are aware of exit routes from the affected area and the building, and that those are not obstructed.

10.23 Be aware that in the event of an evacuation from the building, the safest route to exit the building may be through an affected area. The quickest and safest route to the assembly point should be taken.

10.24 In the event of a collapse where you witness the collapse:

- Promptly exit the building by the safest route possible,
- Close any doors behind you as you leave an affected area,
- Activate a fire alarm call point to alert other building users of the need to leave the building,
- Report to the fire marshall at the assembly area and advise of the situation.

10.25 In the event of the fire alarm sounding:

- Persons should promptly exit the building by the safest possible route,
- If the safest route is through an affected area, ensure there are no signs of collapse before entering.

10.26 As a rule, visitors to the building should not be in affected areas. Visitors should be restricted to the new public counter, the register checking area, or the training/meeting room.

10.27 Updated Contractor Guidance will be available at the new reception.

10.28 This document and its appendices will be updated on an ongoing basis. The most current version will always be available on the VJB website. QR codes will be posted around the office to allow quick and easy access to the document.

11. Updated Procedures for opening and closing the office

11.1 The office currently has two separate intruder alarm systems. Investigations are being made to see if these can be combined or made to work together better.

11.2 In the interim, the two systems will require to be set and unset separately.

11.3 Building Opening Procedure:

- Unlock the rear door from the outside (but do not open it)
- Unlock the old front door and use your ID card to enter the internal door.
- Unset the intruder alarm in the usual way.
- Go back outside and unlock the side gate
- Proceed through and unlock the new reception entrance
- Unset the second intruder alarm.
- The building is now ready for occupation.

11.4 Building Locking Procedure:

- Ensure all lights are off, windows closed, and internal doors closed.
- Check the main file hall fire exit is secured, and the internal door to the file hall is locked.
- Close the two adjoining doors on the ground floor between the old part and the new part.
- Check the ‘ticking in and out’ folder to make sure everyone has left the building.
- Set the alarm beside the new reception and leave via the new reception external door.
- Exit through the gate, locking it behind you.
- Lock the rear door from the outside.
- Enter through the front door and check no one has entered the building again, before setting the alarm, and double locking the outside front door.