Leaden Hall Planning Consultation Response Paper 9

The Design of the Archive Building – Rev A



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1. Introduction

This paper sets out in a single document some of the functional parameters, precedents and creative concepts behind the design of the new Salisbury Cathedral Archive Collection Building at Leaden Hall, in response to questions raised by the Society for the Protection of Ancient Buildings (SPAB) and the Local Planning Authority Wiltshire Council on the eastwards projection, height and material selection of the proposed building.

Separate Planning Consultation Response Papers 1, 3 and 4 cover justification for the location of the building, including evidence that 35% of the built area of The Close is twentieth century or later development, and that the archive building equates to only 34% of the total area of built development being proposed for removal on the Leaden Hall site as part of the overall planning application.

Sections 6.4, 6.5 and 7.1, 7.3 and 7.4 of the Design and Access Statement explain the design concepts and outline previously considered materials and design options, and why they were discounted, in further detail.

2. Archive and Design Parameters

The key technical and design principles underpinning the design of the archive building are set out in section 7.2 of the Design and Access Statement. The building must conform with the National Standards EN 16893:2018 & BS 4971:2017 for archive collections. The requirements of these standards that relate to the form of the building, and the rationale behind the overall design, are set out below:

- The cathedral authorities and consultants have been working actively throughout the design process with the Cathedral Archivist and the National Archive Consultant, Chris Woods, from the National Conservation Service. The latter has set out strict environmental parameters for the building so that it is passively cooled and eliminates as many security and water ingress risks as possible to safeguard the exceptionally significant collection it will house. The requirements for four-hour security and fireproofing, and a windowless archive store, have resulted in a considered and complex design process.
- A simple flat roof extends over the archive store maintaining a low profile on the southern boundary but importantly providing a roof with a low risk of leaks, by eliminating all joints, valleys or hips, and with all drainage points outside the wall line. Electric leak detection within the roof will provide further safety.
- A recognisable pitched roof form extends over the reading room and office spaces to the north. This is designed to relate to the former canonry on the site as well as other buildings in The Close, the majority of which have pitched roofs of between 40-50°. The archive building roof has been reduced in width in the amended design (re-submitted on the 5th July) so that the gable apex is now lower. The reading room below will be open to the apex aims to create a dramatic and airy 'hall' space for staff and visitors to the publicly accessible archive. A flat roofed space would not have the same architectural quality in intended to compliment the significance of the collection.
- The simple, linear pitched roof form reduces leak risk points such as valleys, hips, flashings or internal gutters.
- Lowering the pitch of the roof could result in a weak 'bungalow roof' form particularly alien to the historic forms of the site and the former canonry that provides the key design and symbolic reference for the archive building (see section 4).
- The proposed covered entrance loggia provides an area to unload archive documents under-cover, a key requirement of the brief. This is made possible by the pathway extending south from the Leaden Hall entrance courtyard through an opening in the brick wall in the location it was previously removed. Omitting the loggia would put the protection and security of the archive collection at risk during transport.

- The reading room and offices require ample natural indirect light (i.e. north facing glazing). This glazing is designed to align with the historic opening in the south wall of the parterre. The building design incorporates regular stone columns to form a glazed colonnade to echo the Gothic rhythm of other buildings in The Close such as the exterior of the cathedral cloisters. Glazing overlooking the parterre will ensure that it feels less enclosed and allow users of the archive building to enjoy the existing feature.
- The size of the building is dictated by the size of the archive collection and the supporting spaces. The revised resubmitted design reduced these areas to the absolute minimum, and the building is not viable if it is any smaller.



Figure 1: The north façade of the archive building overlooking the parterre garden (verified scale AVR to LI TGN06/19)

3. Building and Gable Height

The height of the archive building is dictated by four factors. The first is the requirement to raise the building one metre above ground level to counter flood risk (at approximately 500mm above the 1-in-100 year flood level). This requirement would apply to sites elsewhere in The Close (if they were available), the majority of which is in the Zone 3 flood plain. It might be possible to lower the floor level by say 200mm, subject to re-consultation with the archive and flood risk specialists. However, the raised floor level as proposed creates a piano nobile effect which has precedents in several other buildings in The Close, particularly the adjacent Walton Canonry, and provides gravitas to the building. The building thus has a certain height due to the flood risk, and this dictates the architectural approach. It is difficult to hide or make a building recessive if it is raised above the ground, so the approach has been to make the building a clear and self-assured hall-form rather than an entirely subservient structure.

The second factor is the fixed volumetric space of the archive collection and requirements for air circulation. In the amended design of the archive building this has been set at 85sqm on plan and 2.75m internal height to accommodate the physical volume of the archive collection. The ceiling could be lowered, by say 200mm, but this would mean the plan of the archive store would need to be expanded by around 10% (accounting for adequate air circulation). At present there is a balance between ceiling height and building footprint. This balance might be unsettled by making the building squatter but with a larger footprint.

The third factor relates to the thickness of the roof. The archive storage standards require a passively cooled building to eliminate fire and leakage risks from air conditioning plant and to keep the collection as cool as possible (the principle being that chemical reactions that cause deterioration in collection fabric occur more slowly at lower temperatures). This requires a thick roof structure with very high levels of thermal mass and insulation to keep the building cool. Allowing for waterproofing falls and parapet weatherings to ensure safe water run-off results in a roof thickness to the top of parapet of 1.05m. Current archive design principles actually recommend a secondary over-roof for solar shading which would increase this thickness substantially, but this requirement has been relaxed for this building by the National Conservation Service due to the sensitivities of the historic context.

The fourth factor relates to the pitched roof over the archive reading room and office spaces to the north (an important design concept, as section 4). This element has already been reduced in width, and hence height, from the originally submitted design. The north range is now 6.0m wide, so with allowance for gutter thicknesses and falls, the projecting stone gable coping, and a roof pitch of 49°, this results in a ridge height of 8.3m and a gable apex height of 8.6m. The pitch has been set to match the historic canonry pitch (shown in section 4) and the pitch of the adjacent folly gable to the south of Leaden Hall (shown in section 6), as well as other stone gables around The Close. A reduction to 45° would reduce the apex by 200mm, but is likely to unbalance the proportions of the gable and the relationship to the former canonry range and the folly gable. A 200mm reduction in height might not be significant or measurable from outside of the site, so the harm to the design might not be warranted.



Figure 2: View of the archive building from the northeast (verified scale AVR to LI TGN06/19)

The ridge of the reading room range will be 2.8 metres lower than the ridge of the east range of Leaden Hall, and 4.3m below the ridge of the west range of Leaden Hall, so the archive building is sufficiently subservient to the historic building. Pitched roofs buildings also tend to be viewed to the eaves level, which is 5.0m for the archive building, i.e. 2.5m below the eaves of the east range of Leaden Hall and 4.5m below the west range. From West Walk the gable of the archive building is some distance from the boundary wall and is shielded by a significant tree to the north and trees on the boundary to the west. A new orchard between the building and the boundary wall to the west will eventually shield the gable; if further screening is desired then taller trees along the boundary could be considered. However, this is all based on the presumption that the new building is 'harmful'; an assumption which is challenged in section 7. The fact that the new stone gable is partially visible from West Walk to the southeast of the site is not necessarily 'harmful'. The set-back from West Walk means that it will be read as a secondary element not as a street frontage, and the roof of Leaden Hall will still be clearly visible.

4. Proposed Archive Building Form

It is important to consider that a large stone-gabled lead-roofed building existed to the south of the current Leaden Hall building for most of the history of the site. This original south range canonry, commissioned by Elias of Dereham, was extant from the thirteenth century up until its slow ruination in the nineteenth century and eventual full demolition in 1915.

The proposed design reflects the form of the previous canonry building on the site. The stone gable and pitched lead roof follows the precedent of the original canonry building, as well as reflecting other buildings in The Close where prominent gables face outwards to the public realm (such as Aula le Stage, the North Canonry and the King's House). The archive public reading room is aligned east-west following the form of this original canonry range and to overlook the parterre.

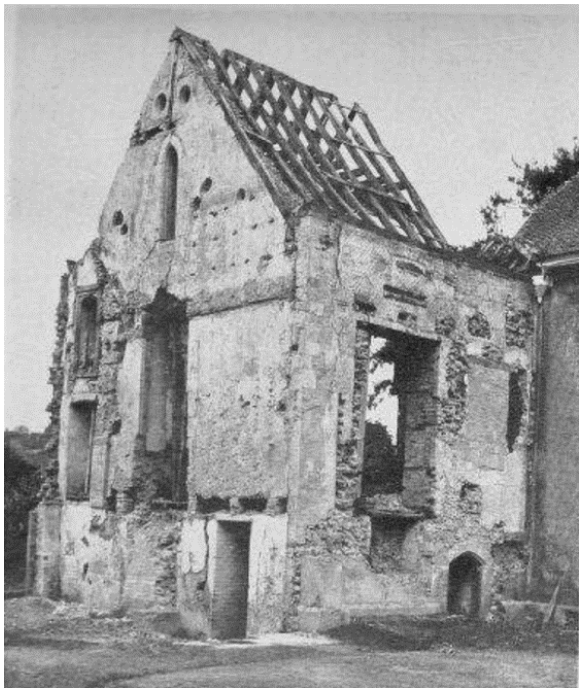

Figure 3: Last remains of the canonry (1915 – RCHME)



Figure 4: Proposed archive building

The design of the archive building mirrors the form of the original canonry building in concept and spirit but in a contemporary design language. It is not possible to entirely recreate the medieval range in the original location as this would mean disturbance of archaeological remains and the rebuilt 'folly' elements of medieval stonework; it would eat into the footprint of the nineteenth century parterre; and it would form a potentially uncomfortable relationship with the massing and windows of Leaden Hall as currently laid out.

The new end gable of the archive building will be a high-quality stone element and it is difficult to see why it would be 'harmful', where the demolished (and higher) stone gable of the former canonry would presumably not be seen as harmful were it to still exist (its 1915 demolition would surely be resisted were it to happen now).

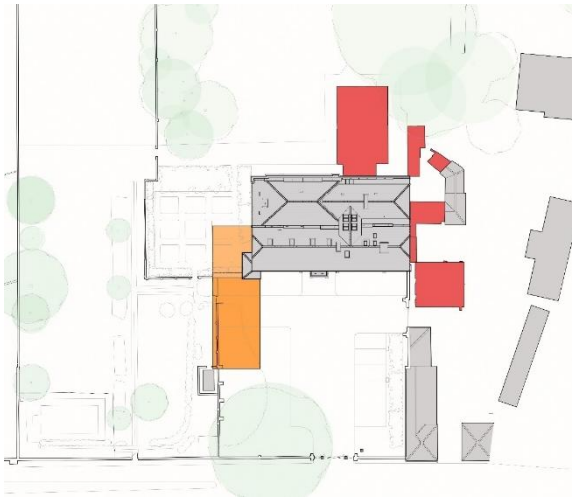

Figure 5: The original canonry range in orange (with proposed removals in red)

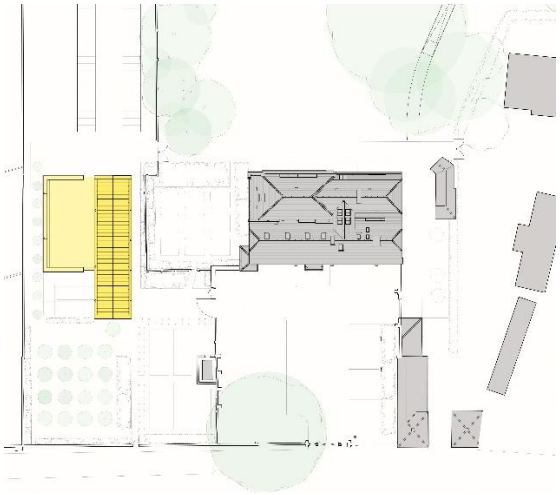

Figure 6: The proposed archive building (in yellow)

5. Alignment Between the Loggia and the Stables Arch

The archive store requires a covered entrance and loading area so that important documents can occasionally be securely loaded and unloaded under cover from the rear of a vehicle. This is an important security and document protection element of the archive brief. This has been designed as a loggia feature to align north-south with the historic stables arch to the north of Leaden Hall (highlighted by the dashed arrows below). As visitors approach the entrance porch of Leaden Hall there will be a direct vista south to the loggia of the archive building and a corresponding vista north to the stables arch accessing the educational functions of the site. Moving the archive building further west or removing the loggia would destroy this key architectural alignment; it is likely to confuse clear access for visitors to the archive reading room and to the easily-seen disabled access ramp to the south of the loggia; and it will negatively impact on the need for occasional vehicle access to the archive store entrance.



Figure 7: The Stables arch and archive loggia alignment

6. Materials

The choice of local Chicksgrove stone and lead for the main visible roof of the archive building reflects the historic materials of the former canonry at Leaden Hall (particularly the use of lead roofing which is the origin of the name Leaden Hall). It also symbolises the age, significance and permanence of the archive collection. Design precedents for high-quality contemporary stone buildings are set out in section 7.4 of the Design and Access Statement.

Stone is a traditional material used for many properties around The Close, including the cathedral and the cloisters themselves. The Close itself shows evidence of a variety of different materials. This is demonstrated by a brief audit of the principal historic structures on West Walk of The Close, listed from north to south (with dates of the main facades) – stone (Arundells, C18th); stone and flint (North Canonry, C16th); stone (The Old Deanery, C18th, now blocked by the C20th brick ranges of Sarum St Michael); brick (Nos. 63-64, C18th); stone, flint and brick (The King's House, C15th-17th); brick (Nos. 67 & 68a, C18th); stone (Myles Place, C18th); brick with stone dressings (Walton Canonry, C18th); render to imitate stone (Leaden Hall, C19th); flint and stone boundary walls of the application site enclosing brick (West Walk House, C20th); and flint (71a).

Stone and flint thus slightly outweigh brick in the wider context of the site. The immediate context of the site comprises yellow brick lodges; render to imitate stone; stone/ flint and red brick boundary walls; and flint and stone folly walls. This represents a somewhat eclectic mix of materials, so that no one material is more appropriate in the context. The nearest built structures to the proposed archive building are the folly remains of the canonry; these are stone with flint infill (figure 8).



Figure 8: The folly and gable on the demolished Canonry site (the new archive building will be seen behind this)

Leaden Hall itself was originally lead-roofed with stone walls; it was substantially enlarged northwards and re-roofed in clay tile in the eighteenth century and re-faced in render in the nineteenth century. The facing render was lined and self-coloured to imitate stone; almost certainly chosen for cost and practical reasons over real stone. Re-facing the disparate age ranges of Leaden Hall in stone would also have been hugely disruptive, hence why they were rendered to imitate stone.

Clay tiled roofs do predominate on West Walk, although most are post-medieval. The proposed lead roof on the archive building will be relatively unique, albeit with historical precedent, but there are sound functional and archive risk-related reasons why lead has been selected for the main visual roof. There is also the historic context of the 'Leaden Hall', where a lead roof returning to the site completes a semantic and historic link. Lead reduces weathering and water ingress risks. There have been no objections to the use of lead from any consultees, including Historic England. It would be a shame if the 'Leaden Hall' site had no lead-roofed buildings on it.

Both lead and stone are sustainable, extremely long-lasting materials with low embodied carbon. The Chicksgrove stone will be hand-carved and sourced 13 miles from the site (by contrast, the majority of handmade bricks in the UK are now imported from fossil fuel-fired kilns in eastern Europe and Turkey). Lead is almost 100% recycled (and 100% recyclable). Some lead roofs on the cathedral are over 200 years old; if well-detailed there is no reason why the archive reading room roof can't last for this period. Stone will last indefinitely; the vast majority of the cathedral ashlar stonework is over 800 years old. These are very sustainable and beautiful materials and their embodied energy locked away for centuries, and are fully recyclable.

The idea that these materials are too high-quality for the site denigrates the architectural quality of the Grade I listed Leaden Hall and its history, principally the fact that it was stone-faced and lead-roofed for nearly 500 years.

The cathedral has an accomplished and longstanding Works Department with experienced craftworkers and masons who work with stone and lead. Ideally this workforce will construct the visible fabric of the archive building, and this will also give added reassurance to residents who are used to the Works Department operating in The Close to award-winning high standards. Importantly, the Works Department are a skilled resource at the cathedral to maintain the stonework and leadwork of the archive building which will be vitally important to ensure the archive is free from risk. As long as the cathedral remains there are likely to be skilled craftworkers to hand to repair these materials. The Salisbury Cathedral Works Department is an equal part of the history and material craft of the cathedral and the precinct as the buildings themselves.

7. Flood Risk

The red dashed line on figure 9 below shows the calculated extent of the Zone 3B functional flood plain from updated Environment Agency data. The line has been plotted by the flood risk consultants Cole Easdon as the accurate extent of the Environment Agency 4% AEP (25 year + 20% climate change) Zone 3B boundary, from levels produced from a detailed topographical survey of the site by the Downland Partnership. This is the extent of the functional flood plain (based on 20-year flooding risk). The Environment Agency are likely to resist new building development further encroaching on the Zone 3B functional flood plain due to the risk of causing floodwater displacement elsewhere. Relocating the building any further west will therefore increase flood risk, both for the archive building and elsewhere by displacement.

The risk of flooding damaging the fabric of the building will become more acute if the archive building projects further westwards than the rear façade of Leaden Hall (the highest recorded flood level in recent memory). Having the archive building surrounded by flood water would not be ideal, even if the archive material was safely stored well-above water level, and the applicant therefore does not consider it appropriate to relocate the building any further towards the higher-risk flood zone.

While there is still a risk of flooding on a less frequent basis outside the Zone 3B flood plain, as there is anywhere within The Close, the proposed archive design mitigates this by raising the archive floor level one metre above ground level.

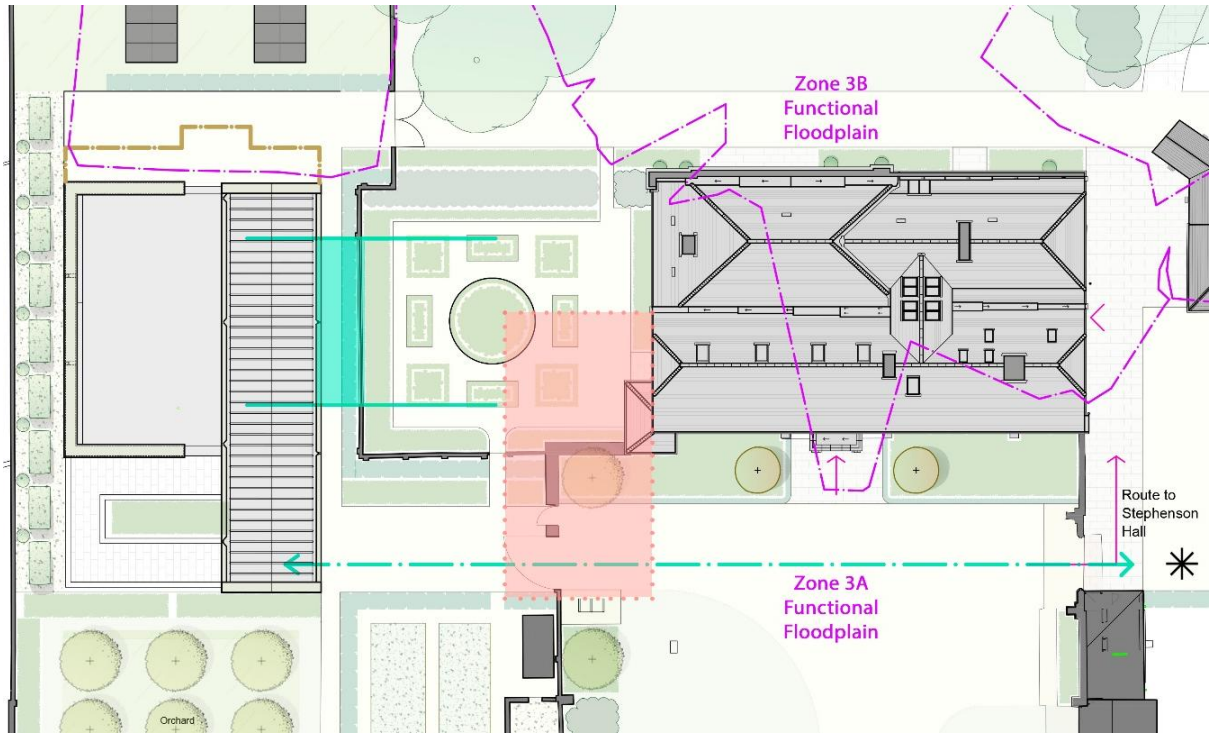

Figure 9: The Zone 3B flood boundary in purple (with design alignments in green)

8. Impact of the Archive Store on West Walk

The visual impact of the Archive Store is shown in the verified renderings throughout this paper. The design has been revised following consultation responses on the planning application to reduce the size and width of the two archive building elements, which has reduced the impact of the building on the southern boundary wall and reduced the height and width of the east gable.

Unspecific comments that the new building is 'harmful' are contested. The SPAB's response seems to be supportive of the design; "we feel that significant efforts have been undertaken to minimise this harm *(of the visual impact on the setting of the listed hall)*, and the detailing makes this a very significant improvement on many of the other modern buildings in the immediate area. The use of high-quality materials and well considered and careful planting will also make a big difference".

As set out in section 6.4 of the Design and Access Statement, "a well-designed new building can and should add to the historic context and doesn't necessarily have to be considered as a negative impact". The assumption that the impact of a well-considered design is automatically 'harmful' in an historic context, without an explanation of what specific harm it causes other than a change to what is there, is a misapplication of the National Planning Policy Framework.

The design team and applicant do not wish to hide the building any more than presently proposed (screened by the existing boundary walls). The building is set a respectful distance from Leaden Hall. This important addition to the cathedral estate and The Close will be a discreet but visible presence on West Walk, which is itself a less-trafficked area of The Close. In summer, tree foliage is likely to screen the building considerably. The Cathedrals Fabric Commission for England expects that cathedral development projects are of high-quality design and long-lasting materials, and are architecturally confident. None of the principal buildings of The Close were designed to be recessive; subservient or apologetic.



Figure 10 (above): The archive building from West Walk looking northwest (above)

Figure 11 (below): View looking southwest (below) – winter views without deciduous tree leaf cover (Verified scale CGIs)



9. National Precedents

It is important that a high-quality and long-lasting development for a Cathedral Chapter in a cathedral precinct can be clearly read and is architecturally confident. The archive building should visually relate to its subsidiary use to the cathedral. It is not a secondary building such as a stable or outbuilding, and should not look like one. The size of the archive collection and the requirement to raise the building above the flood plain mean that it will be a relatively substantial three-dimensional building wherever it is located, and trying to disguise this by using secondary vernacular forms is likely to lead to over-scaled pastiche.

There are many examples of new high-quality, contemporary stone buildings in English cathedral precincts, as well as substantial archive buildings in Grade I listed curtilages. The recent Lambeth Palace Library is a prime example of the latter (and is also within a Registered Park and Garden). Many new buildings in national cathedral precincts are stone and/or lead-roofed and of hall-form, as this is a common paradigm in cathedral settings. The Mappi Mundi Chained Library building at Hereford Cathedral and Southwark Cathedral's Millenium Project are examples of substantial gabled new stone buildings in cathedral precincts.

The significance of The Close and the Grade I listed curtilage of Leaden Hall requires a high-quality and confident architectural approach, not overly submissive material deference or weak-formed visual subservience.



Figure 12: The Refectory at Norwich Cathedral



Figure 13: The Chained Library, Hereford Cathedral



Figure 14: The Millenium Project, Southwark Cathedral

10. Consultation

Following two previous pre-application enquiries, in May 2023 Wiltshire Council and Historic England were approached for guidance on a proposal for a standalone archive building. Feedback from Historic England on the archive building was received and considered in the design. No response was received from Wiltshire Council. The Cathedrals Fabric Commission for England was advised about the project and provided advice and comments in 2022 which have also been considered, particularly in regard to siting of the building.

The planning application was validated on the 26th January 2024. A meeting was held with Historic England on the 14th May 2024 to discuss the project and design with planning officers of Wiltshire Council present, and no adverse comments on the design were received. Statutory consultation responses were received, and the design of the archive building was amended in response to these consultation responses, as detailed in Planning Consultation Response Papers 1 and 5. The amended design was submitted to Wiltshire Council on the in July 2024, with further reduction in the length of the building submitted in November 2025 in response to a change in flood data information from the Environment Agency. Reductions in size and height have thus already been made to the archive building design. Twenty-one months have now passed since the application was validated. Any further revisions or changes to the design will require a considerable period of time for the design team and supporting consultants to contemplate and work-up, requiring amended reports and the need for re-consultation, which will mean substantial further delays in determination.

The Cathedral Chapter remain very keen to progress the project which will safeguard the historic fabric of Leaden Hall, which remains vulnerable without a viable use. The archive is a fundamental part of the project, especially the established public benefit of having the nationally significant archive collection appropriately stored, conserved and accessible on the same site as the cathedral's education and office-based staff. The applicant remains committed to what is considered to be a perfectly acceptable, high-quality design which meets the stringent archive standards and spatial brief, and does not wish to delay further determination of the project via an extensive re-design and subsequent re-consultation process which is unlikely to result in a better-quality building.