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STRUCTURAL REPORT

CLAYTON HALL MANCHESTER



Client: Manchester City Council
Town Hall
Albert Square
Manchester M60 2LA

Architect: BB Heritage Studio
Conservation Architects and Consultants
The Old Schoolhouse
19 Lumb Lane,
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MANCHESTER
CITY COUNCIL



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1.0 Introduction and Client's Brief

- 1.1 The Morton Partnership Ltd has been appointed to carry out a follow up structural inspection and assessment of Clayton Hall, the kitchen/café block and a limited inspection to the entry bridge. The survey was carried out in conjunction with Bernadette Bone, of BB Heritage Studio.
- 1.2 Previously, we have been passed copies of the following information to assist us with our survey:
- Outline Fabric Condition Survey rev A, by BB Heritage Studio dated September 2014;
 - Conservation Statement with appendices, by BB Heritage Studio dated September 2014;
 - Historic Building Recording, by Matrix Archaeology with photographs and plans;
 - Possible sketch of late medieval building, by Matrix Archaeology;
 - Timber Decay Assessment, by Floyd Consult dated September 2015.
- 1.3 A follow up inspection was held on 17th August 2021, following previous brief inspections held on 11th November 2014 and a detailed inspection carried out on 25th September 2015.
- 1.4 For the purpose of the survey the front elevation is assumed to be west facing with directional notations taken in relation to this, in accordance to the previous survey carried out.
- 1.5 As a result of the follow up survey, the previous report and its photographs have been commented against to form an appropriate comparison in condition over the approximate 6 year duration between surveys.
- 1.6 At the time of the survey on 17th August 2021, the weather was overcast with some light rain, with the weather leading up to the survey of similar ilk.
- 1.7 This report was further revised on 23rd February 2022 to correlate the condition survey descriptions with the rooms as indicated within the Manchester City Council room reference designations on the Asset Management Plans as included within Appendix C.

2.0 Brief Description

- 2.1 Clayton Hall is Grade II* listed of architectural or historic interest with the list description, taken from The National Heritage List for England repeated below, although these are not always completely accurate:

Remains of manor house, now two dwellings. Probably C15, altered in C16 and C17, partly rebuilt or enlarged in C18 and restored c.1900 and in C20. Red brick, some timber framing, stone slate roofs. Linear plan in 2 parts on north-south axis, the C15 or C16 southern half of 2 bays and single-depth plus a front corridor, and the later portion to the left double-depth and double-fronted. Two storeys, 3+3 windows. The earlier portion is of square-panelled timber-framing at 1st floor, probably formerly jettied but the ground floor rebuilt or enclosed in brick, and has a short gabled stair-turret offset right of centre with a bellcote on the ridge; the ground floor has a simple doorway to the left of the wing and a 2-light casement left of this; the upper floor has 3 wooden mullioned windows with diamond-pattern leaded glazing, 5 lights in the gable of the wing, 4 lights to the left, and 3 lights to the right, and a jettied gable with kingpost and raked struts. The right-hand gable wall has a very large external chimney stack of squared sandstone blocks, finished or rebuilt in brick at the top. The later portion to the left, of hand-made brick in English garden wall bond with stone quoins, has a segmental-headed doorway offset slightly left of centre with quoined stone surround, C19 diamond-paned casement windows of 3 and 3 lights to the left, 4 and 4 lights to the right, and 4, 2 and 5 lights at 1st floor, all with raised sills and rectangular stone lintels except that in the centre at 1st floor which has a brick label; rainwater heads dated 1900; and 2 ridge chimneys. Rear: southern portion has small-panelled timber-framing through

both floors, and almost continuous wooden mullioned windows on both floors (probably insertions and recently restored). Interior: southern portion has small-framed partition walls of unusually high quality, with timbers of large scantling: an unusual longitudinal partition making a front corridor, and the lateral partition, with doorways which have nicked Tudor-arched lintels (including 2 blocked doorways at 1st floor of the partition); massive wallplates, that in the rear wall with mortices of former wallposts and studs over the present windows; massive arch-braces to the tie-beams; rectangular stone fireplace in south gable wall with chamfered lintel (now blocked). Forms group with bridge over moat to south.

- 2.2 The building can be sub-divided into two principal ranges: the southern range, which is largely of timber frame construction of probably C14th/C15th date but substantially altered in the late C16th to mid C17th, and some C19th to C20th, with a later northern range of brick construction of late C17th date (see photograph 1), with the east wall being C19th to C20th. The latter has a single storey wash house alongside the north gable (see photograph 2) of brick construction, and also C19th to C20th in date (information taken from Matric report and phasing plans).

- 2.3 The bridge over the moat (see photograph 3) is separately listed Grade II, with the description as follows:

Bridge over moat to Clayton Hall. Probably C17. Coursed squared sandstone. Two segmental arches with arch-bands, central pier with triangular "cutwater" on each side making refuges to deck; stone bench along inner side of each parapet; stone gate posts at inner end. Forms group with Clayton Hall (q.v.).

- 2.4 To the north of the moated site is a single storey range currently used as the kitchen/café (see photograph 4). This is of brick construction, and sits immediately to the south of the moat.
- 2.5 More detailed descriptions are included in the Architect's and Archaeologist's information.
- 2.6 It is understood through the meeting that took place on the morning of 17th August 2021, that in 2016, works took place to create a café area with a new bathroom formed at southern corner, in which new drainage was formed in relation to this, as well as appropriate repairs to the timber soleplate and framework in this locality at ground floor level.

3.0 Structural Survey Detail

TMP 2015 SURVEY		TMP 2021 SURVEY	
3.1	<u>Southern Range</u>	There has been no change to the structural form of the building.	
3.1.1	The timber frame is of two principal bays, denoted north and south, with a later corridor structure to the west, which is in brick construction at ground floor level. The building was heavily restored in the 1970's with insertions, rebuilding of the lower ground floor to the corridor, and the addition to the numerous timbers.		
ATTIC SPACE B-01-02-001			
3.1.2	The south gable is of brickwork, as is the north gable which probably dates to the construction of the northern range. The main roof structure is of crown post construction with a half crown post at the north end (see photograph 6), a full crown post at the centre (see photograph 5), but the crown post lost at the south end where the brick wall and stack has been built up (see photograph 7). The	The roof structure and its form have no changes since the previous survey.	

	crown post is braced only in a north-south direction, rather than in each direction, and supports a collar purlin to both north and south bays.	
3.1.3	The original roof would have had common rafters rising from eaves to ridge, and then with collars spanning across and resting on the collar purlin. This only occurs to the southern bay. To the northern bay, the roof has been completely reset with reused rafters to the east side and later rafters to the west side rising up to a ridge plate. The collar purlin survives, but there are no collars spanning across.	The roof structure and its form have no changes since the previous survey.
3.1.4	With the adjoining corridor the eaves level to the west side has been raised with brickwork rising off the timber frame, and with a secondary set of rafters above the original to the south bay (see photograph 8). The introduced purlins support the common rafters and span between the brickwork to the gable ends and an added central truss, which is supported off brickwork, built up off the tie beam to the main truss which provides some additional stiffness.	The roof structure and its form have no changes since the previous survey.
3.1.5	Tie bars have been inserted at regular centres and four to each bay to help provide lateral stability to the raised eaves to the west side. These are generally relatively loose and therefore not fulfilling much structural function.	The roof structure and its form have no changes since the previous survey. The tie bars continue to be in situ and in suitable condition.
3.1.6	The ceiling is clearly a later insert, and comprises principal timbers spanning east-west across the width of the building at original eaves level, then with short span ceiling joists between. The tie beam to the central truss has had a timber added to the side, and then the joists are dropped down into notches on these, with the added timber bolted through. The bolt heads have hexagonal nuts, suggesting this is relatively late.	The roof structure and its form have no changes since the previous survey.
3.1.7	To the south gable end there is a timber plate built into the brickwork to support the ceiling joists. The brickwork above this has rotated laterally inwards and there are areas of salt, perhaps suggesting moisture ingress. Three to four courses above the timber plate there is a horizontal crack which has opened up by 45mm approximately due to this action (see photograph 9). It has clearly been in this state for a considerable time, but warrants some attention. There is some racking of the roof including the trusses, but which appears historic. It is buttressed to the north direction by the northern range.	This appears to have progressed as it has opened up to a further 5mm. It can be noted that this brickwork likely has never been properly supported by this timber plate as there is no contact between these materials even with the dropped masonry above and fits the conclusion of the ceiling being formed at a later date. It was likely envisioned that the headers of the brickwork would be able to stretch back and cantilever to pick up the brickwork above the timber, however with a limited wall thickness of 9" there is insufficient back span and the wall panel thins to 4" where the timber plate is present (see photographs 9A & 9B). Externally this rotational movement is apparent, with more recent cracking patterns to the side of

	the stack, as well as toward the eaves. It can be noted that this rotational movement is allowing for water ingress to affect the ceiling finishes to the first-floor room below and propagate cracking patterns at this point. This is an area that requires attention.
3.1.8 The purlin to the south end to the east side is built into the gable, but there is some decay to the end and a strengthening timber has been added, we presume as part of the 1970's work (see photograph 10). Micro-drilling has shown the original timber is decayed, whilst the repair timber is sound.	From testing with a screwdriver the repair timber remains sound.
3.1.9 The collar purlin also takes no support into the gable end, but has an introduced strut slightly to the north to one of the floor/ceiling beams. The end rafter pair over-sails the brick gable, and with its corresponding collar partially built in to the brickwork.	This still continues to be the case, and highlights that there is not a large extent of tying action between the roof frame and the southern gable end. It can also be noted that the mortar between the timbers and the gable end displays no movement.
3.1.10 At high level to the west side there is a plate introduced over the original rafters at high level which then support the head of the added rafters related to the corridor condition (see photograph 11). Overall, and other than the isolated areas particularly mentioned, the condition of the timbers are reasonable.	It can be noted that in two locations to the western purlin, water ingress is present through the roof finish or glazed tile and affecting the timber section. At present this is at an acceptable level of strength; however localised repair to the roof finishes are a matter of urgency. It can also be noted to the eaves plate at the eastern side that water ingress is taking place which has created staining and fracture of the battens (see photograph 11A).
3.1.11 The collar purlin has been affected by some sapwood decay, but this is not structurally significant (see photograph 12). It is not possible to see the original eaves plate on which the rafters or ceiling beams sit, but there is a reasonably deep over-hanging eaves to the east side and a lean-to with the corridor to the west side and thus, it should be reasonably well protected. It was noted that there is a low level tie bar close to the south gable.	The sapwood decay is still apparent, but again there are no issues.
3.1.12 When full access is available it will be necessary to check individual joints and connections, and some local reinforcement maybe necessary. The ceiling is largely covered with insulation and debris, and would need to be entirely cleared and again, some work may be required to the structure.	This continues to be the case. It can be noted through review of the purlins and between the 2No. rafter levels that packing has been utilised in a number of occasions, and elsewhere notching into the purlin fabric, which in many cases highlights that there is no contact between the upper rafters and purlin below, so in fact there is no engagement (see photograph 12A). In addition, there are a number of areas where water ingress is clear through the stone slates and this is an element which has worsened since the previous survey.
3.1.13 To the northern bay, the overall condition appears not unreasonable, but the collar purlin is no longer engaged with the half-crown post (see photograph 13), but with props having been introduced alongside. This member no longer supports collars,	The previously described arrangement is still present and no movement has taken place.

thus this situation is acceptable.	
3.1.14 There is some beetle attack to the base of the crown post on the tie beam. The tie beam has had an additional member bolted alongside related to the insertion of the ceiling. The minor decay is not sufficient to be of a structural concern.	Not of structural concern.
3.1.15 The in-built purlin ends should be micro-drilled, although appear sound and these to the north wall at not so much as risk, as this is the internal dividing wall between the north and south ranges. The roofs are at slightly different alignment and thus, there is some minor vulnerability to water ingress due to the abutment. Drilling has shown the purlins to be sound.	Purlin ends appear sound. It can be noted when preceding toward the north range a void space is apparent between the 2No. sections of the hall allowing for services to run. To the brickwork construction to the south range, a historic fairly vertical crack is present and it can be noted that this movement is not current and not of concern (see photograph 13A).
CLAYTON HALL ROOM/DISPLAY B-01-01-010	
3.1.16 At first floor level to the north bay, the eaves plate to the east elevation is a significant timber being some 350mm deep and approximately 200mm wide. It has rotated outwards quite significantly, particularly towards the north end, but this is clearly historic as the modern gypsum plaster and plasterboard has been extended to this out of alignment and not moved since (see photograph 14). If this was part of the 1970's work, this is almost 50 years ago - however in any re-roofing it would be relatively simple and appropriate to install some restraint plates/straps between the eaves plate and tie beam to further restrain this. This should be allowed for, and re-assessed when roof coverings are removed.	No further movement has been noted to the eaves plate or adjacent finishes. The opening up at roof member positions provides evidence that there has been historic roof thrust and the recommendation would be that when re-roofing it would be relatively simple and appropriate to install some restraint plates/straps between the eaves plate and tie beam to further restrain this. This should be allowed for, and re-assessed when roof coverings are removed.
3.1.17 Some of the studs to the north panel (see photograph 15) are clearly later replacements, and there are wedges and repairs to heads of other studs. One stud has been introduced to the north side of the window which sits proud of the wall (see photograph 16) and helps support the apparent original cill member and thus, it is probably prudent to retain this.	No change in structural form or wedging, however it is noted that the condition of the adjacent finishes is improved (see photograph 15A).
3.1.18 At the central cross partition there is some minor opening up at the junction between the storey post and the significant timber brace, but not of an extent to warrant any structural intervention or cause concern. The infill at the head of the brace, and between the principal rafter is intact and therefore no recent movement has occurred (see photograph 17).	Minor opening up can be expected between the timber framework and finishes due to thermal expansion and shrinkage at different rates between the materials. That seen is not of any concern.
3.1.19 To the north 'party' wall, the condition generally appears reasonable, although there is some cracking to the plaster, particularly to the east side, but I suspect that this is simply where plasterboard	This movement through the finishes was no longer present, with suitable and successful repairs undertaken within this period (see photograph 18A).

	finishes and there is infill making good to the underside of the brace (see photograph 18).	
3.1.20	The west wall eaves plate has also rotated outwards to a significant degree (see photograph 19) along its entire length. Whilst again, this is clearly historic in that the ceiling finishes tight to it, there is perhaps some evidence of minor movement and thus, some strapping at the truss positions and also to the ceiling beams (if retained) would be sensible.	The rotation is clearly present, when reviewing against the connection onto the northern cross frame. No further significant movement has taken place since the previous review.
3.1.22	To the north end of this bay a floorboard is lifted and exposes the common joists running north-south, which are measured at approximately 120mm deep x 110-120mm wide, in oak and at 400-470mm centres and spanning approximately 2.2 metres where they take intermediate support off a spine beam running east west. The spine beam is 310mm wide x approximately 290mm deep in oak with chamfered faces to the underside (see photograph 20). We have not seen the top of the beam, and assume that it continues to the underside of the floorboards - certainly the floor feels relatively stiff when tested.	Not reviewed, however no change in form anticipated.
HUMPHREY CHEETHAM ROOM/DISPLAY B-01-01-011		
3.1.23	To the southern bay, a secondary internal frame has been introduced to the east wall, which includes a new plate alongside the original eaves plate and then support posts, one alongside east storey post, one centrally over the spine beam below and then to the south end (see photograph 21). These are in oak, and have been coached screwed to the original timbers.	No change.
3.1.24	The original eaves plate has rotated out (see photograph 22) here also, and thus the purpose of the plate may be to help restrain this and also support the added ceiling beams above, but this cannot be confirmed without opening up of the roof. However, assuming the conditions of the original timbers are sound, it should be perfectly possible to restrain the original eaves plate at the frame positions and also through the ceiling beams (if retained), perhaps with scarfed on sections if these end up slightly short, and which would allow removal of the secondary frame.	The same method of restraint would be possible, however due to localised water ingress around the mullion window the condition of the timber is at greater risk. Opening up then review is required (see photograph 22A).
3.1.25	To the general framing there is some evidence of water ingress to this elevation, where gutters have become blocked due to leaf drop, and which micro-drilling should help identify any significant decay.	Water ingress still is apparent around the mullion window frame to the eastern masonry wall. When reviewed externally, there is likely blockage within the hopper as water is able to freely track down between the two types of construction at this point and affect the internal part of the building. (see photograph 22A).

3.1.26	No additional comments are made related to the cross partition between bays, as this was commented on from the north side. To the west wall, the framing is all visible and the original eaves plate has rotated slightly, but much less significantly. We still suggest it would be sensible to tie in to re-support this.	Restraint and tying in still suggested, the finishes appear to have settled with minimal movement observed.
3.1.27	The south elevation includes the large inglenook fireplace with the stone lintel over supporting brickwork above (see photograph 23). Within the fireplace it is possible to view up the flue and corbelling brickwork, as is normal can be seen over the head of the stone lintel to reduce the flue width. This then reduces further in an east and west direction at high level and it kicks back in towards the building (see photograph 24).	This was reviewed and the stonework does exhibit signs of efflorescence to its surface as well as some brickwork which comes up against this, evidencing the dampness is getting through the stack. However, looking upward through the form of the stack, this does appear to be satisfactory structurally (see photograph 23A).
3.1.28	The high-level plastered panel of masonry does appear to be slightly out of plumb (see photograph 25) in an inward direction marrying with movement seen above, although not too a significant degree.	It was noted that to the ceiling finishes in this location, cracking has taken place along a line between the wall and ceiling finish, highlighting progress of movement as seen above within the attic space (Photographs 25A & B), with water staining apparent on a large proportion of the finishes in this location, therefore highlighting water ingress is taking place. The cracking through the finishes is approximately 3-6mm.
ATTIC SPACE B-01-02-001		
3.1.29	To the west side of the structure is the corridor and stair tower. From the first floor WC at the south end, it is possible to access a small roof space which exposes the original external face of the main building and with the extending sprockets to the original rafters (see photograph 26).	This is the same.
3.1.30	Although full access was not possible, the condition of the original eaves plate appears reasonable but with very minor defects which appear static and thus, not structurally significant. At this south end, a large cross pattress plate can be seen (see photograph 27), on the brickwork and extending up to the raised eaves level and appearing to coincide with the added tie beam seen within the roof space.	No change (see photograph 27A).
3.1.31	The rafters over the corridor roof extend down to the lower eaves level and bear on a wall plate, then with ceiling joists or collars extending across which are built into the timber framed wall, possibly with occasional ceiling joists abutting the studs (see photograph 28). A small angle has been extended the whole length bearing over the ceiling joists, with small diameter coach screws back to the studs/posts and with nails down into the heads of the ceiling joists to provide lateral stability and possible support.	No changes. All appears to be in very similar condition, with the roof finishes remaining fairly watertight over this portion of the roof (see photograph 28A).

3.1.32	A short distance from the access hatch is a framing arrangement laid on top of the ceiling joists (see photograph 28), which rise up and support two purlins to the gable and roof which extend out over the stair turret. Some of the timbers appear re-used within this. The space was not entered due to access limitations due to the size.	No change, this area was not accessed due to size limitations.
B01-01-002 CIRCULATION		
3.1.33	At first floor level, the now internal framing to the main hall is largely exposed and in reasonable condition, with no evidence of any significant structural defects, but clear odd replacement timbers. The infill panels can be seen to include some woodwool and plasterboard held in place with nails. The corridor framing to the west wall is all clearly recent, and again appears not unreasonable in condition. Whilst each joint is suggested on the face as being doubled pegged and tenoned, it is quite clear that there are gaps visible between these, so I think that this is largely, or at least partly, mocked up.	To the plaster boarded ceiling this exhibits cracking to a joint between boards in alignment to the door entrance to the southern bay (see photograph 28B). In addition, above the lintel outward toward the west elevation, there is a small amount of opening up between the frame and plasterwork (photograph 28C).
B01-01-012 UNDER RENOVATION		
3.1.34	The stair tower at first floor level is also timber framed construction with clear re-used historic timbers, and also more recent ones. Internally, there is no indication of any structural defects noted.	Some movement can be seen within the finishes and there is decay to the timber corner post at this point due to ingress of water between the finishes and the timber (Photograph 28D). The internal finishes at lower level have been stripped, likely as a result of the water penetration.
B01-GF-002 CAFE		
3.1.35	At ground floor level to the north bay east side, there are windows running pretty much the full length of this wall in both bays, and thus the principal posts take a significant load. We suspect that windows contribute to the load bearing ability as they are mullioned at close centres, although when tested, there is slight movement. A new post has been inserted below the mid-height rail and first floor beam to the mid-length of the bay, presumably part of the 1970's work, and is required as there are no other external members here.	No change in structural form has taken place.
3.1.36	The soleplate to the eastern elevation is partly exposed internally and externally and has been micro-drilled by Tim Floyd, and was found to be sound.	No micro-drilling took place as part of this survey. However from testing externally at the base of the soleplate a greater extent of decay is present.
3.1.37	To the north wall, the framing can be seen running out to the soleplate, and being internal, is better protected. Some opening up of this wall was carried, but was not inspected by ourselves.	No further inspection of this wall frame took place.
3.1.38	To the west wall the framing can be largely seen, including the soleplate and all appears in a reasonable condition. At the spine beam position, there is a timber	This is still the case, however no further significant movement has taken place, with some minor opening up between the timber and adjacent plasterboarding the main thing to note.

blocking piece below the spine beam which may suggest that this has been jacked up (see photograph 29), and certainly the level does not align with the main beam to the cross frame. The Archaeologist's drawing suggests that there may have been a cross wall on this alignment. There is a slight gap to the rear of the spine beam at the abutment with the first floor plate (see photograph 30), perhaps suggesting some minor movement but is not considered significant. The plastered ceiling alongside runs up to the wall plate with minor opening, an additional strap may be required.	Additional strapping would still appear sensible between the spine beam and studwork panel (see photograph 29A).
3.1.39 To the south cross wall, on the main frame position, there are straps at either end onto the first floor beam and then an added timber over which raises this to the height of the ceiling and floor above. The wall generally looks in a reasonable condition, and part of the soleplate is visible.	It appears that some of the nearby finishes to this panel have been repaired and continue to have satisfactory condition.
3.1.40 The floor within the north bay is suspended and has been inspected as part of the opening up by the Architect.	No opening up of the suspended floor structure took place as part of this survey.
B01-GF-003 CAFE	
3.1.41 To the east elevation of the south bay, there are added posts to the north, south and centrally, marrying with those above, and appearing to be continuous members. The central one is slightly more interesting in terms of the floor beam. It again is jacked up on a timber wedge which is loose with the main support provided by this added post (see photographs 31 and 32). There appear to be no tenon visible extending from the spine beam into the storey post.	No change in form. Timber wedge still loose.
3.1.42 It should be possible to re-support it without the added post, but it would require a new wedge piece to be inserted, ideally slightly wider than the existing to ensure at least 75mm of bearing is created, and then straps inserted from the storey post along the spine beam to ensure this has lateral stability.	This work has not been carried out it appears with the added posts still present.
3.1.43 The east wall curiously has the jowl rising up directly to the underside of the floor beam which doesn't tie with the floor at lower level, possibly part of the re-building of this wall identified by the Archaeologists. The overall structural condition of this wall appears reasonable. Much of the soleplate is visible to the southern bay with less to the northern side due to kitchen units. The micro-drilling hasn't recorded any	Satisfactory condition still present. No micro-drilling survey took place as part of survey.

significant decay in this member.	
3.1.44 The south wall again has a wide inglenook full fireplace filled in and perhaps even narrowed slightly. This is all of masonry construction with the added wall plate at high level previously noted with significant evidence of structural distress. The floor is suspended timber as with the north and again was inspected by the Architect. The west wall appears in generally reasonably condition (see photograph 34).	The fireplace has been opened up and looks to have been restored as part of the 2016 works. There is however clear movement taking place with cracking patterns toward the bearings of the window with continuation of cracking from sill to floor level (see photograph 34A). Generally there is clear differential movement between the masonry and timber fabric to the south and east elevations respectively. Efflorescence and damp staining continues upon the façade of the fireplace (see photograph 34B). There is also some movement between the stone surround and the adjacent plasterwork to the west. At the junction between this elevation and the western wall, some opening up between the finishes and the western frame is present and there appears to be a fracture to the southern mid rail, so further tying in and strapping between the frame members at this point would be advised (see photograph 34C).
B01-GF-001 CIRCULATION	
3.1.45 To the west corridor at ground floor level there is a small room at the north end with some plaster removed at high level to the north wall, and which exposes a much more recent brick repair. Cracks run around the edges, where this has not been bonded with the adjoining brickwork, and which would have been difficult as the brick units are different sizes. To the south side is an infill brick wall which is clearly a modern insert and not structurally significant. The floor above is supported on a series of short timber beams spanning east-west, and then with floor joists between.	This small room is no longer present, with the corridor now full length leading toward the north wing of the building. All finishes appeared in satisfactory condition, with hairline fracturing through the north wall perhaps in relation to the repairs previously undertaken. The floor structure above is supported through the same system; however the joists have been boarded over and some differential movement can be noted where wall meets ceiling (see photograph 34D). At low level minor levels of decay can be noted where the timber frame meets the solid ground construction (concrete) within the corridor (see photograph 34E).
3.1.46 In the adjoining corridor to the south, a crack can be seen at the junction of this infill wall and the external wall (see photograph 35), again suggesting it is an addition. Structurally, I would not see an issue with removing this wall.	Wall has been removed (see photograph 35A).
B01-GF-004 STORE	
3.1.47 At the south end of the corridor, there is a small WC and to the south end of this, where it abuts the external wall, there is a length of decayed soleplate (see photograph 36), perhaps extending approximately 1.0 metre where the soleplate then rests on a damp proof membrane. This will need to be replaced along with one stud foot which will require a slip tenon inserted.	Splice repair to the end of the soleplate has taken place with a short scarf intersection between new and old timber. It is not clear whether repair took place of the adjacent stud foot with no indication of a splice or Tenon with peg (see photograph 36A). Through discussion it is understood that this timberwork has been cleaned down to remove former finish coat.
3.1.48 To the west elevation of this space, there are some cracks in the brickwork (see	This cracking is no longer present, with the walls boarded out and gypsum skimmed, therefore the

photograph 37), or at least in the finishes, which would benefit from opening up and some Helibar masonry stitching would be appropriate. This may relate to the junction with the stair tower, although it doesn't appear to be a construction join.	masonry wall behind this is likely in similar condition to seen previously (see photograph 37A). It can be noted that there is some diagonal cracking down toward the lintel bearings at the southern wall.
B01-GF-005 STORE	
3.1.49 There is a small storage space below the stair which is dry lined. One area of dry lining has been removed to expose the brick work below exposing straight joints. Nothing else is visible, but the stair is in a reasonable condition.	This still retains an acceptable condition, note floor construction is of solid concrete slab.
B01-GF-003 CAFE	
3.1.50 One floorboard was lifted in the south bay of the main house and revealed a floor void at some depth with sleeper walls and modern softwood timber plates on damp proof courses. No evidence of decay in this local area was noted. It was more difficult to see under the soleplate in this area, but no active areas of damp ingress were noted.	This was not undertaken during the course of this survey.
EXTERNAL	
3.1.51 Externally to the west side, a large stone slated roof can be seen with obvious slipped slates. The small bell cupola to the front elevation will need to be checked with high level access and a reasonable provisional sum allowed for repairs particularly to the post feet (see photograph 38).	The extent of slipped stone slates to the roof has worsened from external and internal review. With greater areas of disturbance noted toward the southern chimney stack, as well as at the alteration in levels between north and south wings. It would still remain sensible to allow a provisional sum for repairs to the post feet of the cupola (see photograph 38A).
3.1.52 The framing generally to this elevation, seems reasonable and is well-protected at the north end by the overhanging eaves and also to the short north facing section. However, to the stair tower west elevation the first floor soleplate is more vulnerable as it receives more weather, and there is certainly decay to the north end of the plate and also the tenon of the soleplate (see photograph 39). The timber decay survey advises the mortice appears to have been enlarged by decay. An attempt has been made with fillers to the fillet at the base of the render panels (see photograph 40), but this does not seem to have resolved this completely.	To the northern section opening up is apparent where the timber meets the adjacent masonry (see photograph 39A), so the main defects taking place here relate to thermal movements between the alternate materials and it would be suggests oakum and either lime or sand mastic utilised as a filleting material. It does appear that a more recent mortar fillet has been formed to the top edge of the soleplate. To the corner post of the stair tower as previously described, this continues to exhibit decay, with the soleplates exposed end decayed with frassing to its base. The filler previously utilised for repair is in need of renewal (see photograph 40A). Moisture is encouraged into the timber by the adjacent cement render which has led to defect of the soleplate and generally the horizontal members where moisture can sit. Generally where infill fillers have been used upon the timber this is now in deteriorated condition. At ground floor wall level there is a small length (1m) of vertical cracking which projects through the masonry (1mm width) and in alignment with the centre point of the 2nd and 3rd most southern posts (see photograph 40B). At the southern corner there are sporadic fine cracks through the bricks.
3.1.53 To the south end, the two elevations (see	This still appears to be the same; however the

photograph 41) are slightly better protected. The plinth brickwork to the west elevation appears in a reasonable condition, with no signs of any significant structural defects.	joint at the base of the soleplate where it meets the brickwork shows deterioration and loss of the mortar fillet. As such a DPC is visible particularly to the south corner point. Renewal is required. When reviewing from the south elevation there is also some separation between the corner post and the adjacent masonry (see photograph 41A). To the masonry at ground level, repointing works have taken place to diagonal staggered cracking, with a number of extended horizontal joints around the corner which would highlight that helibar has been inserted to tie the elevations in together; how far this extends through to the south side is unclear. The repair works appear to have been reasonably successful with minor movement in this locality only (0-1mm) and not through the repaired joint (see photograph 41B). It can be noted at the ground gully to the downpipe, there is some differential cracking between the concrete here and the side walls (see photograph 41C).
3.1.54 The south gable contains the large chimney stack, being stone at ground level and rising through half the first floor and then brickwork (see photograph 42), but with stone weatherings where this tapers. It does appear that the stack leans slightly inwards in its height, although not by a significant degree.	Proceeding downward from the western window sill vertical cracking continues to ground level (1-2mm width). Which this alongside the repaired staggered cracking shows dropping of this corner (see photograph 42A). Repointing in a softer lime is advisable. In addition, where this corner projects eastward and to the 4" masonry offset projection clear opening up is apparent between the constructions here, which hinges from the base and grows in width to approx. 2mm (see photograph 42B). It can be noted that a tree in the local proximity has been cut (see photograph 42C), which in turn will affect local ground moisture levels and the expansion and shrinkage of the clay sub-soil, drainage issues can still not be ruled out as although new provisions were put in place for 2016 renovations a defect may still be present. The condition of the stack is fair, however maintenance works are necessary to both sides to remove the vegetation growing into this (should be removed and made good as soon as possible) and overhaul repair of the weathering's needs to take place (see photograph 42D). Some general repointing in lime as a matter of maintenance would be of benefit also.
3.1.55 The general condition of the masonry and brickwork to this end elevation is reasonable from a structural perspective, but pointed in hard cement based mortar and some of which is failing particularly to the masonry elements. There is no evidence of any significant structural movement to warrant concern. The ends of the purlins to the roof extend through	This is still recommended and a strapping detail between the purlin and gable end would also be suggested to be implemented. The condition of this elevation has definitely worsened, with the eastern panel of masonry to the south gable as noted within the attic space opening up and rotating inward. Externally self-arching is prevalent toward both sides of the

the roof covering and will need to be checked with high level access. A provisional allowance should be made for repairs as the original purlin is noted as decayed from the internal survey.	panel with diagonal crack patterns which relate to the rotation. It can be noted the adjacent weathering is not in good condition and allowing for water ingress through this point in addition (see photograph 42E). At ground level, a diagonal cracking pattern is present through the mortar course down toward the right hand side bearing (see photograph 42F), a hidden L or T shaped lintel is expected to be present over this opening however, not confirmed. At lower level there is loss of mortar between the brick courses generally.
3.1.56 To the east facing elevation the framing can be seen at high level, whilst the ground floor level is largely 'windowed' but with framing visible below (see photograph 43). Where probed generally, the condition appears sound and micro-drilling has not identified any significant decay. There is some soft timber to the base of the soleplate base of the sole plate and some soft timber, and the DPC below this can be seen (see photograph 44). If water runs onto the DPC it will not discharge and could exacerbate timber decay.	To the downpipe and hopper to the south of this elevation blockage must be present at high level, as rainwater was seen to shed downward at the material divide and ingress through at this point (see photograph 43A). This has affected the timber structure here, as well as the joinery to the mullion windows. There is a clear open gap between the timber frame and the south gable masonry at this point, so there is no doubt water can track into the building. The condition is largely similar to the frame. The base of the soleplate continues to show softening and decay to its underside (see photograph 44A). Slate or dry lime packing may need to be considered within future maintenance, alongside trials of the simplicity in which the DPC could be removed.
3.1.57 The head of the windows are protected with a weathering which seems to be working reasonably well (see photograph 45) at this time.	Appears to still be working appropriately.
3.2 Northern Range	
EXTERNAL	
3.2.1 This is predominantly of brickwork with stone dressings around doorways and for ground and first floor lintels (see photograph 46). It has a shallow pitch slate roof over, again appearing to be in need of re-roofing. There is a generous overhang in the eaves which helps protect the elevations to an extent. There are two brick chimney stacks which are just to the east of the ridge. The front elevation is heavily repointed, but structurally appears in reasonable condition with no significant signs of structural distortion or movement.	No change in form, the roof has not been re-roofed following on from the previous survey and still requires this extent of works. There is greater extent of defect to the ridge line of the roof, as also reviewed within the attic space.
3.2.2 To the north elevation there is a single storey more recent brick structure, the wash house, which is slate roof covered with a small valley towards the back east elevation and with the brickwork being painted. The structural condition of this looks reasonable with no obvious signs	This still retains satisfactory condition. The roof does need some maintenance with build-up of moss to the leaded valley to the east, as well as defect to the verge mortar at the north.

	of significant structural defects. The main gable is also painted with purlins extending out at high level, but largely protected by the overhanging roof. There is no particular evidence of any structural defects.	
3.2.3	The east facing elevation feels rather "back of house" and rather tired in appearance, with quite obvious modern brick repairs and movement. The movement exists particular towards the north end below and above windows with both historic and modern rebuilding, and may partly relate to some incompatibility of these materials. There is both rain and foul drainage running below ground, although its direction is not known. In the almost twelve months since, we do not believe there has been any further movement. We recommend that the cracks should be stitched with Helibar.	The intumescent modern masonry paint is still present which is holding in moisture and dampness within the wall structure, as reviewed within the northern ground floor WC. The small scale movement is still present, with vertical course cracking through the shallower brickwork to the base of the wall (1mm width) (see photograph 46A), with some of this appearing to be more recent movement. The damp nature to the walls is further added to due to the lack of direct sunlight upon this elevation with neighbouring trees shading the area. It is unclear if any helibar repairs took place in this area and from review do not look to have taken place.
3.2.4	We recommend that the drainage should be surveyed to understand where these extend to, and their condition. It is possible that the rainwater simply discharges into the moat. If broken the drainage could be contributing to movement in the structure.	A drainage survey is still recommended and should be treated as a high priority matter to all goods around the buildings at the site.
3.2.5	To the small length of the south gable, where this abuts the timber frame to the southern wing, there is an interesting transition of stone quoins and brickwork, and a stone and brick plinth (see photograph 47). There is clear movement in this area (see photograph 48). There are a number of surface water and grey water drainage points, as well as a route running along the timber frame elevation to be surveyed. Depending on where these run to, they may be exacerbating movement to this corner. Again, it does not appear to have moved in almost twelve months since we previously inspected. We recommend masonry reinforcement is used to unite the elements and to stiffen this corner, and then repointed. This can be used as a reference point for monitoring the building.	The movement previously observed has not significantly increased during the time period elapsed with no repairs undertaken in this area. The condition of the mortar and open joints has however worsened with water able to penetrate through against the impermeable paint to the surrounding fabric (see photograph 48A & B). Helibar repair is still recommended alongside suitable deep masonry repointing efforts. Over the older fabric of the building consideration should take place for DOFF cleaning or similar of the masonry paint.
ATTIC SPACE B-01-02-001		
3.2.6	In the attic to the northern range, the roof structure can be seen to comprise principal rafters dividing the roof into three bays, but with a central very narrow bay and much longer bays to either end (see photograph 49). The trusses support three lines of purlins and then a ridge purlin, which all then support the	No change in form has taken place. It can be noted that an impervious bitumen membrane is present above the rafters, which is a detail not present to the adjacent southern wing roof. The purlins and ridge beams are significant sections and their scarf joints are of interest with a central key, which consistently has hinged and not always tenoned (see photograph 49A).

common rafters. The trusses have struts rising up to them at each of the purlin positions, and these trusses align broadly with the walls either side of the stair landing and corridor at ground floor level. The roof has been strengthened with added timbers, trussing up of one of the purlins to the east side at the south end (see photograph 50). There are quite a number of hangers dropping down to help support ceiling joists.	These splice connections are not aligned with the principal supports below, thus are a clear weakness. The movement can be stated as historic however. To the roof does appear to have features of various ages and historic movement is clear through the packing timbers noted to level the more modern rafters to each flank (see photograph 49B).
3.2.7 The ceiling itself comprises numerous joists and in some positions with larger beams to support these over the bigger rooms, but appearing to be partly supported off partitions as well. There is much insulation and clear evidence of replacement timbers as well as historic ones. No particular evidence of structural defects was noted, although a sensible allowance for repairs would be prudent.	A sensible allowance for repairs to the ceiling structure should remain.
3.2.8 To the north end to the west side, there is a curious beam at higher level, and then with a series of hanger timbers extending down to a single beam below suggesting that this may have deflected at some point, and the new beam added to strengthen this (see photograph 51).	There are a number of areas which show water ingress clearly through the roof membrane: 1) To the eastern flank, and south of the first chimney stack to the south. There is damp staining upon to common rafters here, as well as a curious support system in place for the lower purlin, which is diagonally strutting off the ceiling structure to the north (see photograph 51A). It can be noted toward the ridge that a puncture through the membrane is present, with water runs onto the masonry stack also. 2) To the northern side of this stack, again the membrane is lost in a number of locations and water ingress is apparent (see photograph 51B). In both cases moisture is clearly affecting the ridge beam, so suitable allowance for repair of this needs to be considered. 3) Between the stacks within this space, the membrane to ridge again has lost a section of its fabric allowing for water ingress into the ridge beam (see photograph 51C). 4) To the eastern flank and northward of the furthest north stack, water ingress and staining is clear upon the purlins here (see photograph 51D). It can be also noted that there is daylight at ridge level when looking at the northern gable.
B01-01-003 DISPLAY ROOM	
3.2.9 At first floor level to the south-west main room, the north-south spans are quite significant. Deflection of the ceiling and undulation is apparent. This section of ceiling may be plasterboard, judging by the straight joints (see photograph 52). The floors have some flex and existing deflection, but no more than one would expect for a building of this type and age.	The finishes remain at a very similar condition, it can be noted that to the ceiling adjacent to the northern chimney stack that water staining and defect is apparent as a result of the ingress noted above (see photograph 52A).
B01-01-006 DISPLAY ROOM	

3.2.10 To the north-west room, the ceiling appears more recent to the underside in terms of the finish. No particular evidence of structural distress can be seen in the room, and with similar comments about the floor and its stiffness.	Same condition.
B01-01-005 KITCHEN	
3.2.11 In the kitchen, which runs into the stair landing, evidence of the tie beams to the trusses above can be seen at the head of the partitions. No particular evidence of structural distress was noted in the rear rooms, other than cracks to plasterboarded ceilings with movement around the edges (see photographs 53). This is most obvious to the north-south cross wall which shows some evidence of minor dropping, although the extent of movement is not clear to the opposite side which contains the chimney stack. The eastern rooms appear in structurally reasonable condition.	Still no signs of structural distress and no movement has propagated.
B01-GF-014 DISPLAY ROOM	
3.2.12 At ground floor level to the south-west is the dining room, with a stone fireplace with a timber beam post and beam set in front of this (see photographs 54). The timber beam supports the main east-west spine beam, but which is supplemented with two further timbers creating a wide box downstand in the room (see photograph 55). Where opened up (see photograph 56) only a small section of the original beam can be seen, so the reason for the boxing is not clear. The boxing looks rather incongruous in the room and consideration could be given to try to return it to its original dimensions. This may mean that provisionally, at least, allowing to cut a steel flitch plate into the original beam to strengthen it, but this would need to be informed by full opening up.	There has been no alteration in form, with the boxing in detail still in place. A steel flitch plate continues to be an option as a way of strengthening.
3.2.13 The ceiling appears to be lath and plaster with many undulations and a few areas of cracks and also past repairs. This should be inspected from above to check its condition, as such ceilings can be vulnerable to sudden collapse of the finishes.	The ceilings condition appears similar to that previously reviewed. An inspection from above is a sensible suggestion to review its condition in closer detail.
3.2.14 The fireplace has a thin 1.5 inch stone facing around it with a brick arch internally supported on iron bars (see photographs 57 and 58). Some small diameter brackets (6mm) stainless steel pins may be prudent from the stonework	There has been no change to this detail with no change in condition.

into the brickwork to provide it with greater stability which could be made good with the stone dust mortar.	
B01-GF-013 DISPLAY ROOM	
3.2.15 To the south-east room (larder) the floor drops down by 500-600mm. The ceiling (or floor above) has a steel beam spanning across the room east-west (see photograph 59) with apparent plasterboard or similar finishes, perhaps on the underside of an earlier finish? There has been some movement at the east end where the top three courses of an added brick pier have moved differentially to the main wall. This movement seems to extend in the ceilings to both sides, suggesting there has been some minor lateral movement of the wall in relation to the floor above (see photograph 60).	The arrangement has not changed and the movement present has increased by approximately a millimetre or so, but not too significantly (see photograph 59A). It can be noted that the 2No. walls that run perpendicular to this are plaster boarded and have hairline vertical cracks down their form in relation to the movement taking place.
B01-GF-008 ACCESSIBLE WC	
3.2.16 To the north-east corner are the WC's and a small lobby, with all the internal walls appearing to be of relatively recent construction, and confirmed by the Matrix report. No particular evidence to suggest any structural defects were noted.	No structural defects to note in this area, however there is a clear issue with water ingress/damp through the northern wall (see photograph 60A).
B01-GF-011 ELECTRICITY STORE	
3.2.17 Below the stairs is a small storage cupboard with a dropped floor level which appears in a reasonable condition structurally, although in a poor state of repair. There is a minor fracture to the south wall.	This still continues to be in adequate condition.
B01-GF-015 DISPLAY ROOM	
3.2.18 To the north-west room, the kitchen, the spine beam across the ceiling can be seen and presumably that to the south-west room was similar. There is also a setback fireplace with a timber bressumer set forward (see photograph 61). There is some minor further cracking above the timber bressumer (see photograph 62) in modern finishes perhaps suggesting some slight further deflection of this member. The floors at ground floor are all solid except for in the dining room, which is suspended.	Minor cracking spreading from the bressumer is still prevalent, with some separation also between the plaster ceiling and eastern wall (see photograph 61A).
B01-01-013 LOFT SPACE (NO ACCESS)	
3.2.19 The wash house was opened up and through a small access hatch the roof structure could be seen, comprising two principal purlins spanning from the main elevation of the hall to the north end to the gable of the wash house (see photograph 63). Common rafters span from eaves to the purlin, then to ridge	No change.

	with a valley rafter to the south east side.
3.2.20	It is clear that the ceiling was originally exposed with the timbers being lime washed. Consideration could be given to return it to this, although the underside of the breather felt can be seen at the moment. No particular evidence of structural defects was noted within this building, particularly there was no evidence of pulling away at the junction with the main building was noted to the finishes. No change.
3.3	<u>Kitchen and Café with Store</u>
3.3.1	The café and store is set a little to the north of the main building and adjoining the moat (see photograph 4). To the east elevation there appears to have been two open bays originally, then with a solid wall to the north (see photograph 64). It is constructed of 9 inch brick with a slate covered pitched roof over and a ceiling running through a short way above eaves. To the west side there is a flat roofed element felt covered roof (see photograph 65). This area no longer serves as a café, with this now relocated into Clayton Hall at its southern wing. No changes have taken place to the building other than this since the previous report, with it largely being used as a storage space (see photograph 65A).
3.3.2	The flat roof is supported on a timber beam spanning between piers to the café element (see photograph 66). This roof section towards its north end exhibits deterioration to the finishes directly below the rafters and it is expected that the rafters themselves also have suffered from moisture ingress (Photograph 66A).
	Within the southern section, i.e. the previous café element, movement can be seen in the northernmost pier in relation to what has taken place at the north section of the single storey structure.
3.3.3	There is evidence of movement to the building, particularly to the west elevation around the window, but also to brick piers at the junction with the cross wall. To the west elevation it can be seen that the flat roofed section is a later addition, and that it has three windows in its length, but now brick infilled. Significant movement is under the centre window which has settled with a crack opening up perhaps 30mm wide (see photograph 67). There is a further significant crack to the north end under the smaller north window, again 20mm wide at its head (see photograph 68). Cracking to this central window could not be reviewed due to adjacent vegetation growth. To the western and northernmost infilled window, this exhibits more of a horizontal cracking pattern with lateral displacement to the brickwork to the infill brickwork (Photograph 68A) and this has opened up to a worse location 20mm and shifted similar in that extent. It can be noted externally at low level the external brickwork that stepped cracking feeds away in a southward manner from the northernmost window openings sill and has opened up to a greater extent to approximately 30mm from 20mm (see photograph 68B).
3.3.4	It was noted that the flat brick arches over the windows have steel bars which are corroding and expanding and causing disturbance to the window heads (see photograph 69). This defect is still present to the windows located to the western elevation of the building, with the jacking movement still apparent (Photograph 69A).
3.3.5	The movement suggests foundation movement which may be linked, with its position adjoining the moat or linked with Trial hole excavation would be particularly advised to understand the foundation movement which is taking place at the northern side, it was

	nearby trees etc. Trial holes would be needed to check the foundations and also to establish the underground underlying sub strata, potentially with some soil testing. Access was not possible to the north end beyond the fencing.	noted at this point that the guttering is not effective as this spills out at the north western corner of the building and also
		Particularly to the western elevation, there is a great extent of ivy growth upon the building and the gutters would be deemed to be ineffective, but there is also a leak noted to the eastern elevation to central location.
		To the roof, where this is duo pitch in nature, with a flat roof offshoot. Towards the eastern side, this exhibits dipping to its roof profile suggesting that it is sagging and thrusting outward, likely due to the subsidence that has taken place as the brickwork around it has destabilised, allowing the timber roof structure to slip. However this in turn is leading to further issues in relation to damage to the roof finishes etc, allowing for water ingress.
3.3.6	Internally to the north wall it appears that there was another opening or window and again, movement is obvious to this.	To the northern masonry panel, the brickwork against the infilled window has opened up to approximately 25mm in its worst location and then there is diagonal cracking which spreads from the timber beam position towards this window and then from the cill point of the window downward it tapers in its width. At the cracking's worst location it is approximately 30mm wide. It can also be noted at the eastern bearing to the infill window that cracking prevails from above finish level down along the side of the infill panel and then carries through in a diagonal stepped fashion towards ground level (Photograph 69B).
3.4	<u>Bridge</u>	From discussion with the Trustees, it is understood that HGV access currently takes place over the bridge which is the largest vehicle traffic and of course it is only single access. It is understood that the moat around the hall has been dredged within the 1990's and early 2000's and is now lined with concrete.
3.4.1	The bridge (see photograph 3) is situated to the south-west of the main hall and across the moat, and provides the public and vehicular access to the site. It comprises a two span masonry arch with central piers and cut water.	No change, (see photograph 3A).
3.4.2	It has a reasonably substantial parapet wall with coping over, then to the north end masonry piers supporting iron gates (see photograph 70).	Large levels of deterioration are present to the coping stone and parapet whereas the open joints are a prevalent feature in its condition (Photograph 70A) and this includes the bedding joints to the coping stones with their condition particularly worse to the western elevation (Photograph 70B).
		To the western elevation, it can be noted at the southern exit from the bridge that distortion is present to coping stone with fractures through the lower south east cill stone. This does appear that it might have been propagated by vehicle

	impact as fractures are prevalent through the masonry and the coursing offset to the upper coping stone (Photograph 70C).
	To the deck, this is simply stone setts within mud or clay (Photograph 70D).
	It can be noted at the northern pier that opening up has taken place, particularly at the western elevation between this detail and the coping stone (Photograph 70E).
	Generally, along the length of the bridge depressions within the surfacing were in alignment to tyre positions with a slightly greater extent of depression towards the northern piers (Photograph 70D).
3.4.3 From below, the northern arch appears in a reasonable condition, although one stone has decayed more than the others. It is clear that there is water passing through the cobbled finish above. Normally similar bridges have a puddled clay lining to help discharge water, but this is obviously not that effective if it exists.	To the underside of the northern arch , this still retains reasonable condition with a number of narrower masonry stones at the crown of the intrados, all of which exhibit a greater extent of decay (Photograph 70F).
	There are clear signs of green staining to this northern arch and progression of water ingress at its northern abutment, as well as its southern to a greater degree, therefore previous comments relating to the clay lining are likely relevant (Photograph 70G).
	There are clear signs of cement repointing to a large proportion of the masonry in relation to previous works and at low level, particularly to the northern abutment, a raised concrete section is present (Photograph 70H).
	To both sides of the northern abutment, there is a battered back retaining wall which again exhibits open horizontal joints at lower level which likely relates to some ground slippage to the bank above or wash out deterioration of the cement mortar bedding which has largely decayed (Photograph 70I).
	To both east and western elevation of the bridge at parapet level as well as the voussoirs, these exhibit vegetation growths through the joints as well as general decay and pushing out of the previously applied cement mortar (Photograph 70J).
	It can be noted particularly at the western elevation of arch 1 that the coping stones, as well as corning detail, have open joints throughout with the corning exhibiting loss of section towards the south and that replacement corning has been formed to the eastern face at this position, this features masonry sections which do not match the original (Photograph 70K).
	To the central pier, this has been applied at low level with cement slurry from the concrete lining of the moat (Photograph 70L).
	It can be noted that the condition of the western cut water is fairly satisfactory with similar condition of cement repointed joints at higher

	level and decay of the corning.
3.4.4 The southern span is structurally in reasonable condition, but again saturated from water extending through the finishes above. To the east elevation there is a significant shrub growing (see photograph 71), although it has been cut back at some point but is continuing to grow. It has jacked the masonry open allowing water to ingress the pier. There are a number of fractures and voids around the structure, some of which have been patch infilled with cement pointing being used.	However, to the eastern cut water this exhibits buddleia growth with the root ball growing into joints at high level. This has been cut back to some degree and but has opened up the masonry joints. It appears that this has been left open for a substantial amount of time and water has been able to deteriorate the joints as well as the rubble infill material directly behind (Photograph 71A), so voids within the cutwater or likely present. It can be noted that to the eastern cut water, opening up of voids is at least to the level of 1".
	To the southern span, this clearly exhibits a greater amount of saturation through the barrel of the masonry vault and moisture is allowed to freely track onto the external face of its piers (Photograph 71B).
3.4.5 Of high significance is the need remove the shrub and then a careful consolidation/repointing exercise would be really beneficial. There is some slight movement out of the spandrel panels above the masonry arches, perhaps from applied pressure from road usage, but this is not significant at this stage but should be monitored. Re-pointing of the parapet would also be beneficial.	This would still remain of high significance, particularly the repointing and consolidation to the central piers eastern cut water. A considered repointing exercise of the open joints and those where cement pointing has worked outward is necessary. In addition the repointing/resetting of copings would be of benefit, as well as repair to the central masonry sections at the northern arch which exhibit large extent of deterioration to their front face.
3.4.6 The piers to the north end look rather unfinished and presumably should have some form of capping over. The past pointing has been messy and over indulgent and would benefit from cutting back and cleaning.	This is still the same, grouting, repointing and capping is needed.

4.0 Conclusions and Recommendations

- 4.1 The condition of Clayton Hall is reasonable for its age, however following on from the previous report very little works other than the essentials around the 2016 café works have taken place.
- 4.2 The timber frame is generally in good condition with only local areas of decay noted through the survey.
- 4.3 The condition of the roof finish has worsened with multiple areas of water ingress which have started to affect the timber frame and internal finishes however. Temporary repairs to the northern range could be dealt with through simple flashbanding repair if full re-roofing repairs are not affordable at this point in time.
- 4.4 The hinging motion of the 9 inch brickwork panel to the south gable of the southern range is of concern and has worsened since the previous survey. This is currently allowing for water ingress and is directly affecting the finishes within the first floor room here. Repair and likely reconstruction of the panel at attic level is likely necessary, with a number of options provided for further consideration.
- 4.5 The movement to the shed/café has worsened, with clear dropping to its north western corner. Trial holes and limited ground investigation should be carried out if the intention is to retain the building. Underpinning may be required along with superstructure repairs. Perhaps

if the full space is not needed, the northern end bay where the movement is worst could be removed with only repairs undertaken to the southern portion. This removes some of the risk due to the proximity of the moat and provides a more economic response, as underpinning and superstructure repairs are likely to be expensive for an area with minimal historic value and low use.

- 4.6 One clear issue, as discussed during the meeting is the infill panel fabric against the timber framework. These more modern materials applied against more traditional i.e. cement to infill panels against timber is forcing moisture into the timber and the main issue relates to differential thermal movements between all of this adjoining fabric and gaps forming subsequently. Suitable detailing needs to be formed with oakum caulking and lime fillet or burnt sand mastic etc, consideration should also take place over replacement of the infill panels on a scheduled basis in a more appropriate material build-up.
- 4.7 Steam cleaning or similar would be recommended to be at least trialled to the northern range in order to remove the modern intumescent paint, with the area outside of the ground floor WC an appropriate place to start.
- 4.8 There still does appear to be some level of ground movement which has likely been aggravated by the cutting down of the mature tree to the south west corner of the hall. The level of movement is low however and any cracking that does appear should be treated as a maintenance issue with an appropriate repointing in lime or redecorating to suit. The drains however are an unknown at this stage and a CCTV survey should be set as a priority to understand whether this is a factor in the movement seen.
- 4.9 An MEXE assessment was undertaken for the masonry arched bridge which provides access to the hall and
- 4.10 The following works are recommended:

Southern Range

- Allow to check the roof structure in detail when the slates are removed and insulation and debris from the ceiling backings. Allow to check all joints and add fixings to any loose or weak elements. As part of this it would be recommended to form temporary bracing to the southern gable from the scaffold as slates are removed from the roof as a precaution.
- In order to deal with the southern gable a number of options should be considered:
 1. Provisionally allow to insert 250mm square oak vertical timbers against the south gable rising up from the in-built timber plate up to the roof line and resin fixed into wall and wall plate as well as to the purlins and ridge member and pack open masonry joint to reengage and make watertight. The top of the timber would also have to be packed to engage with the masonry above.
 2. Rebuild masonry panel to gable incorporating stainless steel ladder reinforcement. This could take place in a sequenced manner working inwards if necessary.
 3. Form steel angle section to pick up and support 4 inch inward projection of masonry with some localised repairs to the masonry at its base.
- Note to all of the above suitable repairs to the external weatherings to and around the stack will be necessary.
- Provide diagonal restraint straps or window bracing over the top of the rafters to both elevations and then provide straps between rafters and brick gable to provide additional lateral restraint;
- Allow a provisional sum for repairing the purlin where extending through the south gable to the west side, allow also for provisional sum for splice repair of purlin to west flank where leakage at roof light;
- Allow to provide steel straps between existing tie beams and original eaves plate to provide greater lateral restraint to both east and west elevations;
- Allow for additional strapping between first floor ceiling and floor structures to east and west elevations if intention is to remove secondary added frames and posts to east elevation;

- Allow to provide new blocking piece to east elevation to south bay to central added post, as well as strapping to post for lateral restraint;
- Provide confirmation of Helibar (or similar) reinforcement to cracks to west elevation WC;
- Allow provisionally for replacing a length of soleplate to north end of stair partition and slip tenons to 2 No. studs/posts;
- To soft timber to underside of soleplate to east elevation, allow to work off and drive slates in below. Following the working off of frass removal of the DPC present should be trialled.
- Allow for drainage survey and subsequent repairs as necessary; Repointing and helibar repair works to take place to masonry following understanding of survey.
- Repair and replacement of weatherings to south chimney stack, with general repointing works in suitable lime.
- Undertake urgent maintenance to leaking hopper/downpipe to east elevation.
- Ensure areas where opening up has taken place between timber frame and masonry wall structure is sealed through use of oakum and either lime mortar or burnt sand mastic, 3No. Vertical lengths and clear areas have been highlighted through the survey: Photographs 39A, 41A and 43A.

Northern Range

- Allow for Helibar (or similar) reinforcement to cracks to east elevation and to part south elevation. All cracks to be re-pointed;
- Allow for drainage survey and subsequent repairs as necessary;
- Allow to check the roof structure in detail when the slates are removed and insulation and debris from the ceiling backings. Allow to check all joints and add fixings to any loose or weak elements, provisional allowance should be made for the strengthening of the purlins where deflection had been noted at their tenoned splice connection 5No;
- Include provisional allowance for roof repairs, in particular splice repair to ridge beam in 2No. Positions, Splice repair of purlins in 4No. Positions and replacement of common rafters.
- Check condition of ceiling backings where lath and plaster, and allow for provisional reinforcement if necessary;
- Allow for potential strengthening of main beam to dining room if boxing to be reduced, with a steel flitch cut into the thickness of the beam;
- Allow to check ground floor ceilings by lifting floorboards above and for associated lathe and plaster repairs;
- Allow for pinning the dining room stone veneer to backing brickwork;
- Allow for trial removal through steam cleaning or similar of intumescent modern masonry paint to ground floor WC area.
- In larder allow for pinning the added western pier to backing wall;
- Allow to lift first floor boards over larder and for providing additional restraint strap to eastern wall;

Bridge

- Allow for removing all shrub and vegetation growth;
- Allow for raking out all cracks and voids, grouting where appropriate and re-pointing in places with stone slips;
- Form capping over northern abutment pier positions
- Investigate cobbled deck and provisionally allowing for new puddled clay lining below to help discharge water away from bridge and thus protect fabric below;
- Rake out defective cement mortar, deep re-point all parapets and copings. Allow for 70% lifting and rebidding of coping stone sections.
- To northern abutment allow for careful sequenced removal of defected cement mortar, repointing/regrouting as necessary in an appropriate lime mortar.
- Allow for plastic repair or stone replacement to 5% of west elevation at the cornice band detail.
- Allow for stone section infill in voids to north abutment and central pier.

5.0 Limitations

- 5.1 It should be stated that we have not inspected woodwork or other parts of the structure unless specifically detailed in the report, which are covered, unexposed or inaccessible and we are therefore unable to report that any such part of the property is free from defect.
- 5.2 This report has been carried out to the Client's requirements and no liability is intended or will be accepted from any third party whatsoever.
- 5.3 The limits of liability are restricted to the contents of this report. No opening up or investigation of foundations etc. was carried out, the inspection being visual only.
- 5.4 No checks on load bearing capabilities have been carried out.

APPENDIX A

Photographs



Photograph 1: Clayton Hall West Elevation



Photograph 2: Single storey service building to north of northern range



Photograph 3: Bridge over moat to south of site



Photograph 3A: Double arch masonry bridge across former moat



Photograph 4: Single storey kitchen/café range



Photograph 5: Central crown post between north and south bay



Photograph 6: North part crown post



Photograph 7: South end of roof with brick gable



Photograph 8: Eaves to west side raised with added brickwork and further rafters



Photograph 9: Timber plate built into south gable (highlighted) with fracture above



Photograph 9A: Worsening of rotational movement to south gable



Photograph 9B: Salt staining and debris collection



Photograph 10: Purlin to south gable to east side with repair timber



Photograph 11: Added plate supporting upper later rafter from western corridor



Photograph 11A: Stepped stone slates and water ingress, noting fractured battens



Photograph 12: Collar purlin with sapwood decay



Photograph 12A: Notched and packed purlin to common rafter interface



Photograph 12B: West flank at blind window with water ingress onto purlin



Photograph 13: Collar purlin no longer engaged with crown post but with added struts



Photograph 13A: Historic crack to end wall of south range



Photograph 14: Rotated eaves plate with finishes unaffected



Photograph 15: North wall panel to north bay to east side with clear later introduced timbers



Photograph 15A: Studwork to north panel of east wall to northern bay. Minor opening up noted between frame and finishes



Photograph 16: Post sitting proud of wall face and supporting cill



Photograph 17: Junction of east bay at central frame position and cross partition



Photograph 18: Minor cracking to assumed infill plaster main frame



Photograph 18A: Repairs undertaken to finishes and infill panels. West wall still has minor movement



Photograph 19: Rotation of western eaves plate to north bay



Photograph 20: Chamfered spine beam to north bay as seen from underside



Photograph 21: Added secondary frame to internal face of east wall to south bat



Photograph 22: Original eaves plate rotated (highlighted) and new plate alongside



Photograph 22A: Water ingress and damage to south side of mullion window



Photograph 23: First floor inglenook to south gable wall



Photograph 23A: Increase of efflorescence and damp upon fireplace surround



Photograph 24: View up inglenook fireplace to south gable at first floor



Photograph 25: Apparent minor movement to wall above fireplace



Photograph 25A: Looking east continuation of cracking through ceiling finishes at south gable



Photograph 25B: Cracking and loss of plaster at stack



Photograph 26: West elevation eaves plate and sprockets to rafters seen in west corridor attic



Photograph 27: Cross pattress plate to south end at eaves as seen from western corridor attic



Photograph 27A: Patten plate and raised eaves



Photograph 28: View along western corridor roof looking north



Photograph 28A: General view of roof space in satisfactory condition



Photograph 28B: Cracking between boarded panels to ceiling within corridor



Photograph 28C: Opening up between window frame of plaster, noting slight dropping mullion frame o upper architrave



Photograph 28D: Water ingress of stripped back panelling with stair tower



Photograph 29: Timber blocking piece to cross beam



Photograph 29A: West wall within Northern Bay supporting spine beam



Photograph 30: Minor opening up between cross beam and first floor plate to northern bay



Photograph 31: Main beam on frame to west end between bays



Photograph 32: Added post to centre of southern bay to ground floor to east side



Photograph 33: Added post to centre of southern bay to ground floor to east side



Photograph 34: West wall of south bay



Photograph 34A: Cracking from sill downward within southern range indicating recent movement



Photograph 34B: Efflorescence and damp staining upon the fireplace



Photograph 34C: South mid-rail to west frame connection indicating fracture to mid-rail and movement in adjacent finishes



Photograph 34D: Opening up between west wall and ceiling in corridor



Photograph 34E: Decay to soleplate adjacent to entrance onto north bay



Photograph 35: Cracking to corridor of west wall at position of later infill



Photograph 35A: Full length corridor to west



Photograph 36: Historic decay to soleplate to south end of southern bay



Photograph 36A: Spliced end to soleplate cleaned timberwork



Photograph 37: West wall of WC at ground with crack at junction where stair tower abuts



Photograph 37A: Cracking to west bearing of south window 1mm width



Photograph 38: Bell cupola



Photograph 38A: General photo showing condition of west slope of roof



Photograph 39: Decay pocket to the north end of the west elevation of the stair turret



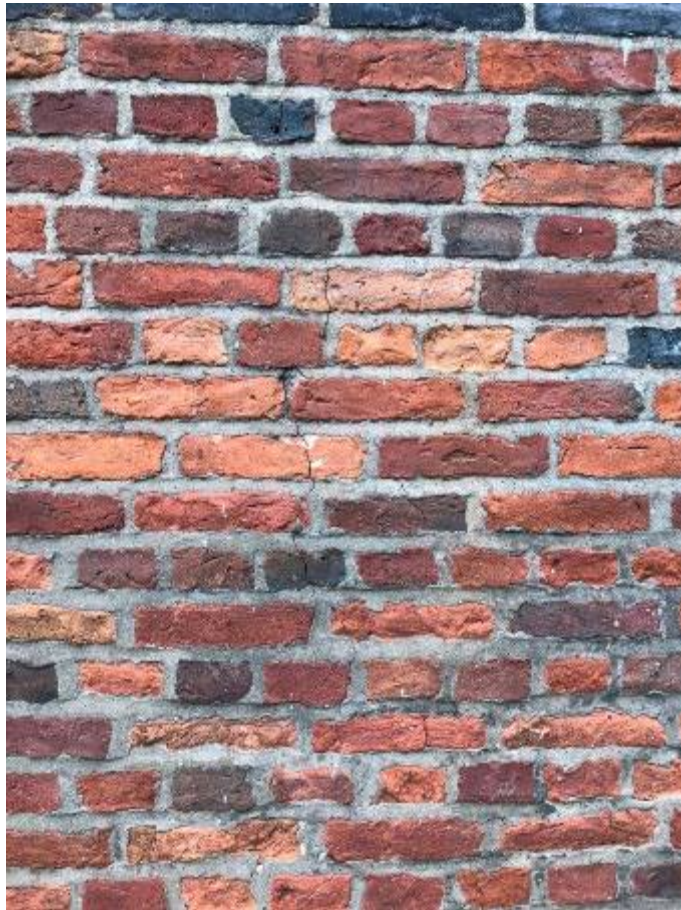
Photograph 39A: Opening up between timber frame panel and adjacent masonry wall structure



Photograph 40: Poor detailing to soleplate and previous repairs



Photograph 40A: East elevation of stair tower. Noticing loss of filler material and increased decay



Photograph 40B: Vertical cracking through brickwork to stair tower



Photograph 41: South end of west elevation



Photograph 41A: Opening up between timber post and adjacent brickwork



Photograph 41B: Repointed stepped cracking to south west corner with cement. A number of horizontal repointed lengths around corner (perhaps HeliBar). Satisfactory condition.



Photograph 41C: Downpipe gully with cracking where this meets sides of adjacent building



Photograph 42: South gable (by Matrix Archaeology)



Photograph 42A: Active 1 – 2mm width cracking from sill level downwards



Photograph 42B: Opening up between stack projection and west wall hinging at base point



Photograph 42C: Cut tree in close proximity to mall and south west corner



Photograph 42D: Vegetation growth to stack as well as poor condition of weatherings



Photograph 42E: Poor condition of upper 9" masonry panel and weatherings to south gable



Photograph 42F: Stepped cracking above ground floor lintel indicating failure



Photograph 43: East elevation



Photograph 43A: Leakage on downpipe and hopper onto material join



Photograph 44: DPC below soleplate to east elevation



Photograph 44A: Decay to base of soleplate which sits upon DPC.



Photograph 45: Weathering to head of window, appearing to be holding at present



Photograph 46: West elevation of northern range



Photograph 46A: Cracking through brickwork to east elevation around drains



Photograph 47: South section of gable to northern range



Photograph 48: Close up of movement to south gable



Photograph 48A: Cracking and deterioration to south wall of north range



Photograph 48B: Continuation of cracking at higher level to south wall



Photograph 49: Roof structure to northern range



Photograph 49A: Spliced joints to purlins with hinging taking place at these points. Note packing between purlin and rafter level



Photograph 49B: Packing timbers upon purlin to level roof in previous re-roofing works



Photograph 50: Strut to purlin to east side at southern end of northern roof structure



Photograph 51: Hangers to ceiling



Photograph 51A: Water ingress to common rafters and doubling up to purlin



Photograph 51B: Loss of membrane either side of stack. Note previous steel angle plate repair to ridge beam



Photograph 51C: Loss of membrane and water ingress into adjacent ridge beam which shows decayed condition



Photograph 51D: Water ingress and leak at puncture to membrane upon purlin to east flank



Photograph 52: Cracks in ceiling suggesting probably plaster-boarding or similar



Photograph 52A: Water damage to drawing room ceiling



Photograph 53: Movement to first floor kitchen ceiling wall junction



Photograph 54: Fireplace to Dining Room



Photograph 55: Wide downstand beam in Dining Room



Photograph 56: Opening up to underside of beam in Dining Room



Photograph 57: Thin stone veneer to front of fireplace



Photograph 58: Stone veneer to fireplace surround



Photograph 59: Movement of added brick pier to west side of larder and steel beam



Photograph 59A: Lateral displacement between wall and pier, as well as enlargement of gap between ceiling finish and wall



Photograph 60: Movement of floor/ceiling to east side of larder



Photograph 60A: Damp staining to north wall of WC



Photograph 61: Kitchen fireplace



Photograph 61A: Minor differential movement between west wall and ceiling within pressed kitchen



Photograph 62: Minor cracking above timber bressumer to kitchen



Photograph 63: Roof structure over Wash House



Photograph 64: Apparent open bays highlighted



Photograph 65: West elevation of café and kitchen with part flat roof highlighted



Photograph 65A: General arrangement of outbuilding to its south elevation



Photograph 66: Opening to rear west wall with piers supporting beams and then roof



Photograph 66A: Poor condition of flat roof joists



Photograph 67: Cracking to west elevation



Photograph 68: Cracking to low level to west elevation



Photograph 68A: Horizontal cracking through the bricked in opening to west elevation



Photograph 68B: Diagonal cracking from timber beam bearing toward adjacent opening, with north west corner of building clearly dropping



Photograph 69: Window head with steel flat bar lintels and associated corrosion jacking



Photograph 69A: Rust jacking at bearing of steel angle lintels to west elevation



Photograph 69B: Stepped cracking to north west corner of building to flat roofed element



Photograph 70: Gates and piers to south end of piers



Photograph 70A: Distorted nature of western copings and deterioration at base joint



Photograph 70B: Open jointed nature of coping stone joints to east continuing through into parapet



Photograph 70C: Disjointed coping blocks to west side where vehicle impact may have influenced



Photograph 70D: Stone set surfacing with depressions relating to vehicle track route



Photograph 70E: Opening up between western parapet stone and adjacent pier



Photograph 70F: More deteriorated profile to finer stone to crest of intrados



Photograph 70G: Damp staining to barrel toward central pier indicating moisture ingress through deck build up



Photograph 70H: Concrete upstand to moat at north abutment



Photograph 70I: Retaining wall to north abutment exhibiting deterioration through mortar joints



Photograph 70J: Poor condition of masonry joints to the north can arch at its east elevation



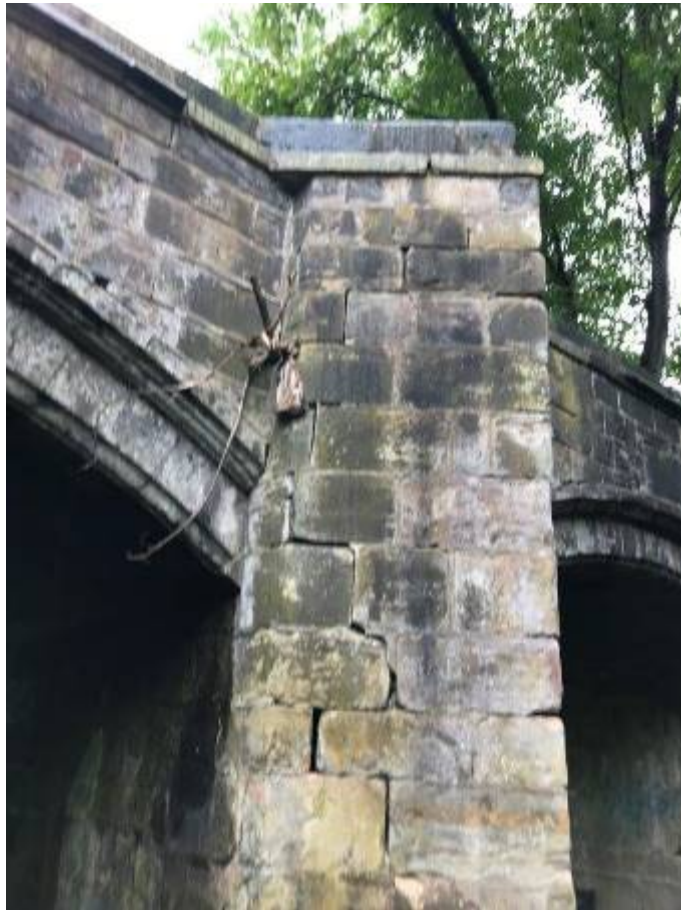
Photograph 70K: Poor condition of masonry joints to the northern arch at its west elevation



Photograph 70L: Cement Skirt to base of pier and projection of cut water to east



Photograph 71: Shrub growth to eastern side of bridge



Photograph 71A: Eastern cut water to central pier in poor condition with washing out of mortar, voids behind stone and vegetation growth



Photograph 71B: Water staining to intrados of central pier, from southern side. Low level void



Photograph 72: Void to pier

APPENDIX B

MEXE Assessment of Masonry Arch Bridge

Classification of Masonry Arch Bridge – using MEXE – Based on current condition

a) Data:

Span (l)	4.5m
Rise (Rc)	0.6m
Quarterly Rise (Rq)	0.38m
Arch Ring Thickness (d)	0.25m
Depth of fill at crown (h)	0.2m
Width of bridge between parapets (b)	3.6m
Material	Stone arch in hard sandstone originally in lime mortar, however heavily repointed in cement which is in poor condition
Joints	Original face mortar likely comparatively narrow but assumed main walling behind thicker. The face mortar now widened due to use of cement mortar.
Cracks	No large-scale movements mostly contained to high level.
Abutments	Some evidence of movement, particularly to north but not fully inspected due to vegetation.

b) Provisional Load Class

Figure 5 gives a provisional load class of circa. 21 Tonnes

Through equation:

$$PAL = \frac{740(d+h)^2}{L^{1.3}}$$

PAL = 21.2 Tonnes

c) Adjusted Load Class

i) Span to Rise Factor

Span to rise ratio = $4.5/0.6 = 7.5$

Therefore from Figure 3.3 span to rise factor = 0.65

ii) Profile Factor

$Rq/Rc = 0.38/0.6 = 0.633$

Therefore from Figure 3.4 profile factor = 1.0

iii) Material Factor

For Barrel Factor: $F_b = 1.4$ Ashlar quality siliceous sandstone

For Fill Factor: $F_f = 0.6$ Well compressed material however some tracking noted

$$F_m = \frac{(F_b \times d) + (F_f \times h)}{d + h}$$

Therefore material factor = **1.05**

iv) Joint Factor

For Joint Width Factor: $F_w = 0.9$ Joint Widths between 6mm and 12.5mm

For Joint Depth Factor: $F_d = 1.0$ Joints generally full

For joint Mortar Factor: $F_m = 0.9$ Loose or friable mortar

Therefore joint factor $F_j = F_w \cdot F_d \cdot F_m = \mathbf{0.81}$

v) Condition Factor

Overall masonry retains sound condition with joint defects noted and accommodated elsewhere. Defects include voids within cutwater, slight movement to northern abutment and some deterioration to stone at crown of northern arch.

Therefore condition factor = **0.9**

Adjusted Load Class = $21.2 \times 0.65 \times 1.0 \times 1.05 \times 0.81 \times 0.9 = \mathbf{10.5 \text{ Tonnes}}$

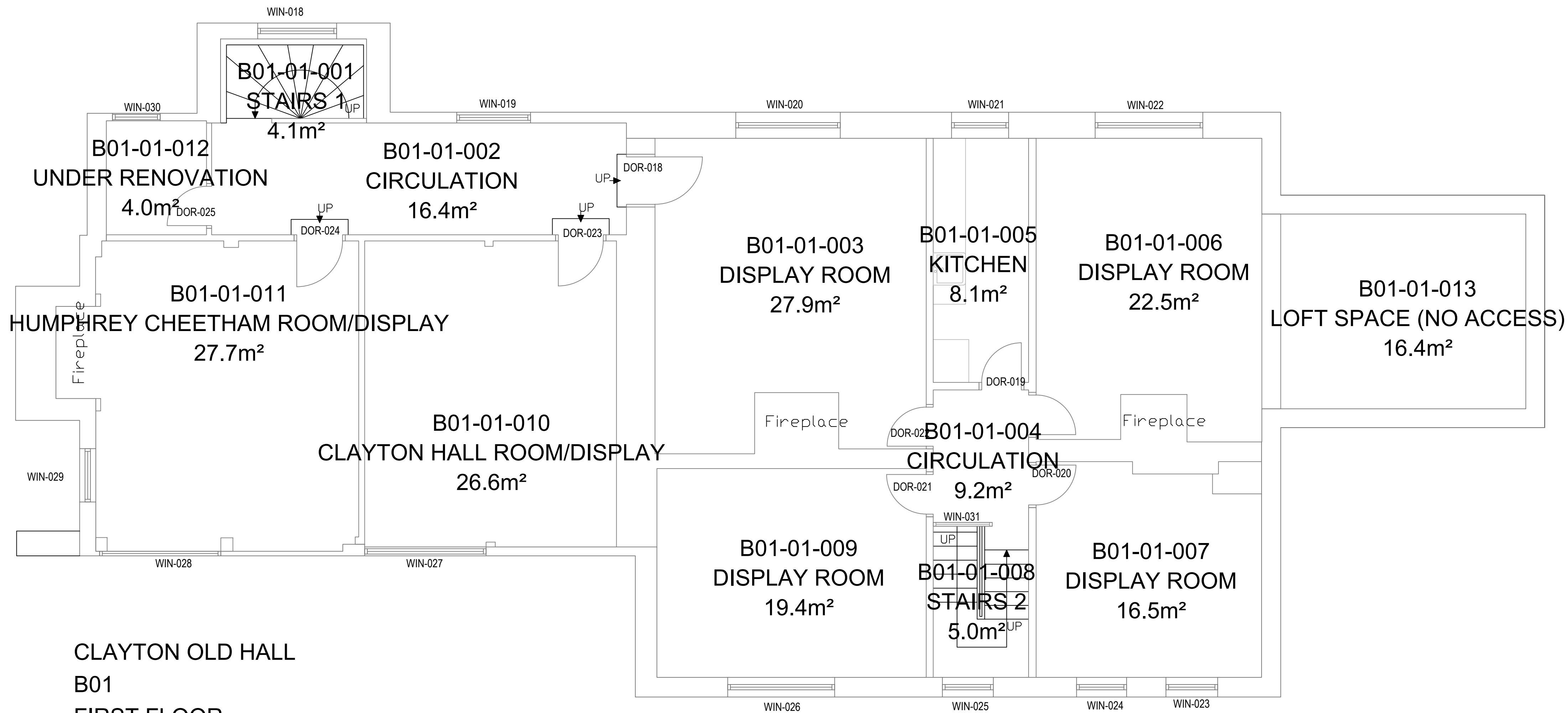
Therefore 2 axle Heavy Goods Access vehicles are allowed to cross the bridge within this tonnage limit. The width of the bridge serves as a useful deterrent for larger and heavier vehicle. However, communication between the trust and HGV access vehicles should be clear so as not to go above this tonnage limit.

If there is need for a 2 axle Heavy Goods Access vehicle to access the site, it would be possible to utilise vehicle spreader plates across the length of the bridge in order to accommodate 18 Tonnes. In any case an engineer should be consulted to approve any proposals of such. In a practical sense, the length of an 18T HGV will never be able to impose its weight on just one of the arches as it crosses due to the relatively short span of the masonry arch bridge.

There can be confidence in the weight capacity of the bridge moving forward, however it is recommended that repair and general maintenance works are carried out as soon as possible, as this will increase the bridges capacity to **13.6 Tonnes**.

APPENDIX C

Asset Management Drawings



CLAYTON OLD HALL
B01
FIRST FLOOR
GEA: 244.7
GIA: 217.3
NIA: 152.7

- NOTES
1. All dimensions are in millimetres unless otherwise stated
 2. This drawing is to be read with all other relevant documentation
 3. Do not scale from this drawing, all measurement data should be taken directly from the model



MANCHESTER
CITY COUNCIL

Capital Programmes
Division

Manchester City Council
PO Box 532, Town Hall
Manchester
M60 2LA

DRAWING STATUS Information

PROPERTY TITLE
Clayton Hall (inc. Old Part)
Ashton New Road, Clayton
M11 4RU

UPRN 000077215117 DFE NO. 0000

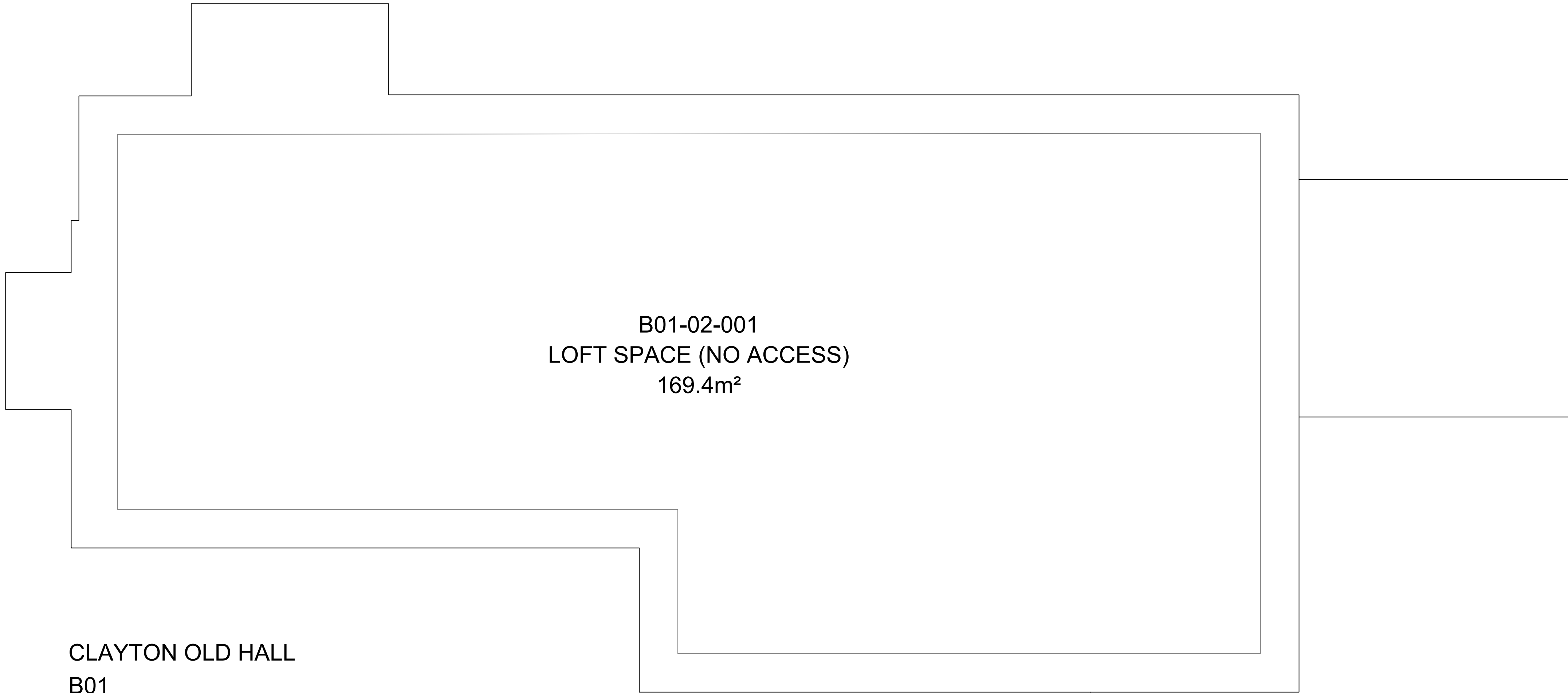
PROJECT TITLE
N/A

DRAWING TITLE
First Floor Plan

JOB NO. xxx/xxxxx DATE 01/02/2021 REV

SCALE 1:50@A1 AUTHOR A Dent CHECKED BY J Brennan APPROVED BY

DRAWING NO.
MCC-B01-01-DR-A-0010



CLAYTON OLD HALL
B01
SECOND FLOOR
GEA: 169.4
GIA: 169.4
NIA: 0.0

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Ashton New Road, Clayton
M11 4RU

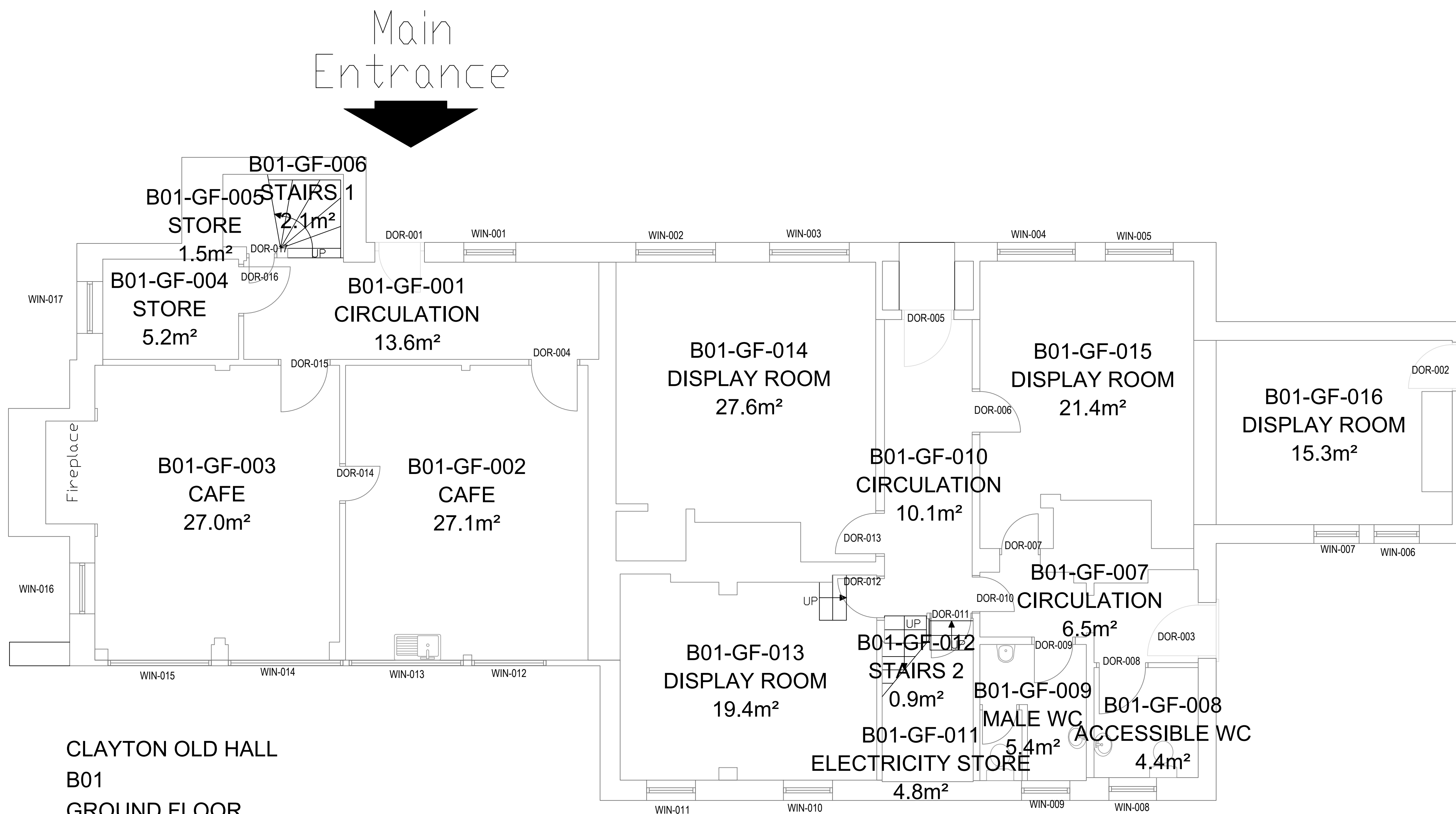
UPRN DFE NO.
000077215117 0000

PROJECT TITLE
N/A

DRAWING TITLE
Second Floor Plan

JOB NO. xxx/xxxxx	DATE 01/02/2021	REV
SCALE 1:50@A1	AUTHOR A Dent	CHECKED BY J Brennan
APPROVED BY		

DRAWING NO.
MCC-B01-02-DR-A-0010



CLAYTON OLD HALL
B01
GROUND FLOOR
GEA: 242.6
GIA: 213.6
NIA: 144.5

CLAYTON HALL (Including Old Part)
000077215117
UPRN: 000077215117
GEA: 656.7m²
GIA: 600.3m²
NIA: 297.2m²

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Ashton New Road, Clayton
M11 4RU

UPRN
000077215117

DFE NO.
0000

PROJECT TITLE
N/A

DRAWING TITLE
Ground Floor Plan

JOB NO.
AMP/44913-1

DATE
01/02/2021

REV

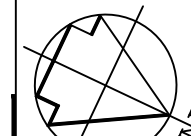
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AUTHOR
A Dent

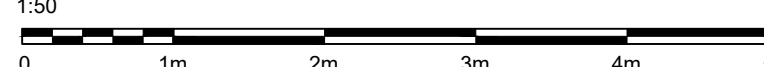
CHECKED BY
J Brennan

APPROVED BY

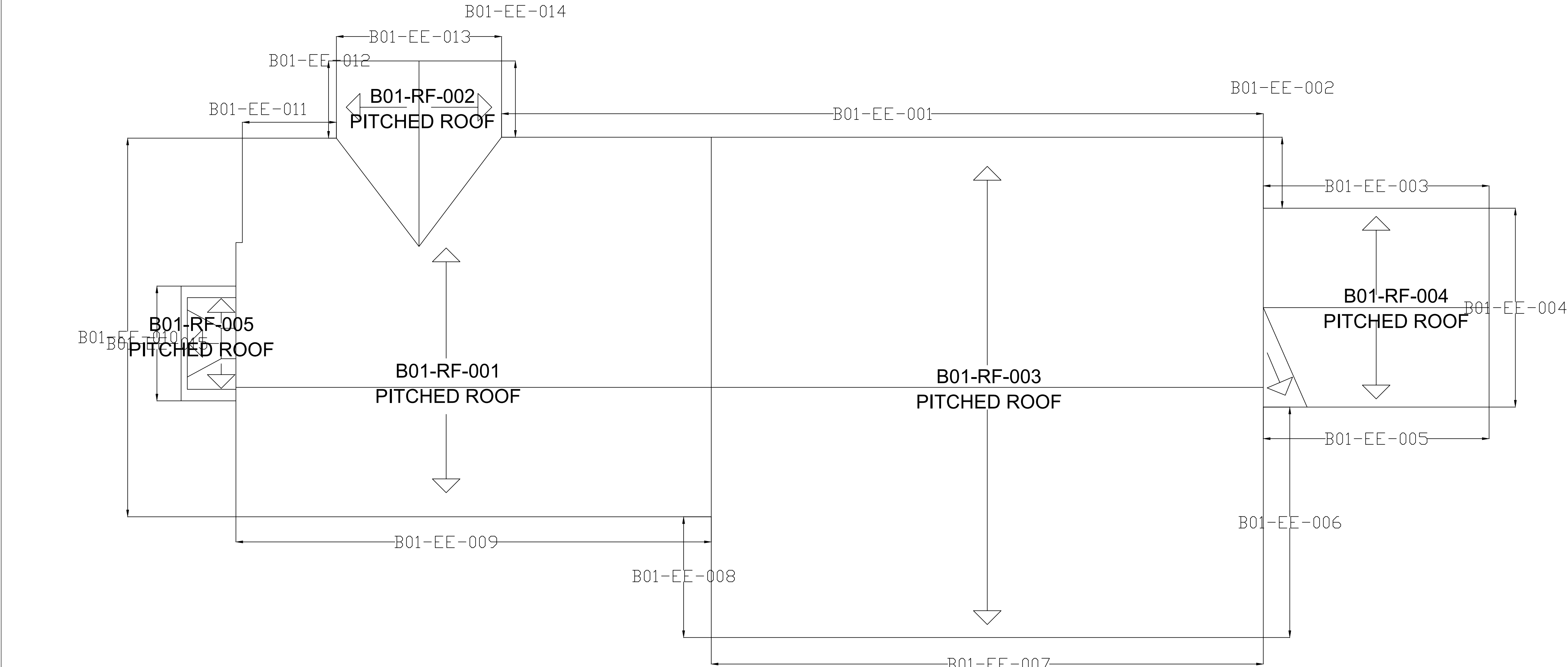
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MCC-B01-GF-DR-0010



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1:50
0 1m 2m 3m 4m 5m



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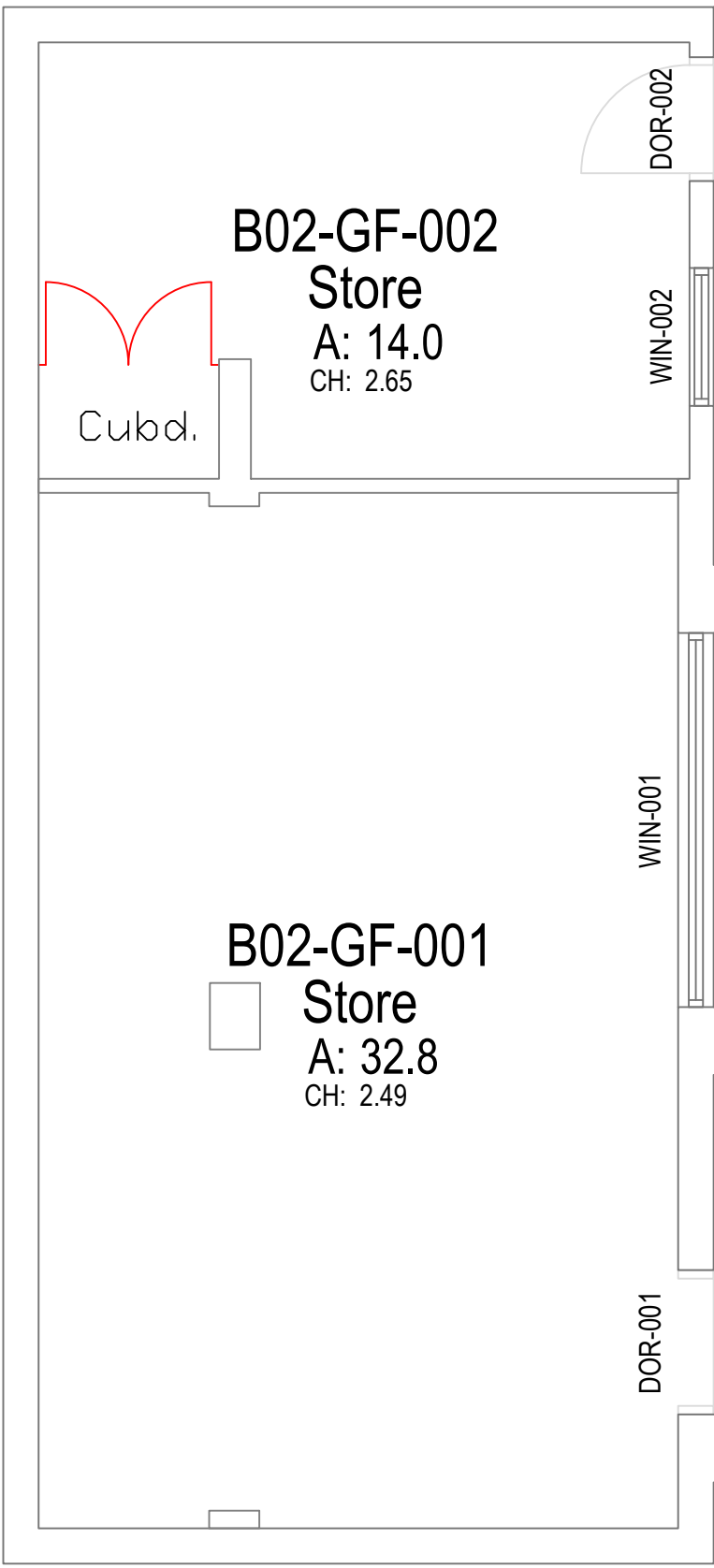
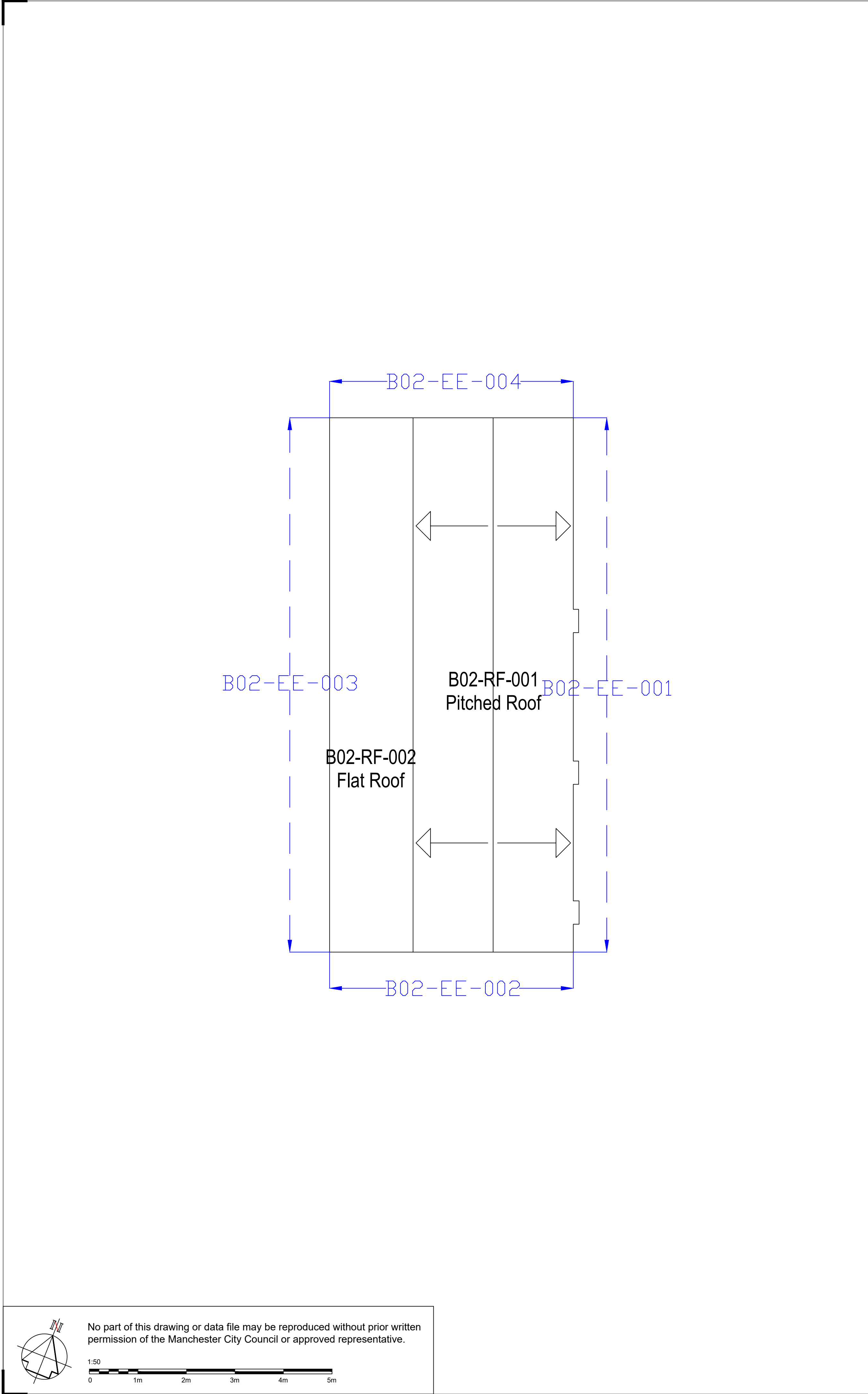
PROJECT TITLE
N/A

DRAWING TITLE
Roof Plan

JOB NO. xxx/xxxxx DATE 01/02/2021 REV

SCALE 1:50@A1 AUTHOR A Dent CHECKED BY J Brennan APPROVED BY

DRAWING NO. MCC-B01-RF-DR-A-0010

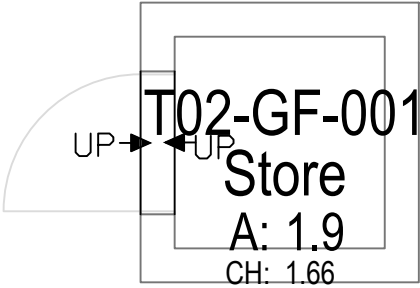


B02-WB-000
B02-GF-000

Main Building
B02
Ground Floor

Clayton Park
Outbuildings and Yard
010090665661
010090665661

Total site area:
Gross external area: 58.8
Gross internal area: 49.6
Total room area: 48.7
Net internal area: 48.7
Building footprint area: 58.8



T02-WB-000
T02-GF-000
Store
T02
Ground Floor

- NOTES
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Division**

Manchester City Council
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Manchester
M60 2LA

DRAWING STATUS Information

PROPERTY TITLE
Clayton Hall Outbuildings
Clayton Hall Road, Clayton
Manchester M11 4RU

UPRN 010090665661 DFE NO. 0000

PROJECT TITLE
N/A

DRAWING TITLE
Ground floor & roof plans

JOB NO. AMP/44943-1 DATE 14/01/2022 REV

SCALE 1:50@A1 AUTHOR A. Burns CHECKED BY J. Brennan APPROVED BY

DRAWING NO. CLH-MCC-B02-ZZ-DR-A-0010