

Brynkinalt Hall - Report on the fabric of the building and programme of repair.

September 2023

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BATH CONSERVATION ARCHITECTS

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1.0 INTRODUCTION

1.1 PRELIMINARY INFORMATION

Brynkinalt Hall is an important Grade-II* listed private property, built in 1612, near Chirk, Wrexham County Borough, Wales. Following the request from Iain Hill Trevor, we have carried out an inspection of The main house.

The Inspecting Architect was Harry Whittaker BA (Arch) Oxford, RIBA AABC. The main inspection was carried out through the summer of 2023. The weather was clear and dry.

A summary lists of recommendations are included in section 8.0 of the report

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1.2 LIMITATIONS OF SURVEY

This is a general report only which follows the standard laid down by the Inspection of Churches Measure 1955.
It does NOT form a detailed schedule or specification of repair work. The architect is willing to advise on repair, and help in preparing an application for a Listed Building Consent approval.

The inspection was visual, and the majority of the inspection of the exterior was undertaken from Ground Level. The roof covering was inspected from roof level where accessibility was possible.
Woodwork or other parts of the building which are covered, inaccessible or unexposed have not been inspected and it is therefore not possible to report that any such parts of the building are free from defects.

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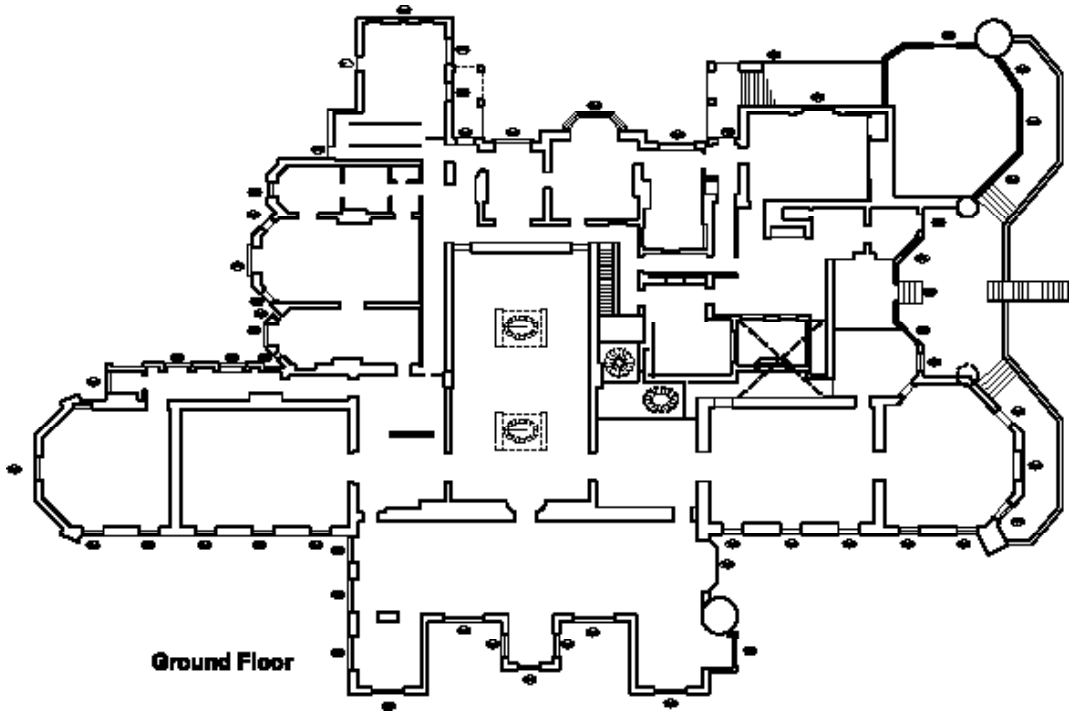






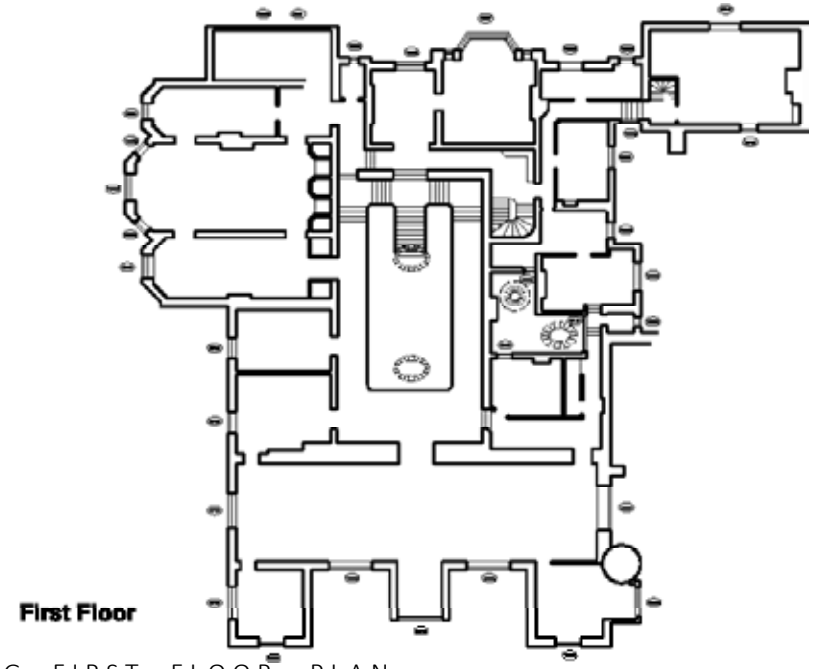




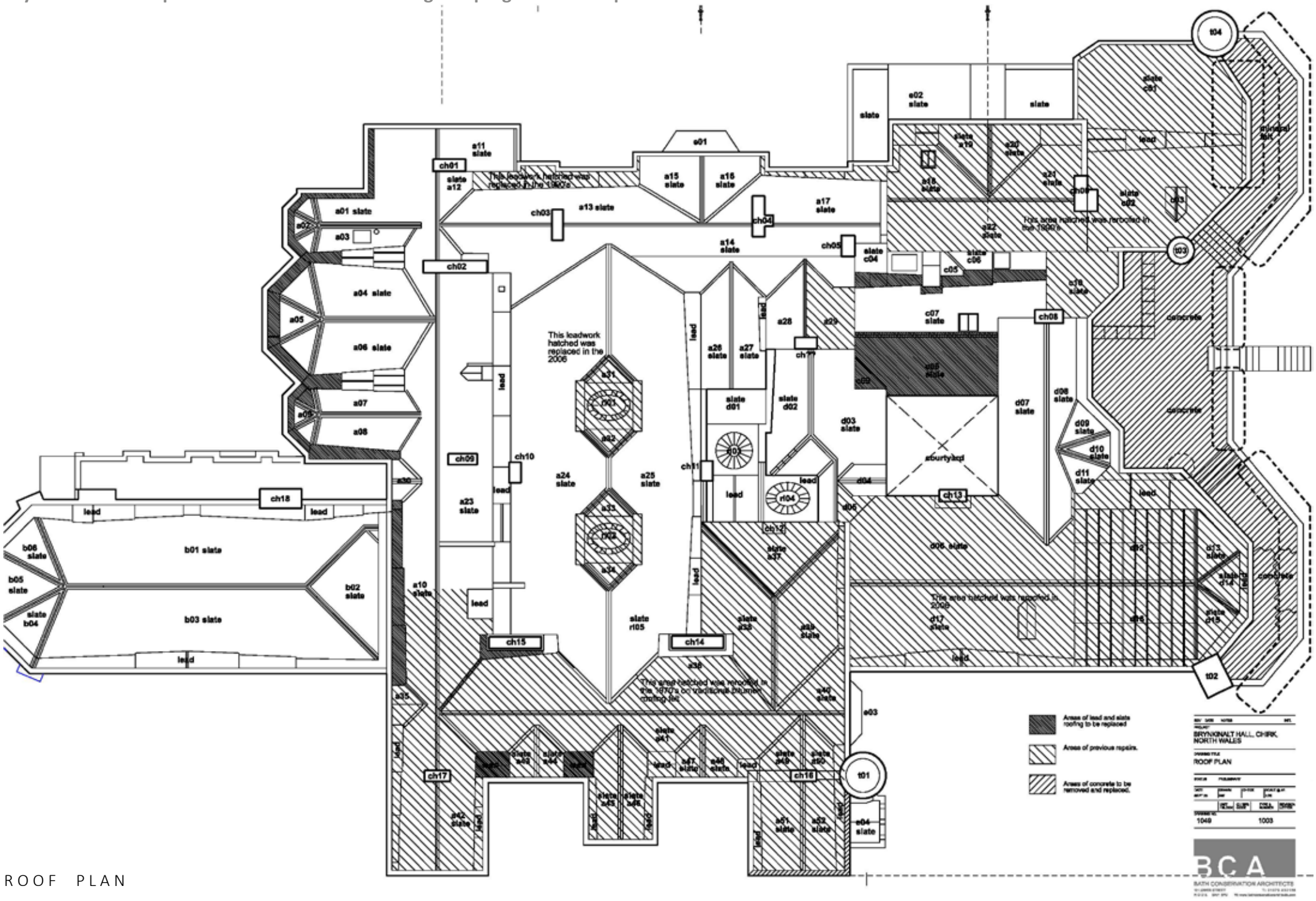


EXISTING GROUND FLOOR PLAN

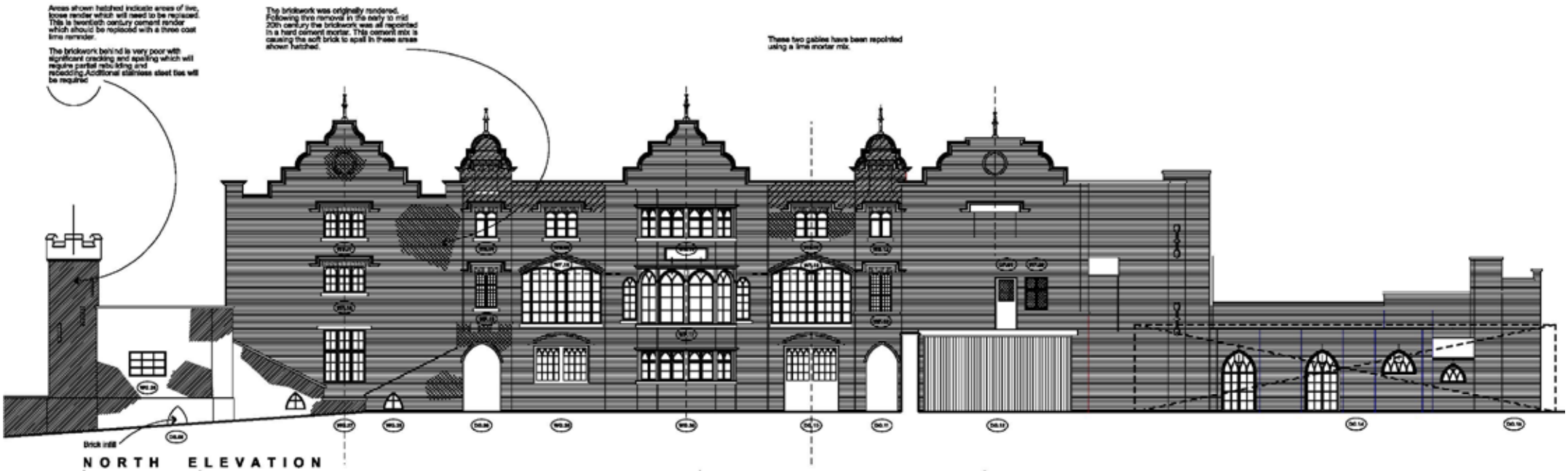
EXISTING SECOND FLOOR PLAN



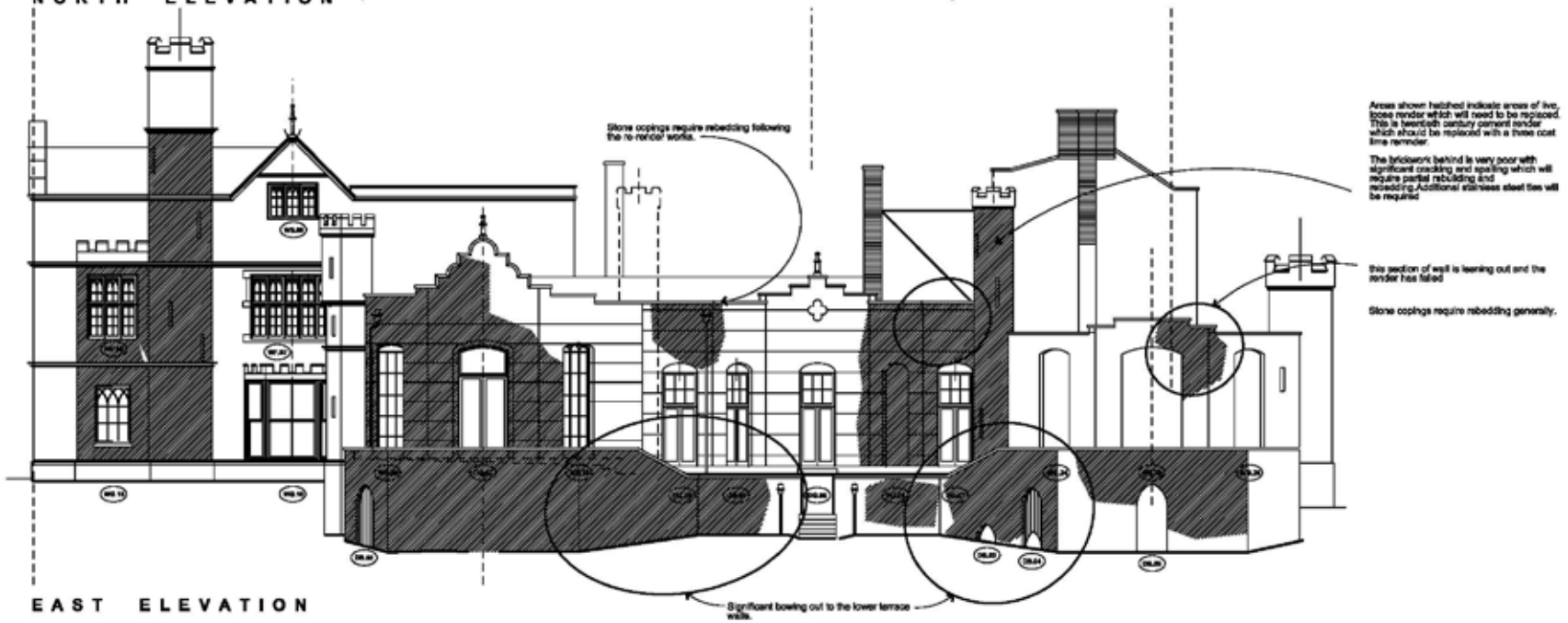
EXISTING FIRST FLOOR PLAN


This leadwork hatched was replaced in the 2006
This area hatched was renewed in the 1970's or 'reasonable number' coping tile
This area hatched was renewed in 2006
Areas of lead and slate roofing to be replaced
Areas of previous repairs.
Areas of concrete to be removed and replaced.
BRYNKINALT HALL, CHIRK, NORTH WALES
ROOF PLAN
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ROOF PLAN



NORTH ELEVATION



EAST ELEVATION

Areas of live, loose render which will need to be replaced.

Areas of spalling brickwork.

Areas of repointed brickwork using a soft lime mix.

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SCALE IN METRES @ 1:500

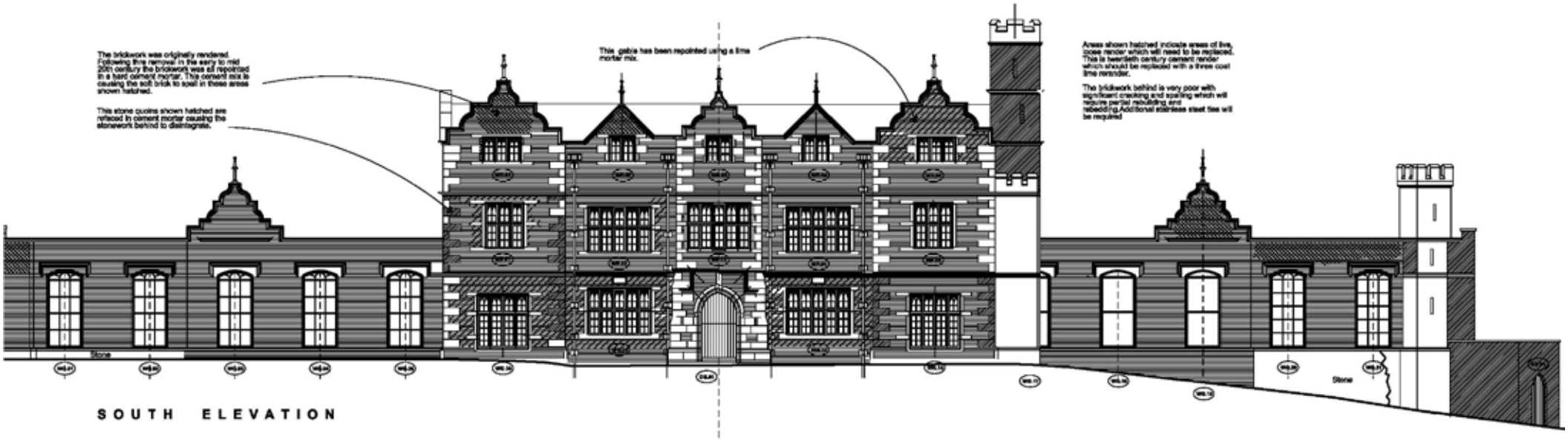
BRYNKINALT HALL, CHIRK, NORTH WALES

NORTH AND EAST ELEVATIONS

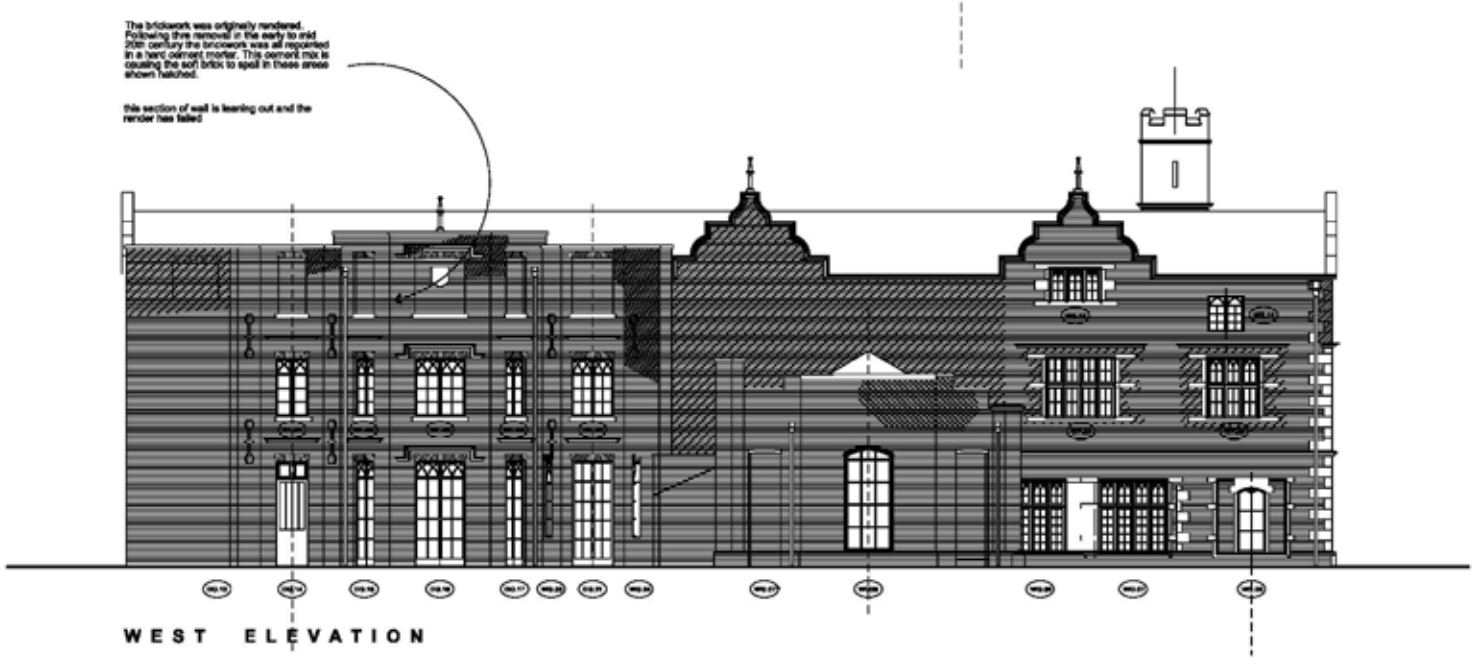
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SOUTH ELEVATION



WEST ELEVATION

Areas shown hatched indicate areas of live, loose render which will need to be replaced. This is twentieth century cement render which should be replaced with a three coat lime rennider.

The brickwork behind is very poor with significant cracking and spalling which will require partial rebuilding and rebedding.Additional stainless steel ties will be required

Areas of live, loose render which will need to be replaced.

Areas of spalling brickwork.

Areas of repointed brickwork using a soft lime mix.

0 5 10 20

SCALE IN METRES @ 1:500

BRYNKINALT HALL, CHIRK, NORTH WALES

SOUTH ELEVATION

PRELIMINARY

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2.0 DOORS

This section refers to the external doors only. The doors are of various materials, styles and dates. This section does not give a full account of the condition of each door and frame but remedial repair work will be required as those sections of the building are repaired.



DB01

Ledged and braced painted softwood door and frame now in a very poor condition. Allow for taking out the door and frame and replacing in a new door and frame to exactly match the existing. Carefully remove the existing ironmongery and reuse to rehang the replacement door.



DB02

Original gothic arched door opening now infilled and rendered over.



DB03

Remains of a gothic arched opening with all joinery now missing. Allow for the supply and installation of a new door and frame to detail.



DB04

Ledged and braced painted softwood studded door and frame now in a very poor condition. Allow for taking out the door and frame and replacing in a new door and frame to exactly match the existing. Carefully remove the existing ironmongery and reuse to rehang the replacement door.



DB05

Ledged and braced painted softwood studded door and frame now in a very poor condition. Allow for taking out the door and frame and replacing in a new door and frame to exactly match the existing. Carefully remove the existing ironmongery and reuse to rehang the replacement door.



DG01

Principal oak entrance door dating from the 1920's. No works proposed.



DG02

Glazed double doors and fanlight to the conservatory

The door has expanded and will require easing. A general problem with retained moisture behind the render.



DG03

Glazed double doors and fanlight to the conservatory



DG04

Glazed double doors and fanlight to the conservatory



DG05

Glazed double doors and fanlight.



DG06

Blank opening.



DG07

Glazed double doors and fanlight. Solid brickwork behind.



DG08

Blank opening.



DG09

Original eight panel partially glazed door to the Estate Office.



DG10

Glazed double doors.



DG11

Original part glazed door with a gothic fanlight above serving the back entry to the house



DG12

Modern sliding garage door.



DG13

Glazed double doors and fanlight. Solid brickwork behind.



DG14

Original glazed door and fanlight over.



DG15

Original glazed door and fanlight over.



DG16

Original glazed double doors and fanlight over.



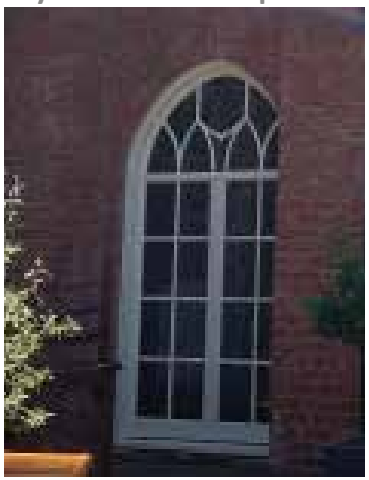
DG17

Original glazed door and fanlight over.



DG18

Original glazed double doors.



DG19

Original gothic headed glazed double doors and fanlight over.



DG20

Original gothic headed glazed double doors and fanlight over.



DF01

Modern glazed door and frame.

3.0 WINDOWS

This section refers to the principal windows only. Smaller roof level windows and access dormers are concealed behind the various roof slopes. The principal windows are of various materials, styles and dates. These range from iron casements set directly into stone, late georgian sash windows with rebated sash boxes to simple timber and iron casements.

This section does not give a full account of the condition of each window but remedial repair work will be required as those sections of the building are repaired.



WG01

Six over six pane double hung vertical sliding sash with a Gothic fanlight above.



WG02

Six over six pane double hung vertical sliding sash with a Gothic fanlight above.



WG03

Six over six pane double hung vertical sliding sash with a Gothic fanlight above.



WG04

Six over six pane double hung vertical sliding sash with a Gothic fanlight above.



WG05

Six over six pane double hung vertical sliding sash with a Gothic fanlight above.



WG06

17th century stone window surround with stone mullions and transom. Two fixed casements and a central opening casement beneath three panels of decorative stained glass set in lead cane



WG07

17th century stone window surround with stone mullions and transom. Four fixed casements and a central opening casement beneath three panels of decorative stained glass set in lead cane



WG08

19th century timber casement set in an adapted opening



WG09

Original 17th century stone window with modern replacement stone surround, mullions and transom. Three fixed casements and a single opening casement beneath four panels of fixed casements with gothic heads. No works required.



WG10

Original 17th century stone window with 1920's replacement stone surround, mullions and transom. Three fixed casements and two opening casements beneath five panels of fixed casements with gothic heads. No works required.



WG11

Original 17th century stone window with 1920's replacement stone surround, mullions and transom. Two fixed casements and a central opening casement beneath three panels of fixed casements with gothic heads. No works required.



WG12

Original 17th century stone window with 1920's replacement stone surround, mullions and transom. Two fixed casements and a central opening casement beneath three panels of fixed casements with gothic heads. No works required.



WG13

Original 17th century stone window with 1920's replacement stone surround, mullions and transom. Three fixed casements and two opening casements beneath five panels of fixed casements with gothic heads. No works required.



WG14

Original 17th century stone window with 1920's replacement stone surround, mullions and transom. Three fixed casements and one opening casements beneath five panels of decorative stained glass set in lead cane.

No works required.



WG15

Timber fixed casement window with a decorative gothic head.



WG16

Projecting bay window of three nineteenth century double hung vertical sliding sash windows. The front a two over two pane sash and all with gothic heads to the glazing bars. The timber supports a stone and render parapet which is showing signs of deterioration and movement. Allow for dismantling the stonework to allow for joinery repairs to the roof over and the head of the window.



WG17

One over one pane double hung vertical sliding sash with a simple fanlight above.



WG18

One over one pane double hung vertical sliding sash with a simple fanlight above.



WG19

One over one pane double hung vertical sliding sash with a simple fanlight above.



WG20

Fixed timber casement to the conservatory of fifteen rectangular panes and gothic headed panes above



WG21

Fixed timber casement to the conservatory of fifteen rectangular panes and gothic headed panes above



WG22

Fixed timber casement to the conservatory of fifteen rectangular panes and gothic headed panes above



WG23

Fixed timber casement to the conservatory of fifteen rectangular panes and gothic headed panes above



WG24

Blank opening.



WG25

Blank opening.



WG26

Reused nine pane casement now set horizontally.



WG27

19th century timber casement window with five fixed lights and a central opening casement,



WG28

Gothic arched fixed timber casement window.



WG29

Gothic headed casement with two fixed lights and two opening casements beneath gothic headed glazing



WG30

Bay window with four simple casement window set in a stone [now rendered] surround. Each has a fixed light and opening casement beneath two panels of gothic headed glazing.



WG31

Timber casement window with glass set in a diamond pattern in lead cane.



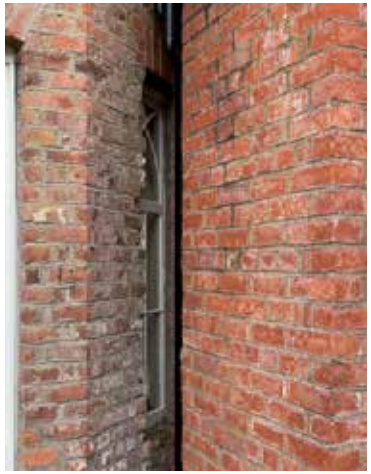
WG32

Timber casement window of five panels with glass set in a diamond pattern in lead cane.



WG33

Small casement window with gothic head.



WG34

Small casement window with gothic head.



WG35

See DG19



WG36

See DG20



WG37

Gothic arched timber casement window.



WG38

Gothic arched timber casement window.



WG39

Timber casement window with two mullions and a single horizontal transom with a central, timber casement.



WG40

Timber casement window with a central mullion and a single horizontal transom with a single, timber casement.



WG41

Timber casement window with two mullions and a single horizontal transom with a central iron casement.



WF01

Original 17th century stone window with modern replacement stone surround, mullions and transom. Two fixed lights and a single opening casement beneath three panels of fixed lights with gothic heads. No works required.



WF02

Original 17th century stone window with modern replacement stone surround, mullions and transom. Three fixed lights and two opening casements beneath five panels of fixed lights with gothic heads. No works required.



WF03

Original 17th century stone window with 1920's replacement stone surround, mullions and transom. Three fixed casements and two opening casements beneath five panels of fixed casements with gothic heads. No works required.



WF04

Original 17th century stone window with a stone surround, mullions and transom. Three fixed casements and two opening casements beneath five panels of fixed casements with gothic heads.

The stonework has been patch repaired in render causing further decay to the stone beneath. Allow for cutting in new replacement stone and rehanging the individual casements.



WF05

Original 17th century stone window with a stone surround, mullions and transom. Two fixed casements and a central opening casement beneath three panels of fixed casements with gothic heads.

The stonework has been patch repaired in render causing further decay to the stone beneath. Allow for cutting in new replacement stone and rehanging the individual casements.



WF06

Possibly repositioned original 17th century stone window with a stone surround, mullions and transom. Two fixed casements and a central opening casement beneath three panels of fixed casements with gothic heads.

The stonework has been patch repaired in render causing further decay to the stone beneath. Allow for cutting in new replacement stone and rehanging the individual casements.



WF07

Original 17th century stone window with 20th century replacement stone surround, mullions and transom. Three fixed casements and two opening casements beneath five panels of fixed casements with gothic heads. No works required.



WF08

Modern single pane casement window



WF09

Three light timber casement window.



WF10

Two light timber casement window.



WF11

Two light timber casement window.



WF12

Twentieth century Crittal type steel casement window



WF13

Two light timber casement window.



WF14

Timber casement window with arched heads to each casement.



WF15

Timber casement window with arched heads to each casement. Rectangular panes of glass set in lead cane.



WF16

Fixed light window of two interlocking arched panels with timber mullions and bar divided glazing.

Timber casement window with arched heads to each casement.



WF17

Bay window with four simple casement windows set in a stone surround. The two side windows each have a fixed light and opening casements to the two central windows. All set beneath arched panels of gothic headed glazing.



WF18

Fixed light window of two interlocking arched panels with timber mullions and bar divided glazing.

Timber casement window with arched heads to each casement.



WF19

Timber casement window with arched heads to each casement. Rectangular panes of glass set in lead cane.



WF20

20th century timber casement window. Rectangular panes of glass set in lead cane.



WF21

Timber double opening casement window with gothic head,



WF22

Timber double opening casement window with gothic head,



WF23

Timber double opening casement window with gothic head,



WF24

Timber double opening casement window with gothic head,



WF25

Timber double opening casement window with gothic head,

WF26

This window was inaccessible at the time of the report.

NO PHOTO AVAILABLE

WF27

This window was inaccessible at the time of the report.

NO PHOTO AVAILABLE



WF28

Original 17th century stone window with modern replacement stone surround, mullions and transom. Two fixed bronze lights and two opening casements beneath four panels of fixed lights with gothic heads. No works required.



WF29

Original 17th century stone window with modern replacement stone surround, mullions and transom. Three fixed bronze lights and two opening casements beneath five panels of fixed lights with gothic heads. No works required.



WF30

Horizontal clerestory band of glazing with two opening casements



WF31

Double hung vertical sliding sash window.



WF32

Timber casement window.



WS01

Original 17th century stone window with a stone surround and mullions. Two fixed casements and a central opening casement, all with gothic heads.

The stonework has been patch repaired in render causing further decay to the stone beneath. Allow for cutting in new replacement stone and rehanging the individual casements.



WS02

Original 17th century stone window with a stone surround and central mullion. One fixed casement and one opening casement , both with gothic heads.

The stonework has been patch repaired in render causing further decay to the stone beneath. Allow for cutting in new replacement stone and rehanging the individual casements.



WS03

Original 17th century stone window with a stone surround and central mullion. One fixed casement and one opening casement , both with gothic heads.

The stonework has been patch repaired in render causing further decay to the stone beneath. Allow for cutting in new replacement stone and rehanging the individual casements.



WS04

Original 17th century stone window with a stone surround, mullions and transom. One fixed casement and one opening casement , both with gothic heads.

The stonework has been patch repaired in render causing further decay to the stone beneath. Allow for cutting in new replacement stone and rehanging the individual casements.



WS05

Original 17th century stone window with modern replacement stone surround, mullions and transom. Two fixed lights and one opening casement, all with gothic heads. No works required.



WS06

Original 17th century stone window with a stone surround and mullions. Two fixed timber casements and one opening casement , all with gothic heads.

The stonework has been patch repaired in render causing further decay to the stone beneath. Both mullions have surface damage. Allow for cutting in new replacement stone and rehanging the individual casements.



WS07

Six over six pane double hung vertical sliding sash window.



WS08

Three over three pane double hung vertical sliding sash window.



WS09

Fixed casement window.



WS10

Modern double opening casement window



WS11

Modern double opening casement window



WS12

Timber casement window with arched heads to each casement.



WS13

Timber casement window with arched heads to each casement.



WS14

Timber casement window with arched heads to each casement.



WS15

Bay window with four simple casement window set in a stone surround. The two side windows each have a fixed light and opening casements to the two central windows. All set beneath arched panels of gothic headed glazing.



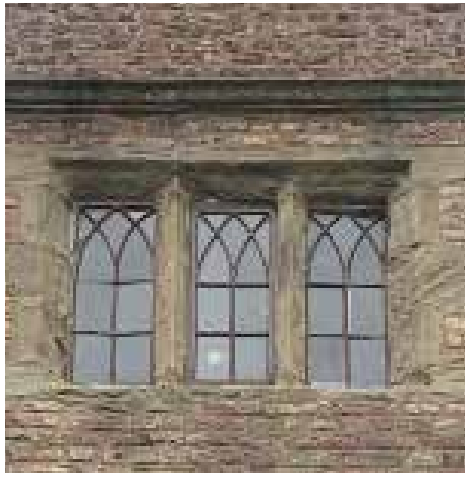
WS16

Timber casement window with arched heads to each casement.



WS17

Timber casement window with arched heads to each casement.



WS18

Original 17th century stone window with stone surround and mullions. Two fixed lights and one opening casement.

The stone is weathered with open joints.



WS19

Nineteenth century blank window with the glazing bars painted onto a render panel.



WS20

Modern Crittall style steel framed casement window.



WS21

Modern single panel side hung casement window.

4.0 STONEWORK

The house is built almost entirely of brick, although the quality of the brickwork varies from the differing phases of its construction. The principal 17th century front is an early use of brickwork in the area and was always meant to be exposed. Local sandstone was used as dressings arround the door and window surrounds together with the continuous string course at each floor level. The quoins to each projecting wing and the decorative high-level Gable copings are also all in stone. Some sections of the stone string courses, drip moulds and cornices have been fitted with lead weathering. This will prolong the lifespan of the stonework and should be included elsewhere.

This brickwork was over rendered in the early 19th century to tie the masonry in with the new work of that period. This was subsequently removed in the 1920s and sometime later was re-pointed in a hard cement based mortar.

It is this hard based cement mortar that has caused significant problems with the brick and stonework.

As the early 19th century wings were always meant to be rendered they are built of a mixture of materials and methods of bonding.

The brickwork is a soft orangey red brick which has been affected with a frost attack, made considerably worse with the use of 20th century cement base mortar.

Taking the masonry on an elevation by elevation.

South elevation.

West Wing. This is part of the early 19 century expansion of the building. The jointing in the brickwork and use of different materials for the plinth clearly indicates that this was intended to be over rendered. The modern mortar is causing the brickwork to spall in places, most notably at high level to the far western end of this wing.

East wing

There are similar issues with spalling brickwork at high level, which will need to be addressed by the use of localised lime based pointing. The decorative, castellated tower was partially rendered in the 1990s, but there are areas of loose and friable render at parapet level . The hard, cement based render quickly deteriorates as we turn into the east elevation, described later below. The area of the stonework to the plinth below window WG 21 shows signs of structural movement with which will need to be monitored to determine whether this is historical or continually ongoing.

Central section.

This part of the building forms the principal entrance facade to the 17th century building. There have been a series of stonework and brickwork repairs going back to the early part of the last century. More recent masonry repairs have been carried out at high level above window. WSO5, around windows, WG10, WG13, WG09, WF01 and WF02. This repointing and stonework repair work is an ongoing process with spalling brickwork noticeable above windows, WSO1 and WSO2. The stone quoins to the external corners of the side wings have been repaired in cement mortar which has caused the stonework behind to deteriorate further. This level of deterioration means that new stonework will need to be cut in to replace the damaged sections

The deterioration of the stone and brickwork to the south elevation is an ongoing process, but the rate of its deterioration is limited making the repair work here less of a prime importance as more urgent repairs elsewhere.

West elevation.

The southernmost section of this elevation is part of the original 17th century building. Recent repair work has been carried out using a soft lime mortar and new stone dressings to windows. WF 28 and WF 29. The brickwork above the West Wing has again been repointed using the correct materials. Further repair work to this section of the building is therefore limited and we focus on the replacement of the stone quoins and high-level rebuilding of coping stones, both of which are low priority at this point.

The remaining northern section of this elevation is part of the early 19th century expansion of the building and was built in a picturesque late Georgian Gothic style with decorative arrows slits to the three projecting bays, stone hood mouldings and copings etc. With the original lime render removed the sharp detail around the features is mostly lost. However the brickwork is in reasonable condition with some signs of high-level spalling to the brickwork. This will need to be re-pointed as part of the high-level roof repair works in this area.

North elevation.

This elevation forms the principle, symmetrical north front of the early 19 century phase of the building. As as elsewhere, the early 19th century lime render was removed in the 20th century and the brickwork pointed using a cement based mortar. Recent repairs to the two narrow, decorative gables with blank window openings have been carried out using a lime based mortar and are a successful scheme of repairs. Elsewhere, the brickwork is spalling and further areas of lime mortar repairs will be necessary. These areas are most concentrated the higher levels and to the crenellated parapet over the entrance to the estate office (DG09).

The east end of this elevation, like the majority of the east elevation was re-rendered in the mid 20th century using a cement-based render system. This has caused significant problems and the majority of the render is now loose having broken away from the brickwork behind. This includes the corner turret and low-level boundary wall around the eastern terrace. This is described further below.

East elevation.

This elevation can divided into the remaining part of the original 17th century building to the south, the early 19 century additions to this (Tower and projecting bay windows), the principal, now asymmetrical east elevation and the boundary walls around the eastern terrace.

Taking the early 19 century alterations to the 17th century building first here, the render to the tower and bay is in a poor condition. The render has broken away from its substrate and will need to be replaced. The repair work around window WF06 will need to include replacement stonework to the surround, mullions and transom. The crenellated parapet above will also require a closer inspection and some remedial work. Window WG16, including the stone capping and lead roof, is set for a total refurbishment and partial rebuilding. The tower between the two together with the surrounding masonry will need the render removing, localised structural repair and rerendering in lime

The principal, Eastern front made up of two projecting bays, one of which retains its original decorative gable. One surviving tower together with a lower more squat tower to the junction with the north elevation. Here the majority of the render has failed with this 20th century, cement-based render, having lost its bond to the brick substrate. It is clear that the render has taken the surface of the brickwork with it which will require significant brickwork repairs to the underlying substrate before a new lime render system can be introduced.

In addition to this Damage to the brickwork, there are two significant areas of movement where the brickwork has lent forward. This is to the south side of the tower above door number DG07 together with an area of masonry above the blank openings to the northernmost Bay. A program of repairs will be required which will involve the removal of the render, the repair and stabilisation of the brickwork beneath. The introduction of horizontal stainless steel tile ties and the reapplication of a new line-based render system. Well Repairs will be required which will involve the removal of the render, the repair and stabilisation of the brickwork beneath. The introduction of horizontal stainless steel ties and the reapplication off a new line-based render system. While this work is carried out all of the parapet copings will need to be lifted and re-bedded as part of the masonry repair works.

The low-level terrace walls form the outer boundary wall to the basement vaults and follows the pattern of projecting base of the building above. The lack of adequate drainage from the now concrete terrace above has caused significant issues with water retention and frost attack which is left the cement-based render in of a very poor condition. The Concrete slabs will need to be carefully lifted and replaced with stone paving. The drainage will also need replacement.

As above the render to these low terrace walls will need to be entirely removed and replaced following repair work to the brickwork beneath and stabilisation of the two areas which are showing significant horizontal movement

High level concealed masonry. The cappings to the four towers/ turrets may all suffer in some part from the expansion of hidden iron clamps. Once scaffold access gives the opportunity for a closer inspection the extent of repair can be determined. An allowance should be made for remedial works to the stonework. The decorative gable masonry is unsupported by a roof behind and should be looked at closely when the render replacement works are actioned.







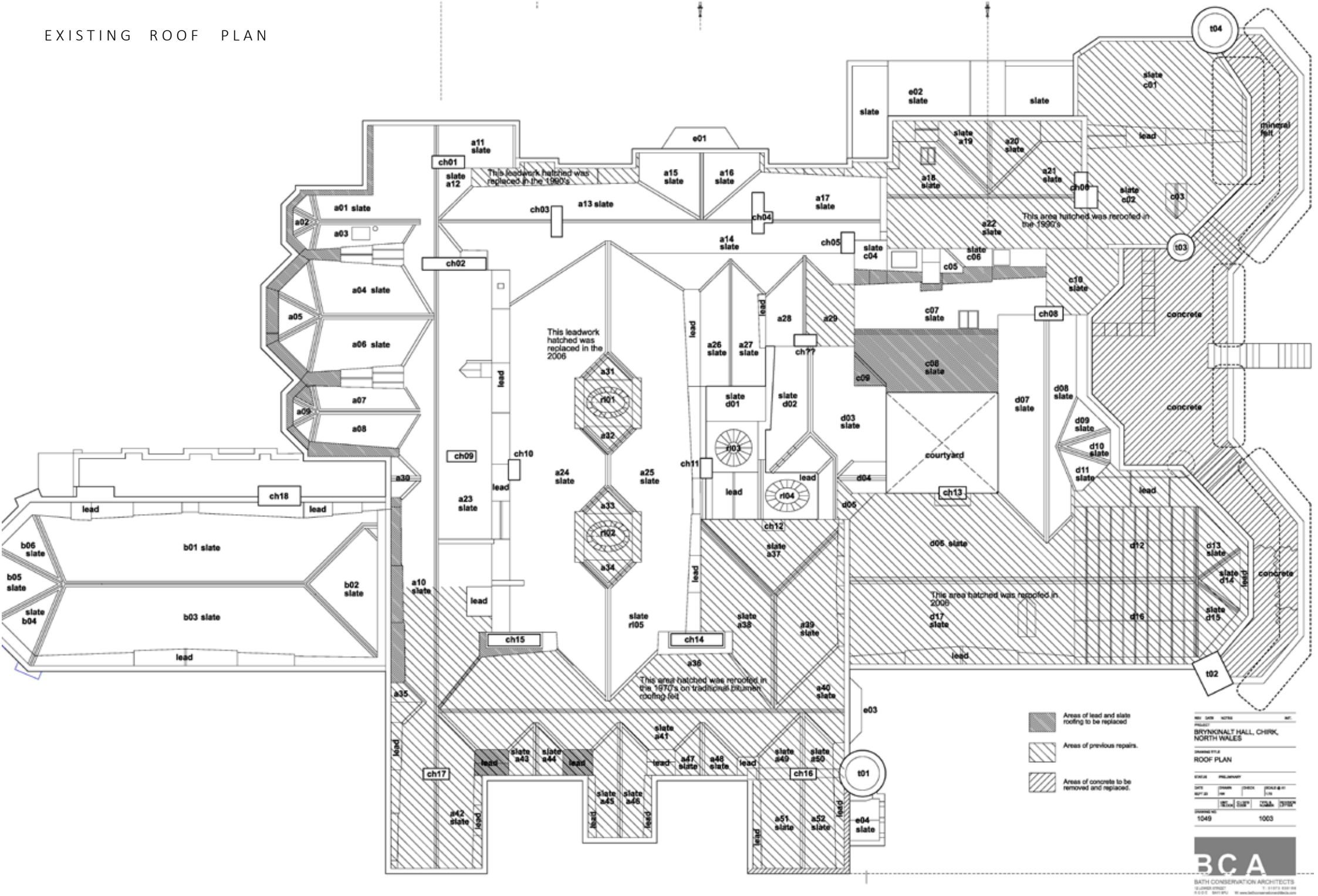








EXISTING ROOF PLAN



4.0 ROOF

General comments –

Each roof has been numbered to give a clear understanding of the repair work required and sequencing of this work. Generally all roofs are laid in natural Welsh slate with lead, tapered valley gutters to the perimeter parapets and between individual roof slopes. Where previous work has been carried out, this has been recorded below the repair work to the central section over the original house was carried out in the 1970s and although not requiring eminent attention it appears that the lead work was not replaced at the same time and will require renewal in the medium to long-term. Generally where lead work is to be replaced then it can be assumed that the adjacent coping stones will need to be lifted and re-bedded at the same time.

Close inspection of the roof coverings to the four towers was not available at the time of the survey.

Description of the condition of the principal chimneys is included in section 6.0

The two high-level roof lanterns and two low-level lanterns are described in section 7.0

HIGH LEVEL ROOFING

Priority - A - immediate work required. B - Mid term repairs. C - Long term repairs

No'	Priority	Notes
A.01	A	Strip the slates, battens and felt. Lift the tapered lead valley gutters, lead hips and ridges. Inspect the supporting timber linings to the gutters and repair/ replace damaged timber as necessary.
A.02	A	
A.03	A	
A.04	A	All as A.01 to A.03 above
A.05	A	
A.06	A	
A.07	A	All as A.01 to A.03 above.
A.08	A	
A.09	A	
A.10	A	The tapered lead valley will need to be replaced for its full length which together with the reroofing to roof slope to A.35 indicates that this roof will need to be stripped and re-laid.
A.11	-	The adjacent lead tapered box gutter was relaid in the 1990's
A.12	-	
A.13	-	
A.15	-	
A.16	-	The adjacent lead tapered box gutter was relaid in the 1990's
A.17	-	
A.18	-	These roofs were all relaid in the 1990's
A.19	-	
A.20	-	
A.21	-	
A.22	-	
A.23	B	This unusually steep pitch will require reslating.
A.24	C	Generally sound but will need reslating in the long term future
A.25	C	
A.26	C	
A.27	C	
A.28	C	
A.29	-	This roof was relaid in the 1990's
A.31	A	The lead roofing around the principal high level lanterns repaired
A.32	A	in the last 20 years. Slight leak to each lantern which both require
A.33	A	attention.
A.34	A	

A.36 - The following cover the original house and were all re-slated in the
A.37 - 1970' on traditional bitumen based sarking felt. Two lead box gutters
A.38 - have now failed and we can assume that the lead was not replaced
A.39 - at the time. The leaks to the two sections should be repaired in the
A.40 - short term with an expectation that the remaining lead will need
A.41 - repaired in the long term
A.42 C
A.43 A
A.44 A
A.45 C
A.46 C
A.47 C
A.48 C
A.49 -
A.50 -
A.51 -
A.52 -

LOW LEVEL ROOFING

B.01 C This area covers the west kitchen wing. The roof is generally sound
B.02 C but will require attention in the longer term.
B.03 C
B.04 C
B.05 C
B.06 C

C.01 - These roofs were re-slated in the 1990's. A recent leak to the valley
was due to a blocked outlet
C.02 -
C.03 -

C.04 A The central tapered lead valley is leaking and needs to be replaced.
It would be advisable to re-slate these roof slopes at the same time.
C.05 A
C.06 A
C.07 A

C.08 A Strip the slates, battens and felt and re-roof using the salvaged slates.
C.09 A
C.10 D

D.01 C This complex set of roof slopes around the two low level roof lantern
D.02 C has never been reroofed and will require reroofing in the future.
D.03 C
D.04 C

D.05 - These roofs were re-slated in 2006
D.06 -

D.07 C
D.08 A The leadwork is poor with signs of previous repairs, slipped sections
D.09 A etc. As the coping stones to the East elevation will need to be lifted
D.10 A and replaced at the same time.
D.11 A

D.12 - These roofs were re-slated in 2006
D.13 -
D.14 -
D.15 -
D.16 -
D.17 -

E.01 - Central bay window to the north elevation. Condition unknown

E.02 C Pair of lean-to roofs over the access to the basement. Neither has
sarking felt and must date from the nineteenth century. These
will require reroofing in the medium term.

E.03	A	Bay window to the southern end of the east elevation. This will require repair as part of the overall repair to the bay window structure.
E.04	A	Two storey bay window to the southern end of the east elevation. This will require a closer inspection as part of the overall repair to the bay window render and stonework.

6.0 CHIMNEYS

Of the original eighteen chimneys marked on the original layout drawings, only sixteen now survive. These all date from the 19th century and a number of these have subsequently been rebuilt in more recent times..

Like the brickwork elsewhere, the chimneys have suffered from 20th century, cement-based cement pointing. This is causing the brickwork to spall and will eventually cause the brickwork to fail if left indefinitely. The most rational approach to take is to tackle individual chimneys as the surrounding areas are roofing are to be re-slated.

The large chimneys over the original 17th century building have stone heads to the brick chimneys, which corbel out and are finished with decorative crenellations. The stonework has generally been built with concealed iron cramps. Where water is able to penetrate the stonework, the iron will tend to rust and expand. This causes this running stonework to shut up and the bed joints to open up. This is most notable to Chimney number 17, but it is something we should be aware of with the remaining chimney is built to this design.

Chimney 01

Original chimney position since demolished and roofed over.



Chimney 03

Some very minor spalling to the brickwork but generally sound.

Stainless steel safety wire has been fixed between this chimney and CH.04



Chimney 02

The chimney is of three phases with vertical joints between. This has been subsequently tied together at the head when this section has been rebuilt. The upper half of the chimney has been repointed. There is some spalling below ridge level which should be repointed with when this steep section of roof is re-slated.

Four modern terracotta pots in good order.

The copper lightning conductor will need a service to check is all the connections and fittings are still functioning This is loosely draped across the adjacent roof.



Chimney 04

The chimney has been rebuilt at some time using a modern, smooth faced semi engineering brick. There is some minor spalling to the brickwork but generally sound.

Stainless steel safety wire has been fixed between this chimney and CH.04

The copper lightning conductor will need a service to check is all the connections and fittings are still functioning This is loosely draped across the adjacent roof.



Chimney 05

The brickwork has some slight spalling to the brickwork at low level but otherwise generally sound.



Chimney 06

The brickwork has some very slight spalling to the brickwork but otherwise generally sound.

Single modern stainless steel flue outlet.

Chimney 07

Original chimney position since demolished and roofed over.



Chimney 08

Tall chimney held in place with two iron ties is generally sound. There is some slight spalling to the brickwork and the ironwork should be checked closely for signs of corrosion.



Chimney 09

The upper half of the chimney has been repointed. There is some minor spalling below ridge level and at lease one loose section of lead cover flashing which should be dealt with when this steep section of roof is re-slated.

When the sky dish becomes redundant this should be removed



Chimney 10

This tall chimney has been rebuilt with modern semi engineering brickwork to the bottom two thirds and salvaged brick above. There is some slight spalling to the older brickwork but otherwise generally sound. There is no iron tie to hold this in place.

Modern terracotta pot in good order.



Chimney 11

This tall chimney has some slight spalling to the brickwork but otherwise generally sound. An iron tie holds this in place and is connected to the adjacent roof.

Modern terracotta pot in good order.



Chimney 12

This last tall chimney is generally sound. An iron tie holds this in place and is connected to the adjacent roof.



Chimney 13

Tall chimney held in place with a single iron tie is generally sound. The reverse face supports a cast iron soil vent pipe. There is some slight spalling to the brickwork and the ironwork should be checked closely for signs of corrosion.



Chimney 14

The brickwork and lead flashings are in good order. We suspect that the crenellated stone head has been built with iron cramps but there is no significant signs of expansion and damage to the stonework

Four modern terracotta pots in good order.

The copper lightning conductor will need a service to check is all the connections and fittings are still functioning This is loosely draped across the adjacent roof.



Chimney 15

The brickwork and lead flashings are in good order. We suspect that the crenellated stone head has been built with iron cramps but there is no significant signs of expansion and damage to the stonework. Some surface deterioration which will allow water to penetrate the stonework. Four modern terracotta pots in good order.



Chimney 16

The brickwork and lead flashings are in good order. We suspect that the crenellated stone head has been built with iron cramps but there is no sign of expansion and damage to the stonework



Chimney 17

The brickwork and lead flashings are in good order. The crenellated stone head has been built with iron cramps which have rusted and expanded causing the stone to break and the joints to open up.

When the surrounding roof is re-slated the stone cap should be lifted and rebedded using stainless steel clamps. The damaged sections of stone will need to be replaced with matching sandstone.



Chimney 18

Tall chimney without any supporting iron ties. The brickwork is generally sound with some slight spalling to the brickwork. Loose brickworks where a terracotta pot could be expected.

7.0 ROOF LANTERNS

Iron roof lanterns

The two high level roof lanterns (RL01, one and 02) were repaired around 2005.

This involved a replacement of the oak ring beam at the base and the refitting of each individual hand, cast-iron glazing bar, new lead work etc. The two low-level lanterns, one electrical and the other circular are too much simpler design and have not been repaired in recent history.

These are particularly fragile type of glazing which need to be monitored to look for any possible water ingress and rusting to the individual components.



RL.01

One of two complex roof lanterns with solid cappings supporting internal chandeliers. The cap is clad in new lead and supports the principal lighting to the main hall below.

Repaired in 2005 the flat lead side sections have suffered from impact damage which will need to be replaced. Also water is running back into the cap along the line of the original iron gas pipe. It is proposed that an additional collar and drip in lead is added here.





RL.02

See RL.01 above



RL.03

Low level elliptical roof lantern. The condition generally fair but we can expect some decay to the supporting timber ring beam which may require repair/ replacement when the surrounding roof is replaced.







RL.04

As RL.03 above



Above and left; roof access dormers and windows which will all need attention when the adjacent roof slopes are replaced.

Phase **Description of works**

Initial programme of roofing works.

Priority A. Short term repairwork

1 **Roof slopes A.01, A.02, A.03, A.04, A.05, A.06, A.07, A.08 and A.10.**

Provide access scaffolding to parapet level to allow for the stripping of all slates, battens and any existing felt from the roof slopes Set aside the slates, stone and blue/black interlocking ridge tiles for reuse. Allow for any necessary repairs to the lead roof access hatch. Reslate with new tanalised softwood battens and breathable felt using copper nails.

Carefully lift the existing coping stones and rebed on a new lead dpc.

Cut out and repoint the areas of spalled brickwork within access of the scaffold.

Replace the tapered lead valley gutters in Code 6 lead. Allow for any necessary repairs to the softwood boarding beneath.

Replace the render to the rear of the decorative gable roofs A.30 and A.35

3 **Roof slopes C.04, C.05, C.06, C.07, C.08 and C.09.**

Provide access scaffolding within the small inner courtyard to allow for the stripping of all slates, battens and any existing felt from the roof slopes Set aside the terracotta ridge tiles for reuse.

Replace the tapered lead valley gutters in Code 6 lead. Allow for any necessary repairs to the softwood boarding beneath.

Cut in new lead soakers and cover flashings into the existing cement render..

Repair all rainwater goods to include replacing the plastic sections and reinstating all damaged and missing sections of gutter in cast iron

4 **Roof slopes D.08, D.09, D.10 and D.11.**

Provide access scaffolding to parapet level [in connection with the render repair works to the east elevation] to allow for the stripping of all slates, battens and any existing felt from the roof slopes. Set aside the slates and terracotta ridge tiles for reuse.

Replace the tapered lead valley gutter in Code 6 lead. Allow for any necessary repairs to the softwood boarding beneath.

Reslate and rebed the copings as above following the render repairs.

5 Carry out remedial repair works to the two roof lanterns RL.01 and RL.02

6 Replace the leadwork to the bay window roof E.03

7 Replace the leadwork to the two areas of lead adjacent to roof slopes A.43 and A.44

Priority B. Medium term repairwork

8 **Roof slope A.23**

Allow for the stripping of all slates, battens and any existing felt from the roof slope. Set aside the slates and ridge tiles for reuse. Allow for all necessary repairs to the access dormer, the lead chute and carry out repointing works to the adjacent brickwork. Reslate with new tanalised softwood battens and breathable felt using copper nails. Include for localized repointing to chimneys CH.02 and CH.09

Priority C. Long term repairwork

9 **Roof slope A.14, A.24, A.26, A28 and A.29**

Provide access scaffolding within the small inner courtyard to allow for the stripping of all slates, battens and any existing felt from the roof slopes Set aside the ridge tiles for reuse.

Replace the tapered lead valley gutters in Code 6 lead. Allow for any necessary repairs to the softwood boarding beneath.

Cut in new lead soakers and cover flashings into the existing cement render..

Repair all rainwater goods to include replacing the plastic sections and reinstating all damaged and missing sections of gutter in cast iron

10 **Roof slope D.01, D.02, D.03, D.04 and D.05**

Provide access scaffolding within the small inner courtyard to allow for the stripping of all slates, battens and any existing felt from the roof slopes Set aside the ridge tiles for reuse.

Replace the tapered lead valley gutters in Code 6 lead. Allow for any necessary repairs to the softwood boarding beneath.

Cut in new lead soakers and cover flashings into the existing cement render..

Repair all rainwater goods to include replacing the plastic sections and reinstating all damaged and missing sections of gutter in cast iron

11 The lead flat roofs around the two low level roof lanterns. Include for lifting and replacing the lead sheet and for carrying out repairs to the two lanterns

Initial programme of masonry repair works.

Priority A. Short term repairwork

Brickwork and render repairs to the east elevation.

12 Perimeter terrace.

Break up the existing concrete decking over the basement vaults and remove from site. Excavate down to the upper face of the brick vaulting and carry out structural repairs to each vault as necessary.

Remove the cement-based render from the terrace walls and expose the brickwork beneath. Cut in new brickwork as necessary. Allow for the partial dismantling of the brickwork around doors DB.03 and DB.0 tying all new brickwork back to the existing structure.

Lift all coping stones and set aside for reuse.

Apply a liquid waterproofing membrane to the upper side of the exposed vaults using RIW Flexiseal 500 HG or similar. This is a two-coat resin based waterproofing agent suitable for irregular and uneven surfaces.

Install drainage/ weepholes at the lowest points to discharge any water collecting to the sides of each vault. Backfill with compacted MOT type fill up to the level of the new concrete slab. The new reinforced concrete slab is to be designed by the Structural Engineer and set a suitable depth to accommodate new salvaged York stone flagstones. {To be installed once all the masonry repairs to the East elevation are complete] The new slab is to be laid to falls and to the new rebuilt gulley positions. Note the existing gullies taking the rainwater from the building itself are to be reinstated.

Apply a new three coat lime mortar following agreement on the mix, colour and texture from CADW This will involve render analysis from the surviving lime render to the Coach House. Note no angle beads are to be used. Rebed the salvaged coping stones on new lead dpc.

13 East elevation. Central section.

Remove the cement-based render from the external walls and expose the brickwork beneath. Cut in new brickwork as necessary. Allow for the partial dismantling of the brickwork to the high-level area above the central blank arch [northern bay], the brickwork to the high-level area above door DG.07 and for tying all new brickwork back to the existing structure.

Allow for the render from the tower and report on the condition of the brickwork beneath. Note the cracking to the tower is extensive and this may have caused structural failure in the brickwork.

Allow provisionally for lifting the stone capping to the tower and for rebedding these using stainless steel clamps. See the Structural Engineers details for any strengthening to the brickwork using twisted stainless-steel ties.

Lift all coping stones and central finial and set aside for reuse.

Apply a new three coat lime mortar as above. Rebed the salvaged coping stones on new lead dpc.

Carefully dismantle the cast iron rainwater pipes and hoppers etc. Clean down to remove all traces of rust and refix in place with lead linings through the parapet wall.

Priority B. Medium term repairwork

14 East elevation – The tower to the side of the original house and adjacent two storey bay

Remove the cement-based render from the external walls to the bay and expose the brickwork beneath. Cut in new brickwork as necessary. Carefully remove the cement render from the tower and report on the condition of the brickwork beneath.

Allow provisionally for lifting the stone copings to the crenellated head of the bay window and for rebedding these with stainless steel clamps.

Repoint any open joints in the stone string courses and install a new lead cover flashing over tucked back into the masonry above.

Cut out the damaged stonework to the cills, jambs and head of window no' WF.06 This will require dismantling to access the stonework. Include for overhauling the window casements while the stonework is under repair.

Apply a new three coat lime mortar as above. Rebed the salvaged coping stones on new lead dpc.

Carefully dismantle the cast iron rainwater pipes and hoppers etc. Clean down to remove all traces of rust and refix in place with lead linings through the parapet wall.

15 East elevation bay window no WG.16

This window and stone head is to be dismantled and rebuilt using salvaged stone and new cut to match the existing profiles as necessary.

Priority C. Long term repairwork

16 Stonework repairs to the mullion and transomed windows.

Cut in new stone surrounds to the following windows retaining as much existing masonry as possible. Re bed all new sections in lime mortar. Refurbish all retained casements etc.

WG.06, WG.07, WF.04, WF.05, WF.06, WS.01, WS.02, WS.03, WS.04

17 Include for cutting in new stonework to the south elevation corner dressings where these have been repaired in mortar.

18 Ongoing repointing works to the chimneys

19 Ongoing redecoration and joinery repairs to the windows and external doors