# ROOF CONDITION REPORT
# on
# SHENTON HALL
# SHENTON

DEVELOPMENT
SERVICES

11 MAR 2009

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Instructions:

A report prepared for internal purposes to outline the current condition of the roof and to assess the first steps towards procuring the necessary works required to provide a long term solution to the current water penetration problems. Specific attention is to be given to alleviating the potential for on-going damage to the historic fabric of the structure and interior. The report is to give consideration to the retention of historic materials, wherever possible, and to maintain the character of the house as an important historic building.

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September 2008

# SHENTON HALL ROOF CONDITION SURVEY

| CONSTRUCTION | CONDITION | RECOMMENDATIONS |
|---|---|---|
| **Roof 1:**<br>Pitched with graduated Swithland slate covering. Lead dressed to ridge and hips. | **West facing slope:** Number of missing or slipped slates. Broken/split slates. Many previous repairs including motar bedded patching, blue slate and zinc repairs.<br>Leadwork old with open nail holes. Some have previously been temporarily sealed. Sealant now failed.<br><br>**East facing slope:** Similar signs of piecemeal repairs over years including blue slate and zinc repairs.<br>Flashband/tape repairs to lead splits in valley. Roof light battened and felted over.<br><br>**South facing slope:** Lead tingles supporting slates where nails failed.<br>Blue slate and flashband/tape repairs.<br>**Photographs R1A to R1H** | This roof has been maintained to a minimal standard in the past using inappropriate materials, often with short lifespan. The roof would be capable of an overhaul, using the Swithland slates, repairing existing leadwork and restoring the roof light. However the long term solution would be to strip, recover using the graduated Swithland slates and re-use leadwork where possible ( welding and capping fixings. This will allow the parapet gutters and flat roofs to be renewed in a manner which creates a suitable upstand junction with the slate slopes. |
| **Roof 2:**<br>Pitched with graduated Swithland slate covering. Lead dressed to ridge and hips. | **West facing slope:** Mostly generally well laid slates although 1 broken. However area of broken slates behind chimney stack and to ridge. Poor motar bedded slate patching to two areas. Roof light lead dressings have flashband repairs. Discoloured glazing.<br><br>**East facing slope:** Generally well laid slates but one broken and slipped out of place. Signs of old repairs with irregular slate sizes. Metal frame to roof light corroded.<br><br>**South facing roof slope**: Number of broken slates noted and the previous repairs had used in appropriate materials. Roof light frame overlaid with nailed mineralized felt.<br><br>**Generally:** Leadwork to hips and ridge appears original to roof; untidy dressing and open joints to fixing holes.<br><br>**Photographs R2A to R2G** | Roof covering capable of overhaul and retention, but would continue to represent a high maintenance covering of restricted lifespan. The roof light requires stripping redressing and reglazing.<br><br>Can retain with overhaul including replacing slate.<br><br>Roof covering could be retained with overhaul. Roof light requires substantial renewal/ repair.<br><br>The roof covering could be overhauled to extend the life,but prudent to recover reusing, where possible, the Swithland slates in graduated form. This will provide a longer term solution and enable effective waterproofing to the gutter upstands. |



SEE ATTACHED ROOF PLAN FOR REFERENCES

| CONSTRUCTION | CONDITION | RECOMMENDATIONS |
|---|---|---|
| **Roof 3:**<br>Pitched with graduated Swithland slate covering. Lead dressed to ridge and hips. | **West facing slope:** Number slates slipped out of place to ridge. Further cracked and broken slates. Poor patch repairs. Open hole through slate covering allowing water penetration. Soaker/ flashing pulled away from wall to R4. Water penetrating.<br><br>**East facing slope**: Very basic past repairs largely using motar bedded slates of variable size. Some zinc repairs. Graduation patterns lost as a result. Lead work patched and poorly fixed. Replaced with felt to lower hip.<br><br>**South facing slope:** Poor felt repairs to roof light. Slate mostly well laid but felt to hip as above. Broken slates at junction with the parapet gutters.<br><br>**Photographs R3A to R3G** | Slate roof covering inadequately maintained over the years and character of graduated slate lines lost. It is considered appropriate to strip and recover reusing the slates and reinstating graduation of slates courses. |
| **Roof 4:**<br>Hand made clay tiles, part concrete tiles. Mixture of Staffordshire Blues, some reds, machine made and sand faced concrete tiles. | **West facing slope:** Previously recovered but not nailed and an area of tiling has slipped and failed to the north west corner allowing water penetration. Area of dislodged tiling to the ridge and ridge tiles loose. Cement fillet to front parapet cracked and allowing water penetration.<br><br>**East facing slope:** To the south at junction of roof 5, the modern concrete tiles were in a satisfactory condition, but entirely out of keeping with the historic character of the building. To the north junction with roof 5, spalled valley tiles and number broken. Broken and missing tiles to ridge. Defective cement fillet at junction with parapet.<br><br>**Photographs R4A to R4D** | This roof has been the subject to previous repairs. The rear section has been recovered in inappropriate concrete tiles. The east and west slopes were recovered reusing the Staffordshire blue tiles but mixing in some reds and random tiles. A lack of nailing has allowed areas to slip out of place; with resultant water penetration.<br><br>It is considered appropriate to recover these roof slopes using second hand, hand made tiles to match roof 5. |



SEE ATTACHED ROOF PLAN FOR REFERENCES

| | | |
|---|---|---|
| **Roof 5:**<br>Pitched with concrete tiles to the south elevation and hand made clays to the front/north. Clay ridge tiles. | **North facing slope:** The roof has been recovered in the past; the hand made tiles having been reused where possible. They appear to be Staffordshire blues, but numbers were made up with some reds. The rear elevation was then recovered using plain concrete tiles.<br><br>To the front, the valleys show a number of broken tiles and some general spalling. Most tiling was well laid although there were a number of individual tile defects.<br>The fillets to the chimney stack were very poor, having been completely lost to areas. These were allowing water penetration.<br><br>**South facing slope**: Replacement concrete tiles are now of some age and show many subsequent replacements with different style concrete tiles, machine made clay tiles and hand made clay tiles. The roof covering is considered to be out of keeping with the historic nature of the building.<br><br>The ridge tiles were inadequately bedded and the fillets to the chimney stacks had been largely lost, allowing water penetration. The valley sides were open and potential points of water penetration.<br><br>**Photographs R5A to R5K** | The rear /south roof slope would not have received LBC and is entirely out of keeping with the house. It could be overhauled and made watertight but it would not solve the fundamental problem of the materials being inconsistent with the Listed status of the building. The original tiles were probably pegged clays, but these are long gone. The extensive use of Staffordshire blues is likely to date back to the Victorian works. The front slope has previously been recovered reusing such tiles, but the works were to a poor quality. It is considered appropriate to recover both slopes using the blue tiles. Second hand tiles are still available. |
| **Roof 6:**<br>Mono-pitched with Swithland slate covering with pitched roof either side. Lead dressings to ridge Clays coping tiles to upper ridge. | **South facing slope:** Slate lays adequately to many areas but bottom course has dropped into valley gutter in one area.<br>Leadwork sealed in past but now failed and number of open joints noted to former fixing holes.<br>Roof lights untidy. Could restore but requires redressing of all leadwork and reglazing. Bedding to coping tiles badly eroded. | In common with most of the slate covered slates, this roof could be overhauled to extend the lifespan but it will not be possible to resolve all of the water penetration issues until the roof gutters can be relaid with suitable upstands. This will involve stripping of the slates to form effective details. Therefore it is considered prudent to recover the roof reusing the slates. |

| CONSTRUCTION | CONDITION | RECOMMENDATIONS |
|---|---|---|
| | **North facing slope:** Most slates lay well but there are a number missing or broken. Leadwork shows deterioration and the bedding to a number of stepped flashings was inadequate. Roof lights showed signs of previous basic, temporary repairs to leadwork.<br><br>**Photographs R6A to R6F** | |
| **Roof 7:**<br>Concrete tiles to west face remainder hand made clays.<br><br>Swithland slates | **West facing slope:** Recovered in concrete plain tiles some years ago. Many subsequent repairs and renewals of tiles using all different types of plain concrete and clay tiles. Poor presentation and now a number of further defects exist. Slipped tiles around the valley and to the ridge. The leadwork to the hip is old and loose.<br><br>**North/West facing slope**: Numberof tiles missing below ridge. Broken/spalled tiles to valley and poor detail to front parapet. The waterproofing is inadequate and will leak.<br><br>**North and North/East facing slope**: Recovered using second hand tiles. A few individual tile defects noted but overall appears to be generally in satisfactory condition.<br><br>**South/ East facing roof slope**: Previous patch repairs to slate bedded in mortar. Slates to upper courses lay well but lower course very uneven and slipped to areas. Very poor detail to parapet. Will allow water penetration.<br><br>**Photographs R7A to R7H** | The rear concrete tile covered slope should be replaced using appropriate materials. The North/west slope should be correctly recovered reusing the existing clay tiles where possible the remaining slopes can prove to be adequate with maintenance. |



SEE ATTACHED ROOF PLAN FOR REFERENCES

| CONSTRUCTION | CONDITION | RECOMMENDATIONS |
|---|---|---|
| **Bays** | | |
| **Flat roof 1:** Asphalt surfaced. | Asphalt blistered and split. Previous temporary repairs are widespread. Deformation of decking could indicate dry rot. Investigation required. | Asphalt requires stripping, deck repairs / renewal/ treatment. Resurface with asphalt/lead as agreed. |
| **Flat roof 2:** Asphalt overlaid with felt. | Temporary tape repairs to felt. Line of deck deformed. Possible rot defect. | Resurface as above |
| **Flat roof 3:** Asphalt with felt over. | No access onto surface. Vegetation and standing water. Limited life. | Resurface as above. |
| **Flat roof 4:** Asphalt. | Drains well but number of blisters and previous tape repairs to upstands. | Resurface as above. |
| **Flat roof 5:** Asphalt | Advanced deterioration. Major blistering, and open joints to upstands | Resurface as above. |
| **Flat roof 6**: Asphalt | Poor asphalt details; splits around rainwater outlet allow leakage into bedroom below. | Resurface as above. |
| **Flat roof 7**: Asphalt overlaid with felt | Appears watertight. | Resurface as above. |
| **Flat roof 8:** Asphalt | Substantial splitting. Previous bitumen repairs. | Resurface as before. |
| **Flat roof 9 (Tower):** Asphalt | Substantial cracks and blisters allowing significant leakage. Deformation of the gutter suggests rot below.<br><br>**See photographs FR1 to FR9** | Resurface as above. |
| **Roof parapet and valley gutters:** All asphalt surfaced. | **PG1-** Asphalt inadequately maintained. Many previous repairs with tape. Areas of gutters blocked with standing water. Debris in gutters.<br><br>**See photographs PG1A to PG1D** | The gutters are considered to be beyond repair and now require stripping and resurfacing as per the flat roofs above. |

| CONSTRUCTION | CONDITION | RECOMMENDATIONS |
|---|---|---|
| | **PG2-** Poorly maintained with standing water to areas<br><br>**See photographs PG2A toPG2B** | Resurface as above |
| Part glass fibre lined | **PG3-** Retains standing water, many previous repairs. High maintenance and limited life.<br><br>**See photograph PG3** | Requires resurfacing |
| | **PG4-** Advanced deterioration of asphalt. Blistered and split.<br><br>**See photograph PG4** | Requires resurfacing |
| | **PG5-** Resurfaced in lead. One taped repair.<br><br>**See photograph PG5** | Lead weld repair and can retain. |
| | **Valley gutters – see plan.**<br>All show many taped repairs, split and open blisters. Current water penetration<br><br>**See photographs V1A to V3B** | All valleys require breaking out and relining. |
| | **Dormer/Housing-** very poorly maintained ashalt<br><br>**See photograph D1** | Resurface with lead. |

**Summary**

It is clear from the survey that this roof has been the subject of rather piecemeal maintenance and uncoordinated repairs and renewals over the years. The roof coverings have now reached a stage where it is considered to be uneconomic to continue to react to roof leaks with basic short term maintenance measures. There are areas where some roof coverings could be retained in situ with repair works, but there will always be potential waterproofing problems at the junction of these retained pitched slopes and the flat roof areas, all of which must be resurfaced. There are potential problems with timber defect and infestation, particularly with the strong likelihood of dry rot to areas. The presence of bats also needs to be taken into account in the works. There will be some discussion with English Heritage over the materials to be used. The Swithland slates roofs could be stripped and reused where appropriate. They are difficult to acquire but EH have accepted new substitute slates to be used in conjunction with the existing on other buildings. It would appear sensible to recover the other roofs with Staffordshire blues, using the existing where possible and buying in second hand elsewhere. The flat roof areas may require replacing in lead but this requires further discussion. It would be recommended that the required works to the chimney stacks and parapet walls/copings is undertaken at the same time.

The recommendation is to instruct architects or building surveyors to prepare a full specification for agreement with English Heritage in advance of considering the method of procurement of the works.

**SHENTON HALL** **ROOF --PHOTOGRAPHIC SCHEDULE**



**R1A**



**R1B**



**R1C**



**R1D**



**R1E**



**R1F**



**R1G**



**R1H**



**R1G**



**R1H**



R2A



R2B



**R2C**



**R2D**



**R2E**



**R2F**



**R2G**



**R3A**



**R3B**



**R3C**



**R3D**



**R3E**



**R3F**



**R3G**



**R4A**



**R4B**



**R4C**



**R4D**



**R5A**



**R5B**



**R5C**



**R5D**



**R5E**



**R5F**



R5H



R5I



**R5G**



**R5J**



**R5K**



**R6C**



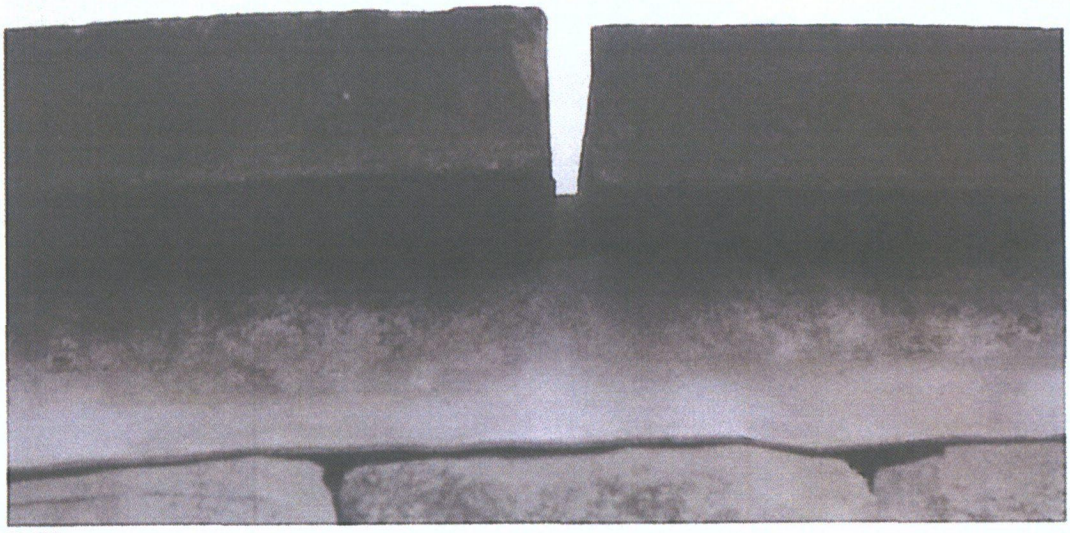
**R6D**



**R6A**



**R6B**



**R6E**



**R6F**



**R7B**



**R7C**



**R7A**



**R7D**



**R7E**



**R7F**



**R7G**



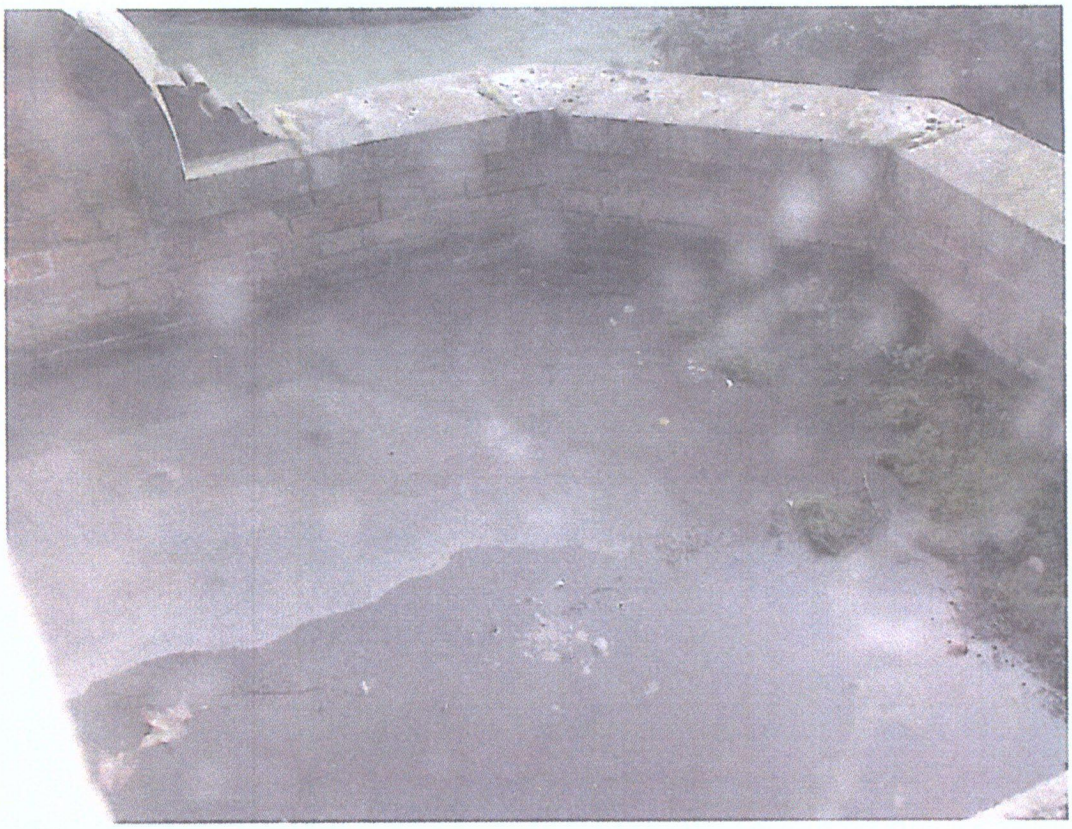
**R7H**



**FR1**



**FR2**



**FR3**



**FR4**



**FR5**



**FR6**



**FR7**



**FR8**



PG1B



PG1C



**FR9**



**PG1A**



**PG1D**



**PG2A**



**PG4A**



**PG5A**



**PG2B**



**PG3A**



V3A



V3B



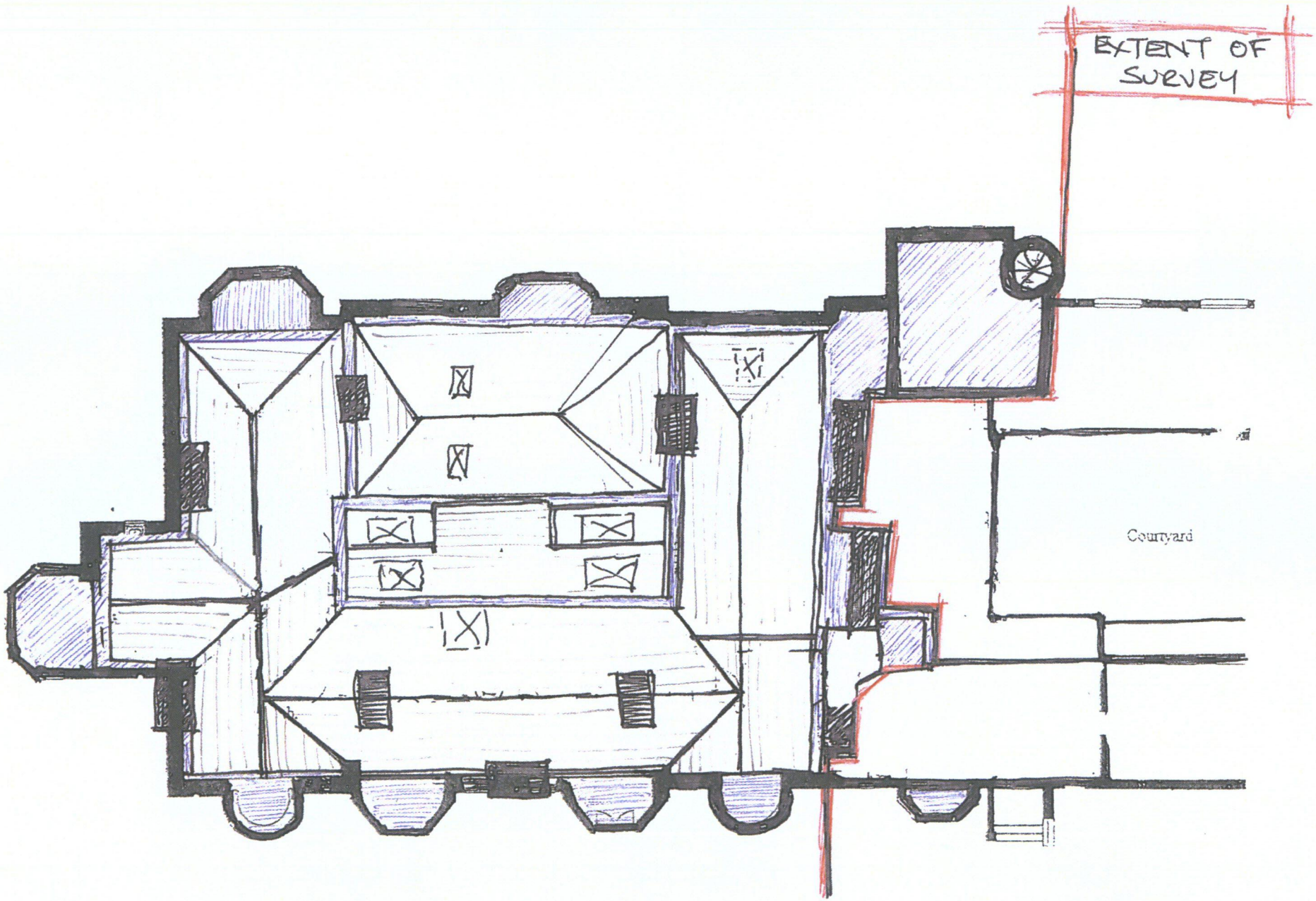
V1A



V2A



**D1A**


EXTENT OF SURVEY
Courtyard