

**FORBURY, 41 HAVANT ROAD, EMSWORTH, HAMPSHIRE PO10 7JD
PROPOSED ADAPTATIONS TO STABLE BLOCK**

HERITAGE STATEMENT

PLANNING HISTORY RELATING TO THIS PROJECT:

Planning permission (APP/12/00943) and Listed Building Consent (APP/12/00944) for this project were granted in 2012.

Since then further iteration of the design has taken place including the proposal for more extensive alterations and the revision of the elevations with one additional window and some slight changes to the fenestration.

Accordingly, this revised application is now being made.

GRADE II LISTED BUILDING:

Forbury is a grade II listed building listed at entry no 1154639 being jointly listed with the semi-detached Hearnbrook House at no. 39 Havant Road. The 'details' are reproduced from the English Heritage website page below:

SU 70 NW HAVANT HAVANT ROAD Emsworth

4/48 No. 39 (Hearnbrook House), and No. 41 (Forbury) II

Pair of houses, arranged symmetrically. 1805. Rendered front, stone with brick dressings and brickwork (painted); hipped slate roof. 2-storeyed, with a single-storeyed coupled porch joining the pair. Each unit has a symmetrical front (south) of 2 windows, rendered walling with plain eaves fascias and spaced coupled carved brackets to the wide eaves, stone cills, plain openings with frames for shutters. Sashes in reveals, with narrow side panes all round. The porchway has a Greek Doric Order, of a central column and 2 ½-columns, the interior walling being rusticated, and doorways having reeded architraves, enclosing a decorative fanlight and 4 panelled (2 topglazed) doors. The outer sides have single-storeyed wings of 1 window, and to the rear 2-storeyed wings, each with later but different additions. The rear elevations have a window below 2 roof hips, with stone walls and brick dressings. The interior (of No. 39) is virtually unaltered with architraves to doorways, a fine staircase with wreathed mahogany rail, fireplaces, and stone paving to the service quarter. At the rear there are narrow service structures, of stone, flint, brick and slate, with a 2-storeyed stable block (now a garage) to No. 39

This narrative describes the pair of houses including their frontal symmetry, their materials and the extent of their classical detailing. The interior of no. 39 is mentioned. The last sentence notes the narrow rear service structures (which are only a feature of no. 39) and the 2-storeyed stable block to no. 39.

There is no express mention of the stable block to Forbury itself. Nevertheless Forbury's stable block is within the curtilage of the Listed Building.

SETTING:

The stable block is situated at the rear northwest corner of the large back garden. From the public realm the stable block is invisible from Havant Road. From Convent Lane the upper part of the south elevation is visible over the boundary wall, the west and north elevations front onto Convent Lane which bends around the building. The east elevation is not visible from Convent Lane.

Within the site itself the stable block's south elevation terminates the view facing north as seen from the side driveway. To the east of the stable block is the rear part of the back garden with a recently constructed timber clad storage shed at furthest remove.

DESCRIPTION OF THE STABLE BLOCK:

In contrast to the house, the stable block is a modestly proportioned building comprising a major part with gable walls and pitched roof, and a rear lean-to. The latter appears to

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have been a more recent addition from the evidence of the layered east wall and the roof pitch / material. There is an upper attic storey over the major block.

EAST ELEVATION:

The gable wall has red brick quoins and verge detailing with infill of random rubble of mixed materials, chiefly stone, some flint, some of these knapped. There is one window with a timber lintel over in poor condition. The lintel is deflecting and the walling above has cracked accordingly. The cill is of render, mostly perished. The top right hand corner of the wall at the upper storey level is becoming detached. Similarly constructed is the lower part of the elevation of the lean to. It is speculated that this was originally a garden wall.

The upper part of this wall is of red bricks generally laid on edge. The triangular area between the wall and the lean-to roof is clad with lapped horizontal timber boards.

SOUTH ELEVATION:

This appears to have been reconstructed during the 20th century. It is of painted calcium-silicate bricks (Midhurst Whites or similar) with 3 arched doorways and with 2 small windows to the upper storey. Most of the gutter is missing as is the downpipe. The windows and doors appear to be contemporary with the reconstruction and are in poor condition.

WEST ELEVATION:

The gable wall is of the same construction as that to the east. There is one pointed arched window opening with red brick surround at present covered over with timber boarding. The west elevation of the lean-to is set back and is of dull reddish brick, the triangular area under the lean-to roof is of lapped horizontal timber boards (some broken).

NORTH ELEVATION:

The part of the north elevation extending beyond the lean-to is of the same construction as the gable wall to a height of approximately 2 metres, and then continues up all in red brick. The north elevation of the lean-to is of dull reddish brick. No gutter or downpipe extant to the major roof. There is evidence of a former downpipe connection into the ground at the corner of the lean roof to but otherwise there is no gutter or downpipe to this lower roof now extant.

ROOFS:

The major roof is slated with clay ridge tiles. There are two Velux roofwindows to the northern pitch. The lean-to roof is of corrugated metal.

INTERIOR, GROUND STOREY:

Ceilings in the major block are lined out with painted skimmed. The walls of the major block are generally painted masonry faces. In the larger room a timber stall is placed leaning against the internal wall between the 2 rooms. The sloping ceiling and external walls of the lean-to were lined in painted skimmed plasterboard which has been taken down to allow inspection of the fabric of the building previously concealed. The roof is described in the Narrative section below, the walls are of studwork placed in front of the external masonry walls which extend up to eaves level. At east and west sides there is timber framing between the wall tops and the roofline, this supports the external horizontal boarding. The ground floor surface finishes have been taken up to allow inspection of the base of the walls, revealing brickwork continuing downwards into the ground but with no foundations yet apparent. There is a timber stair apparently dating from latter part of the 20th century leading to the upper storey. The internal wall around the stair is of painted lightweight concrete blockwork apparently contemporary with the stair.

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INTERIOR, UPPER STOREY:

The ceiling line follows the underside of the rafters and consisted of painted skimmed plasterboard with the purlins and ties (collars) visible within the room space. The ceilings have been removed to allow inspection of the rafters. The walls are masonry surfaces, generally unpainted. The north wall reduces in width at what appears as a brick plinth, suggesting that the floor, which is timber boarded and apparently dating from the latter part of the 20th century, has replaced an earlier floor set at a somewhat higher level.

INDICATIVE SCHEDULE OF REPAIRS;

Reroof the slate roof reusing the existing slates (assuming serviceable, otherwise use similar) with a lead ridge roll with 10 mm gap former under to allow for necessary ventilation of the roof at the ridge in an unobtrusive manner (the majority of ridges to slated roofs of the main house are lead ridge rolls).

Replace the corrugated metal roof face in similar new material.

Replace failing oak lintel to east window with new oak cosmetic lintel with relieving L-shape galvanised coated steel lintel over, and repair cracked walling above it.

Replace broken external boarding to lean-to west elevation.

Rebuild area of walling becoming detached to east gable near rear eaves.

Attach studded membrane damp proofing to room side of affected walls, and in the lean-to taking down existing studwork where extant and obstructing access.

Insert damp roof course under internal wall separating the 2 ground storey rooms.

Repair cracks and gaps in walling.

Retrofit wall ties to cavity wall to south elevation.

Provide cavity tray at arched doorway openings to south elevation where none existing. General repairs and upkeep.

INDICATIVE SCHEDULE OF ALTERATIONS:

Take off remnants of the rainwater system and provide new guttering and down pipes throughout to all the eaves.

Remove existing gutter boards and replace with new (and provide new where none existing at north eaves of main roof).

Remove existing horizontal timber boarding and framing to east and west elevations of the lean to, extend the walls up to roof line to provide additional buttressing to north wall of 2-storey part, provide new battens etc. and reinstate boarding reusing existing if still in good condition and otherwise in matching new.

Remove existing external doors and replace with double-glazed doors/glazed screens.

Remove existing windows to the eaves of the south elevation and replace with new double glazed; take out existing slate internal cills and reuse as external cills to same openings.

Remove existing overboarding to pointed arched window (and existing frame if necessary) replace with double-glazed unit (plus new frame if found necessary).

Refurbish existing window at ground storey to east elevation, in particular upgrade by replacing existing glazing with new 14 mm xenon filled units (or replace with matching new window if existing found to be beyond refurbishment) and provide new brick cill in place of existing part perished render.

Remove existing Velux roof windows and replace with new to current performance standard.

Remove existing roof structural timbers to main roof and replace with new steel ridge beam and new timber rafters (see Narrative).

Remove existing roof structural timbers to lean to roof and replace with new sarking deck on new timber rafters (see Narrative).

Lay concrete solid ground floors with insulation and studded damp proof membranes and including floor screeds and finishes.

Once building work commences, dig trial holes to enable nature of ground upon which the walls are bearing to be determined in conjunction with Building Inspector and provide underpinning if found to be necessary.

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Once building work commences, expose the presently concealed construction of inner leaf at intermediate piers between doorways to south elevation and strengthen inner leaf if necessary to assure structural stability of the piers.

Remove existing internal door leaf to doorway between the two ground storey rooms, insert new jamb lining to take account of new insulated lining adjacent and provide new narrower replacement leaf to suit.

Remove the existing 2-leaf door at foot of stairs and its frame.

Remove existing stair and replace with new stair flight incorporating winders top and bottom (see Narrative).

Remove balustrade to stair opening (to be replaced by new partition wall at upper storey). Provide short length of new balustrading near foot of stairway to guard against falling (due to higher pitch line of the new stair flight).

Remove existing electrical installation and provide new installation

INDICATIVE SCHEDULE OF NEW WORK:

Form new opening in wall with brick reveals and provide new double-glazed patio door to east elevation of lean-to.

Form new opening in wall and provide new double-glazed window in north wall (for new Bathroom)

Form new opening in wall and provide new double-glazed window at upper storey to east gable (for new Bedroom)

Provide new double-glazed rooflight to lean to.

Erect new internal partition walls to provide the new room divisions together with new internal doors and frames.

Apply new insulated linings to walls and to those ceilings under roofs.

Provide new heating and hot and cold water and installation. Provide balanced flue through external wall for the new boiler. Provide drainage pipework system.

Provide extract ventilation to new Bathroom and Kitchen areas with extract grilles in external walls. Provide extract ventilation to new Ensuite rising up through roof to terminate at flush in-line slate ventilator. Similarly terminate the new drainage soil and vent pipe.

Provide new fixtures, fittings and finishes.

Provide new aerial system.

Lay new patio with step outside the new patio doorway, incorporating pavings recovered from the floor if suitable.

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NARRATIVE:

EXTERNAL DOORS AND WINDOWS:

The existing window to the east gable is acknowledged to contribute to the character of the building and it is proposed to retain its appearance including the glazing bars. The window is oddly positioned, being somewhat off centre relative to the gable wall. The level of the internal upper floor is such that it coincides with that of the upper third of the window (presumably the window formerly related to the original upper floor which it is conjectured was at a somewhat higher level). Nevertheless it is proposed to keep the present location of the window in order to reduce disturbance of the existing walling of the east gable which also contributes to the character of the building.

Reveal depths at window and door openings:

At present the reveal depths are:

- 3 no. Arched doorways in painted brickwork to south elevation:
almost flush at approx 20 mm. (see photo below)
 - 2 no. Arched windows in painted brickwork at eaves of south elevation:
approx 30 mm. (see photo below)
 - 1 no. Window in brick reveals to rubble walling to east gable: approx 100 mm.
 - 1 no. Window in brick reveals to rubble walling to west gable: approx 100 mm.
- It is proposed to retain the latter two windows.

In summary there are shallow reveal depths at the south painted brickwork elevation and deeper reveals in the brick reveals to rubble masonry elsewhere. The approach taken for the replacement and new windows/doors is to continue the theme by providing deep reveals of approx 100 mm to the new openings (which will all have new brick surrounds) and to improve the theme at the south elevation by setting the frames somewhat further back than their present positions in order to provide a more definite shadow line to aid visual legibility of the archways. To aid this it is proposed to set the arch infill flush with the frames (instead of forward of them) to maximise definition at the curve of the arch.



shallow reveal of existing
arched doorway to south elevation



shallow reveal of existing
arched window to south elevation

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ROOFS:

The main roof is constructed of rafters with a purlin placed approximately halfway up the rafter lengths to both pitches. There are 3 ties (collars) at intermediate positions along the length of the purlins, notched to engage with the undersides of the purlins and with their ends attached to the rafters. Various roof members are suffering from woodworm. The roof is comprehensively distorted in shape, with the rafters, purlins and ridge line all significantly deflecting. This has caused damage to the building, the mechanism being that the rafter ends are thrusting outwards resulting in the side walls bowing outwards and the gable walls suffering cracking.

The roof structure appears to have been substantially reconstructed, presumably at the same time as the front (south) wall was reconstructed in calcium silicate brickwork. The ties (collars) appear to be relatively recent, the interpretation being that these were added to the structure at the time of reconstruction.

Our Structural Engineer has proposed three possible approaches (please also see appendix to this Statement):

1. Replacement purlins
2. Introduction of a series of new intermediate trusses
3. New arrangement with new ridge beam and new deeper rafters

Option 1 was considered first, being the provision of replacement purlins. The purlins should be placed vertically to behave properly. Steel rolled hollow sections were considered initially as being appropriate to the length of span and being of the 'cleanest' appearance as they would be near eye level, but the Engineer's view was that these would have to be delivered full length as it is not possible to achieve neat intermediate joints in such a type of steel section. The idea of full length members was rejected because it was a poor option in health and safety terms and it would necessitate disturbance of the outer face of one of the gable walls in order to introduce the members into the roof from outside. A jointed steel universal beam section clad in timber was then considered as was a timber beam, in either case being 300 mm or more deep and consequently of massive appearance. The problem of the geometry of a straight and preferably level new purlin being presented up to a three dimensionally deflected array of rafters was considered. The judgement was made that this would result in an ungainly appearance and would increase still further the apparent size of the purlins due to the need to take up the resulting varying gap in addition to the continuous pack in the angle between the rafters and the horizontal top surface of the purlin. The underside of the purlins would be in the region of 1800 mm above the floor and this was considered to present a hazard. These variants were rejected due to their affect on the headroom and to their massive appearance.

Option 2 was then considered, being the provision of a series of new trusses across the space. The attic space is quite a squat volume so the horizontal collar of the trusses would be placed relatively far up the length of the principal rafters. All the members would be 250 mm deep so the collar, due to headroom under, would occur at approximately one third of the distance down the truss height. One of the truss ends would coincide with the heads of one of the eaves windows to give a difficult bearing and a weak appearance. It was judged that the trusses would be visually unsatisfactory being out of scale with attic space, that they would be new elements introduced into the space and that would create a headroom hazard due to the intrusion of the arms of the trusses below the lower parts of the attic ceiling. Option 2 was therefore rejected.

Option 3 was then considered, being a new arrangement of ridge beam and rafters. A steel ridge beam was considered appropriate in view of the length of span and it was proposed to hide this from view with a flat ceiling soffit immediately underneath it. The arrangement would be structurally effective in resolving the horizontal thrusts presently being suffered. From the construction point of view the new ridge beam could be delivered to site in sections (it and its jointing would not be visible). From the headroom

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point of view there is the minimum possible reduction, from the energy conservation point of view the deeper new rafters necessary for the span would be able to accommodate the majority of the insulation thickness required. The appearance of the roof would be of the reroofed slatework on the outside. Sloping ceilings would have their surfaces would be 35 mm below the rafters. The opportunity would be taken to provide a proper eaves at the north, complete with gutter board and gutter, where none exists at present.

It is proposed to adopt option 3.

The lean to roof at the rear of the Stable Block is a lightly constructed timber structure underneath the shallow pitch corrugated metal sheets. The primary structure is of 4" x 2" timber rafters spaced at approximately 950 mm centres. There are noggins set between the rafters to provide fixing positions for the corrugated sheeting and there are 4" x 2" ceiling joists laid flat and following the roof slope at approx 1200 mm centres and running in the same direction as the rafters. The roof is clearly insufficiently robust for what is to become a habitable building and would be inadequate in terms of the current Building Regulations. It is proposed to provide a wbp plywood sarking deck supported by 200 x 50 mm rafters at 600 mm centres spanning in the same direction as the existing ones. The new rafter size would satisfactorily span across the space and would be deep enough to accommodate the majority of the required insulation thickness and a ventilated void.

The sarking deck would support a waterproof underlayment below the corrugated sheeting to assure the water tightness of the roof and to counter the effects of night sky radiation.

The appearance would be of the replacement corrugated sheet outside and a lowered ceiling surface following the roof slope and 50 mm below the rafters.

STAIRS:

From the point of view of the Building Regulations the stair in the adapted building should meet the required standards. At present in this regard there is insufficient headroom over part of the required landing space at the head of the stair due to the sloping ceiling. Once sufficient insulation has been provided in the roof this deficiency will be made worse. Therefore it would be necessary to alter the arrangement of the stairway. The constraints were the headroom limitation at head and also at the foot of the stairway together with the limited amount of length available for the flight. The proposed design with winders at head and foot of the stairway enabled a satisfactory stairway geometry.

CONCLUSION:

The proposal does not adversely affect the setting of the Listed Building; and by putting the Stable Block back into good order whilst recognising its character the setting is indeed enhanced.

ROBIN COOPER ARCHITECT

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APPENDIX

STRUCTURAL ENGINEER'S STATEMENT

Robin Cooper

From: "Stephen Penfold" <stephen@spa-engineers.co.uk>
To: "Robin Cooper" <robin@robincooper.plus.com>
Sent: 03 June 2013 16:54
Attach: DSCN0251.JPG; DSCN0254.JPG; DSCN0256.JPG
Subject: Forbury, Havant Road, Emsworth, Hants.
Hi Robin,

Further to our recent discussions regarding the existing roof of the stable block at the above, I write to confirm my comments on its structural condition, specifically in relation to the proposed conversion works.

As you are aware, the roof is duo pitched, sloping front back at an angle of approximately 40° and finished in slate tiles.

The tiles are supported on a cut timber roof structure comprising 4"x2" rafters at approximately 350mm centres, spanning 3.0m from the ridge down to eaves level, with a 5"x3" purlin at midspan, spanning approximately 7.1m between the gable walls.

Collars comprising 4"x2" timbers are provided at approximately 1.6m centres, spiked to the adjacent rafters with 2 No. nails.

In my opinion, none of the rafters are original to the time this building was constructed, all sawn cut and probably installed mid-twentieth century. The collars are of the same age.

The purlins appear to be slightly older, some sections of which may be original to the time the building was constructed.

From a structural viewpoint, in its current condition, this roof is structurally inadequate and unstable, which has been clearly demonstrated by the excessive movements which have occurred.

From our brief measurements, the ridge has dropped by between 75-100mm, as have the purlins, the latter of which has caused the rafters to bow excessively.

The rafter feet at both eaves have spread, pushing out the supporting walls by between 75-100mm, causing them to bow along the length of the building.

As the existing roof structure is unstable, the only way it could be retained in the converted building, would be to strengthen it.

Two ways in which this could be done have been considered:-

1. The overall length of the 4"x2" rafters is excessive for their span, therefore, these would need to be supported close to, or at, midspan.

The existing 5"x3" purlins are completely inadequate for this purpose, therefore, these would need to be removed and replaced with either large timber, or steel, purlins.

In either case, these strengthening purlins would be in excess of 300mm deep, which would significantly compromise the headroom available at first floor level, particularly over the head of the stairs, where the minimum headroom required by Building Control, could not be achieved.

For this reason, this option is not considered viable.

2. Introduce a series of intermediate timber trusses along the length of the building, to support the existing purlins, which in turn would support the existing rafters.

Such trusses would need to be installed at approximately 1.6m centres along the length of the building and would comprise principal rafters and collars a minimum of 250mm deep.

Again, principal rafters of this size, would significantly compromise the headroom available at first floor level and it would be extremely difficult to install new trusses, with shaped principal rafters, which could take up the deformed shape of the existing roof.

For these reasons, this option is again not considered to be a viable.

As the vast majority of the existing roof structure is not original to the date the building was constructed, a third option would be to completely remove it and install new 150x50, C24, timber rafters at 400mm centres, spanning from eaves level up to the ridge.

At ridge level, these new rafters would be supported on a new steel ridge beam, spanning the length of the building between existing gable walls. At eaves level, they would be supported on the existing first floor front and rear walls, where no horizontal loads would be exerted, due to the presence of the new ridge beam.

This option would not significantly affect the available headroom at first floor level and would allow the height over the head of the stairs, to comply with the requirements of the Building Regulations.

For the reasons stated above, we would recommend the option of removing the existing roof structure and replacing it with a new, purpose designed roof structure, is adopted.

If you have any queries on the above, please let me know.

Regards

Steve Penfold BSc MPhil CEng MStructE
For and on behalf of **STEPHEN PENFOLD ASSOCIATES LIMITED**

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PHOTOS



DSCN0251



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