

LISTED BUILDING APPLICATION FOR EMERGENCY REPAIRS:

**Proposed repairs at Gad's Hill School, Gravesend Road, Higham, Rochester, Kent
ME3 7PA**

clay architecture



Repairs to:

- 1) Ceiling and roof repairs to classroom H1**
- 2) Ceiling and roof repairs to Library extension**
- 3) Repairs to cupola**
- 4) Repairs to curved boundary garden walls**
- 5) Repairs to straight section of boundary garden wall**
- 6) Take down and rebuild garden shed**
- 7) Repairs to Gardener's cottage chimney**
- 8) Tree works**
- 9) Fence to Gravesend Road**

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Gad's Hill School is an independent day school educating girls and boys aged 3-16 years in the Lower (Kindergarten and Junior) and Upper (Senior) Schools. The school is set in the grounds of Gad's Hill Place, the former home of Charles Dickens, which is Grade I Listed, in the village of Higham.

This is an emergency for Listed Building application for the following repairs:

- 1) The roof of Gad's Hill Place is in poor condition, having suffered water ingress over some years, which have weakened the lathe and plaster ceilings on the second floor. The ceilings to one of the second-floor classrooms failed last winter.
- 2) The roof of the Library extension has holes in the lead flashing that is allowing water ingress. This has caused the previously repaired plasterboard ceiling below to crack and slightly sag. A temporary repair has taken place to prevent the ceiling collapsing as agreed on site with the Conservation Officer.
- 3) The cupola is in a bad condition and needs to be taken down and repaired. The Structural Engineer had advised in August that the cupola should be taken down within 3 months before the weather turns in winter. Works on this have begun to capitalise on the summer break. The cupola may need to be removed to be repaired. Gravesham Borough Council have been informed
- 4) The garden boundary wall between the front drive and orchard has cracks and is bulging. The wall has been impacted by previous repairs in cementitious mortar and by pressure of the self sown trees and plant debris behind the wall on the drive side (west). The trees recommended for removal are noted in point 8. The Structural Engineer has put forward a proposal to repair the wall.
- 5) The section of garden wall that students pass on their way from the main house to the DT block is also in a poor condition. A large section has been rebuilt using a different brick and cementitious pointing. The Structural Engineer has recommended two options for repair
- 6) There is a small brick shed, connected via a wrought iron arch gateway to a section of free standing wall noted in point 5. The Structural Engineer has condemned the shed as it has twisted to far off the vertical. The base of the shed has minimal foundations and has been affected by the large oak tree behind it. The shed needs to be taken down and rebuilt with new foundations that will not be affected by the oak.
- 7) The Gardeners Cottage Chimney stack CXCH01 has spalled and

cracked bricks, and is in close proximity to an active wasps nest. The ridge of roof CRFX02 has washed out mortar which needs to be temporarily re bedded.

- 8) Tree work and tree removal need to be carried out urgently in order to alleviate pressure on the garden wall and the main house.
- 9) The timber fence on the Gravesend Road between gates to the driveway is unstable.

A tree survey has been carried out by Sylvan Arb, who are advising on all the tree work.

Situated in the village of Higham in Gravesham Borough, Gad's Hill Place is a four-storey (including basement / lower-ground floor), double-fronted mansion built in 1779 by Thomas Stevens, a former mayor of Rochester. Currently used as a school building, the mansion occupies a 9.25 acre site along the A226, Gravesend Road.

The mansion is a site of national and international historic and cultural significance because Charles Dickens lived at Gad's Hill Place from 1857 until his death in 1870. While living at Gad's Hill Place Dickens wrote some of his most important works including Great Expectations, Our Mutual Friend, A Tale of Two Cities and the unfinished Mystery of Edwin Drood.

The building is Grade I Listed.

Significant changes Dickens made to the 2nd floor and roof are thought to include:

- A second-floor rear extension providing or extending 2 bedrooms H1 and H2

The mansion house was first occupied by the school in 1924.

Significant changes Gad's Hill School made to the mansion include:

- Adapting the mansion house into a school building, converting bedrooms into classrooms
- Installing acrow props to the lower ground floor, ground floor and first floor to prevent further deterioration of the central stair and stair landings (the acrow props have been in place approximately 20 years)
- Installing a water tank on the roof

Below is an extract, detailing findings on the roof from the executive summary of a Condition Survey Report we recently carried out on the house:

- The roof consists of a central wide stepped valley gutter lined in lead, with double-pitched slate roofs to the front and rear of the building.
- Large areas of the roof are difficult to access or are obscured by trees and vegetation.
- Both front and rear slate roofs are of a shallow pitch (23 °), and fairly exposed. The slate tiles are generally past their useful life, and the lead flashing of the central wide gutter does not lap up far enough behind the slate tiles. Water has penetrated the roof and affected all the ceilings on the second floor. The worse affected

ceiling (room H1) failed in November 2022.

- The weight of the water tank on the central roof, and leaf-fall from the trees growing against the house further exacerbate these issues.
- Coping stones and ridge tiles need rebedding.
- The clay tiled mansard is missing tiles.
- All rainwater goods should be overhauled and redecorated.
- The roofs are not insulated, many windows on the second floor are either fixed shut or do not open well. The rooms on the second floor are poorly ventilated and are unbearable on hot days.

A condition survey report recommends refurbishing, conserving and insulating all the roofs where possible.

The immediate priority, and the subject of this LBA, is to carry out necessary and urgent repairs to:

- 1.00 Classroom H1 on the second floor and the roofs above it. The slate tiled roof to the rear, and to reinstate the lathe and plaster ceiling where it has failed.
- 1.01 The intention is also to use this opportunity to improve the thermal efficiency of the roof (where it is being repaired), without compromising the history fabric of the building, by insulating the roof void, if possible without the need to re-roof the lead-lined gutter— though this idea needs further development, discussion and investigation.
- 1.02 Enclosed are quick outline sketch proposals for the repair works to discuss with the Conservation Officer.
- 2.00 Ground Floor Library extension ceiling and roof above. The slate roof has been battered by overhanging roof branches and squirrels have been nibbling the lead ridges. The lead work is in poor condition and has not been flashed in properly. There are also a number of cracked and slipped slates. This roof is not insulated and there is no access to the roof void. The ceiling below has been repaired with plasterboard fixed through the lathe and plaster ceiling above. Due to water ingress the ceiling has cracked and is showing signs of sagging.
- 2.01 Until funds are properly earmarked, as a temporary measure the intention is once the lime tree has had it's lower branches removed, to flash tape the lead work. In the meantime the detailed work of removing , insulating, vented and reinstate the slate roof can be done when funds are found.
- 2.02 The ceiling of the Library extension has had a temporary repair carried out along the line of the cracked plasterboard with a strip of plywood fixed through to the ceiling joists above.
- 3.00 The structural stability of the cupola has become a more urgent concern. A year ago the Structural Engineer had given it 18 months before it needed to be taken down and repaired. In August, this year the time was reduced to 3 months. Sited in an exposed position and due to the strong winds since August last year the cupola has moved and slightly twisted off it's axis.

- 3.01 Scaffolding has been erected around the cupola. The cupola is being surveyed and working drawings will be prepared to show the proposed repairs.
- 3.02 Opening up works have been carried out. From our investigation, the Structural Engineer advises that in-situ repairs will last another 5 years, while removing the cupola for full off-site repairs will last another 30 years. Subject to cost and the school's preference is for a full off-site repair.
- 3.03 Meanwhile, while left in situ the cupola urgently needs to be temporarily stabilised. This will be done by fixing plywood gussets top and bottom of each post on 3 sides to help brace and stop it from twisting further. This is only a temporary measure and will only be good for a couple of months.
- 3.04 The advice is to remove the cupola for repair as a matter of urgency. The bracing in 3.03 plus additional cross bracing will be needed to lift the cupola off the roof with a crane.
- 3.05 At the time of writing, we are still trying to confirm dates for a visit by Gravesham Officers.
- 4.00 The curved garden wall between the front drive and the lower orchard area that forms part of the nursery outside area is bulging and has cracks in it. The wall has been repointed with cementitious cement, that makes it inflexible. The wall also suffers from pressures from the west due to the amount of self sown trees and debris that has built up behind it over the years.
- 4.01 The Structural Engineer has proposed a detailed design to repair the wall that includes putting in buttresses and low level weepholes. This has been enclosed along with this submission.
- 5.00 Where the curved garden wall ends there is a section of straight freestanding wall to the south side of the house that is in bad condition. It has been repaired several times over the years with one complete section rebuilt with cementitious mortar. The end of the wall is joined by an wrought iron archway to a small garden shed. The children pass through this archway to get from the main house to the DT Block. Mortar on the end pier has in places come out, either helped or just fallen out. Currently the end of the wall has been temporarily encased in plywood.
- 5.01 There are 2 options to repair the wall. A light touch option to stabilise it, the other is to take it down completely and put in proper

foundations and rebuild the wall.

6.00 A small shed that is connected via an archway to the wall mentioned in point 5 has been condemned by the Structural Engineer. There is a very large oak tree behind it that its growth is impacting on the shed. Due to the movement and twisting of the shed it is assumed that there are little to no foundations.

6.01 The proposal is that the shed is surveyed, brick and flint bands are recorded in order that the shed will be rebuilt at a later date with proper foundations when funds allow.

6.02 It is thought that this shed was in-situ during Dickens time.

7.00 One of the chimneys to the Gardener's Cottage is in a bad way and needs to be taken down to eaves level and rebuilt with lime mortar. One of the issues complicating the repair work is the presence of wasps that are living in the roof adjacent to it. The ridge of roof CRFX02 needs to be re-bedded as a temporary measure.

8.00 As mentioned in points 2 and 4, some tree work is needed to protect both the main house and the garden walls. Enclosed is a marked plan showing the intended tree works.

9.00 Close boarded fence with open trellis to Gravesend Road between driveway gates.

9.01 The fence is fixed in part to the boundary wall. The fence is unstable and is affecting the stability of the boundary wall. It needs to be replaced with a new self-supporting fence.

Once we have agreed an approach in principle on the overall repairs , we will produce detailed drawings for approval.

Before



1) Ceiling of HSFX06 H1 classroom looking west
Ceiling shows signs of cracking , sagging and previous repairs.
Photograph taken 01/08/2022 by CP

Before



1) Ceiling of HSFX06 H1 classroom looking east
Photograph taken 01/08/2022 by CP

After



1) Ceiling of HSFX06 H1 classroom looking east
After ceiling came down on the advice of the SE straps were fixed to underside of main beam.
Photograph taken 23/11/2022 by CP

After



1) Ceiling of HSF06 H1 classroom looking north
Underside of lead roof RFX03.
Photograph taken 23/11/2022 by CP

After



1) Ceiling of HSF06 H1 Classroom looking south
Bee/ wasps nest above fireplace.
Photograph taken 23/11/2022 by CP

After



1) Ceiling of HSF06 H1 classroom looking east west
Underside of roof RFX02. Gaps between sarking boards. Some are rotten and damp coming in from above.
Photograph taken 23/11/2022 by CP

After



1) Ceiling of HSF06 H1 classroom looking east west
Sarking boards have been lime washed . Some boards are showing signs of damp ingress
Photograph taken 23/11/2022 by CP

After



1) Underside of roof HRF02 of HSF06 H1 class-room looking at the sarking boards.
Sarking boards showing signs of water ingress coming in from above.
Photograph taken 23/11/2022 by CP

Before



2) Ceiling of HGFX0X Library extension looking east west
Cracks appearing around the plasterboard ceiling
Photograph taken 04/05/2023 by CP

After



2) Ceiling of HGFX0X Library extension looking east west
Temporary repair has been carried out.
Photograph taken 04/08/2023 by CP

Currently



2) Top of roof HRFX07 of HGF0X Library extension looking at the lead ridges.
Holes in leadwork where it had been knocked by tree branches over time.
Photograph taken 23/05/2023 by BG

Currently



2) Roof HRFX08 Library extension looking east west
Lead roof has been nibbled by squirrels
Photograph taken 23/05/2023 by BG

Currently



3) Cupola HCPX01 looking north.
Some of the posts are rotten, paintwork has cracked allowing water ingress. Cupola has twisted.
Photograph taken 09/06/2023 by CP

Currently



3) Underside of cupola HCPX01.
Photograph taken 17/08/2023 by CP

Currently



3) Base of cupola post by roof HRFX04.
Post is rotten and needs to be replaced.
Photograph taken 17/08/2023 by CP

Currently



4) Garden wall between front drive and orchard. With multiple trees behind.
Vertical cracks in brickwork. Wall has been repointed with a cementitious mortar some time ago.
Photograph taken 03/05/2023 by CP

Currently



4) Garden wall between front drive and orchard.
Wall is bulging.
Photograph taken 03/05/2023 by CP

Currently



5) Garden wall linked to the small shed via a wrought iron archway. Gad's Hill house behind.
Foundations are sinking. Previously repaired and rebuilt using cementitious mortar that has caused bricks to spall and crack.
Photograph taken 09/06/2023 by CP

Currently



6) Small garden shed in front of the oak tree numbered T71 on Sylvan arb's tree survey plan of the north of the site. The shed is twisting.
Photograph taken 09/06/2023 by CP

Currently



6) The side of the small shed.
Photograph taken 09/06/2023 by BG

Currently



7) Chimney stack CXCH01 to Gardeners cottage
Spalled bricks and cracking. There is an active honey bee nest in the roof CRFX01. The bees will need to be removed by specialists prior to repairs being carried
Photograph taken 04/05/2023 by CP

Currently



9) Front boundary fence facing Gravesend Road between driveway gates. Close boarded timber fence with open trellis above. The fence posts are rotting.
The fence has been fixed down to the top of a low brick wall that straddles the tunnel below.
Photograph taken 16/08/2023 by CP

Currently



9) Low brick wall straddling the tunnel opening with buttress. Metal post shoe has been fixed to coping.
Photograph taken 16/08/2023 by CP

Currently



9) Base of railings sawn off railings in coping to low wall below timber fence.
Photograph taken 16/08/2023 by CP