

From: mark unwin [REDACTED]
Sent: 14 November 2022 12:26
To: Patrick Marfleet [REDACTED]
Subject: Bevan House, Boswell St 2022/2055/P

Dear Mr Marfleet,

2022/2055/P

**RE: GOSH REDEVELOPMENT AND WEAK VAULTS UNDER
BOSWELL ST**

(I failed to attach the report in my previous email- apologies)

Bevan House Management Company, the freeholder of Bevan House, Boswell Street, has commissioned a report on the structural integrity of the several 'vaults' (coal-holes) that extend out under the pavements immediately in front of Bevan House and under part of Boswell Street, as we have concerns regarding the extra weight and stress placed on these by the proposed heavy demolition traffic.

The report is attached below. Various recommendations have been made, including structural adjustments and the employment of a banksman to ensure that traffic is properly regulated and kept moving over this stretch of road.

Please could you:

- Acknowledge receipt of this email and report
- Add this document to those documents and objections already submitted
- Take the reports findings and recommendations into account

Many thanks.

Yours faithfully,

Mark Unwin

Director, Bevan House Management Company.

Sent from [Mail](#) for Window

[REDACTED]
Enquiries to: Chris Laughton
[REDACTED]

9 August 2022

Corker Clifford LLP

For the attention of Michael Corker

Dear Sirs

Re: BEVAN HOUSE, BOSWELL STREET, LONDON WC1N 3BT

Thank you for your recent instruction when you asked us to carry out an inspection on the vaults that belong to the property, these extend from basement level and protrude various distances out beneath Boswell Street itself.

We confirm our Mr Chris Laughton visited the property on Wednesday, 22 June 2022 and whilst we did not meet anybody from Corker Clifford on site, we were kindly provided entrance codes to each of the vaults.

It was noted whilst on site there was also a team of decorators carrying out maintenance to the front of the property.

This report is based on a visual inspection only with no opening up or exploratory works carried out within the property.

All references to left and right-hand sides are as facing the front elevation of the property unless otherwise stated.

This report should be read in conjunction with following drawing 22/1468/301.

1.0 BACKGROUND INFORMATION

- 1.1 There are five vaults that belong to the property, and these are accessed via the steel staircase, which is located directly off Boswell Street, to the left-hand side.
- 1.2 The vaults are labelled A to E, with A, being on the left-hand side beneath the staircase in line ending with vault E, which is located on the far right-hand side.

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1.0 BACKGROUND INFORMATION Cont'd.../

- 1.3 It should be noted that the width of Boswell Street is narrow with cars parked down one side refer to Photo 1 and this should be considered, with regards to width of any equipment that is planning to use the road as access. As can be seen in the photos there are cycle loops located on the footpath, and whilst the vaults primarily extend beneath the footpath, some of these also extend slightly further into the road. If the construction equipment needs to utilise the pathway, we would recommend contacting the Council first as the cycle loops would need to be removed to facilitate this.

2.0 FINDINGS AND OBSERVATIONS

- 2.1 We were previously appointed in 2018 to carry out an inspection on the same vaults, by the same client and our colleague, Ken Porter attended site and subsequent to this site visit, the following drawings were produced. 18/0568/101 & 18/0568/102, these depict a series of steelwork that was to be installed to support the roof of the vaults.
- 2.2 Whilst on site carrying out our latest inspection, we can confirm that steelwork has been installed within each of the vaults, however whilst our drawings depict bolted connections, the steelworks sections appear to all have been site welded, refer to Photos 2 & 3.
- 2.3 Whilst this detail does not match our specification, we have no concern over the strength or durability of these connections and can confirm that they are capable of carrying the original loads that the bolts were designed for.
- 2.4 We were asked to carry out a further inspection as we have been informed by, Mr Michael Corker that there is due to be some demolition at some point in the future and as a requirement to this, we have been asked to assess each of the vaults to determine whether they are capable of supporting the additional load, of demolition equipment, which we believe to be in the region of 36 pieces of heavy machinery and cement lorries, ranging from 26 to 32 tonnes each.

We were also asked to comment and make suggestions of monitoring systems that could be put in place to monitor the effects of this additional vehicular traffic passing over the vaults.

- 2.5 The vaults vary in dimension, both in height and the amount they protrude into the road, we do not perceive the height difference to be an issue. However, our latest drawings see attached, depict additional steelwork that will need to be installed and therefore, how far they protrude into the road is crucial to ensure that the correct amount of steelwork is ordered and to the correct length.

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2.0 FINDINGS AND OBSERVATIONS Cont'd.../

- 2.6 The depth of these vaults range between 2.56 metres (vault B) and 3.24 metres (vault D), each of the vault arches are constructed of solid brickwork, however it was noted that in each of the vaults there were holes in the roof which seem to extend from the roof of the vault up to the underside of the pavement. These holes all range between 0.5 metres and 0.7 metres in diameter and have a depth of between 0.5 metres and 1 metre, dependent on the height of each bolt.
- 2.7 The strength of the structures very much depends on the geometrical shape being an arch, and once the arch has been compromised by removing a section of it, the structure becomes inherently weaker, and therefore it is crucial as part of the additional works listed below, that each of these holes are fully repaired to restore the arches to their original strength.

3.0 ADDITIONAL WORKS REQUIRED

- 3.1 The following list is in our professional opinion what we would expect as a minimum to ensure the stability of each structure.
- 3.1.1 Within each vault, supply an additional 152 x 152 x 23 UC S275 piece of steel, refer to drawing 22/1468/301, for the exact length of steelwork required. We would recommend that Contractor take the length of each vault and deduct 150mm off the length of each steel to allow for undulations within the brickwork as the dimensions supplied on the drawing are assuming the walls are completely flat, however, in reality this is unlikely to be the case.
- The steelwork should be bedded on a high strength mortar that is to be placed directly on the floor, this is to ensure that any undulations within the floor are removed, and steelwork is completely level, without any voids beneath the bottom flange.
- 3.1.2 Supply a single Acrow prop that should be fixed to the top of the additional floor steel and is fixed again at the top to the existing roof steel work at mid-span.
- 3.1.3 The Contractor should repair each of the holes within the roof of the vaults and we recommend that this is done by fitting a plywood cover to the inside of the roof to act as formwork, that has a hole in the centre, into which a high strength non shrinkable cementitious grout should be pumped in from the underside to completely fill each of the voids, leaving the plywood formwork in place until the grout has completely cured.

We would recommend that the Contractor allow a full 28 days curing time, to allow the grout to reach its design strength, before any of the demolition equipment drives over the vaults.

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3.0 ADDITIONAL WORKS REQUIRED Cont'd.../

- 3.1.4 In addition to these works, we would recommend that whilst the demolition and other equipment is traversing over the vaults, that a banksman is provided. The traffic should move continuously over the vaults not stopping at any time whilst doing so, and that only one piece of equipment is to travel over vaults A to E, at any one time.

The banksman will be responsible to ensure that each piece of equipment has passed the last vault before the next piece of equipment enters the road and drives over the first vault.

- 3.2 Whilst there are products on the market to monitor vibration and cracking, we do not believe that these would be of any benefit to the scheme, especially as such equipment is likely to be expensive. Instead, we would recommend that the banksman carry out visual checks on each of the vaults throughout the day noting any additional cracking that may have been caused by the vehicles.

We trust the above meets with your approval, however, should you wish to discuss any aspects in greater detail, please do not hesitate to contact the writer.

Yours faithfully

GATELEY SMITHERS PURSLOW

CHRIS LAUGHTON BSc (Hons) IEng MICE
Senior Engineer

Encs Photographic Plates (overleaf)
Drawings

Cont'd overleaf.../

PHOTOGRAPHIC PLATES

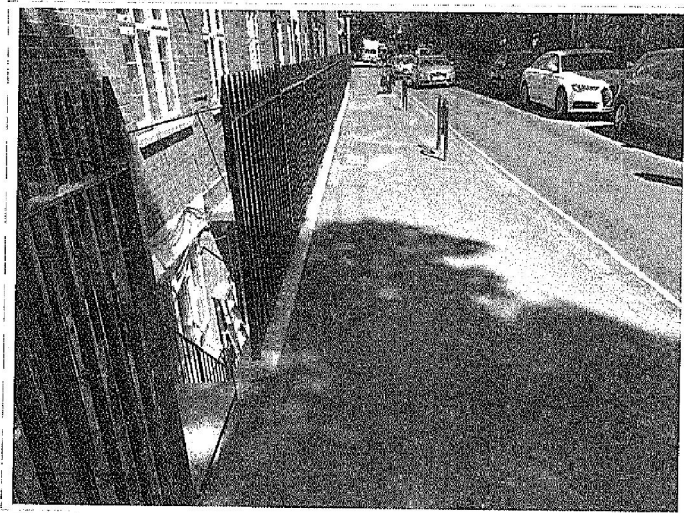


Plate 1.

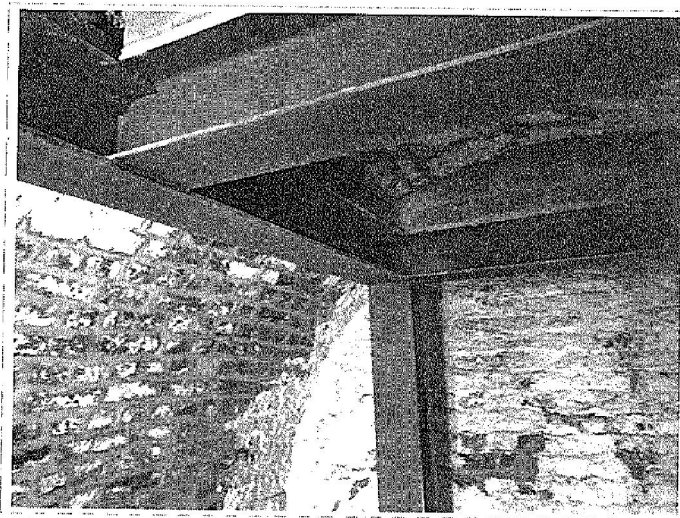


Plate 2.

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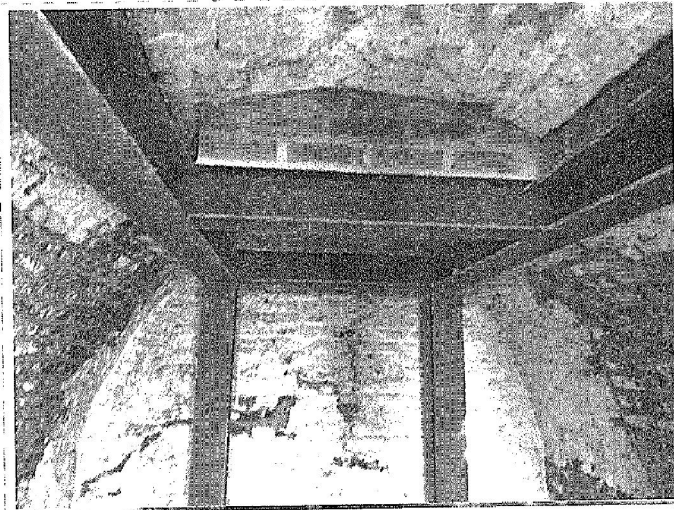


Plate 3.

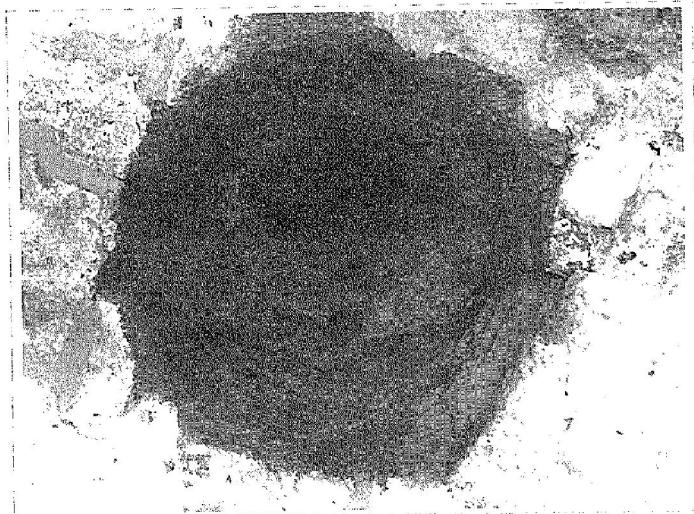


Plate 4.

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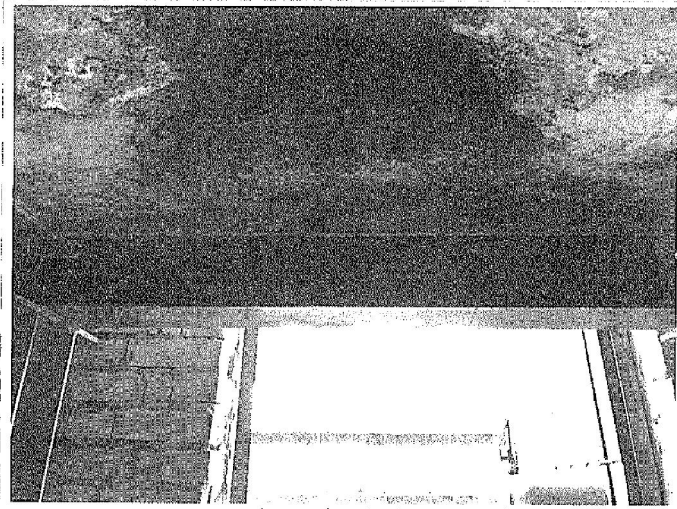


Plate 5.

