

One Bedford Avenue

Specification for Backfilling of Redundant Pavement Vaults (In relation to condition 19 of planning permission 2013/3880/P)

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Quality Assurance – Approval Status

This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2008, BS EN ISO 14001: 2004 and BS OHSAS 18001:2007)

Issue	Date	Prepared by	Checked by	Approved by
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Comments

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Comments Incorporating comments from Second London Wall

Disclaimer

This report has been prepared by Waterman Structures Limited, with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporation of our General Terms and Condition of Business and taking account of the resources devoted to us by agreement with the client.

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1. Introduction

This document has been prepared in order to satisfy the requirements of condition 19 of planning permission 2013/3880/P for development at One Bedford Avenue. Condition 19 states that:

Before the redundant vaults located underneath the public highway adjacent to the site are in-filled, details of the specific vault locations, proposed in-fill material specifications, and method statements to describe how the proposed works would be undertaken shall be submitted to and approved in writing by the Council.

Reason: To safeguard existing below ground public utility infrastructure in accordance with the requirements of policy CS5 of the London Borough of Camden Local Development Framework Core Strategy.

This document has been prepared in accordance with the requirements of the condition.

The redundant pavement vaults are required to be completely backfilled with concrete to completely exclude air voids and future reliance of the spanning elements of the vault structure to uphold the pavement/highway

2. Location

See Figure 1 – “Basement Plan – Pavement Vault Backfilling” on page 3 for specific location details.

3. Materials

Low strength concrete is to be used to avoid undue obstruction to future installation of services within the highway from the vault infill material (refer to attached sketches fig. 1 and 2.).

Concrete fill from base up to 1200mm of the vault roof is to be ordinary concrete with a 28 day cube strength typically not exceeding 10N/mm².

The top 1200mm of the vault to be filled with foam concrete with a 28 day cube strength not exceeding 15N/mm². Nor less than 7N/mm².

The detail design of the concrete mixes will be the contractor's responsibility and subject to the engineers approval.

4. Method Statement

An outline method statement has been prepared and is below.

The vault structure is not to be demolished and the pavement / highway surface is not to be disturbed.

Plant, tanks, cabinets, doors, fixtures and fittings and the like which would result in significant cavities within the fill are to be removed.

Live services are to be disconnected.

Stud partitions, wall and ceiling linings, false floors and soft floor finishes are to be removed.

Non-load bearing masonry partitions which would hinder the filling process and could lead to cavitation are also to be removed.

All materials that are not steel, concrete or masonry not covered by the above is to be removed.

Vaults incorporating drainage chambers, access points and gullies, etc. are **not** to be filled until said items have been relocated outside the vault or have been disconnected and made redundant. If the drain connections under and within the vaults are to be reused they may need to be repaired or upgraded. The contractor is to refer to the Services Engineer for works required to the drainage infrastructure.

Appropriate precautions are to be taken to ensure the filling process do not cause collapse of masonry walls or destabilises the vault structure, e.g. through differential fill pressures.

Concrete mix design and filling procedures adopted are to ensure complete filling and good compaction of the fill concrete and to ensure no air voids / cavities are created. Concrete shrinkage is to be minimised.

In particular foam concrete can segregate, settle and shrink significantly during the placing and setting period and particular care and precautions are required to be taken to avoid this and / or compensate for it. It may need to be cast in layers.

The completed and cured fill to the vaults must be tight to the roof of the vaults and the Contractor is required to demonstrate how he will achieve this, including any post fill grouting measures to ensure the security that significant shrinkage and unintended foam concrete settlement cavities at underside of the vault roof are filled.

Vault roof support structures, where they hang down below the continuum of the roof, may create bulkheads and obstructions to the flow of concrete and complete filling of the roof. Holes may require to be formed in these down standing structures to ensure free flow of fill concrete. Holes thus formed must not destabilise the vault structure. The Contractor is to inspect / survey the vault structure and submit his proposals to the engineer and design team for review. The contractor is responsible for ensuring the stability of the vault structure throughout his works.

The contractor is required to submit his detailed method statement for filling the vaults together with concrete details for the lower ordinary concrete and upper foam concrete for review by the Engineer and Design Team prior to commencement of the vault work.

5. Conclusions

The infilling/backfilling of the redundant vaults will be carried out in accordance with the details contained herein. We trust this is sufficient to discharge the condition.

FIGURE 1

Basement Plan – Pavement Vault Backfilling

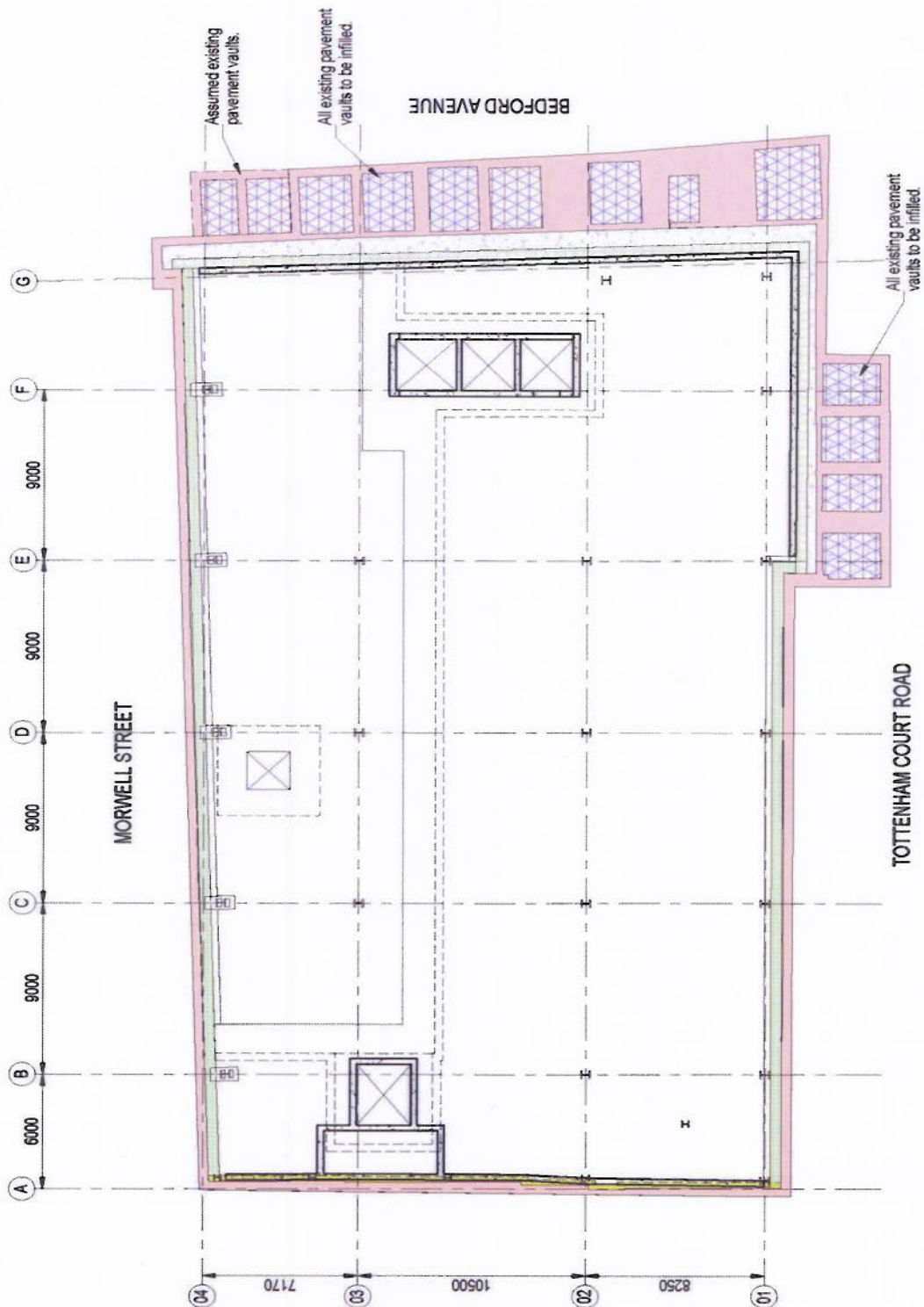
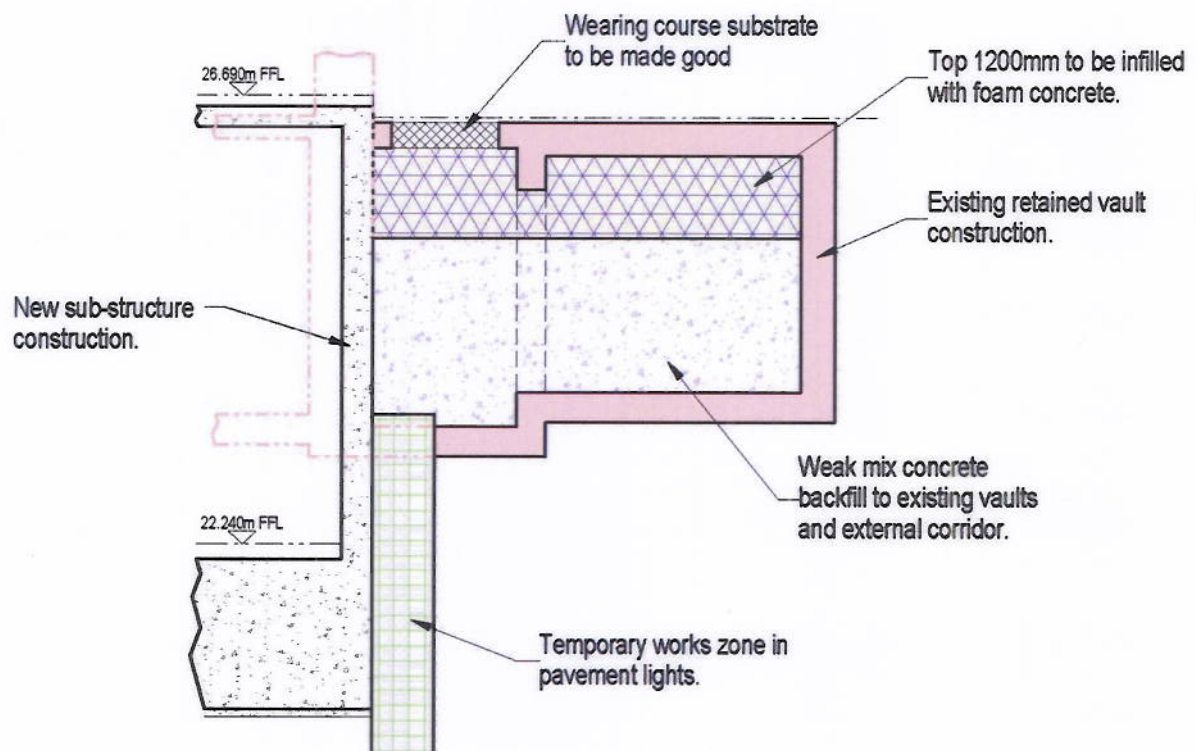


FIGURE 2

Typical Section through Backfilled Pavement Vaults



UK and Ireland Office Locations

