

OUR REF: 2/5932.1

YOUR REF:

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8th September 2015

Culvert Design Justification

To whom it may concern,

With respect to the proposed below ground surface water design changes on the Pocket Living site at Oak Grove, Cricklewood, London, Clancy Consulting Ltd offer the following design summary statement in support of the revised planning application:

Introduction

Please refer to the attached "Offsite Culvert – Drainage Report" dated 10th April 2015 for details of the initial discovery, assessment and preliminary remediation measures.

Detailed Design

Several options have been explored to deal with the run off from the culvert. An increase in the surface water discharge rate was successfully negotiated with Thames Water from 5l/s to 10l/s.

1. Creating a low level collection point for the culvert run off and running via gravity to the public sewer. A larger attenuation tank at a lower level would be required meaning that the existing tank and downstream runs which have already been constructed would need to be excavated. This option was discounted due to the difficulties and safety issues associated with excavating the already constructed drainage on a site where the main building had almost been completed and there was little space to bring in heavy equipment. Moreover, the existing Thames Water sewer in Oak Grove had not yet been excavated and there was a risk that the sewer could be higher than estimated (the actual connection invert level was subsequently found to be approximately 1.1m higher than estimated).
2. Upon further site investigation it was decided that the proposed collection point for the surface water run off could be raised and that the already constructed main surface water carrier runs could be kept. However a large extension and level change to the already constructed attenuation tank would be required which would have caused issues with undermining of the adjacent private boundary walls and boundary railway embankment.

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3. Similar to 2 however, the additional attenuation storage required is provided above ground rather than below ground. The new above ground tank and pumping station have been designed that they should only be required to work in extreme storm events (between the 1 in 30 year and 1 in 100 year plus climate change storms). This design has limited the amount of unsafe, costly and potentially time consuming solutions by maintaining the already constructed surface water drainage & reducing the impact on adjoining boundary stakeholders.

Detailed design drawings have also been made available and further design calculations can be made available on request.

Kind Regards

A handwritten signature in black ink, appearing to be 'P. Pritchard', with a horizontal line extending to the right.

Phil Pritchard (MEng Hons)
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