Canada Water
London, UK

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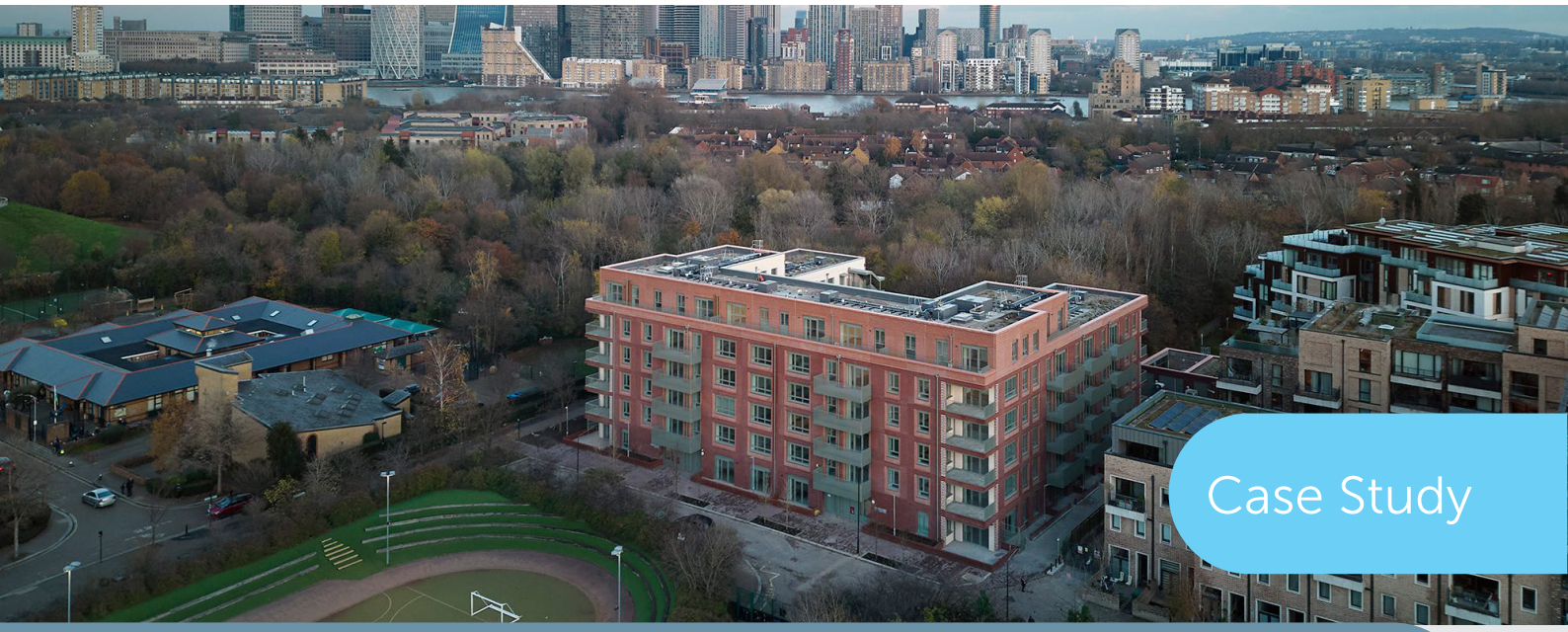
Making your world a quieter place



Case Study

Property Owner
British Land

Main Contractor
McAleer and Rushe

Acoustic Consultant
Rupert Taylor

Architect
White Ink

Structural Engineer
AKT

OVERVIEW

A full Building Base Isolation (BBI) solution was required after the acoustical consultant's FINDWAVE modelling indicated a potential exceedance of the 35 dB LAmax(s) ground-borne noise limit set by the London Borough of Southwark's "Technical Guidance for Noise" (Nov 2019).

CDM Stravitec collaborated with the structural engineer and main contractor to ensure all load cases - dead, live, serviceability, horizontal, fire, and accidental/ disproportionate collapse - were addressed in the design.

By participating in the design and doing the installation of the solution, CDM Stravitec can guarantee its quality and performance.

Stravibase VHS

Stravibase VHS stands for very high stress bearing and consists of successive layers of high resilience elastomer pads and steel plates.

AT A GLANCE

CHALLENGES

- Ensure that re-radiated noise within habitable residential rooms does not exceed 35 dB LAmax(s) to maintain acceptable acoustic comfort levels for occupants.
- Achieve a natural frequency of 10 Hz across the entire load range.
- Limited surface area available to place the isolation system.

BENEFITS

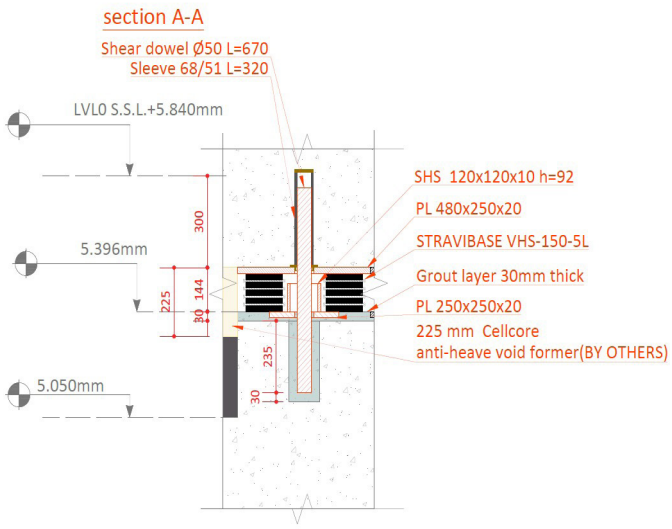
- Solution with high load capacity in limited space and restecting the acoustical criteria.
- Collaboration between the acoustical consultant, structural engineer, and solution provider was established from the design phase to ensure all aspects of performance and design criteria were fully addressed.
- Fast and easy to isntall by solution provider.

SOLUTION

The solution involved installing vibration isolation bearings on top of the pile caps, effectively decoupling the columns from the pile foundation.

CDM Stravitec implemented five-layer Stravibase VHS bearing assemblies, complete with fail-safes and shear dowels, to ensure optimal performance and durability.

Shear dowels housed in acoustic isolation sleeves were implemented to resist lateral loads. Additionally, failsafe measures were incorporated to preserve the void space in the unlikely event of a disproportionate collapse.



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