



BACKGROUND

The development of Leeds City College's new Quarry Hill campus in the heart of the city's Cultural Quarter marked a major step forward in the region's educational infrastructure. Home to the College's Creative and Digital Arts, and Health and Social Sciences departments, the new campus boasts cutting-edge facilities designed to reflect the vibrant, modern character of Leeds.

Wates Group was appointed as the main contractor with a contract value of £37.7 million. The project was part-funded by a £33 million grant through the Leeds City Region Local Growth Deal and was designed by Ellis Williams Architects. The site's city-centre location, proximity to Leeds College of Music and Northern Ballet Theatre, and sloping topography presented a number of logistical challenges.

Howard Civil Engineering were proud to support Wates Group through the delivery of both the groundworks and reinforced concrete frame packages for this landmark development.

To support the ambitious delivery programme, Howard Civil Engineering engaged early with Wates through a structured Early Contractor Involvement (ECI) process. This involved detailed planning, programming, and regular participation in design team meetings well in advance of work commencing on site.

This proactive approach enabled maximum value engineering to be implemented—drawing on sector-specific knowledge, lean construction programming, and close collaboration with follow-on trades. It also helped streamline buildability, sequencing, and site logistics, significantly de-risking the project.

SCOPE OF WORK

Substructure & Drainage

The quality and integrity of the substructure was essential to the long-term performance, safety, and durability of the completed structure. Howard Civil Engineering carried out the drainage and substructure works in close sequence:

- A 3,500m² basement complete with mass fill, reinforced bases, ground beams, and vertical columns and cores.
- Site-wide drainage installation including foul and surface water pipework, manholes and inspection chambers, and attenuation systems.

Reinforced Ground Floor Construction

Howard Civil Engineering completed ground floor construction including the following work:

- A fibre-reinforced slab solution to improve crack control, durability, and impact resistance by distributing fibres throughout the concrete.
- A separate tanking membrane incorporated into the slab to ensure robust, long-term waterproofing.

Retaining Wall

Howard Civil Engineering completed a reinforced concrete retaining wall, integral to the building, constructed in a way that addressed variations in on-site levels.

Superstructure

Howard Civil Engineering completed an extensive superstructure which comprised six reinforced concrete blocks varying in height between six and eight storeys.

PROJECT CHALLENGES

This high-profile, city-centre site presented a series of complex logistical and spatial constraints. Its footprint, size, and sloped topography required significant advance planning prior to the award of the contract. Howard Civil Engineering developed a comprehensive delivery plan and sequence, incorporating offsite construction techniques and coordinating deliveries through its local plant yard.

With over 100 operatives on-site at peak and a dedicated 11-person delivery team, coordination and communication were key to maintaining health and safety and meeting programme requirements.



SPECIALIST EQUIPMENT AND TECHNIQUES

Bespoke Cellular Attenuation Tank

As part of the drainage solution, we incorporated a bespoke cellular attenuation tank designed to utilise voids behind the retaining wall, reducing the need for additional excavation and backfill.

Post-Tensioning Floor System

A post-tensioning floor system was installed between levels 2 and 3 of the superstructure to increase strength, structural efficiency and reduce material usage.

HAVS Monitoring

Our operatives wore HAVS watches during pile breakdown operations, ensuring health and safety compliance. This new generation of workplace wearable technology helps workers monitor the risk of exposure to vibration, with sound and vibration alerts inform the wearer if their personalised exposure thresholds have been exceeded.



Twin Wall Precast Concrete Units

To construct various stair and lift cores, we used a Precast Twin Wall system, an innovative solution that brings all the advantages of precast concrete to the reinforced wall market, combining the dimensional accuracy and quality control of precast walls with the flexibility of in-situ concrete.

The Twin Wall arrived on site as two leaves tied together with a steel lattice girder and was filled with in-situ concrete on site. As well as providing faster installation, the solution provided better quality control for reinforcement fixing and heavily reinforced core stability.

OUTCOME

The Leeds City College Quarry Hill project is a shining example of successful collaboration, technical excellence, and value-led aconstruction. Howard Civil Engineering's role in completing the groundworks and reinforced concrete frame contributed directly to the safe, timely, and high-quality delivery of one of Yorkshire's most ambitious educational facilities.

In recognition of our efforts, David Wingfield, Business Unit Director at Wates, commented:

"I wanted to say thank you to Howard Civil Engineering for your help, support and determination to deliver a fantastic project for us at Leeds City College. Your exceptional efforts have not gone unnoticed by the site team and me."

This project reinforces Howard's expertise in city-centre developments and showcases our ability to deliver large-scale civil engineering packages through innovative solutions, effective preconstruction input, and strong collaborative relationships.

