



Toureen Group 

PROJECT PROFILE

HEATHROW TERMINAL 4



HEATHROW AIRPORT TERMINAL 4

As part of an exclusive agreement with Heathrow Airport Limited and The Arora Group, Toureen Contractors was appointed as Principal Contractor in 2015 to develop two hotels directly connected to London Heathrow Terminal 4. The two adjoining hotels, Crowne Plaza London and Holiday Inn Express London will feature 755 rooms, scheduled to open in October 2018.

The construction division of The Arora Group, trading as Grove Developments, appointed Toureen Contractors to deliver the Shell and Core package under a Design & Build order, enabling us to offer our expertise in some of the complexities of the structure to allow a more efficient delivery. Toureen managed the project as Principal Contractor for 65 weeks.





PROJECT DURATION

65 WEEKS



DATE OF COMPLETION

NOV 2017



CONTRACT VALUE

£23.1 MILLION



CLIENT

GROVE DEVELOPMENTS



Toureen received the project at tender stage from Grove Developments for pricing, where our in-house design team reviewed the tender information in detail. Using state of the art 3D modelling software, our design team assessed the buildings downward and uplift forces and concluded that a raft foundation was feasible. This proposal eliminated the need for 505 bearing piles.

Toureen was successful in securing the project largely arising from the alternative solution for the foundations and retaining walls. As a result of value engineering the foundation and retaining wall structures, we were successfully able to deliver significant savings to the client at the end of the project.

Heathrow Airport is one of the world's leading international airports, serving 75 million air passengers annually, with Terminal 4 receiving over 10 million passengers a year. Prior to being appointed the role of Principal Contractor, Toureen gained a soft start in the early summer, settling in onsite getting to know the systems and procedures which are required from a construction company working in and around one of the busiest airports in the world.





PROJECT DETAILS

SCOPE OF WORKS & KEY POINTS

Client:
Grove
Developments

Toureen, taking over the role of Principal Contractor in August 2016, was appointed to design and deliver the sub and superstructure to the below scope;

Project:
Heathrow
Terminal 4

- Demolition and remediation.
- Structural and foundation design including all temporary works.

Structural Engineer:
Elliot Wood

- Piling and reinforced concrete capping beam construction.
- Bulk excavation.
- 2-storey grade 3 reinforced concrete substructure (total basement area 10,500m²) formed using sheet piling.

- 7-storey reinforced concrete frame above ground floor. Pre-cast columns, stairs and twin wall cores.
- Internal basement drainage.
- Basement waterproofing including a cavity drain system.
- Substructure blockwork.
- First floor mezzanine concrete roof.
- Reinforced concrete superstructure to the 7th floor / roof, excluding the structural steelwork to the atrium.
- Twin wall and pre-cast columns.

PROJECT DESIGN

All temporary works were designed in-house by our Technical department including;

- Earth works support for basement excavation.
- Re-design of secant piled wall retaining structure to sheet piled retaining wall with lining wall, installed to exact cut off levels avoiding cutting and wastage of materials.
- Capping beam installation vastly simplified.
- Sheet piles also utilised for the permanent works.
- Retaining wall propping (props up to 47m in length).
- The re-design of a deep attenuation tank to a shallower and longer one. Use of these attenuation tanks as temporary thrust blocks for propping to the sheet piling. Use of a diaphragm wall principle for construction of these structures.
- Three tower crane bases incorporated into the permanent works foundations.

Toureen employed the services of Elliot Wood as Structural Engineer, the Architects appointed remained with Grove Developments and a programme was agreed to deliver the design, along with the scope of the works by November 2017.

PROJECT CHALLENGES

Toureen was able to use a variety of in-house skills within the Group and the first challenge was to create the basement area, which meant engaging the services of our in-house piling specialists who installed 323 linear metres of silent vibration less sheet piling around the perimeter. The 2-storey basement covered a combined area of 11,000m², with a target date to be back at street level by May 2017 with basement structure complete.





In order to mitigate the late implementation of diversions to existing services carried out by a third party, Toureen phased the construction sequence in sections using interlocking sheet piles which created time efficiencies and enabled the project to be completed on schedule.

Crowne Plaza London – Heathrow T4 will feature 300 bedrooms and a range of business and meeting facilities. Meanwhile, the 450 room Holiday Inn Express London – Heathrow T4 will be a 'next generation' Holiday Inn Express hotel, featuring the latest technology and an Express Café. The two hotels

are extremely well connected, located within walking distance from Heathrow's terminals via an air bridge and with direct access to the London Underground, Heathrow Express train service and nearby motorways.

Following the successful completion of the Shell and Core package at Heathrow Airport Terminal 4, Toureen Contractors was appointed as Principal Contractor by Grove Developments for a new project at Terminal 2. The project involves the build of a 14-storey Part RC frame/Pre-cast structure for a new 320 bedroom hotel directly connected to London Heathrow Terminal 2.

Toureen Group

Solving complex challenges since 1992



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