

**COMPLEX CHALLENGES ...  
MADE SIMPLE**

RoC Consulting is a highly experienced and qualified team of civil, structural, geotechnical & geo-environmental engineers

**CASE STUDY**



# CLIPPERS QUAY, SALFORD

## Key facts

**Project**  
Clippers Quay, Salford

**Client**  
Amstone

**Architect**  
Leach Rhodes Walker

**Project duration**  
2014 - ongoing



Civil Engineering



Structural Engineering



Earth Sciences



## PRS BUILD FOR RENT RESIDENTIAL SECTOR

### PROJECT OVERVIEW

Construction of a new 614-unit residential development, Clippers Quay, is now well underway. Work started on site in early summer 2016 with the main drainage installation, including sustainable drainage systems and a mixture of CFA and driven piles, which were specified to maximise efficiency to meet the specific needs of the building structure.

The new build to rent/private rental sector (PRS) project sees the creation of five high-quality, medium-rise buildings, constructed in durable and low-maintenance materials, with maximum opportunity taken to connect these with the Manchester Ship Canal which bounds two sides of the site. The scheme will create and maximise external open space, with a mix of publicly accessible areas and private amenity space.

Detailed analysis and assessment of site constraints, resulted in coordinated design solutions which met the Client brief and cost plan.

### CHALLENGES

- The building structure utilises reinforced concrete with post-tensioned flat slabs floor structures. The first floor level facing Trafford Road is designed in traditional concrete to deal with a complex system of level changes, transfer elements and interfaces with the existing highway retaining wall. The design solution for the building has had to be finely adjusted to

the project cost plan, with significant effort given to produce the most efficient frame for the scheme

- Drainage, which includes sustainable on-site water storage and a negotiated outfall into the adjacent Manchester Ship Canal, is severely restricted by existing outfall points and the location of the site, however, our design has avoided the need for pumping stations
  - Coordination of the superstructure over first floor retail accommodation and ground floor car parking has presented a number of challenges which have been resolved with minimal transfer structure
  - With regard to the effect of the plot's historical legacy ground conditions, the design of foundation solutions has also provided significant challenges, with zonal solutions and a mixture of piling techniques adopted to deliver a cost effective foundation design
  - The project includes the retention and part-replacement of a section of existing highway retaining wall along the boundary of Trafford Road, which includes a Grade II-listed bridge control tower. Detailed negotiation with Salford City Council and Peel Ports resulted in the development of value engineered solutions
- RoC Consulting remains an active member of the construction delivery team for civil and structural elements, following novation to main contractor Sir Robert McAlpine.

