

Residential – Regenerating complex sites for housing

- 49 private sale apartments financing 28 affordable homes
- Residential living partially over the Bakerloo Line
- Basement parking in Westminster with EV charging
- Green roofs, PV cells
- Future route to a Net Zero Carbon heat source

PROJECT

Ashbridge, Ashmill & Cosway Street Homes

CUSTOMER

Westminster City Council

LOCATION

London

CONTRACT

2 Stage D&B

COMPLETION

2022

VALUE

£46m

Need

Increasingly local authorities in major cities are faced with regenerating problematic brownfield land for affordable housing. Often private sale is used to finance the new housing and offset the cost of these complex developments.

Westminster Council had this challenge as part of regenerating the Church Street area in London. By building a high-end development of 49 apartments, on land partially over the Bakerloo Line at Cosway Street they could fund 26 flats and 2 townhouses on nearby land at Ashbridge Street and Ashmill Street.

The diversity of the sites, each with their distinct constraints would require specialist solutions.

- At Cosway Street, protecting the rail tunnels and dampening vibration for residents was critical.
- At Ashbridge Street, part of the existing building and the basement had to be retained and an outdoor living space created in this busy residential setting.
- At Ashmill Street, two infill terraced houses had to be integrated into the

historic street frontage within this constrained site founded on made ground.

Solution

Cosway Street was a complex design and build with a fluted façade fronting the street on every elevation, high quality finishes, a parking basement, and the Bakerloo Line partially beneath. Working with our specialist suppliers and designer some clever solutions were implemented:

- A reinforced concrete frame supported on a raft foundation was designed to distribute the load and safeguard the tunnels.



Figure 1 - Section showing raft foundation

- Specially engineered rubber/steel laminated vibration isolation bearings were

designed and installed between the new basement and the residential block to dampen the noise and vibrations from the underground trains passing beneath.



Figure 2 - Vibration Isolation Bearing Plates – in Belgium

- The fluted brick façade was prefabricated off site as individual pre-cast units with built in windows and Juliette balconies which simplified installation and provided a factory-controlled quality finish and durability.

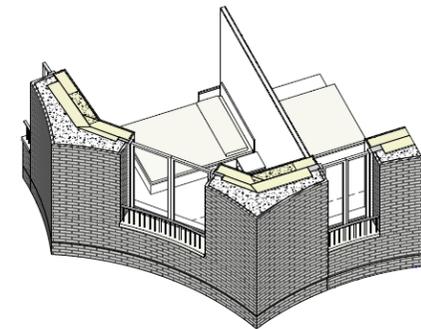


Figure 3 - Off-site manufactured fluted facade panels

- BIM modelling to Level 2 was essential for this complicated build to ensure the pre-

cast fluted wall units were an exact fit and it simplified the design co-ordination with the Belgian manufacturers.

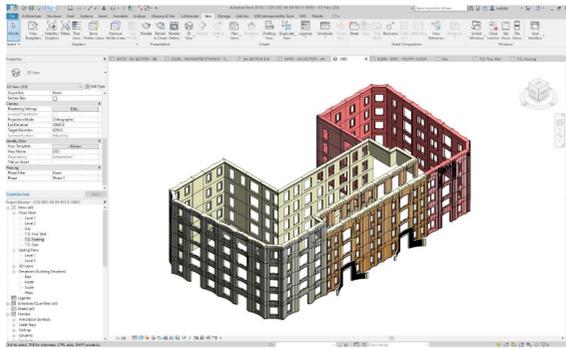


Figure 4 - BIM Model of Facade

Ashbridge Street had an emphasis on quality finishes and the creation of a community inspired 'outdoor living space' to enhance life for local people and quell anti-social behaviour.



Figure 5 - Ashbridge Street

With the site for the five-storey block

bounded by residential properties, reducing disruption was at the forefront of our approach.

- Every aspect of the demolition was meticulously planned to retain part of the functioning BT repeater station and the basement for re-purposing as parking.
- Extensive noise and dust mitigation would be enforced to create the patterned 'carpet' of hard landscaping.

The design included photovoltaic cells on a green roof. Looking to the future, the council requested an option for all three buildings to include for Air Source Heat Pumps which will provide a route to Net Zero Carbon.

Ashmill Street utilised infill land to create two townhouses fronting onto the road. In this location logistics were carefully planned and mini-piled foundations offered the best solution for the tight site on made ground.



Figure 6 - Ashmill Street

Hand laid brickwork and quality finishes will ensure these properties, designed for families, blend in with their neighbours.

Outcome

Westminster's approach to finance affordable homes through private sale has unlocked these challenging parcels of land for housing.

The three new developments, which are currently in build, will deliver 77 more homes in the borough with 28 of those for people on low income. Attention to quality and the creation of outdoor living spaces at Ashbridge Street is taking the council another step closer to achieving the regeneration aims set out in the Church Street Masterplan.

Through this scheme and a similar mixed tenure development for Westminster City Council at Parson's North, we at Osborne are continuing to grow our expertise in complex housing solutions for our city centres. Solutions that combine off-site, modern methods of construction and BIM to simplify the build and create safe quality homes for all.