

Polypipe's Ridgistorm-XL specified for multimillion pound Hull residential project

Polypipe has provided a complete water conveyance and attenuation solution for a new Keepmoat Regeneration residential development in Hull.



Polypipe delivered a system that demonstrates how large diameter pipes can meet strict Sewers for Adoption guidelines, while managing the traffic load from the road infrastructure. Situated approximately three miles away from Hull city centre, the Portobello Street development will provide 142 new homes for Homegroup and Hull City Council as part of the regeneration of this area of the city.

Polypipe was approached to assist with the design and manufacture of a solution that met the requirements of Yorkshire Water and Hull City Council. Polypipe advised the use of large diameter plastic piping and modular manholes, and worked closely with both parties to present the benefits that their Ridgistorm-XL large diameter plastic pipe system could deliver over a traditional concrete system.

Polypipe ensured the solution fulfilled all Sewers for Adoption criteria, as well as achieving the conveyance and attenuation needs of the site.

The engineered system design gained full Section 104 approval for the adoption of surface water run-off into their watercourse, and Section 38 approval for the installation of the system on the development site.

The system Polypipe supplied was much lighter in weight than concrete, providing ease of installation benefits.

The final design incorporated over 231m of Polypipe's 1,200mm Ridgistorm-XL large diameter plastic pipework. The adaptability of the thermoplastic system meant that the Polypipe pre-fabrication team could manufacture the pipework in a stiffness class tailored to the specific ground conditions at the location, without sacrificing overall strength and resilience.

CASE STUDY

Project

Portobello Street, Hull

Client

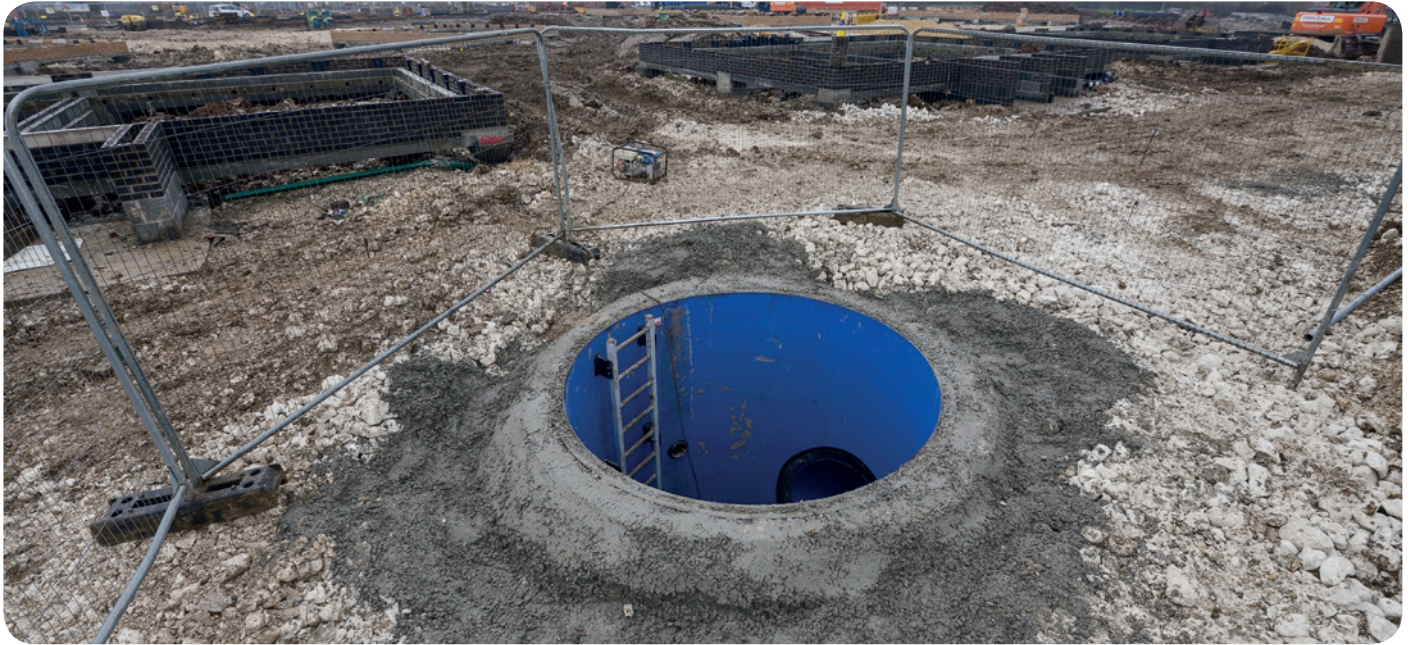
Keepmoat Regeneration

Application

Water attenuation

Product

Ridgistorm-XL,
Ridgistorm-XL Manholes



“Polypipe provided a value engineered solution using Ridgistorm-XL tanks, with pipes manufactured to the perfect stiffness classification to meet our needs, together with convenient pre-fabricated pipework and manholes.

“This solution met the requirements of Yorkshire Water and Hull County Council, while also providing a robust and efficient system ideally suited to the development’s challenging conditions.”

Trevor Smallman, Project Manager at Keepmoat Regeneration.



The Ridgistorm-XL pipes were used to form four tanks to attenuate and convey surface water run-off from the development. Each tank was linked to a flow control chamber featuring a flow control unit and penstock, to manage the release of surface water run-off into the approved watercourse. A pre-installed weirwall in each of the chambers also provided a stable end connection to Yorkshire Water’s existing drainage system. Polypipe was able to manufacture pipes and chambers with spigot and socket jointing to further reduce

installation time, which will also enable easy separation in future. With the thermoplastic structured wall system being up to 94% lighter in weight than concrete, it is easier to handle and quicker to install, which ensured efficient installation on the Portobello Street site. The design also included 12 pre-fabricated Ridgistorm-XL Manholes featuring ready-to-install access points that could be integrated at any part of the network system. The manholes were benched and channeled in accordance with Sewers for Adoption guidelines.