



WALTON LE DALE WASTE WATER TREATMENT WORKS

PROJECT

AMP5 Upgrade

MAIN CONTRACTOR

KMI Plus

PROJECT LEAD

Antony Birchall, Technical Sales

KEY BENEFIT

Making simple made to measure systems that were easy to install/remove.

INTRODUCTION

The Walton le Dale Waste Water Treatment Works was a large and challenging site with multiple excavations which required a range of safety solutions.

Throughout the scheme MGF delivered:

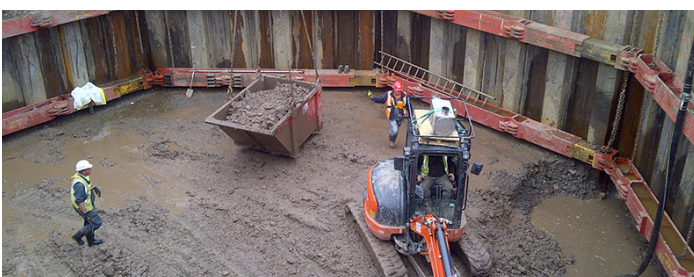
- A dedicated design engineer providing; comprehensive technical support, temporary works design coordination and project management.
- Innovative, bespoke excavation safety solutions
- On site shoring and safety tuition

United Utilities commissioned a major upgrade to the existing Waste Water Treatment Works.



The upgrade to the works was approved a £23.5m budget. Due to the large scale of the site and the complexity of the construction and commissioning sequence it was recognised that the scheme would prove one of the most demanding in the AMP5 programme.

The site itself delivered some challenges – an area of land to the south east was designated as an ancient woodland and site of biological interest with further fields south west of the site said to be of biodiverse value. The site was partly located on a flood plain with high water tables and the risk of flooding had to be considered from the out-set of planning.



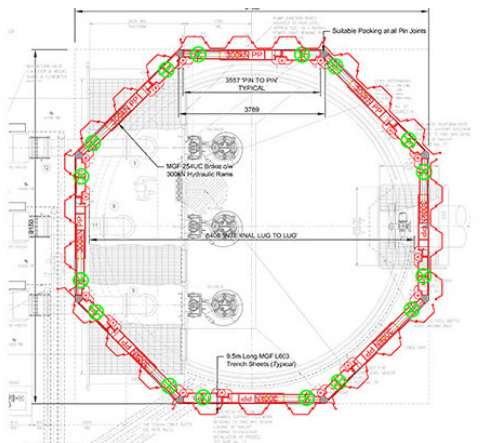
THE SOLUTION

With multiple, deep excavations taking place on the site KMI Plus identified the need for extensive shoring solutions in order to create a safe working environment. Based on previous experience with the contractor and the ability to provide complete engineering solutions, contract management and temporary works coordination, MGF were appointed to provide excavation safety solutions.

On the site there were a number of small, shallow, ductile and concrete pipe excavations which required simple shoring solutions such as manhole boxes and trench boxes. Other excavations were larger and deeper and required precision planning and innovative solutions.

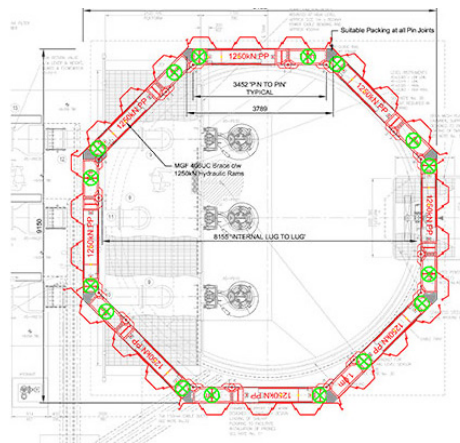
The three most notable excavations and the equipment MGF delivered to support these were as follows:

- Humus Tank Excavation: 30 diameter and 1.8m deep.



MGF provided a bespoke, circular, cantilevered, Larsen sheet piled cofferdam.

- Cross Over Weir Excavation: 18m x 10m and 4.5m deep. MGF provided MGF 400 Series Struts, MGF 406 UC Braces and trench sheets. The shoring of this excavation was complex with changing requirements which MGF were able to accommodate.
- Outfall Pumping Station Excavation: 17m diameter and 8m deep. MGF provided bespoke designed, octagonal shaped MGF 406 UC Brace hydraulic systems complete with inter-locking Larsen sheet piles to help minimise groundwater ingress. The octagonal design was developed to accommodate existing structures on site and keep access roads open. The outfall pumping station was positioned close to another structure and extra care was taken to ensure that neither excavation affected the other.



"In addition to the shoring equipment, MGF provided a dedicated Project Manager, Antony Birchall and Temporary Works Engineer, Emma Hewitt to support the project throughout the duration of the temporary works. They gave us the support we needed to create a safe working environment on such a large and complex site. Regular contact and consultation of the temporary works designs, combined with their knowledge, experience and understanding of our requirements and the site, enabled us to safely deliver the shoring elements of this demanding project at Walton Le Dale Waste Water Treatment Works."

Desmond Donnelly, Project Manager, KMI Plus

THE VERDICT

MGF provided KMI Plus with made to measure systems that were easy to install and remove whilst providing a safe working environment and optimum working space. The solutions allowed site access to remain open and reduced the levels and flows of ingress water from the flood plains.

MGF conducted site checks and soil inspections and offered on site training in shoring and safety awareness. The designation of a single design engineer to the scheme ensured that the contractors temporary works design requirements were fulfilled.