



# Steel Piling Group | Case Study

Maritime | Highway | Rail | Buildings | Sustainability | **Specialist Work**

## Flood Defence Wall

Enderby Wharf, Greenwich, London



<b>Client</b>	UKD Groundworks	<b>Ground Conditions</b>	Soft Alluvial Clay over Dense River Terrace Gravel
<b>Contractor</b>	Fussey Piling Limited	<b>Value</b>	£450k approx.
<b>Location</b>	Enderby Wharf, Greenwich, London	<b>Completion Date</b>	2014
<b>Scope</b>	200m long wall along the Thames Path		
<b>Piles</b>	Arcelor Mittal PU28-1mm and PU32 in lengths 12.0m long to 13.5m in Grade S390GP		

Fussey Piling worked as part of a truly multi-disciplinary team to provide the steel sheet piled flood wall to a new 770 home development on the banks of the River Thames. The wall was placed 10m inland from the primary river wall, to act as a “last defence” in extreme flooding cases.

From assisting AECOM in feasibility studies, to gaining Environment Agency consent alongside Barratt London and installing the sheet piles with UKD Groundworks, a sustainable solution was developed to satisfy every party.



Layer	Level (m AOD)		Soil Description
	Top	Base	
1	6.2	2.0	Fill (Type 6F2)
2	2.0	0.2	Made Ground
3	0.2	-3.5	Alluvium
4	-3.5	-9.0	River Terrace Gravels



A hard band of Limestone is present within the Lambeth Group beneath much of the Greenwich peninsula, at varying depths associated with the many geological faults in the vicinity. Early engagement ensured that the risk of encountering this band was explored with additional deep boreholes undertaken in advance of the detailed design. The toes of the sheet piles were proven to reach only into the River Terrace Gravels, which sit above the Lambeth Group.

Fussey Piling utilised WALLAP subgrade reaction software to analyse the 3.7m high cantilevered wall, satisfying the EA criteria for a 100 year design life, accounting for forecast rises in the river levels due to climate change and extreme flooding scenarios.

The River Terrace Gravels were loosened by pre-augering in advance of the sheet pile installation. This was carried out with a 400mm diameter auger fitted to a Bauer RTG16T leader rig. The sheet piles were then driven to level using two Kowan StillWorker WP150 “Silent & Vibration-Free” pile presses, to meet Barratt London’s required program.