

# Swinton Case Study

Piles and Pre-cast foundation solution for 18 semi-detached and terrace houses.

- **Project:** Housing Development - 18 semi-detached and terraced houses
- **Client:** Winworth Construction
- **Challenges:** Site situated in an area of peat with a high-water table

The Swinton site posed significant challenges for traditional construction methods due to its location on peat land with a high-water table. The conditions would make it extremely difficult, if not impossible, to construct the prescribed in-situ reinforced concrete foundations. This issue was exacerbated by the need to stay above the flood plain level, further complicating foundation design.

Aarsleff and Capitaline offered Winworth Construction a value-engineered solution involving piles and pre-cast ground beams. This approach allowed the construction to proceed efficiently, despite the site's challenging ground conditions.

The use of piles and pre-cast ground beams enabled the project to stay above the flood plain, bypassing the difficulties posed by the soft, waterlogged ground. The system also allowed the works to progress without significant interruption, except for the necessary dewatering activities.

The innovative solution provided several benefits:

- **Minimised Delays:** The foundation system allowed construction to proceed without the need for extensive ground preparation or stabilisation that would have been required with traditional methods
- **Cost Efficiency:** The value-engineered approach was not only effective in addressing the site conditions but also provided cost savings by avoiding the need for complicated groundworks.
- **Rapid Progression:** With a single visit needed for installation, the project met the scheduled delivery dates and unit numbers as outlined by Winworth Construction.

Execution:

- 197 piles: 200mm square piles
- Ground beams: 589 linear meters of 400mm x 400mm pre-cast ground beams



Tom Berwick, Site Manager for Winworth Construction, shared his experience of working with Aarsleff & Capitaline on the Swinton project:

***"This has been my first experience working with pre-cast concrete piles and beams. The team that Aarsleff and Capitaline used were great. Paul, Martin, and Tim were always at the other end of the phone if we had any queries throughout the job, to help, guide, and educate us through this process. They, as a team, made plenty of site visits to the scheme to ensure we were happy with the way things were done on-site. Any issues we had were simple to resolve due to the professionalism of Aarsleff and Capitaline. We've built a great relationship with Aarsleff and Capitaline on this scheme, and long may it continue into the future."***

The implementation of pre-cast concrete piles and ground beams on the Swinton development proved to be an effective solution to the site's difficult ground conditions. The approach allowed Winworth Construction to maintain progress on the project while adhering to the program schedule. The collaboration with Aarsleff and Capitaline was a success, not only in terms of technical execution but also in fostering a strong working relationship that promises to continue in future projects.



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## Data

197 x 200mm Square Piles

589 Linear meters of 400mm x 400mm pre-cast ground beams

## Client

Winworth Construction

## Challenges

Site situated in an area of peat with a high-water table

# Contact

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