



Accessible pavilion built on challenging sloping clay and fill ground using piled foundations, engineered drainage and bespoke timber structure for reflection

Location: Cardiff

Client: Horatio's Garden

Architect: 6a Architects

Contractor: Timber Workshop

Healthcare / Accessible / Timber / Garden



Project Background

Located at the Welsh Spinal Cord Injury Centre, this project created a peaceful, fully accessible garden and pavilion for those rebuilding their lives after spinal injury. The sloping site had been levelled using fill and a geo-grid retaining system — suitable for landscaping but not for structural loads — creating complex ground challenges for our engineers.

Engineering Solutions

Following detailed investigations and scanning to locate buried services, we designed helical screw piles tied with reinforced concrete ground beams and a suspended slab to support the timber pavilion. Beam positions were coordinated to avoid clashes with existing infrastructure, with some cantilevering over critical pipework. Heavy clay soils meant soakaways were impossible, so our drainage design integrated with the hospital's existing attenuation system. To ensure flat, safe paths for wheelchair users, we introduced a permeable surface laid over an impermeable liner, allowing water to filter through before being channelled into controlled outlets — preventing surface ponding while maintaining accessibility.

Outcome

Working with the Timber Workshop and the wider design team, we helped deliver a beautifully detailed pavilion and landscape offering level, puddle-free surfaces for wheelchair users. The result is a calm, restorative space demonstrating how precise engineering, coordinated detailing, and innovative drainage solutions can transform complex terrain into a sanctuary of accessibility and wellbeing.

