

Great Moor Sailing Club

Client: Fusion JV/HS2

Location: Buckingham

Value: £750k

Duration: 3.5 Months

In Brief...

As part of the legally binding Undertakings and Assurances (U&As) for HS2, Barhale were contracted by Fusion JV (Morgan Sindall, BAM Nuttall and Ferrovial Agroman) to construct a temporary road, a vehicle and boat car park, a drainage system, and a new pontoon with a concrete slipway at Great Moor Sailing club in Buckinghamshire.

The team innovated to resolve several constraints related to the project, and in the process saved money and finished construction on programme, while fully complying with stringent client specifications. The team also reduced the import of virgin materials' by eliminating the need to remove spoil from site.



Concrete slipway and pontoon



Pontoon



Tonne bag wall dam – temporary works to allow slipway construction

Technical Features...

The new access route was 120m long and 3.5m wide. To construct it, the team first removed the topsoil and vegetation using an excavator. They then excavated to formation level and moved the spoil to another location on site in preparation for using it to level up the car park later. They installed terram, type 1 and compacted it in layers using a roller. Finally, they installed type 1 until the design levels were achieved.

The new permeable car park and boat berths were approximately approx. 2000m². To build them, the team first removed the topsoil and vegetation using an excavator. They then excavated to formation level and moved the spoil to level up as required. They installed a impermeable membrane, crushed stone (type 3), geogrid and terram, followed by 1 layer of shingle. The team then installed bodpave and a final level of shingle up to design levels, and compacted the stone and shingle in layers using a roller.

The team also built a 45m long drainage system. The team first removed topsoil and vegetation using excavator, and then excavated to formation level. They installed the drainage pipe, poured concrete, and installed top soil.

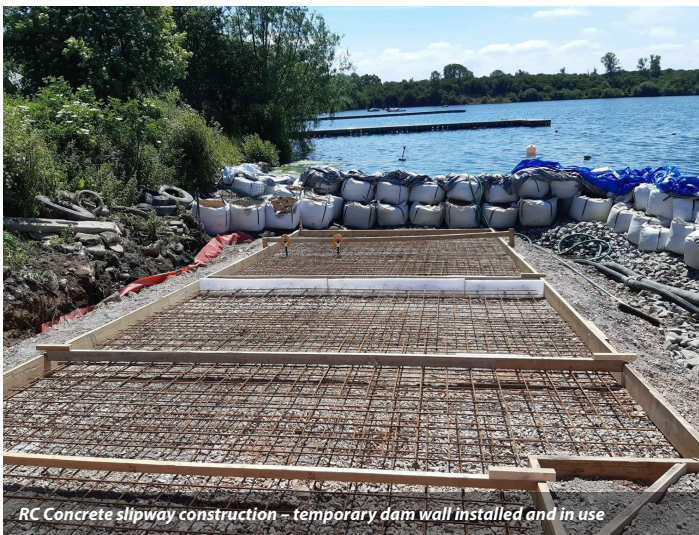
To construct the new concrete slipway and pontoon, the team installed tonne bags in the water to create a dam. They pumped out water and drained down area, and excavated to formation level. They installed reinforcement and shutters, and poured the concrete slipway slabs in sections, as required by the design. They poured concrete and allowed the concrete to cure, after which they removed the temporary works and flooded the area. Afterwards, they lifted the pontoon sections in water and installed the pre-assembled pontoon sections in place by bolting them together. Finally, they fixed the pontoon sections to mudweights.



Access for wheelchair users (additional works carried out in good will)



Permeable car park – view of the boat berths



RC Concrete slipway construction – temporary dam wall installed and in use



Tonne bag wall dam – temporary works to allow slipway construction

Customer Benefits...

The team reduced the quantity of imported material by approximately 400 tonnes, with programme and financial efficiencies for our client. The team did this by adjusting the design levels of the car park to minimise the amount of imported material required on site, while maintaining a natural fall of the car park towards the lake.

The team also successfully resolved constraints related to the temporary works design. The structure of the lake bed and depth of water were different from the assumption underlying the portadam temporary works design. The team undertook additional surveys and proposed a different system for the dam, comprising of tonne bags filled with shingle rather than portadam. The new solution and design were speedily approved by the client, and enabled the team to drain down the area successfully and construct the concrete slipway. The team re-used the shingle in the tonne bag wall solution to create a shingle beach, and offered to build an access ramp from the car park towards the lake for wheelchair users, much to the delight of the resident sailing club.