ONE Creative environments

Jaguar Land Rover - Car Park Expansion

Value: £2.5m

Location: Whitley, Coventry

Services:

Civil & Structural Engineering

Building Services (MEP)

Landscape Architecture

Principal Designer

> “ONE provided valuable advice and an effective design solution which speeded up the construction process and saved time and money for the project.”

Simon Turbutt
Managing Director, Montel Civil Engineering

The Brief

ONE's civil and structural engineers and landscape team were commissioned by Montel Civil Engineering to provide detailed design and construction support for a new surface level car park at Jaguar Land Rover's (JLR's) Headquarters in Whitley, Coventry as part of their Powertrain Building Development. The role of Principal Designer was also part of the commission.

Project Overview

Due to expansion growth, JLR's £300m headquarters building required enabling works for an additional parking expansion of 480 spaces, including 58 electric vehicle charging points.

Civil works included appreciation of the Powertrain drainage design to provide storm water attenuation for the future building, several other car park and cycle stand areas and hard standings together with a new electrical network, lighting, ducting and CCTV for this new car park.

There was an onerous storm water discharge to the Rover Sow which resulted in 3500 cubic metres of storm water attenuation and it was possible to rationalise the footprint and shape of the attenuation tank.

By value engineering the drainage materials, surface finishes and water quality methodology, hydrodynamic vortex separators and an aqua filtration system were introduced which cleanse the water before it enters the river instead of less sustainable and more costly alternatives and a bespoke environmental permit ensured no fish are injured during construction of the outfall. A 150,000 litres capacity rainwater harvesting tank was also provided and linked up to the drainage system for future inclusion into the powertrain facility.

Working alongside the newly adopted highway construction provided logistical and health and safety considerations which were overcome. The project also had very tight time constraints and the team speeded up the construction process through an efficient and effective design, for example, removing 60 different manhole chambers, 1000's of square metres of permeable block paving, 100's of metres of kerbing by using a single surface material. This approach simplified the construction process for the contractors which ultimately saved the client both time and money.

The works were phased for handover so that parts of the car park were operational earlier to meet the clients' requirements, however, the project also met the deadline of being fully completed by September 2018 in time for the new graduate intake.

The Benefits

Sustainable and cost effective solutions – The team provided a suds Management Train of water quality improvement to a high specification to remove suspended solids, metals and hydrocarbons from the water before discharge. This was a vital requirement by the Environment Agency, however, the team went beyond the requirements and found a solution which provided a better quality result at a lower cost for the client.

Speeding up the construction process – An efficient and effective design simplified the approach and saved time and money.

A single point of contact – Our multi-disciplinary team provided a joined-up solution and met the tight timescales for the project.