



St James's Park

Duck Island Lake Pumps

THE CLIENT

Our building surveying capability has enjoyed a long term working relationship with the Royal Parks in London. This has involved property care advice and small projects management involving approximately 500 structures on the estate. This particular project was carried out for the Royal Parks Agency through Carillion's facilities management contract which they held for property care on the Royal Parks from 1993 until 2007. We have continued to manage run off works on the estate to date and should complete the final accounts in early 2009.

THE TASK

Duck Island Lake is an artificial lake situated within St James's Park, adjacent to The Mall and overlooked by Buckingham Palace. There are two islands within the lake, Duck Island and Breeding Island. The lake and its islands are classed as a nature reserve and breeding ground for many species of ornamental birds. Being so close to Buckingham Palace, the park is a haven for tourists who wish to relax in a pleasant environment.

As with garden pond it is necessary to circulate water around the lake to maintain aeration levels and to restrict the growth of algae and contaminants within the water. This function is particularly important at this site due to the intensity of wildlife and the fact that the water is quite shallow. When the lake was constructed three large submersible pumps were installed within a pumping chamber on Duck Island which discharged via 10" pipework to a valve chamber on the Breeding Island at the opposite end of the lake. From this valve chamber, the water is diverted to various outlets, thus creating a flow pattern of water from one end of the lake to the other.

PROJECT PROFILE



CLIENT

The Royal Parks Agency through Carillion FM

PROJECT VALUE

£220k

SERVICES

- Design and small works
- project management of repairs

TYPE

Parks and Leisure

START DATE

October 2006

COMPLETION DATE

December 2006

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Failure of two of the pumps and a reduced performance of the remaining unit meant that the lake water was becoming contaminated and as a result some of the birds were dying. TPS's Building Surveyors were engaged to compile a specification of repairs and replacement to remedy the situation, to replace the defective plant and equipment and distribution valves to enable satisfactory water conditions to be restored, and to improve energy efficiency, allowing for flexibility of water flow rates with seasonal changes

THE DESIGN AND THE SERVICE

Building maintenance solutions often involve a high degree of mechanical and electrical work, sometimes overshadowing the fabric element. Our building surveying group therefore includes M&E engineers who specialise in small scale projects involving the refurbishment and replacement of existing plant and equipment. This particular project was led by one of our engineers in order to deal with the technical issues surrounding the replacement of the pumping services.

In order to improve the operational efficiency, to reduce running costs, and allow for flexibility, as well as replacing the existing pumps with new 45 Kilowatt submersible pumps, a new control system was installed incorporating programmable variable speed inverter controls, to allow for water flow rates to be altered, dependant upon climatic conditions and the time of day or year. The facility was also incorporated to allow for automatic pump control by the use of water quality sensing, at a future date when more funds may be available

As St James's Park is such a high profile tourist attraction, any detrimental changes to the lake water and death of birds, detracts from its appearance and attracts attention from the public. Although essential repairs inevitably involved the shutting down of the services to the lake, this was kept at a minimum so that at least some degree of water condition was maintained. Events of state set the bounds for milestones in the programme as it was necessary to vacate the island and its environs at times of security alerts.

THE RESULT

The works were carried out in an efficient nature to budget and on time. Our engineer was on hand to monitor progress and made regular visits to site. There was close liaison not only with the client, but also with the security services who had a particular interest in work being carried out close to Buckingham Palace, and the Government buildings on Horse Guards Road. Our engineer was supported by his building surveying colleagues on the correct specification of any associated construction works.

TPS provided added value to the client by supporting our colleagues in Carillion's FM capability. In turn we could offer very close supervision of this sensitive project because our FM colleagues were based on the Royal Parks estate less than half a mile away. They were able therefore to be on the ground very quickly to assess any problems and engage with the contractor and client with a much greater response time than might be usual.



FURTHER DETAILS

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