

BIRCHGROVE

Overview:

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| Site Location: | Birchgrove Service Reservoir |
| Client: | Dwr Cymru Welsh Water |
| Contract Value: | >> £266,000 |
| Project Duration: | >> 7 Weeks |



Birchgrove Service Reservoir is located on a hillside above the village of Birchgrove near Swansea. The reservoir provides potable water to thousands of homes in the Swansea area.

The reservoir was in need of cleaning so DCWW could meet their water quality obligations. In order to achieve this, the 48" inlet and the 48" outlet mains required isolating so the reservoir could be drained down. The existing butterfly valves on both mains located within a 7.5m deep valve chamber in the valve house had not been operated for some time and required changing to ensure a safe isolation could be achieved for the reservoir cleaning team.



Lewis CE were contracted by Dwr Cymru Welsh Water to replace the 4 butterfly valves within the valve house. This required the excavation of both the inlet and outlet mains and the temporary isolation the flows from both the inlet and outlet mains below the reservoir in a near by field. This would be achieved by installing double flowstops on both mains at the same time.

During the time the reservoir was out of commission, the storage capacity of potable water available to the thousands of homes usually serviced by Birchgrove SR was severely diminished so the project was under immense pressure to be completed on programme.

The twin 48" mains were excavated around whilst still live. Four flowstop tee's were the welded onto the main and surrounded in concrete. This would allow 48" valves to be installed and the mains to be drilled ready the house the flow stop plugs. The four 5.5m long flowstops were the installed on to the valves.

These flow stops were inserted into both 48" mains to isolate the flow and allow works to commence on the vales replacement.

This is the first time that four flowstops of this size have been used together for a single isolation.



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The four butterfly valves within the valve chamber were in poor condition and the bolts holding them in place had rusted over time. Each of these valves had to be replaced within the existing valve chamber that was 7.5m in depth with very restricted working room.



The valves were removed one at a time and lifted from the chamber via an overhead gantry.

The new valve was then lowered into place and fitted.

The four new Butterfly valves were installed successfully despite the old valves proving extremely difficult to remove due to their condition and the restricted working room and the reservoir handed over to the cleaning team on programme.

The reservoir was then re-commissioned and put back into service all whilst maintaining the supply of potable water to DCWW customers.



LEWIS

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