

Strata Florida

Overview:



Site Location:	>> Strata Florida, Ceredigion
Client:	>> Welsh Water



Strata Florida Water Treatment Works are located in the foothills of the Cambrian Mountains in Ceredigion, Mid Wales. It treats raw water taken from two lakes, 4km North East of the works within the mountains some 210m higher.

Due to the height of the pools in the mountains, the working pressure in the main was in excess of 20BAR. These lakes are known locally as the Teifi Pools.

At times in the past, the treatment works have experienced problems with a manganese build up within the pipes. Occasionally some of the manganese would become dislodged and cause problems at the works.

Scope of Works:

Lewis Civil Engineering were contracted by Dwr Cymru Welsh Water to carry out cleansing of the 400mm steel main by means of swabbing.

This was the one of the first schemes of this nature attempted by DCWW. The treatment works extracted water from the neighbouring lake whilst the 400mm pipe due to be cleaned was isolated.

Two large lagoons were excavated in a field adjacent to the treatment works to store the dirty water from the 400mm pipe. These lagoons were lined with a water proof membrane.



The top lagoon was capable of storing the full capacity of the 400mm pipe. This lagoon would store the dirty water allowing it to settle out the manganese particles before running over a weir into the second lagoon before being released back into the nearby river.

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Valve complexes were installed at the extraction point near to the treatment works. This would enable the flows from the pipe to be diverted into the lagoons via a 6" pump bag.

A valve bypass complex at the swab entry point was installed on the 400mm pipe just below the dam on the Llyn Teifi. This would enable a traceable swab to be inserted into the pipe prior to being pushed down the pipe. Due to the remoteness of the pools, and lack of phone signal, the two site teams kept in contact using long range radio's, this would enable the team at the pools to control the water flow as required by the swab extraction team.



Each of the swabs used were tracked over the mountainous terrain just incase it should become trapped. None of the 17 swabs used became trapped.

As each of the swabs exited the pipe, it would push out vast quantities of disturbed manganese.

It took 17 swabs to clean 4km of 400mm pipe to a satisfactory standard.

Over 70 tons of manganese was removed from the pipe and the lagoons before the main was put back into commission.



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