

Burry Port Rising Main

Overview:

Site Location:	>> Burry Port, Carmarthenshire
Client:	>> Welsh Water



Burry Port SPS serves a catchment population of approximately 6000 people. Flows are currently pumped from Burry Port SPS via a 450mm \varnothing glass fibre reinforced plastic (GRP) rising pumping main. The rising main is approximately 3.5km in length and pumps foul flow from Burry Port SPS to Pwll SPS. Flows from Pwll SPS are then pumped forward to the Northumberland SPS in Llanelli via a 900mm \varnothing rising main. All the pumping stations are owned and operated by DCWW.

The existing 450mm \varnothing GRP rising main has burst on several occasions. It is reported that the bursts have occurred due to the poor structural condition of the GRP main. Following a recent assessment undertaken by DCWW, the existing GRP main has been identified of being in urgent need of being replaced between Burry port SPS and Pwll SPS as part of their capital delivery programme. Lewis Civil Engineering has been appointed by DCWW to undertake this works.

This is a high profile scheme as it runs close to and crosses part of the Millennium Coastal Path which is used by over a million people each year.

Scope of Works:

A section of the proposed route meant crossing the main Llanelli to Carmarthen Railway Line. Directional drilling methods were selected to install the pipe to a depth of 12m below the track level.

This part of the scheme was considered by DCWW as “high risk” due the size of the pipe being installed beneath a busy railway line. The rail line is owned and maintained by Network Rail. In order to satisfy Network Rail that this method of pipe installation was best suited to the ground conditions, it was agreed that the new pipe would be inserted into a sleeve. 120m of 800mm Hppe SDR11 pipe was procured for this role.



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The 800mm pipe sections were delivered to site in 13m lengths; these were then welded together using butt fusion techniques to create a 120m continuous length.



A 100t directional drill rig was used to drill to a set location on the far side of the Railway Line. The 800mm sleeve pipe was then pulled through this pre-reamed hole.

The drill rig then pushed the rods through the sleeve pipe and pulled the 560mm rising main through the sleeve.



Once the sleeve and the pipe were installed, the annulus between the two pipes was grouted to ensure all voids were filled.

During the whole phase of this drilling operation, and for 3 weeks after the drill was completed, the railway tracks were monitored for any movement. No movement was detected throughout the operation.

Normal train service was maintained throughout the installation of the new pipe.



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