

Talybont Trunk Main

Overview:

Site Location:	>> Pontypool, Gwent
Client:	>> Dwr Cymru Welsh Water
Contract Value:	>> £1,557,418
Project Duration:	>> 20 Weeks

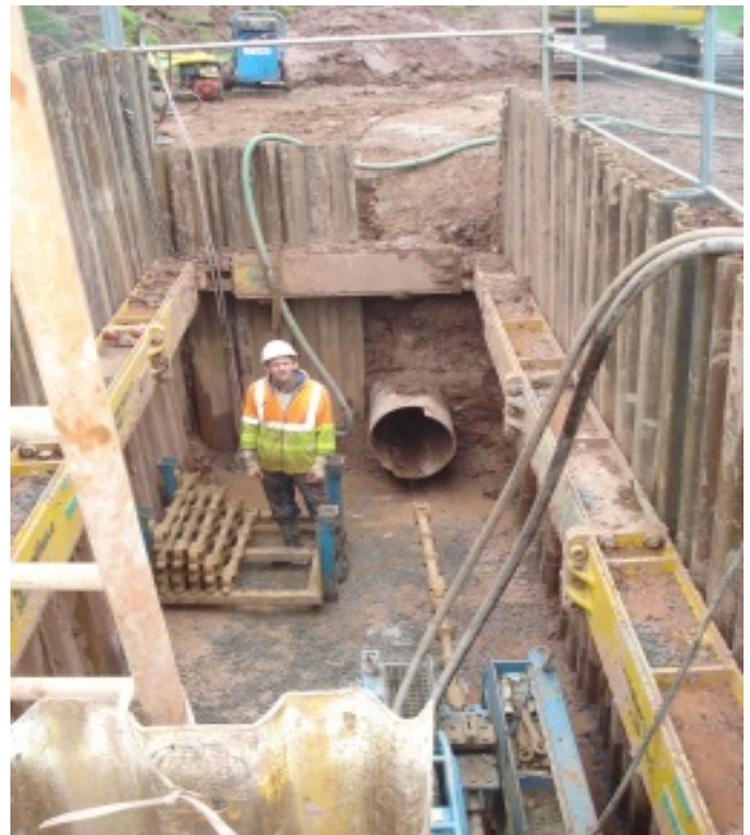


The section of water main replacement was undertaken mainly in a semi rural area running parallel with the A4042 Usk Rd in-between Pontypool and Little Mill, Gwent. The works took place mainly in open fields but there were areas we worked in the central reservation and crossed the busy A4042. The section of water main replacement was undertaken mainly in a semi rural area running parallel with the A4042 Usk Rd in-between Pontypool and Little Mill, Gwent. The works took place mainly in open fields but there were areas we worked in the central reservation and crossed the busy A4042.



There are two existing mains 28" DI and 24" CI known as the Talybont mains which transfers water from Talybont WTW near Brecon to Newport. These mains have had water quality problems in the form of Magnesium build up. Following results from NDT testing, flushing and sampling it identified the need to replace only one main. Once the scope of works and its parameters were identified, the design was put together to replace approx. 3.2km the 24" CI main from Mamhliid to New Inn with new 560mm SDR 11 PPE Pipe inserted by pipe burst/slip line and open cut method.

Prior to commencing our works the existing length of 24" main was isolated and drained by DCWW operations using cross over connections to the 28" DI main which runs parallel to the 24". Due to the tight fit between the existing cast iron pipe and proposed 560mm SDR 11 HPPE pipe, we undertook the pipe insertion using our 1000g pipe bursting rig. The pipes were supplied by Radius Pipes, delivered to site in 12m lengths and butt welded along easements using Tracstar butt fusion machine. Following completion of insertion the main was successfully tested, swabbed and chlorinated.



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Techniques Utilised:

Pipebursting/Slip lining and open cut techniques were used. The Grundoburst 1000G rig which has a pulling capacity of 130t easily handled the 180m length pulls between launch and reception pit. This technique was used for the majority of the length up to 4m deep with pits strategically positioned where possible to accommodate valve complexes and cross over connections. This method and specialist equipment proved invaluable on this scheme. In total we replaced 3.2km of main. 2.8km by slip lining and 400m by open cut.



Benefits delivered:



Following the insertion of HPPE pipe air valve saddles were welded and drilled onto pipe in lieu of conventional 450mm DI 80mm off tee and aquagrip couplers.

Due to the large amount of corrosion on the inside diameter of existing pipe causing its diameter to be reduced, the introduction of the 1000g bursting rig quickly dismissed any concerns that the pipe would get stuck during the slip lining process.

The innovations mentioned and delivered on this scheme followed our early contractor involvement from concept stage and site investigation. The client DCWW are now looking at others lengths of the 70km twin Talybont mains to rehabilitate following the operational and delivery success of this scheme.



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