

Frome Valley Relief Sewer

Overview:



Site Location:	>> Frampton Cotteral
Client:	>> Wessex Water
Contract Value:	>> £8m

The Frome Valley Relief Sewer scheme is a 4.7K pipeline using open cut and pipe jacking methods. Two 7m diameter shafts were also sunk in challenging ground conditions. Full ECI engagement from our client, Wessex Water allowed a full Contractor led design from the outset. The pipe line also crossed under the M4 motorway, Old Gloucester Rd, Swan Lane, an ancient woodland, a low hillock, Perrinpit Rd, Bristol Rd and the River Frome.



Ground conditions consisted of soft-Mercia Mudstone. And solid rock in places Lewis Civil Engineering development allow the concept of constructing of two segmental shafts structure on a full Design & Build basis.

Specialist tunnelling contractor B&W Tunnelling were engaged to construct the two 7m shafts.

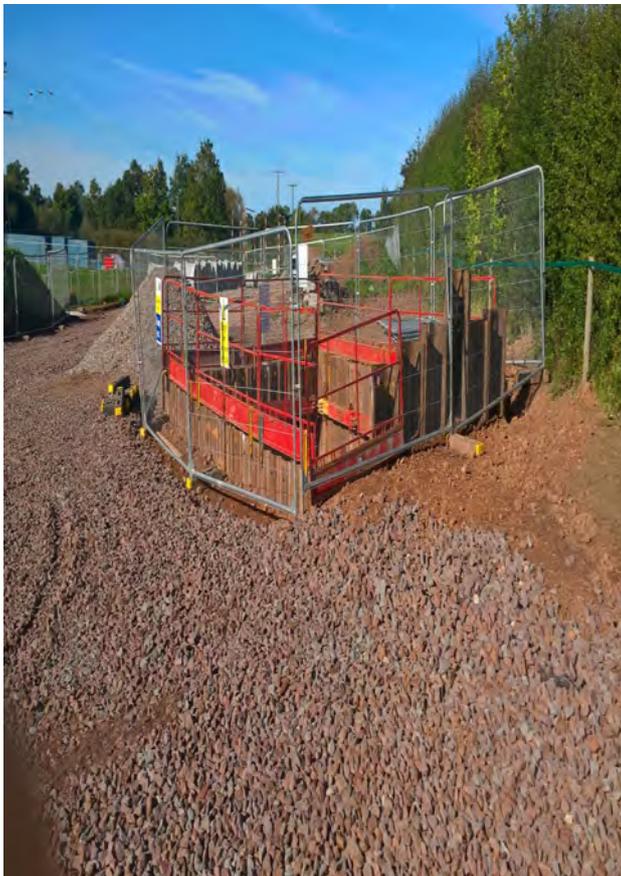
A Akerman pipe jacking machine was used to install o install 68No 1800 & 1500mm \varnothing , 2.2m concrete pipe jack pipes were used. The work areas being in quite tight restricted areas one being Bradley Stoke Nature Reserve which is used regularly by school children, dog walkers and members of the public. Temporary footpaths were installed and maintained to allow the Nature Reserve to remain open.



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Due to the depth and ground condition a large amount of temporary works have been used in a depth range from 2.5m to 6.0m . The open cut installation consisted of a variety of 675, 750, 1200, and 1800mm diameter concrete pipes. There were also 29 man holes to construct and to connect into, these varied from 2.8-4.0 diameter. The open cut pipe line was 95% across open fields but had to cross the Old Gloucester rd under a road closure and the more challenge Bristol rd under 2 way traffic light and a road diversion to allow traffic to flow on this busy road from Yate to North Bristol. This was to be done with in 4 weeks which Lewis Civil Engineering achieved 4 day early. The pipe line also crossed the River Frome with close engagement from the Environment Agency with a tight time scale to cross the river before the fish spawning session come into place at the end of September 2017, which was achieved 2 weeks before time.



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The open cut pipeline also crossed right through Leyland Court Equestrian centre this was achieved was close contact with the owner to enable both the pipeline works to continue safely and the Leyland Court Equestrian Centre to stay fully operational. The pipe jack also crossed under the M4 motorway which was monitored very closely by Highways England with monitoring stations set up on both East and West bound hard to monitor any move due to the pipe jack activities. This proved to be a success with no movement what so ever encountered

The Frome Valley Relief Sewer is a difficult and challenging project that was delivered to outstanding H&S Standard's and was testimony to early contractor involvement and an aligned Project Delivery Team.

Lewis Civil Engineering received high commendation from Wessex Water on the successful delivery of the scheme:

'A great result, well done..., a significant achievement when you consider all the challenges. Please pass on my thanks to everyone involved.'

'Many thanks for this, excellent achievement. This scheme was always a challenge but the whole team has pulled together and delivered.'

