

Topcon equipment helps in St Asaph Bridge lift



 
AT WORK

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In St Asaph in the county of Denbighshire in North-Wales a 42 meter long steel bridge was lifted into place. For this accurate job Topcon’s GPT-9000A Robotic Total Station was used to assure, with millimeter accuracy, that everything fitted. Rhys Thomas of Bangor based Dawnus Construction talks us through this delicate operation which required a 1000 ton crane, with 360 ton ballast.

The county of Denbighshire, like other counties in Wales, is broadening and upgrading the many foot and cycle paths to accommodate the tourists visiting the countryside. The St Asaph bridge is part of this upgrade. “The whole bridge was designed and built off site by a specialist company named Nu-Steel. They manufactured the four sections in their factory. To give the 1000 ton crane a good foundation we had to dig away two meters until we came to sand and gravel layers that we could build upon. Many of the designs however were based on old drawings. A quick survey of the area with Topcon’s HiPer GPS+ RTK system showed that the lay of the land had changed from the original.”

“The bridge came up in four pieces and had to be assembled on site. We also did as-built surveys on the structure work, as the bridge had to be put on four abutments. So a lot of checks with the Hi-Per and the GPT-9000 Total Station were done before the bridge was even off the ground.” Finally it was time to swing the bridge into place. “It had to be lifted up and rotated. Before it could rotate it needed to pick up some more ballast. The structure weighs 54 tons, so you need some counter weight on the other side. After this it was all a matter of letting it down gently between the two banks and placing it on the holding down bolts. It all fell into position without any problems. There was plenty of tolerance on the bolts but we did not need it at all. The bridge went in straight on.”

