



# 620m<sup>3</sup> EcoBloc Inspect Flex, Morpeth bypass, Northumberland

## Case Study



### BACKGROUND

Contractors working on a new, 13-mile bypass in Morpeth, Northumberland, needed a way to eliminate flood risk and provide an effective, controlled rainwater drainage solution. They were keen to find a robust stormwater tank with high volume capacity, while minimising costly excavation work. The original proposition involved large, four-metre diameter GRP tanks to be placed up to nine metres underground, with four tanks on either side of the road. This would have called for extensive excavation, and the stormwater from the road would have needed to drop a significant distance into the collection manhole at full speed – creating a strain on the system. After analysing these plans and realising they weren't suitable, the contractors went to Graf UK for an alternative solution.

### SOLUTION

The project's contractors specified a 620m<sup>3</sup> EcoBloc Inspect Flex stormwater system, which Graf UK installed. The EcoBloc Inspect Flex system allowed the project to have one tank instead of eight. This could be placed much higher up in the ground, raising it by nearly six metres – and making for significant excavation savings. Its elevated position also means that when rainwater enters the collection manhole at full force, it has a much shorter drop into the system.

### RESULTS

Pipework in the bypass's gullies now collects the rainwater from the road and feeds it into a single EcoBloc Inspect Flex attenuation tank. This then uses a vortex flow controller to discharge the water into the culvert at a controlled, slow speed – meeting Northumberland County Council's requirement of 10l/s. For the two-year construction period of the bypass, the contractors also specified two Graf UK Klaro E Professional wastewater treatment systems for its site offices. Despite mains drainage being available, they opted for a more environmentally friendly solution – one that didn't put any extra stress on the sewage system or local treatment plants.

“EcoBloc systems are fantastic to install. I've constructed all types of stormwater management solutions over my career and this is by far the easiest. The engineering is great and whether it's the pipework or the chambers – it all just clicks into place! The modular tanks can be made to suit any shape or size and can be positioned as shallow or as deep underground as required. Their large void ratio also means they can hold more water, without requiring as much valuable space. It was this versatility that made EcoBloc Flex the perfect stormwater solution for the Morpeth bypass project.” Gareth Robinson, Graf UK installation engineer