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Pedestrian bridges, a bike path and waterways in Hengelo - Netherlands

The Twente region, and its municipalities, wanted to increase their accessibility for local pedestrians therefore, a regional mobility plans was created. This mobility plan included a bicycle motorway (F35) to allow the residents to move easily from one place to another and encourage cycling as their main mode of transportation.

Plan

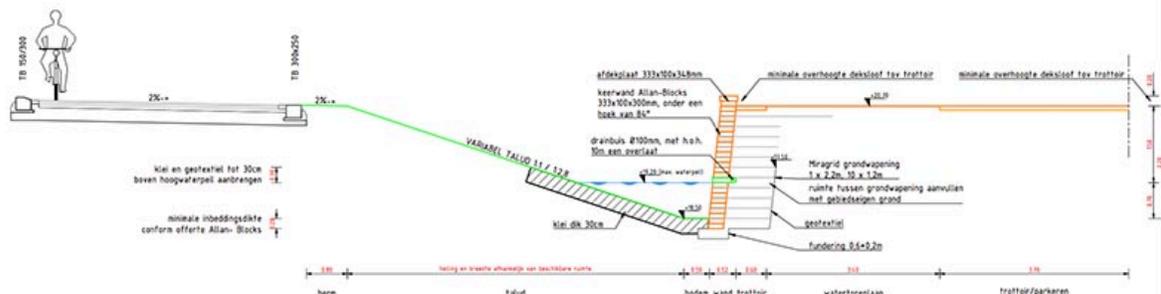
Hengelo, Netherlands, is a city of streams and creeks in the eastern part of the country where water is a factor to be considered in every construction project. The municipality of Hengelo, and the contractor, Dusseldorp, worked together as the construction team on the bicycle highway project F35 and the construction of the reconfigured Veldbeek Creek where the F35 leads to and through. Since the creek was now going to be rerouted above ground, pedestrian bridges were included to allow the residents to cross the water easily.

Project Information

Name: Pedestrian Bike Path
Location: Hengelo, Netherlands
Products: AB Life Stone
Size: 18,000 Units
Contractor: [Dusseldorp Infra](#)
Allan Block Manufacturer:
[Ziel Bruk – Poland](#)

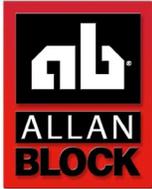


To support the roadway and the pedestrian bridges, on one side of the creek the architects, designers and municipality chose Allan Block’s AB Lite Stones. This product offered long but short characteristics to make the taller walls appear to be shorter in height. The product, manufactured by Ziel Bruk in Poland, also offered durability, versatility and strength, and would provide the ability to support the heavy bridge structures easily.



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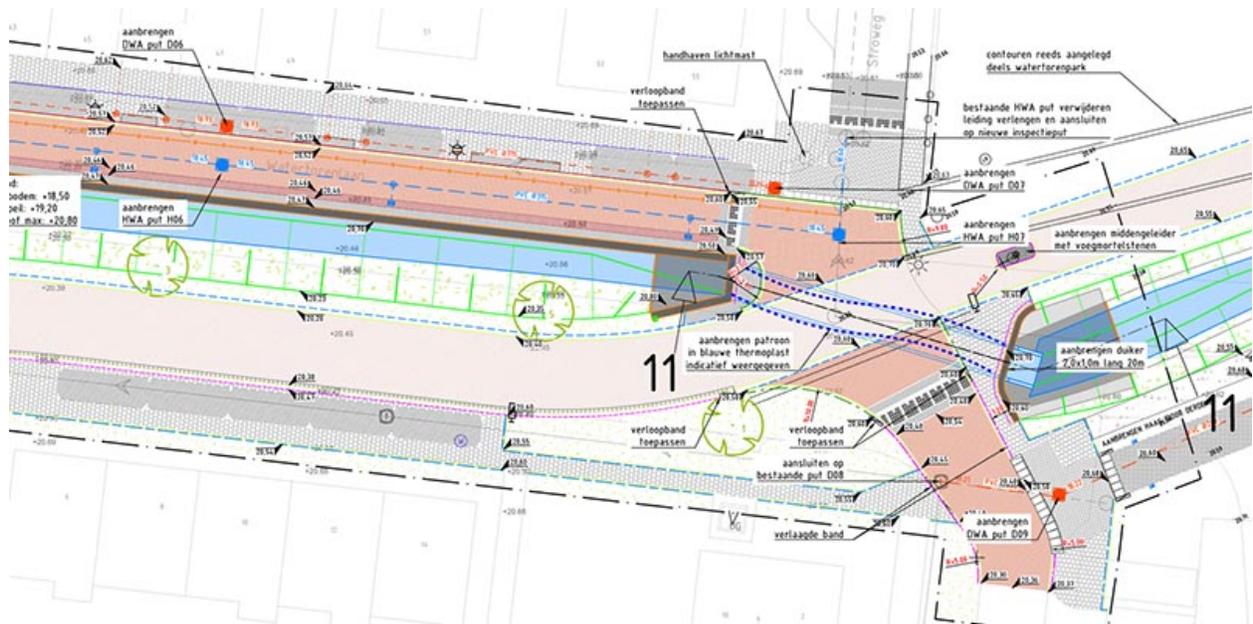


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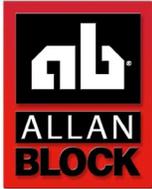
The finished project not only improved the local infrastructure and the appearance of the surrounding area, but with the construction of the creek it also provided added watershed space for water within the city. The Veldbeek Creek helped to lower the groundwater levels in the area and has been extremely valuable in collecting rainwater during heavy rain events.

Design

The original design of a retaining wall along the creek consisted of a prefabricated L-wall with traditional masonry in front of it. Due to budget problems, savings were necessary. By using a geogrid reinforced Allan Block retaining wall the cost savings was more than 40% of the initial design. The city of Hengelo did demand a masonry appearance, so the Allan Block Lite Stones again proved it was the perfect solution with its long, narrow brick like dimensions.



The local wall designer used the Allan Block design program, AB Walls to design the nearly 8 ft (2.4 m) tall water application walls. The retaining wall side of the simple span pedestrian bridges were supported on the geogrid reinforced soil mass behind the Allan Block wall facing, which was the perfect support for the heavy bridge structure. The bridges were prefabricated so the construction was made simple by lifting them into place with an overhead crane.



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Build

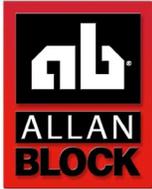
The municipality started the project by bringing everyone involved together as a team to focus on cooperation to streamline the overall project and to control schedule and cost overruns. These regularly scheduled meetings were key to the successful project.

As the pedestrian bridges crossed the Veldbeek Creek they are supported on the wall side by the Allan Block retaining wall. To support each bridge, the designer called for a 3 ft x 1.5 ft (1 m x 0.5 m) concrete slab placed directly behind the Allan Block facing units and that was set 2 in. (5 cm) higher than the top of wall so the bridge load was not directly on top of the wall.

The versatility of the Allan Block geogrid reinforced retaining walls was a perfect solution for many parts of the project. One in particular was the flexibility of the AB installation process that allowed the contractors to carry out the work in various phases to minimize the inconvenience of construction on the local residents.

Thanks to good preparation, a quality product like Allan Block and an experienced construction team there were no problems during the construction of the Allan Block retaining wall, bike paths, creek or bridges and the project was complete on time and within budget.





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Before, During and After Construction



Before



During



After



Before



During



After

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