

A6 Randalstown to Castledawson Dualling Scheme

# 'Connecting people through infrastructure'

**£135m**

/ Project value

**October 2016**

/ The project commenced

**April 2021**

/ Scheduled completion

Adopting a “family of structures” approach and standardisation of design, we developed and constructed 21 major structures in the completion of the A6 Randalstown – Castledawson Dualling Scheme. Valued at £135m, this vital infrastructure project has improved road safety and reduced journey times and on a strategic transport corridor, connecting Belfast and Derry/Londonderry. The A6 is notable for the achievement of 25% cost savings (£42m) at the ECI stage. From the outset, we developed a sufficient level of design detail which meant we were able to procure high cost items, such as pre-cast concrete bridge beams, that were installed in the construction of seven new overbridges, one new underbridge, seven accommodation works overbridges and underpasses, and two footway and cycleway overbridges.

## The brief

Under an NEC contract, the Department for Infrastructure (DfI) tasked the GRAHAM/Farrans JV to design and construct a dual carriageway from Randalstown to Toome and from Toome to Castledawson, and to provide a dual carriageway (D2AP) standard road between the western end of the M22 Motorway at Randalstown and the Castledawson Roundabout. 21 major structures were needed to integrate this ambitious infrastructure scheme.



**“This was an exceptional site and a pleasure to visit.”**

Brian Maguire  
Considerate Constructors Scheme  
(May 2018)

“With traffic levels continuing to grow, a dual carriageway will improve safety, reduce congestion and improve journey times on this vital route.”

Danny Kennedy  
Transport Minister

### The challenges

The new Moyola River Bridge (Westbound Carriageway) is a three span underbridge carrying the A6 over the Moyola River. Spanning 11m-23.9m-11m, construction of the precast W beam and slab integral river bridge presented challenges in working adjacent to and over the existing river. Compounding the complexity, the design prescribed solution of three spans required working in the river beneath the water level to form the abutments and protection from scour. The combination of our effective temporary works design and early engagement with supply chain, leading to the utilisation of sheet piles, ensured the safe and effective resolution of the challenges. During construction the existing A6, comprising of two lanes of live traffic, ran adjacent throughout the build.

### The solution

The successful implementation of ECI on the A6 project enabled our expert team to contribute to the development of the design and provided us with the opportunity to consider construction issues at an early stage. Importantly, it also created the conditions for the delivery of significant cost savings (£42m), resulting from the exploitation of a range of efficiency avenues, including the adoption of a “family of structures” approach.

Notable structure groupings:

- 4Nr Group B1 - two span overbridges, integral precast W beam and slab with skeletal or bankseat end supports with pad foundations
- 4Nr Group B2 - two span overbridges, integral precast W beam and slab with piled foundations
- 2Nr Group B3 - two span overbridges, precast U beam and slab bridges monolithic at intermediate supports with bearings and movement joints at end supports
- 2Nr Group B4 - steel truss footbridges with ramps and supported on piled or pad foundations
- 1Nr Group B5 - three span precast W beam and slab integral river bridge

### Significant structures

**Moyola River Bridge (Westbound Carriageway Only)** – three span underbridge carrying the A6 over the Moyola River. Precast W beam and slab integral river bridge

**Castledawson Junction (Belshill) Overbridge** - two span overbridge crossing the A6

**Brough Road Footway/Cycleway Overbridge** - single span steel truss shared cycleway/footway over the A6

**Hillhead Road Junction Overbridge** – two span overbridge crossing the A6

**Deerpark Road Junction Overbridge** – two span overbridge crossing the A6, integral precast W beam and slab with piled foundations

**Creagh Junction Overbridge** – two span overbridge crossing the A6

**Drumderg Pedestrian Footbridge** - single span steel truss shared cycleway/footway over the A6



For more information on how we're delivering lasting impact:

+44 (0) 28 9268 9500

info@graham.co.uk

graham.co.uk

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