

Glasgow Airport Investment Area (GAIA) – Wright Street Link Bridge

CLIENT: Wills Bros / RPS

LOCATION: Glasgow

YEAR OF COMPLETION: 2022

The GAIA scheme is a series of highway improvements, with the aim of promoting development to the west of Glasgow Airport. The design and build contract was awarded to Wills Bros. Civil Engineering by Renfrewshire Council. We were appointed for the design of the two bridges on the scheme, a 98 metre span footbridge over the Black Cart Water and a highway bridge over White Cart Water.

The Wright Street link highway bridge is key to the scheme connecting existing industrial development with the new improvement area nearer the airport. The bridge is 70 metres long over three spans and is fully integral with a prestressed concrete beam and slab deck. To avoid complex river temporary works at the piers we designed precast shell crossheads installed over a single rows of piles. The crossheads were completed with an in-situ concrete pour, with reinforcement detailed to accommodate the significant number of services that had to be accommodated. We undertook a numerical soil-structure interaction analysis to properly account for the locked in cyclic thermal effects associated with an integral bridge of this length.

KEY FACTS:

- 70m long, fully integral bridge
- Precast concrete shell crosshead and precast beams
- Accommodation of large diameter, critical services

