



Erskine Bridge is a high level cable stayed steel box girder bridge which crosses the river Clyde near Glasgow. At the time of its construction it was the longest spanning cable stayed bridge in Europe. The bridge has a total length of 1.32km with a main span of 305m. The deck is trapezoidal steel box girder with an orthotropic steel deck, supported by a single central plane of stay cables passing over saddles on top of the slender 38m steel box towers. The stays comprise bundles of 24 spiral strands which splay out at deck level to anchorages within the box.

Flint & Neill has been involved with the bridge since soon after construction and has undertaken several studies and commissions, including the design of major strengthening and refurbishment works to upgrade the structure to modern traffic requirements. In keeping with several other similar commissions where assessment has revealed shortfalls against standard codified criteria, F&N developed more appropriate assessment criteria specifically tailored to this structure and undertook a 'Bridge Specific Assessment' to make the best use of existing capacity. This has resulted in a very substantial reduction in strengthening requirements and cost.

Other works have included the Principal Inspection and the preparation of Operation, Safety and Maintenance Manuals for the bridge, and the design of improved facilities for access into the box girder. The firm also developed, specified and supervised the complete resurfacing of the steel bridge deck in 1994 using a new epoxy asphalt system and has overseen the installation of new access gantries and gantry rails.

The firm also designed and supervised the emergency repairs needed after a passing vessel hit the underside of the deck causing significant structural damage. A rapid response ensured minimum traffic disruption while the repair and strengthening works were designed and installed.

Currently the firm is updating the bridge specific load assessment model and the maintenance strategy.

**Client:**

Renfrewshire Council / Amey  
Infrastructure Services

**Location:**

Near Glasgow, Scotland

**Service Dates:**

1992, 1998 to present

**Services:**

**Emergency Repairs**  
**Design of Strengthening and**  
**Refurbishments**  
**Structural Assessments**  
**Bridge Maintenance**

