



**Client** Hochtief UK / Buckingham Group JV for Peel Ports

**Project Description** This new crossing of the Manchester Ship Canal is part of an improvement of the road links to Port Salford - the UK's first tri-modal inland waterway port. It is a vertical lifting bridge carrying dual carriageway, combined footway/cycleway and a segregated single lane tramway for future connection to the Manchester Metrolink. Opening of the bridge will allow a shipping corridor of 28m wide and 24.8m high for the passage of tall ships. The deck is a steel orthotropic plate which is lifted from four hollow towers which house counterweights connected to the deck by steel wire ropes. Lifting is activated by four synchronised winches located in plant rooms at the base of each tower.

**Cass Hayward Role(s)**

- Options studies and conceptual design for D&C tender
- Detailed design of the bridge structure and foundations
- Assessment and monitoring of potential influence of the new bridge and approach embankments on adjacent M60 Barton high Level Bridge
- Design and checking of temporary works
- Design and checking for rehabilitation after site accident
- Checking of launch installation sequence for replacement deck

**Project Statistics**

- Bridge deck 39.4m long x 25.2m wide weighing 430 tonnes
- Reinforced concrete towers 35m high of hollow trapezoidal section
- 100 tonne counterbalance weights in each of the 4 towers
- Project completed 2017
- Construction cost approximately £10m

**Special Features**

- CFA pile foundations to bridge abutments on approximately 20m of land reclaimed adjacent to each bank of the canal and contained between tied steel sheet piled walls
- The approaches adjacent to the structure are on reinforced soil embankments 4.7m high.
- Bridge deck designed for initial erection of the two single main girders and subsequent installation of 11 transverse deck units site connected with bolted joints
- Operating cycle of the bridge is 150 seconds