A Brief History of the Museum

In 1970 a number of civil engineering artefacts were gifted to the Edinburgh and East of Scotland Association of the Institution of Civil Engineers. The Chairman of the Association at the time, Mr Charles Roe FICE FIStructE, pondered on what purpose these objects could usefully serve if they were made available to the public. The Museum Committee was immediately set up to take on this role, and a short time after that David McGuigan took on the role as Secretary.

In 1987, Professor Roland Paxton took on the role as Chairman of the Association at the time, Mr Charles Roe FICE FIStructE, pondered on what purpose these objects could usefully serve if they were made available to the public. The Museum Committee was immediately set up to take on this role, and a short time after that David McGuigan took on the role as Secretary.

The collection really took off when founder member Roland Paxton was agreed that the RSM accepted the collection on permanent loan. Indeed, the collection now consists of over 400 items containing such diverse items as original drawings of the Forth bridges on display including a hydraulic riveting machine used on the Forth Bridge. Items relating to the Forth bridges on display including a hydraulic riveting machine used on the Forth Bridge.

A Guide to the ICE Scotland Museum

Access to the Museum

The museum can be visited by members of the public on weekdays between 9.00am and 6.00pm. Access is free.

Getting to the University

By car

The Edinburgh Campus is easy to access by car from the centre of Edinburgh (6 miles) and from all major routes leading to the city. The University is half a mile from the Calder Junction of the A720 City of Edinburgh By-pass and the A71 (there are signs for Heriot-Watt University on your approach). Follow signs for Car Park I.

Visitor parking

All visitors to the museum should use Car Park I close to the west end of Boundary Road North. There are two disabled bays adjacent to the west door of the William Arrol Building.

By local bus

The journey to Heriot-Watt University takes approximately 30-40 minutes from the city centre. Lothian Buses offers services 25, X25, 34 and 45. If travelling by service 34 or 45 slight at Boundary Road North, otherwise alight at the main door to the University.

Donations

The Museum is also happy to consider donations of civil engineering artefacts. We regret we no longer curate books or other printed matter unless they are directly related to items in the collection.

Contact Us

A full online catalogue of the museum can be found at https://web.sbe.hw.ac.uk/ICE_Museum/ICE/Scotland

If you have any questions, observations or donations regarding the museum please address them to David McGuigan (icenotcomuseum@kymngmedia.com), Derek Chambers (kymnotmuseum1008@gmail.com) or John Andrew (icenotcomuseum@gmail.com).

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In 1990, the RSM concluded that they could no longer support the loan Museum Committee and David McGuigan took on the role as Secretary.

In 1972, following discussions with the Royal Scottish Museum (RSM) it was agreed that the RSM accepted the collection on permanent loan.

In 1970 a number of civil engineering artefacts were gifted to the Edinburgh and East of Scotland Association of the Institution of Civil Engineers.

In 1830, to donate the firm's old instruments and a selection of equipment from Edinburgh was agreed that the RSM accepted the collection on permanent loan.

A Brief History of the Museum

A Guide to the Museum

ICE Scotland Museum

A Guide to the Museum

Area 1

Outside West Door of the William Arrol Building

Bridge Features (1997/009)

Rocker and sliding bearings from the Bliston Glen Viaduct, Midlothian. The bearings allow for thermal movements and deflections of the structure whilst supporting a weight of around 30 tonnes. The bearings were replaced in 1999 after 190 years of restoration work on the viaduct which forms part of the Midlothian Scottish Footpath and Cycle Network between Loanhead and Poltair.

Milepost (1981/011)

Cast iron milepost approximately 5 ft high from the former A1 road 1 mile east of Dunbar (OSGA NT 683 777) indicating “D1”, “R13”, “H15”, and “E29” which relate the mileage to Dunbar, Repton, Huntlywood and Edinburgh respectively.

Ship’s Rudder (1991/010)

A ship’s rudder used on an anchor plate salvaged from the demolition of the former Galloway Footbridge.

Area 2

1st Floor, Student Cruise Area

Tool Toys (Various) (Case 13)

A collection of tools used for laying tar materials.

Portraits (Wall)

Oil portrait of Thomas Grainger MICE (1794-1865) engineer Edinburgh Civil Engineer by Sir John Watson Gordon RSA (1982/001).

Oil portrait of John Miller CE FICE FIStructE, pondered on what purpose these objects could usefully serve in the museum.

Area 3

1st Floor Main display Area

Forth Bridge Commemorative Print of Portraits (2012/002) (Wall)

A commemorative framed print of portraits of those involved in constructing the Forth Rail Bridge by J. Lamb Artist, Photographer and Portrait Painter, Edinburgh.

Plate Rail (1995/007) (Case 7)

Part of a cast iron plate rail found on the Leigh Milton Viaduct over the River Irvine on the former Kilmarnock & Troon Railway during its refurbishment in 1986.

Queenferry Crossing Cable Model (2018/010) & Anchor Plate (Case 3)

A model of one section of the Queenferry Crossing under construction using original materials. In this model there are 56 strands matching the anchor plate (2017/010) made for 55 strands displayed nearby. The strands included in the cables varies between 45 and 109 depending on position and loading conditions. The model was made by Heriot-Watt University technical draughtsman.

Drawing Office Equipment (Case 7)

Case 7 displays a beam compass (2001/002), copper stencil plates (1973/017) and a range of other drawing office equipment used before the advent of CAD.

Bridge Plates and Bridge Section (Wall)

In this area there are also two bridge plates (1991/005 and 1994/010) and a cross section of the Galloway Footbridge over the River Tweed near Kelloo (1991/010).

Area 4

1st Floor Corridor to the Chadwick Building.

Forth Bridge Skeewbak (1998/003) (Through window)

A scale model of a Forth Bridge skeewbak. It was accurately modelled to one quarter of the actual size for the exhibition "Scottish "Cruiser" tests" held at the McDiarmid Galleries, Glasgow in 1990.

John Scott Russell Display Board – Soliton Wave (2015/009) (Wall)

A display board chronicling some of the lifetime achievements of John Scott Russell (1808 – 1875) including his design of the Soliton Wave.

Area 5

Chadwick Building

Winch (with display board) (2004/002)

The winch is from Firth Mount, Sutherland and operated self-acting sluice (flap valves) on a land reclamation scheme installed by Forth as part of its great works projects in the 1930s. The winch which may originate from these early dates was only used when too much fresh water on the land side of the Mound was beginning to flood farm land. At most times the flaps operated automatically when the head of water on the land side was higher than the sea level at low tide.

Menai Bridge Link (2001/006)

An exact replica in wood of an original wrought iron link made c.1823 from the archbridge tunnel of the Menai Bridge on the London to Holyhead Road the world’s longest span suspension bridge when opened in 1826. The item was originally in the museum on loan from the Welsh Assembly Government. However, it was returned to Wales and replaced by the present wooden replica. The replica was made by the Heriot-Watt Civil & Offshore Engineering laboratory technicians.

Area 6

3rd Floor Corridor

Photograph of Sir William Arrol (2002/001)

A formal photograph of photograph by Edwardian Sir William Arrol dating from c.1897. It has a brass plate on the bottom rail of the frame bearing the words “Sir William Arrol L.L.D. M.P.C.P.R. 1895-97” (President of the Institution of Civil Engineers in Scotland).

Return to William Arrol Building.

Area 7

3rd Floor Landing at top of west stairwell

Level (2017/001) (Case 9)

Early 3 inch brass level by Miller & Adie, Edinburgh (c.1815) understood to have been in use up to about 1950 in Dundee Quarry, near Jedburgh.

Theodolite (1973/018) (Case 8)

A 5 inch reversing plain theodolite reading to 1 minute of arc made by Adie and Son, Edinburgh and used by Edinburgh city engineers.

Area 8

3rd Floor Landing on stairwell

Steel Pin (2013/002)

A steel pin used to accommodate the suspended truss for the Forth Bridge carriages. Eight pins are used on the bridge. This one was originally made as a spare at the same time as those used on the bridge.

Bridge Model (1994/016)

A model in a case of a proposed Caledonian Railways iron girder bridge over the North Clyde immediately adjoining Tollcross 7 arch swing bridge from Greenock Bridge designed 1883-86 and converted by Sir Alexander Gibb & Partners to be “in many ways the most beautiful of all Telford’s bridges.”
Suggested Route and Things to See

1. Outside West Door
   - Bridge Bearings
   - Ship's Rudder
   - Milepost

2. 1st Floor Student Crush Area
   - Collection of tar laying tools (Case 13)
   - Portrait of John Miller

3. 1st Floor Main Museum Area
   - Forth Bridge Pin
   - Forth Bridge Riveting Machine
   - Michaelis' Testing Machine (Case 4)
   - Queensferry Crossing Cable Model & Anchor Plate (Case 3)
   - Plate Rail (Case 7)

4. 1st Floor Corridor to Edwin Chadwick building
   - Display board on John Scott Russell – Soliton Wave

5. Edwin Chadwick Building
   - (Foot of stairwell and crush area at main door)
   - Menai Bridge Link
   - Fleet Mound Winch

6. 3rd Floor Corridor
   - Photographic Portrait of Sir William Arrol

7. 1st Floor landing at top of west stairwell
   - Surveying Instrument Collection
   - Theodolite
   - Early Level (c. 1815)

8. 2nd Floor landing of west stairwell
   - Forth Bridge Pin

Finish

Start

To/from University Main Entrance

Buses and Car Park I