



THE INSTITUTION OF  
CIVIL ENGINEERS

# PHEW NEWSLETTER

Panel for Historical Engineering Works

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## CONTENTS

*Panel Meeting, London – April 2000*  
*Telford Heritage Plan for Pulteney*  
*Repairs to Cookham Bridge, near Maidenhead, Berks.*  
*The Chairman's Column*  
*Military Road to Turnaware Point*  
*HEWs in the News*  
*Editor's Note*

## PANEL MEETING, LONDON – APRIL 2000

by The Editor

The Panel recently met for its meeting at Great George Street, and for the first time since 1986 was 'formally' photographed (see below). Regrettably Brian George (South Western: Devon and Cornwall) and Paul Dunkerley (North Western) were unable to attend.



Photograph courtesy ICE Public Relations

**Top row from left:** Mike Chrimes (Head Librarian); Peter Stephens (Technical Secretary); Jim Shipway (Glasgow and West of Scotland); Michael Gould (Northern Ireland); Richard Adam (South Eastern); Peter Cross-Rudkin (East Midlands: The Fens, etc.); Robert Otter (Southern); Barry Barton (East Midlands: Lincolnshire); John Gardiner (East Midlands: Nottinghamshire and Derbyshire); Ron Cox (Republic of Ireland); David Greenfield (South Western: Avon, etc.); John Carter (Yorkshire); Denis Smith (London); Brian Powell (Chilterns and Thames Valley).

**Bottom row from left:** Terry Girdler (English Heritage); Brian Haskins (standing in for Paul Dunkerley: North Western); Eamon O'Leary (South Wales); James Sutherland (representative from IStructE History Group); Roland Paxton (Chairman); Claire Delgal (Assistant Librarian and Secretary to PHEW); Ted Labrum (Vice-Chairman incl. East Anglia, Essex, Suffolk, part Norfolk); Bryan O'Loughlin (former Vice-Chairman); Bob Rennison (Northern Counties); Roger Cragg (Midlands)

All original cast and wrought ironwork has been retained, the webs and flanges of beams being repaired locally by cutting out corroded plate and MIG welded-in new patches. All welds were then checked by magnetic particle technique, to ensure a crack-free joint to the original fibrous wrought iron plates, some as thin as 3/8in (9.5mm).



Photograph courtesy of Dorothea Restorations Limited

Hot-set riveting was used to renew riveted work on site, and two complete new riveted (steel) beams were manufactured in Dorothea Restorations Limited workshops to replicate seriously corroded originals.

The bridge deck was constructed of Dorman Long riveted steel troughing spanning between transverse beams. These have been strengthened ingeniously by bolting through each trough/rib intersection with HSFG bolts and utilising these as shear studs to form a composite section with a new reinforced concrete deck slab. This improves the load-bearing capacity of the structure, without significantly altering the bridge aesthetically.

Some years ago two trestle piers were damaged by a boat, and replaced with steel columns. These have now been clad to replicate the appearance of the original cast iron sections, and missing spandrels have been reinstated by replicating existing to complete the bridge's original profile.

The work is due for completion in the summer of 2000, and is currently on programme and within its £1.2 million target cost. One of the stated aims of the Partnership is to win an award, so entry will be made for the ICE Historic Bridges Conservation Award!

## THE CHAIRMAN'S COLUMN by Professor Roland Paxton

Before Dr Emory Kemp delivered his Panel organised lecture in Edinburgh on American timber covered bridges on 19 April, he was taken along with Tom Swailes and others to the Bo'ness Foundry, West Lothian, to see cast iron being made and poured into moulds in the time-honoured manner. The smoke, steam, and brightly glowing molten iron were wonderfully evocative of traditional workshop technology. The whole experience exuded craftsmanship from the drawing, pattern and mould-making stages right through to the finely finished articles. The visit was organised through the company's metallurgist Roddy Crichton who with others explained the various details in a masterly manner. The firm specialises in high quality architectural ironwork and deserves great credit for helping to preserve many notable historic structures. Recent examples include Clevedon Pier, Penarth Pier, Dalmarnock Bridge, North Bridge, Edinburgh, Glasgow Central Station and the Royal Mews at Buckingham Palace. Dr Kemp's lecture in the evening served as a prime example to all involved in bridge conservation. It was well attended and after a lively discussion Dr Kemp generously presented the Panel with a signed, limited edition, coloured print of Philippi Bridge (1852) that he had restored in 1990, as it would have looked at the start of the Civil War. This valuable addition to our archives will be available for inspection in the ICE Library from 18 July 2000.



Bo'ness Foundry – Dr Kemp in the pattern shop  
Author's photograph



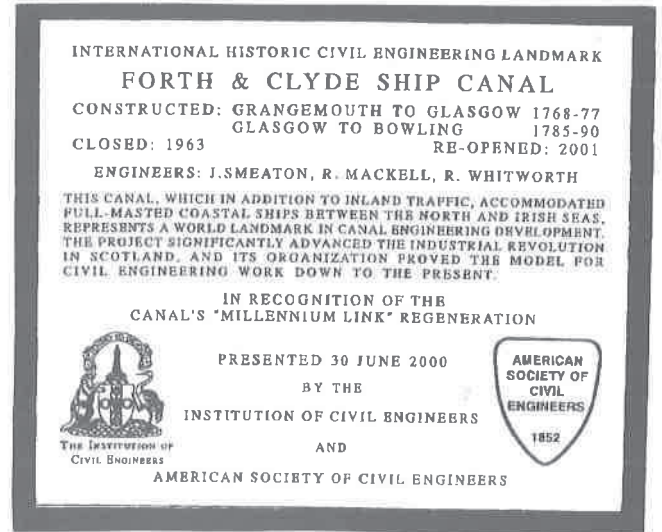
Bo'ness Foundry – casting  
Author's photograph



Bo'ness Foundry – inspecting castings  
Author's photograph

The International Conference on the £78 million Forth and Clyde Canal Regeneration to be held in Edinburgh on the 30 June-1 July 2000 looks set to be a great success. The Panel through myself has been instrumental in arranging historical lectures, a joint exhibition stand and drafting the wording and co-ordinating with ASCE the making of what I think is the fifth ASCE/ICE International Historic Landmark Plaque with which I have been involved. It will be unveiled by both Presidents on 30 June 2000. The wording brings home the importance of the canal's and the civil engineer's contribution to mankind. This international recognition will help the case for the regenerated canal, with its state-of-the art 'Falkirk Wheel', to be designated a world heritage site. Our 4-

panel exhibition stand sponsored by Sir Robert McAlpine Limited is being prepared by the Royal Commission of the Ancient and Historical Monuments of Scotland and will comprise records, including Panel material, of canal structures. The Scottish PHEW Group's weekend visit to the canal immediately after the conference and including a boat trip has so far attracted applications for 80 places. Individuals wishing to attend the conference at the special price of £50 should contact Sue Frye, ICE Conference Office tel: 020 7665 2315.



Forth & Clyde Canal plaque – to be unveiled 30 June 2000

My post bag from abroad has recently included West Virginia University's IHTIA tenth anniversary *Review* outlining an impressive record of achievement under Dr Emory Kemp's leadership. Also, a superb publication from Professor Hanzawa in Japan on the transportation heritage of Chiba Prefecture. Its A4 format contains 350 location maps, photographs and sketches illustrating 88 HEW's. By way of an example I have taken Brunton's Inubosaki Lighthouse - Choshi-Shi of 1874 with its 31.3m. tower. The Stevenson influence shines through!



Brunton's Inubosaki Lighthouse, Japan, 1874  
(cont. Japanese artist)

## MILITARY ROAD TO TURNAWARE POINT by Brian George



写真66-1 現在の犬吠埼灯台 (1997年)

Brunton's Inubosaki Lighthouse, Japan, 1874  
(photograph)

Finally, on a recent visit to Jersey I was impressed with scale and workmanship, although not the utility, of St. Catherine's breakwater. The project was conceived as a harbour of refuge by Admiral Sir E. Belcher, constructed by James Walker from 1841-1846 and extended in 1852 to 2,300ft. Its cost was £234,235. Although well built in random coursed masonry (still in very good condition), the depth of water proved insufficient for the warships that developed after its completion. William Davis in *The Harbour that failed* (1983) mentions that the breakwater actually constituted a hazard and that on it 'Mr Walker's barge was dashed to pieces'!



St Catherine's Breakwater, Jersey, 1852

David J Gregg of Tewin, Hertfordshire, has located a concrete road built by the US Army for D-Day, a permanent memorial of the enormous support given by the United States to ourselves in the Second World War. Turnaware Point in the Roseland peninsula of Cornwall (now on National Trust land) was an embarkation site for some of the American forces assigned to Omaha Beach. He writes that the road survives in astonishingly good condition, covering a distance of around 2,000 metres and offering some excellent views over the Fal estuary at Carrick Roads.

On the National Trust land at Turnaware Point the concrete marshalling apron remains, but apparently is being allowed to be overtaken by vegetation. There is a small recent memorial placed inside the gateway noting that units of the 29<sup>th</sup> Infantry Division, V Corps, embarked for Normandy early in June 1944 to land on Omaha Beach on 6 June. The public road commences at the junction with B3289 at SW 851 378, but lower down from SW 846 370 is owned by a local farmer, giving access to Commerrans Farm and a B&B establishment, finally reaching the National Trust land and the memorial at SW 837 381. The road was reportedly built by American military engineers and has a high quality of curvature and associated cross-falls.

Given the American involvement, the dramatic historic context, and the technical quality of much that remains, Gregg is wondering whether the American Society of Civil Engineers, as well as the Institution of Civil Engineers, could be persuaded to give it historic recognition. Richard Truscott tells me that the National Trust have built a hedge to prevent members and others from taking their cars onto the marshalling apron. Truscott also writes that there is a second similar embarkation point although this is suffering by increasingly being treated as if it were private. It leaves the B3289 near the King Harry ferry at SW 847 393 and accesses the river at SW 845 403.

The two sites are both briefly mentioned in the guidebook to the church at St Just in Roseland – although the second site is just outside the parish. Interestingly, also, this churchyard contains the grave of R W Hawkey, chairman of PHEW when it was first formed in 1968, whose son Kim is a neighbour of Gregg.