



The Institution of Civil Engineers

Panel for Historical Engineering Works

NEWSLETTER

DECEMBER 1992 No.56

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Annual Meeting - 1992 ... The Editor

The annual gathering and meeting of the Panel took place at Trinity College, Dublin, from 3 to 5 September, 400 years after the founding of the College, and 60 years after Bryan O'Loughlin first entered the Engineering School there.

Mr Peter Stephens, who later agreed to take over the post of Technical Secretary from January 1993, was welcomed to the meeting. Bryan O'Loughlin has now become Vice-Chairman of the Panel in succession to Professor Alec Skempton, who much to everyone's regret has had to retire from the Panel. The Chairman reported that as a result of generous contributions of Panel Members, a copy of Walker's *'Account of the Liverpool and Manchester Railway'* had been presented to the Professor as a memento of his years with the Panel.

The Technical Secretary, in his report, referred to the database which is being set up for B7 reports, and drew attention to the necessity of a concise factual description in Item 10 of a report form. Supplementary information, such as the historical background, should be entered on a separate sheet. A paragraph was added to the Handbook (page D/1) asking for return visits every five years to HEWs for which record forms have already been

made.

Paul Dunkerley detailed his proposals for disseminating the Panel's records to Sites and Monuments Record Officers, to ensure that the Panel would be informed of any planning applications received in connection with any HEWs. It was agreed that SMROs should be provided with copies of the front pages of newly received record forms for HEWs in their areas, and would be given the names and addresses of the local Panel Members and asked to inform them of any planning applications that would concern them.

Sales of the first two volumes of *'Civil Engineering Heritage'* are still increasing, but only slowly. Publication of the volumes for Southern and Eastern England is hoped for in 1994, and progress is continuing in the preparation of the remaining volumes.

Brian George had sent Heritage Trail leaflets he had prepared for Exeter and Plymouth. It was hoped that there would be money in the Institution's budget next year for a couple of in-house leaflets.

The Chairman reminded Panel Members that it was an advantage to be active in their Local Association, as funds would then be more readily available to support projects and leaflets.

The Chairman's Column ... Roland Paxton

Ribbed Masonry Arch Bridges ...

Peter Cross-Rudkin

The following is the conclusion of the list given in Peter Cross-Rudkin's article in the last issue of the 'Newsletter'.

Location	NG Ref	Date	HEW No.
Lincolnshire			
Utterby	TF 305932	13..	
North Yorkshire			
Baysdale	NZ 620068	13..	
Boroughbridge	SE 395671	1562	
Croft	NZ 289098	14..	208
Fountains Abbey (West Bridge)	SE 272682	12..	1335
Gilling West	NZ 182052	14..	
Glaisdale	NZ 784055	1619	
Grassington	SD 998639	1603	
Helmsley	SE 613835	13..	
Jervaulx	SE 191860	14..	
Kildwick	SE 011457	13..	949
Knaresborough	SE 345571		
Low Abbotside	SD 934911	1140	
Marske	NZ 104004	14..	
Pickering	SE 796841	14..?	
Ripley	SE 287597	15..?	
Romanby	SE 351920	1673?	
Sessay	SE 463746		
Settle	SD 817640		
Topcliffe	SE 398760	1622	
Westerdale	NZ 663061	12..	
Yafforth	SE 346945	14..	
Nottinghamshire			
Nottingham	SK 581383		
Nottingham	SK 571396		
Oxfordshire			
Abingdon	SU 499968	1416	
Burford	SP 252125	13..	
Culham	SU 500948	1422	
Lower Heyford	SP 478248	12..	
Newbridge	SP 403013	14..	
Oxford	SP 517064	1676	
Radcot	SU 285994	13..	
Wallingford	SU 610895	13..?	
Shropshire			
Bridgnorth	SO 718930	13..	
Clun	SO 300808	1450c	
Haughmond	SJ 524147		
Ludlow	SO 512742	1450c	
Stottesdon	SO 662815		
Somerset			
Buckland Dinham	ST 763498	14..	
Haselbury Plucknett	ST 458109	14..	
South Yorkshire			
Oxspring	SE 267026	1734?	
Rotherham	SK 426930	1483	
Sheffield			
Lady's Bridge	SK 357878	1486	915
Staffordshire			
Stone	SJ 902334	13..?	
Suffolk			
Bury St Edmunds	TL 858643	13..	
Hadleigh	TM 026422	13..	
Tyne and Wear			
Gosforth	NZ 255685		
Warwickshire			
Shustoke	SP 247912	14..?	
West Sussex			
Rogate	SU 782233	14..?	
Rogate	SU 808229	14..?	
Trotton	SU 837224	14..	
Woolbeding	SU 872220	14..?	
West Yorkshire			
Otley	SE 201458	12..	
Wakefield	SE 338201	1345	
Wiltshire			
Bradford-on-Avon	ST 826609	12..	1514
Worcestershire			
Tenbury	SO 595686	13..	

The most memorable recent event in the annals of the Panel was its visit to the Republic of Ireland based on Trinity College, Dublin. History pervaded in every aspect, even to the intricacies of our accommodation! It gives me much pleasure to thank Dr Ronald Cox again for the excellence of the arrangements. The contacts with the University and the Institution of Engineers of Ireland with their impressive historical engineering libraries were particularly appreciated.

It is well-known that the role of the Technical Secretary is fundamental to the operation of the Panel and finding a suitable successor to Bryan O'Loughlin has been an important matter engaging my attention for some time. I am delighted to announce that Peter Stephens, formerly with the Science Museum, has agreed to become our new Technical Secretary. We welcome him to the post and look forward to working with him.

On the external affairs front, the Panel continues to advise locally and nationally. In the Local Authority field advice has recently been given in respect of historical engineering works in London (St Katharine Docks and Tower Bridge) and bridges at Teignmouth, Bridgend, Glenrothes, Braemore and today, Dalmahoy! Support is continuing for the Laigh Milton Viaduct Conservation Project with regular meetings under the active chairmanship of William Barr. Also, for the re-generation of the Forth Bridges Visitor Centre at North Queensferry. Since 1984, the Centre has attracted some 80,000 visitors from 55 countries on a largely self-financing basis and the Panel, and no doubt the whole Institution, would welcome its survival. Progress is now being made towards instituting a Saltire Award for excellence in the conservation of Scottish historical engineering works. Discussions are continuing with Welsh Local Authorities regarding the future and accessibility of the Britannia Tubular Bridge Monument. The opportunity offered by the current review of the Institution's Corporate Plan has been taken to try and more accurately cover the Panel's work by inclusion of an activity statement regarding advice to external agencies.

With regard to publications, the Panel is greatly indebted to Paul Dunkerley for taking on and seeing through the major revision of its Handbook which is expected to be available in the New Year. A meeting was convened recently at headquarters with the express object of encouraging progress on the completion of the volumes for Southern and Eastern England. All concerned have agreed to make an effort to achieve publication of both volumes by November 1993!

Smeaton's bicentenary is being well and truly observed except, sadly, at the memorial service at St Mary's Whitkirk, Leeds where it was a case of "two or three were gathered together"! Nationwide, at least 14 lectures are being given by Panel Members. The

Exhibition was successfully re-launched at The Scottish Record Office, Charlotte Square, Edinburgh, following distribution of 100 posters and 5,000 leaflets advertising the Scottish Smeaton events. An invited audience of 100, representing a broad cross-section of professions and public bodies were treated to a witty and discursive Sir Robert Grieve who referred to his youthful residence in Smeaton Street in the Forth & Clyde Canal 'steamer' age. Additional Forth & Clyde Canal material was displayed by the Record Office and also a colour slide presentation illustrating environmental aspects of Smeaton's works and their continuing use. The Exhibition has now been moved to Glasgow's Museum of Transport where it was formally opened by President Mike Cottell and Sir Peter Hutchison on 26 November. Response to the various events so far has been good with interest being shown by 'New Civil Engineer', the BBC and 'The Herald'.

HEWs in the News ... Brian George

Shaldon Bridge, Teignmouth (HEW 1761), featured in the local press in September when a consultation with the public at Teignmouth on 19/21 September and at Shaldon on 23 September was carried out by the Devon County Council on the possible alternatives for replacement of the bridge. The existing bridge from Teignmouth to Shaldon over the tidal waters of the River Teign estuary is a Grade II listed structure, reconstructed in 1931 and the fourth longest bridge in Devon.

The reconstructed bridge, designed by Harold D Smith associated with Mott, Hay and Anderson, has 23 fixed spans with an overall length of 1,063ft and one opening span of 35ft. The total length of the bridge, including causeways, is 1,580ft. It carries a 20ft carriageway and two 4ft footways, although the carriageway narrows to as little as 16ft 9in., with similar footways, over the causeways. In 1991 detailed inspection and assessment of the bridge resulted in the immediate imposition of measures to prevent vehicle wheels from mounting the cantilever footways, and a 7.5 ton weight limit for vehicles was imposed. Alternative proposals for the improvement of the road crossing of the estuary have been considered and put to the public:-

- a. Reconstruction on the existing alignment;
- b. Construction of a replacement bridge on a new alignment

There is nothing particularly interesting about the existing bridge except that it has a lifting span operated manually at the northern end of the bridge. It does, however, replace an original timber structure built in 1825-1827 by Roger Hopkins of Plymouth, a Corresponding Member of the Institution (who was listed in Transactions, Volume II, 1838). The 1878 Guide to Devonshire reported that this was the longest wooden bridge in England and only surpassed by the Pont de

Lyon. When it was built, the purchase of the ferry from Lord Clifford cost £4,000.

From the point of view of the Panel the interest in this bridge lies in the site being the original chosen by Roger Hopkins, an early civil engineer, and in the length of the original structure and the masonry causeways, together with the toll-house remaining on the northern approach. Hopkins had in 1804 been involved in the tram-road between Pen-y-darren and Abercynon in South Wales upon which Richard Trevithick tried the first railway locomotive engine; he had also engineered the Monmouth railway through the Forest of Dean in 1812 and in 1821 was employed by the Plymouth and Dartmoor Railway. It is therefore more natural to relate to the early history, rather than the 1931 replacement bridge, and for this reason another replacement is quite acceptable.

On behalf of the Panel for Historical Engineering Works a recommendation has therefore been made to the County Engineer and Planning Officer that Shaldon Bridge and approaches be reconstructed on the existing site, preferably with new piers, longer spans and with improved widths of road and footways. The County Engineer has replied that this accords with the Council's current preference for maintaining the present alignment.

On Saturday 22 August the *Daily Telegraph* showed a picture of the Levant mine in 1920 and another of members of the Trevithick Society working on the mine's restored beam engine. Steam trials to bring this beam engine back to life have proved that a £128,000 restoration has been successful. Most parts of the 1840 beam engine have survived, others have been replaced, and a modern Cornish boiler has been donated by English China Clays to be placed in a new boiler house beside the engine house. The boiler is shown being lowered into position in the Autumn Newsletter of the Devon and Cornwall branch of the National Trust.

Otherwise nearly everything dates from the 19th century in the engine house with its hugh crankshaft and flywheel, overhead rocking beam supported on a massive timber girder spanning across the house and the connecting or "sweep" rod. The Levant beam whim (winding engine) is the sole surviving machinery at the mine, where copper and tin were mined from more than a mile out under the Atlantic.

The engine is expected to become the focus of the National Trust's Industrial Heritage Year which starts in January. Visitors next season can expect to see the engine running under its own steam for the first time in 60 years. The direct route to the site will be to take the A3071 road westwards from Penzance and fork right on B3318 and then B3306 to Pendeen. At map reference SW 379 342 turn north-west along a track towards the coast and the mine.