

Panel for Historical Engineering Works Newsletter

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Chair's column

By Gordon Masterton

. Roland Paxton Celebration of Life Memorial Event – Heriot-Watt University

On 20th May, ICE Scotland and Heriot-Watt University collaborated to hold a very special memorial event for the life of Roland Paxton. The Panel was represented by me and Vice-Chair Mike Chrimes, with a strong attendance of the Scottish PHEW Group under Sandra Purves, members of Roland Paxton's family including his daughter Adele, and niece Joanna (see Newsletter 173 for Joanna's excellent commemoration), and a large turnout of Roland's friends and colleagues. A lovely event.

John Andrew, Demetrios Cotsovos, Jacqueline Baird and David McGuigan of Heriot-Watt and ICE Scotland had

organised a number of guest speakers covering Roland's contributions to Lothian Regional Council, Heriot-Watt University, Friends of Union Chain Bridge (Ted Cawthorne), the ICE Scotland Museum, his rescue of Laigh Milton Viaduct, his family and of course his incomparable contribution to civil engineering heritage through PHEW, which I covered inadequately in the following piece, having researched the early years of PHEW through the immensely helpful PHEW Newsletter Index.



PHEW Chair's tribute

Roland Paxton – a Civil Engineering Historical Monument

Roland Paxton's career in local government with Lothian Regional Council was worthy of great merit, but I suspect he wasn't as fiercely ambitious or prepared to be constantly mobile to pursue promotions in other authorities once the family had settled in Edinburgh – and why would you?!

But it was as a civil engineering historian that Roland really excelled. He liked and usually enjoyed his career but he loved his hobby with a passion.

The ICE Panel for Historical Engineering Works was initiated by a Council discussion on 29 October 1968. It was formed in recognition of the growing interest in preservation societies campaigning to save engineering heritage.

There was recognition that the institution couldn't provide financial help but it could provide a real service by identifying and drawing attention to examples of engineering work which are important and thus guiding those whose interest it is to preserve them.

The paper recommended that the Institution should set up an Advisory Panel to examine and report upon historical items and give publicity to its findings. Full details of the historic item or works could be registered and as much of its history as is known recorded.

Examples quoted were London Bridge, then under demolition, for which it was known that important surveys had been carried out and should be preserved, a clear steer that archiving records of structures before they were demolished was recognised as important. This is similar to what in Roland and I, successively, between 1990 and 2010 were often seeing as Commissioners of the Royal Commission on Ancient and Historical Monuments of Scotland – with surveyors rushing to record buildings and structures, oil rigs, coal mines or power stations before they disappeared from sight.

The Council minute said overseas projects should be included, citing the example of an early iron bridge in the West Indies. That idea hasn't really progressed, with some notable, locally stimulated, exceptions.

Council concluded that the ICE might set up a Register of Engineering Works of Historic Importance and record their history and other matters concerning them. A Panel of Advisors should be appointed to consider and advise on entries to the Register. The attachment of plaques to structures was deprecated as it would not guarantee their preservation in good repair and might discredit the Institution in certain circumstances.

We've ignored that guidance many times since then!

ICE Council then passed on the matter to the Public Relations Committee.

I find it interesting that in 1968 this was regarded from the outset as a PR opportunity for raising the profile and usefulness of the ICE – and I firmly believe that remains the case today. TV and radio producers have sought out advice from ICE in the field of engineering heritage far more than for any other field of expertise.

Now, Roland wasn't involved at that formational stage, being still young and establishing his credentials, and Messrs Hawkey, Edwards, Fisher and Skempton were asked to form the first "Engineering Monuments Panel".

But in July 1972, Prof Skempton resigned from what had by then become the Civil Engineering Monuments Panel

and his place was taken by James McLaren Fraser, a partner of Babbie Shaw and Morton, who was also one of the first Local Association representatives for the Panel through Glasgow & West of Scotland.

Roland makes his first appearance in the Panel's early Bulletins (the predecessors of this Newsletter) in September 1976 as the new Scottish Representative, taking over from James Fraser and noting the formation of a group of enthusiasts in Scotland beginning their recording of the HEWs. He'd have been 44 years old at the time.

And the rest is PHEW history. He served 14 years as the East of Scotland Representative on the Panel and took over from Alec Skempton as the fifth Chair of PHEW in September 1990, serving for another 13 years before retiring (but not really) in 2003, when he was 71.

In 2007 the two volumes of Civil Engineering Heritage in Scotland were published as Paxton and Shipway and are fine examples of Roland's legacies. I was President when they were finalised and was delighted to write a foreword for Roland and Jim saying they were "a gazetteer and guidebook to inform anyone with an interest in civilisation".

So, raising the visibility of the importance of engineering heritage as a learning legacy, has been an aim of the Panel from its outset. And Roland did that far more and far better than anyone else. He became a civil engineering historical monument in his own right.

If he'd stood still long enough, we'd have put a plaque on him.



Roland's daughter Adele admiring his commemorative plaque

This Newsletter

You will next read an excellent obituary by Mike Chrimes of Sir Neil Cossons, another iconic figure of engineering heritage, and a collaborator with Roland and PHEW (after a rocky start as you will read!) I'm delighted that you will next read of our four most recent regional Panel members, who have already embraced their roles with gusto. I was very keen that we share their past experiences and the sources of their inspiration for engineering heritage. They will be great assets to the PHEW team and I look forward to their new insights and enthusiasms appearing in these pages!

That is followed by an appeal for volunteers for new Representatives for three other Regions.

Kris Campbell and Ben Millar have provided a wonderful 60th birthday tribute to Belfast's Queen Elizabeth Bridge (just two years older than PHEW) which will be a valuable record to complement what is already held in our HEW database.

I learned a lot about the Yockney family from Stephen Jones' article, boldly sub-titled "The Longest Dynasty of Engineers?". I think the Stevensons would all be spinning in their lighthouse lanterns if indeed the Yockneys can only muster three generations. But it's an excellent article!

Another call for volunteers in the London area is made by Sara Jarvis, Director of Kirkaldy's Testing & Experimenting Works' a gem of a place to visit. David Kirkaldy is one of only two engineers to appear in both the Scottish [Engineering Hall of Fame](#) and the [City of London Engineering Hall of Fame](#) (the other being John Rennie the elder).

And finally, our revitalised "HEWS in the News" continues to provide contemporary references to the latest developments with our HEWs.

The founding fathers of PHEW in 1968 would have been proud to see so much going on..

Obituary – Sir Neil Cossons (1939-2026) OBE FSA FMA

By Mike Chrimes



Sir Neil Cossons © Science Museum Group

With the death of Sir Neil Cossons on 29 March the world has lost one of the giants of the museum world of the second half of the twentieth century and one of the greatest advocates of appropriate conservation of industrial heritage. While interest in the artefacts of the industrial revolution can be dated almost back to the revolution itself, with the preservation of early locomotives and steam engines providing prime examples, Sir Neil recognised the importance of that heritage in its landscape, and its significance for the people who grew up and worked in that landscape.

Born in Beeston Notts, his parents were teachers, and his father Arthur also taught at night school for miners. He studied geography at Liverpool University but his father had already awakened an interest in industrial archaeology by taking the family on visits to industrial sites. Graduating in 1961 he joined the Newcomen Society two years later. At the time it was the only serious forum for the discussion of engineering and technological history in the UK, the Association for Industrial Archaeology not being formed until 1973, by which time Sir Neil had published two books on the subject.

He is probably best remembered as founding Director of the Ironbridge Gorge Museum Trust (1971-1983), the Science Museum (1986-2000), and Chair of English Heritage (2000-2007).

In the Museum world he helped establish the Association of Independent Museums and was its chair from 1978-1983.

Sir Neil began his career in the Museums world in Leicester, followed by a spell at the then railway museum in Swindon, and as the curator of technology at Bristol City Museum, a move that was probably as important for his meeting Angus and Brenda Buchanan, academic pioneers of industrial archaeology at what became Bath University. He returned to Liverpool at the age of 29 as Deputy Director of Liverpool Museum, by which time he had gained a reputation for his quiet dynamism and ability to get things done.

His appointment to the newly created position at Ironbridge gave him the opportunity to demonstrate his vision of the conservation of an industrial landscape, not just as the preservation of a few cherry-picked museum pieces, but the buildings of the workers and the owners. The success of his work can be seen in the fact Ironbridge is a major tourist attraction in what would otherwise have been a depressed post-industrial area of Shropshire. Today it is a UNESCO World Heritage site.

In 1983 he became Director of the National Maritime Museum, revitalising the displays there, and then he turned his attention to the Science Museum, where he wrestled with the issues of finding funding. The Welcome Wing or West Hall is a tribute to his tenure, and his belief in the need to have modern interactive displays of the latest technologies.

His tenure as the Chair of the then English Heritage had been preceded by involvement with its Industrial Archaeology Panel and its Monuments Protection Programme of which industrial sites were a key element. As with his work at the Science Museum his tenure was marked by rows over funding and policy with his political masters, in which he made his points clearly. The 'Power of place' report, which stressed the importance of the whole of the built environment, high streets, suburbs and workplaces, to the people who lived in that 'place' reflected his holistic approach to the industrial landscape and anticipated the current political sensitivity over the decline of the high street and other key elements of people's lives.

Sir Neil's relationship with PHEW changed from one of suspicion aroused by the then Technical Secretary Maurice Barbey's evidence to a public inquiry into the fate of Bennerley Viaduct, fortunately still with us, to one of active support working with the Panel under Roland

Paxton's Chairmanship to create an expert Panel to advise London Underground on appropriate strengthening of Marc Brunel's Thames Tunnel. Sir Neil's letter to the Times helped ensure some at least of the tunnel was preserved, and its structure was fully documented. Barbey had argued that there were other examples of similar bridges so it did not matter if the viaduct was demolished, an opinion with which other members of the Panel who were involved in campaigning for its preservation clearly disagreed, and indeed it is difficult to justify Barbey's view. Times changed under Paxton's leadership and Sir Neil was instrumental in getting Mike Chrimes appointed to English Heritage's Industrial Archaeology panel, recognising civil engineering needed a voice at that table.

Sir Neil's publications include: Industrial archaeology of the Bristol Region (with Angus Buchanan) (David & Charles, 1969); Bristol: industrial archaeology in pictures (with Angus Buchanan) (David & Charles, 1970); BP Book of industrial archaeology, 3 editions (1975-1993) The Iron Bridge (with Barrie Trinder), 2 editions, (1979, 2002); Ironbridge, landscape of industry (with Harry Sowden) (Cassell, 1977). All are worth a look, as they represent key elements of the development of industrial archaeology in the UK. The Iron Bridge (2002) has comprehensive inventories of early cast iron bridges, a vital resource for anybody interested in the development of the use of iron in structures.

New panel members

A few new members have joined the panel recently, so we thought it would be a good opportunity for them to introduce themselves.

Mervyn Carter (London)

I have been a Civil Engineer for over 50 years. I became Chartered in 1977 and a Fellow of the ICE in 1995. After a variety of design and site work including roads and bridges and steel framed buildings I specialised in railway civil engineering including planning, design, construction, funding and maintenance. I have worked on a number of railway systems including HKMTR, SMRT, DLR, the Jubilee Line Extension, Copenhagen Metro and Network Rail. In 2003 I joined the Office of Rail Regulation as Advisor and

retired in 2015 as Head of Civil Engineering. I consider myself a Railway Civil Engineer.



Mervyn with the Tower Bridge model he built for the ICE Bridges exhibition in 2016

Since 2015 I have had the privilege of being a Volunteer at the ICE working largely on archive work for our Archivist, Carol Morgan. I have also contributed to a number of Library exhibitions and written several book reviews. This has been a perfect fit for my lifelong interest in the history of engineering of all types. Through various projects before and after retirement this interest has covered docks and harbours, GKN construction 1930s to 40s, London Underground, steel framed buildings, and the Tay and Forth Bridges. My enthusiasm for historic railway achievements is probably unbounded! Studying the development of the profession from Smeaton and Telford onwards has been a fascinating addition to the technical projects covered.

Kris Hillburn



I am a Fellow and Chartered Member of the ICE with over 25 years of experience in the civil engineering industry across the UK, Qatar and the UAE. I am currently an Associate Director at JNP Group, where I lead the Civils Team and head the Belfast office, bringing extensive experience in delivering major infrastructure projects and leading multidisciplinary design teams.

My interest in the Panel for Historical Engineering Works (PHEW) stems from a lifelong fascination with bridges and historic infrastructure. During my MSc in Structural Engineering at the beginning of my career, my dissertation focused on the future durability of the iconic Tyne Bridge in Newcastle upon Tyne. Early in my career, I also undertook visual inspections of railway structures, including historic structures and stations, with Newcastle Central Station being a particularly memorable example. These experiences fostered a lasting appreciation for engineering heritage and the importance of preserving historic infrastructure for future generations.

Now based in Northern Ireland, I bring this experience and passion to my role as NI PHEW Panel Chair.

Steve Jones (North West)



I am a Chartered Engineer, Fellow of the Permanent Way Institution (PWI now the Rail EI), and currently work as a Senior Project Engineer with Network Rail managing rail infrastructure enhancement schemes. I have 41 years industry experience, 27 in the mainline rail industry, and 35 in the Heritage Railway sector.

I was the Railtrack later Network Rail Territory Structures Assessment Engineer for the North West Territory

between 1999-2004, and subsequently the Regional Structures Assessment Engineer for the whole of the London North Western Region between 2004-2007 responsible for the examination, assessment, and steering the renewal and maintenance strategy for all bridges and structures on the region. The regional job role included input into the assessment and custodianship of a large number of notable heritage structures across the rail network including the Britannia and Conwy bridges, Runcorn Viaduct, all of the Settle & Carlisle viaducts, tunnels, and bridges, together with similar assets on both of the Liverpool & Manchester lines (L&MR and CLC routes), the WCML, Cumbrian Coast and its viaducts, and the Mersey Railway Tunnel network. The role also encompassed similar involvement with Station trainshed roofs at Carlisle, Preston, Liverpool Lime Street, Manchester Picadilly, Crewe, Chester, Llandudno, Holyhead, Stoke-on-Trent, and London Marylebone.

Later from 2007 onwards I moved into rail enhancement projects as a Senior Project Engineer (SPE) and leading Designated Project Engineer (DPE) to support a significant growing portfolio of schemes which included reinstatement of the Olive Mount Chord line in Liverpool, re-doubling of the Gretna Junction-Annan line, upgrade of the Settle & Carlisle line for freight traffic, reinstatement of the Todmorden Chord line, waterproofing and repairs to several of the Settle & Carlisle line viaducts, refurbishment of Liverpool Lime Street, Preston, Llandudno, and Holyhead station roofs, and numerous line upgrade, bridge renewal, station refurbishment, and depot upgrade schemes throughout the LNW Region including support to the Chiltern Line Evergreen 3 upgrade.

Subsequently, from 2013 onwards, I moved over to Eastern Region and have more recently been engaged as DPE with leading on the Route Clearance activities for Electrification of the Midland Mainline between Bedford-Kettering-Corby-Wigston, design development work for future Electrification from Wigston-Trent-Nottingham-Derby-Sheffield including innovative minimal disturbance gauge clearance solutions for Leicester, Nottingham, and Sheffield stations, redoubling of the Kettering-Corby line, re-quadrifying the Bedford-Kettering line, and the renewal and upgrade of numerous bridges and structures in the East Midlands area including the refurbishment of Sharnbrook and Irchester Viaducts on the Midland

Mainline, the saddling and waterproofing of Harpers Brook viaduct on the Kettering-Corby line, and the installation of a new intersection bridge for the Great Central railway over the Midland line at Loughborough. More recently I have become involved with the emerging interface of East West Rail with the existing railway in the Bedford area.

Coming from the Conwy area, I have an inspired lifelong interest in railways and railway civil engineering, as well as other prominent historical civil engineer engineering works. My Network Rail job role has brought me into contact with managing and caring for a vast portfolio of heritage and Listed bridges and structures in the North West, Midlands, North Wales, and East Midlands areas. In an extramural voluntary capacity I have served as the Civil Engineer for the Llangollen Railway Trust (Heritage Railway) between 1993-2019, during which time I instigated and lead a major scheme to saddle, waterproof, and refurbish the railway's Berwyn Viaduct, refurbishment of Berwyn and Llangollen Station Buildings, and had initial engineering design steering input into the line's extension from Carrog to Corwen including the temporary terminus station and later the new permanent station and canopy at Corwen. More recently since 2021 I have become actively involved on a volunteer basis with the Bala Lake Railway, its operation, upgrade, and extension aspirations.

Since around 2013 I have maintained my connection with the North West and its heritage structures portfolio through being involved with the region's ICE HEG and have had input to their periodic meetings and their inventory of 'At Risk' heritage structures and input into PHEW activities.

Niall Mackay

I am a Technical Director at AtkinsRéalis and a Chartered Civil Engineer with over 30 years' experience in the design, maintenance and management of transportation infrastructure. I specialise in bridges and civil structures, with a particular focus on inspection, maintenance, restoration and the safe stewardship of complex and ageing assets.

As Professional Head of Discipline for Civils and Structures Operations & Maintenance within the AtkinsRéalis Transportation business, I provide technical leadership

across the business and play an active role in industry groups, including chairing the Bridge Inspector Certification Scheme (BICS) Steering Committee. My experience spans local authorities, National Highways and other major infrastructure clients, delivering multidisciplinary projects and driving technical assurance across the sector.



Alongside my core role, I have a strong personal and professional interest in the conservation of historic engineering structures. Much of my work involves the inspection, assessment and refurbishment of legacy assets—structures that are not only critical to modern transport networks but also form an important part of the UK's engineering heritage.

I am particularly interested in how traditional engineering approaches can be combined with modern techniques—such as digital inspection methods and advanced asset management strategies—to ensure these structures are preserved for future generations.

I have had the opportunity to work on a number of prominent Historic Engineering Works over my career, including Pontcysyllte Aqueduct, Hammersmith Bridge, Edinburgh North Bridge, Tower Bridge, Humber Bridge, and more recently I am leading the restoration of the Tees Transporter Bridge.

Through both project work and industry engagement, I advocate for proportionate, informed interventions that protect structural integrity while respecting historical significance, ensuring that heritage assets continue to serve communities safely and sustainably.

Get involved

We welcome our new representatives. We still have a few vacancies for regional representatives and would welcome applications from volunteers with a general interest in engineering history and heritage. The vacancies are in the following Regions:

- South West
- South East - Hants, West Sussex & Surrey
- East or West of Scotland

Your duties as a PHEW representative would be to encourage interest in engineering history and heritage within the regional committee and wider membership; to maintain the Register of Historical Engineering Works for your area; to champion initiatives that demonstrate the value of understanding the past (engineering foresight from hindsight); to be aware of threats to our engineering heritage and provide supporting evidence to campaign groups, and to interact with the community of regional representatives.

In the first instance please send a cv highlighting any special interests of engineering history to:
PHEW@ice.org.uk

60 years of the Queen Elizabeth Bridge, Belfast

By Kris Campbell and Ben Millar



The Queen Elizabeth Bridge spanning the River Lagan, Belfast. Credit: DfI

The Queen Elizabeth Bridge, Belfast, marks its 60th anniversary in 2026. Opened at a time of profound urban

and transport transformation, the bridge represents a defining element of Belfast's post-war infrastructure programme. While often overshadowed by its older neighbour, the 1843 Queen's Bridge running parallel to it, the Queen Elizabeth Bridge embodies the modernisation ethos of the 1960s, responding to increasing traffic demand and changing transport priorities across the city.

By the mid-20th century, Belfast was experiencing sustained population growth and economic development, accompanied by a rapid shift in transportation patterns. The rise in private car ownership, combined with declining rail freight movements following the recommendations of the 1965 Benson Report, led to a substantial increase in vehicular traffic. Existing crossings of the River Lagan, particularly Queen's Bridge, were no longer capable of accommodating the growing volumes, resulting in congestion that constrained both mobility and urban development.

The Queen Elizabeth Bridge emerged as part of a broader strategic response to these pressures. Belfast Corporation developed a comprehensive urban traffic improvement scheme that sought to enhance east-west connectivity, rationalise traffic flow through the city centre, and improve access to key commercial and industrial areas. The bridge formed a critical component of this wider plan, which also included new road alignments, grade-separated junctions, and pedestrian infrastructure such as subways.

Design Development and Structural Form

The Queen Elizabeth Bridge comprises a composite concrete and steel structure with three spans of approximately 100 ft (30.5 m), 190 ft (57.9 m), and 100 ft (30.5 m) with the central span crossing the navigable channel of the River Lagan.

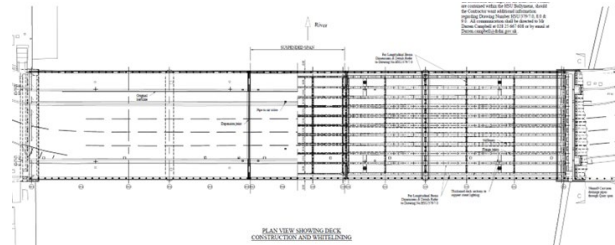
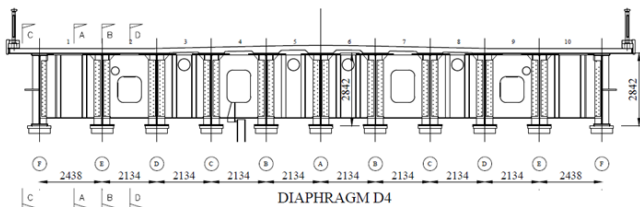


Photo: As-built drawing extracts. Credit: DfI

The design adopts a relatively straightforward arrangement, prioritising structural efficiency, constructability, and long-term robustness over architectural expression.

The construction of the bridge involved the in-situ casting of the supporting elements, erection of the steel deck before in-situ casting of the deck slabs. The central span over the river required particular attention to sequencing, ensuring that the waterway remained navigable and that construction activities did not adversely affect river operations. Foundations were designed to suit the ground conditions along the River Lagan corridor (Belfast sloop).

The bridge was constructed by Charles Brand & Son Ltd, a contractor experienced in major civil engineering works across the region. Its integration into the wider road network required careful coordination of alignment geometry, gradients, and connection to existing urban infrastructure.



Photo: Still from Construction. Credit: Building the Queen Elizabeth II Bridge - View media - Northern Ireland Screen / Digital Film Archive

Although modest in comparison to larger bridge types, the engineering challenge lay in embedding the structure within a constrained urban environment and within challenging times for Northern Ireland.

Urban Transformation and Social Impact

The delivery of the Queen Elizabeth Bridge required significant intervention in the urban fabric of Belfast. Approximately 145 houses were demolished to accommodate the scheme, reflecting the scale of redevelopment associated with post-war infrastructure projects.

This approach was consistent with planning philosophies of the time, which prioritised traffic movement and large-scale urban renewal. While such interventions enabled improved mobility and economic growth, they also carried social consequences, including community displacement and alteration of established neighbourhoods.

Naming and Political Context

The naming of the bridge provides an insight into the political sensitivities present in Northern Ireland during the 1960s. Several alternative names were considered, including "Carson Bridge" and "Somme Bridge," each reflecting particular historical or cultural associations. In the end, the name "Queen Elizabeth Bridge" was selected as what was deemed at the time a broadly acceptable choice, acknowledging the monarch while avoiding alignment with potentially more contentious or divisive themes. This decision highlights the extent to which infrastructure projects in Belfast were influenced [KC1.1] not only by technical and functional considerations, but also by the need to navigate a complex social and political landscape.



Photo: The Queen Elizabeth Bridge Plaque. Credit: DfI

Opening Ceremony and Historical Record

The bridge was officially opened on 4 July 1966 by Queen Elizabeth II, accompanied by the Duke of Edinburgh. A commemorative plaque installed on the structure records the occasion and recognises the contributions of Belfast Corporation and its Improvement Committee. The inscription reflects civic pride and acknowledges key contributors including the Lord Mayor and Improvement Committee.



Photo: Queen Elizabeth and Duke of Edinburgh crossing the Bridge. Credit: Still screen grab from archive footage from [Queen Opens Queen Elizabeth II Bridge](#) - View media - Northern Ireland Screen | Digital Film Archive

The opening ceremony itself became notable for an unusual incident in which a concrete block struck the Monarchs car as it travelled through the city along Great Victoria Street. Despite this, proceedings continued as planned, reflecting both the symbolic importance of the project and the determination to present it as a landmark achievement for the city.

Operational Performance and Present-Day Role

Since entering service, the Bridge has functioned as a key element of Belfast's road network. It primarily accommodates eastbound traffic, complementing neighbouring crossings and providing capacity within a heavily used corridor across the River Lagan.

Over the past six decades, traffic volumes have continued to increase, and patterns of movement have evolved in response to wider urban development. Despite these changes, the bridge has remained structurally reliable and

operationally effective, demonstrating the durability and resilience of its original design.

Refurbishment works

Principal Inspections revealed extensive corrosion and the failure of existing coating systems, most visibly on the parapets and handrails. Years of resident pigeons had deposited up to 18cm of guano throughout the structure, which severely damaged the existing chlorinated rubber coatings on the steel section in the soffit.

Having identified other water ingress and various concrete and steel defects, the Department underwent the process of undertaking extensive repairs. In 2011 the bridge joints were replaced, and a network of passive anodes were installed before applying a two-part waterproofing system. This work was undertaken to ensure a dry deck before the following year a complete repainting job was completed.



Photo: The Queen Elizabeth Bridge deck joints, anodes and waterproofing. Credit: DfI

After encapsulating the bridge, a heater dried out the soffit before using over 100 tons of Olivine for blast cleaning. The waste having to be collected and hauled up to the road surface in large buckets, not one of the more pleasant jobs to do.

The bridge was sprayed using a multi-layered paint system before a top coat in Belfast signature colour Neptune [KC2.1].



Photo: Encapsulation for repainting works 2012. Credit: DfI

The parapets and handrails were taken to bare metal and painted in a similar manner but in Blueberry and Turquoise colours.

Conclusion

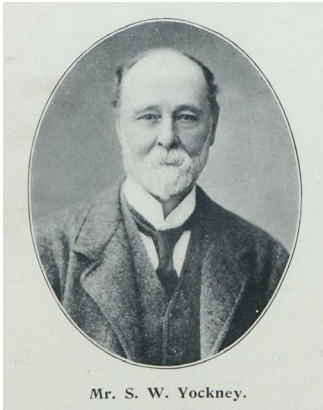
Sixty years after its opening, the Queen Elizabeth Bridge remains an enduring and functional part of Belfast's transport infrastructure. It stands as a testament to the ambitions of a period defined by rapid urban change and technological progress.

More than a simple river crossing, the bridge encapsulates the intersection of engineering, planning, and social context. Its history reflects the challenges of accommodating growth, the complexities of delivering infrastructure in a politically sensitive environment, and the lasting influence of mid-20th century design philosophy.

As Belfast continues to evolve, the Queen Elizabeth Bridge serves as a reminder of the city's engineering heritage and the enduring value of infrastructure that is designed not only to solve immediate problems, but to support generations to come.

The Yockneys, The Longest Dynasty of Engineers?

By Stephen K Jones



I always felt the Yockneys achievements deserved greater recognition having first come across Samuel Hansard Yockney (1813-1893) when researching Brunel in South Wales (BSW). I can offer some information and links on the family including another member of the dynasty, Victor Hansard Yockney (or Victor Hansard Hansard, as he would change his name to). The latter being another grandson of Samuel Hansard Yockney so at least four members and three generations of the family engaged in engineering. I had intended to include a reference to Samuel Hansard Yockney in Newport, who lived in one of the recently built houses in Victoria Place (off Stow Hill in Newport) when employed on the Newport Tunnel for the South Wales Railway (SWR).



Yockey's work on the Newport Tunnel resulted in the bore (with date-stone 1848) seen on the left

Unfortunately, this didn't make the final draft of vol 2 of BSW but I did include a reference to Yockney's son Sydney William Yockney (1841-1923), relating to a proposed tunnel under the river Neath at Briton Ferry by the Rhondda & Swansea Bay Railway (R&SBR). Paul Reynolds sheds an interesting light on this relatively forgotten aspect in the Neath Antiquarian Society transactions. River crossings at this point would have to wait until the demands of the motor age, although the later Rhondda & Swansea Bay Railway (R&SBR) had proposed a bridge crossing and then a tunnel, which despite the attention of S W Yockney as engineer for a tunnel 1,490 yards long, work was abandoned by 1885. The swing bridge that was eventually built by the R&SBR was the lowest crossing of the river until a road bridge was completed in 1955. The bridge was built 1892-4 with a swing portion of 52 metres and a gross weight of 1422 tonnes. Steelwork was by Finch & Co of Chepstow and the swing portion was hydraulically operated, the machinery was supplied by William Armstrong of Newcastle, but is now fixed. The 11-span steel road viaduct was some 296m long and crossed Briton Ferry Dock and the railway main line and was the last major riveted steel-girder bridge built in Britain and has since been joined by the M4 crossing.

Surprisingly only Sydney has an entry in the Biographical Dictionary of Civil Engineers but it does give a brief reference to the father and grandson Algernon Langston Yockney (1872 - ?) with a photograph of Sydney William Yockney. Membership of the Geological Society in this is

wrongly attributed to him, whereas only his father was a member who was elected as a Fellow on 8 November 1865. A website on the Wye Valley Railway was compiled by Iain Langston Yockney, a descendent of Samuel Hansard Yockney, and presumably a grandson of Algernon Langston Yockney, who made available relevant extracts from the family records and provided background information with material from the ICE library by Annette Ruhlmann. As this website is very informative, and has been referred to by John Bushby in his recent study, I will not go into detail but note that ‘...in 1898 a Coat of Arms was granted to Sydney Yockney and his only brother Algernon, a Fleet Paymaster on the Royal Navy on HMS President and their respective heirs. The inscription translates as “Labour and Knowledge”’.

Victor Hansard Hansard was the eldest son of Sydney William Yockney MICE, of Queen Anne’s Gate, Westminster, civil engineer, and Florence, daughter of George Hansard, Bushey Heath, Herts. He assumed the surname of Hansard in lieu of Yockney on 8 Jul 1898. Victor had 2 siblings including Algernon Langston Yockney. There is also a publication by another Yockney, this time John Yockney, who with Neil Sprinks (then PR manager at British Rail) edited the publication, *The Railways of South Wales*, published in 1984. I had met John once, who passed away in 2017, but did not have the opportunity to talk about his family’s engineering connections. The publication comprises a number of articles by different authors, including one on the proposed London & South Wales Railway entitled ‘The South Wales Railway to London’ by Roy Nolan but no references to S W Yockney, a proposal some say he was involved with. Another article on Tidenham by Geoff Mead entitled ‘Railway Influence on a Country Parish’ has an account of the Yockneys in connection with the Wye Cottage and Wye Valley Railway and includes an interesting reference to Samuel Hansard Yockney and Brunel’s tubular suspension bridge at Chepstow. Unfortunately, this does not cite the source of the reference but with renewed interest thanks to John’s article I revisited the subject with a fresh search which led me to an article by John Yockney on his family history. This was entitled ‘Unhappy Families’, in which John Yockney writes, ‘... that his Welsh ancestry began in 1860s. One family left Wiltshire and generations of farm labourers, to work in the Combe Down quarries, Bath. Son George

came west, an urban labourer in booming Cardiff, some time after the 1851 census. He met and married a Roman Catholic Irish immigrant, Catherine Saigro, in Cardiff’s docklands.’ So John Yockney may be related but not in the direct line.

To go back to what we know about S H Yockney, Kelly’s 1848 Directory for Newport lists him as, ‘Yockney, S. A. [sic] South Wales Railway Office, 4, Victoria-place’ on page 118, while under ‘Engineers’ on page 137, he is correctly listed as ‘S. H.’ with another SWR engineer, ‘Fox, F.’ at the same address. This was Francis Fox who is mentioned in BSW relating to 1849 when Brunel asked him, as a subordinate engineer on the construction of the SWR, to write to George Fisher of the Taff Vale Railway (TVR). This was to ensure that a TVR engine driver was not penalised for breaking one of the TVR’s many rules and regulations, namely allowing someone other than a TVR employee to ride on the footplate, the individual taking the liberty of riding on one of their engines being Brunel!

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Kirkaldy's Testing Works is an engineering site like no other — and it needs people like you!

By Sara Jarvis, Director

Just a block south of Tate Modern in London's Bankside, 'Kirkaldy's Testing & Experimenting Works' is not a museum in the conventional sense. There are no glass cases, push-button displays, or corporate sponsors' logos on the walls. What there is, in abundance, is authenticity — historic working machines, an almost untouched atmosphere, an inspiring story of innovation, and a small group of volunteers who care deeply about sharing it. If you have ever wanted to give your time to an inspiring engineering legacy that feels genuinely irreplaceable, this may be it.

The man who started it all

David Kirkaldy was born near Dundee in 1820 and began his working life as a draughtsman in Napier's Vulcan

shipyard on the Clyde. New materials were propelling the ambitious engineering of his age, but Kirkaldy saw first-hand how a lack of understanding could cause catastrophic results. For several years he carried out an immense programme of tests on iron and steel, convincing him of the need for a new approach to materials testing – scientific and verified, based on objective measurement, and 'Facts Not Opinions'.

Kirkaldy designed and patented his 47ft 7in hydraulic 'Universal Testing Machine', able to carry out all kinds of tests on all kinds of construction materials. He had identified London's growing commercial district of Southwark as the place for his new business and commissioned Greenwood and Batley of Leeds to build the machine, but with characteristic impatience he shipped it, unfinished, to London to complete the work himself. On 1 January 1865 he opened for business in The Grove, just south of what would become Southwark Street, and almost immediately was commissioned to undertake work for the greatest engineers around the world, including Joseph Cubitt for Blackfriars Bridge, Alfred Krupps in Germany, and later James Buchanan Eads, to test components for his ground-breaking single-span steel bridge across the Mississippi.

The Grove quickly proved too small and Kirkaldy commissioned architect TR Smith to create a bespoke building at 99 Southwark Street. It functioned almost like a huge machine in itself: with workshops and a 'showroom' of past tests – his "museum of fractures" – on the upper floors, huge chain pulleys on gantries to move vast components into place, and the Universal Testing Machine itself supported on brick piers in the basement to enable samples for torsion testing to be fed into the machine from beneath. As well as his name emblazoned across both sides of the building, Kirkaldy proclaimed his unshakeable belief in objective testing above the front door, so anyone who didn't yet grasp what he was doing here would be in no doubt. Those words, 'Facts Not Opinions', are as great a challenge to us today.

The standards for materials testing set here by three generations of the Kirkaldy family, over 99 years, have underpinned global construction ever since. The evidence is visible right on the doorstep, from The Shard and Blue Fin Building to the new towers of Borough Yards.

A new lease of life for the Testing Works

Remarkably, the Testing Works with its mighty Universal Testing Machine survives today in full working order. Its importance to engineering heritage is recognised by a Grade II* listing, almost unique for a piece of machinery. However, it also has another, and growing, importance to engineering futures.

The Testing Works is cared for by a charity and powered entirely by volunteers. It opens to visitors for twice-monthly tours, as well as for bespoke corporate and group events, when the 'big machine' can be experienced in action pulling apart metal bars. In addition, most excitingly, a materials testing education workshop, developed with physics teachers, means hundreds of students a year now use the 'smaller' historic working machines here to get to grips with the principles behind engineering – seeing ideas such as Hooke's Law and Young's modulus come to life. The value of these workshops for schools is clear: they tell us, "We simply can't give our students this experience anywhere else", and our small volunteer team now urgently needs help to meet the growing demand.

We're getting a bit stretched – join us!

We are looking for four or five people to join our team of front-of-house volunteer guides and workshop facilitators. Can you share our pride in Kirkaldy's work, our love of working historic machines, and above all our keenness to light the spark of enquiry among visitors and future engineers? Ideally you will be available for one or two weekends each month throughout the year, plus once or twice mid-week when we have schools or private groups — but if you prefer to do only one or the other, that's fine too. We are a small, energetic and friendly bunch, mostly but not all recently retired, with different backgrounds including software design, teaching and weights and measures testing.

If working behind the scenes appeals more, we would also be delighted to hear from anyone interested in supporting in other ways, whether as a trustee on the board, with our marketing or development, or by helping with our ambitious future project, 'Testing Works Revealed'.

We'd love to show you round and tell you more. Please do get in touch.

For more information about becoming a volunteer guide and/or workshop facilitator: jane@testingworks.org.uk

To talk about governance and development support, as an individual or as a company: sarah@testingworks.org.uk

Tripartite Webinar series

The joint ASCE /CSCE/ ICE historic webinar series is taking a break over summer and will be back in the autumn. For anyone who missed the May webinar by Doug Van Dine on R F Legget's attendance at the 1st International Conference on Soil Mechanics and Foundation Engineering in 1936, there is a [recording](#) available on YouTube.

Hews in the News

Govan Heritage Programme

The Govan Heritage Programme has been awarded £3 million by the National Lottery Heritage Fund (NLHF) and Historic Environment Scotland (HES). The money spread over the next 5 years will be used to refurbish existing buildings including the pumphouse at Govan graving dock as well as new projects such as a bridge linking Govan and Partick.

[Glasgow Council website](#)

[BBC 27 March 2026](#)

Glasgow Central station

Parts of Glasgow Central station were closed for 10 days in

March after a fire destroyed the historic adjacent buildings. Other than a small amount of water damage restricted to offices, the station was undamaged.

[Network Rail media centre update 12 March 2026](#)

[Glasgow Live 13 March 2026](#)

Weel Aluminium Bascule Bridge,

Spanning a tidal section of the River Hull, Weel Bascule Bridge carries the road between Beverley and the village

of Weel. East Riding of Yorkshire Council appointed Esh Construction to carry out a £1m programme of refurbishment after corrosion and other defects had been found by inspectors. Built in 1953, the bridge is unusual in being made of aluminium and operates on a counterweighted bascule mechanism. Because the bridge sits within a designated Site of Special Scientific Interest and crosses a tidal river, contractors thought extensive in-situ repairs including metal repairs, grit blasting and coating over water to be high risk. Instead, the whole structure will be unbolted and lifted by 150t crane to be transported to Sheffield as an abnormal load, where specialist subcontractors Ekspan and Retroflo will carry out the 12-week repair and refurbishment including structural repairs, replacement or renewal of mechanical and electrical systems and repainting in a factory setting. The bridge will then be returned to undergo commissioning and testing before reopening later this summer.

[East Riding council 12 March 2026](#)

Clachan Bridge (HEW 0416)

A plan to install traffic lights to control traffic flow over the historic bridge has proved controversial with locals and tourists alike. The masonry humped back bridge, nicknamed Bridge over the Atlantic, was built in 1791-2 and links the slate islands to the mainland.

[The Guardian](#)

River Plym Railway Bridge, Plymouth

Network Rail have completed an extensive upgrade of River Plym Bridge near the A38 Devon Expressway in Plymouth, enabling train services to be restored between Plymouth and Totnes. The work saw 16 days of continuous round the clock working to strengthen the bridge, including 134 new steel rail bearers and the bridge deck and girder steelwork refurbished. Timbers along the length of the bridge were replaced with 24 new FFU timbers, from Japan, which are a synthetic wood, much lighter and requiring less maintenance and lasting six times longer than traditional timber.

In addition, as the railway was closed, 400 metres of rail was replaced near Newton Abbot, track crossings were upgraded near Ivybridge, Newton Abbot and

Plympton, Totnes Station Plymouth-bound platform resurfacing was completed and track and drain maintenance carried out.

[Network Rail media centre 9 March 2026](#)

Kalemouth Suspension Bridge (HEW0410)

Kalemouth Suspension Bridge is one of the earliest examples of a wrought iron chain suspension bridge but was closed to vehicles in August 2020 after 'substantial decay' was found in its timber deck. Spanning 186ft/59m across the River Teviot four miles south of Kelso, it carries an unclassified road which allowed single file traffic with a 3-tonne restriction. Scottish Borders Council has recently won funding of £250,000 from the National Lottery Heritage Fund to replace the timber work and deck bracing. The bridge near Eckford was designed around 1835 by Captain (later Sir) Samuel Brown, who was also responsible for the Union Chain Bridge (HEW0143) linking Scotland and England.

[Scottish Borders Council 13 March 2026](#)

Marlow Bridge HEW661

This Grade 1 listed structure across the River Thames in Marlow, Buckinghamshire has been the subject of an extensive programme of structural restoration during 2025/6.

The works have involved piling and temporary propping systems to permit replacement of abutment and pier bearings. The works have necessitated several overnight closures of the bridge to road traffic.

This iconic structure to the design of William Tierney Clark was opened in 1832.

Photographs of the works in progress are available on the Buckinghamshire County Council Highways [Highlight blog](#).

Riddings Viaduct

Repairs to Riddings Viaduct, which spans the England-Scotland border over Liddel Water were completed by Balfour Beatty in November 2025. Riddings Viaduct is

a skewed nine-span masonry viaduct faced in red sandstone ashlar with stone arch barrels on stone piers and abutments. Restoration work included filling gaps in stonework, fixing damaged sections, and restoring railings along the edges, using matching material to preserve its appearance. Built by the North British Railway in 1864 on a branch line between Carlisle, Cumbria and Langholm, in Dumfries and Galloway, the viaduct fell into disrepair when the line closed in 1967. The viaduct is Listed Grade II* Listed (England) and Category A (Scotland).

[National Highways](#)

Brunel structures on the Great Western Railway. Sydney Gardens Small Walk Footbridge, Bath (HEW 0359) and Box Tunnel (HEW 0236)

Work is due to begin April onwards to refurbish Brunel's Sydney Gardens footbridge in Bath. Built in 1841 the Grade II Listed cast iron footbridge is a rare Brunel survivor and is the last surviving cast-iron footbridge of its type on the Great Western Mainline. Work will include grit blasting, steel and masonry repairs, a full repaint and complete replacement of its timber deck. To protect the surrounding parkland the bridge will be fully wrapped.

When the bridge was Listed in 1972, it was believed to date from the 1860s, after Brunel's death. However, research for English Heritage (Brindle & Tucker, 2011, unpublished) showed conclusively that the bridge was designed by Brunel, was built in 1840-1 under Contract 10B and is the last survivor of c.22 cast iron bridges designed by Brunel for the Great Western Railway. Begun in 1836, the Great Western Railway was authorized by Act of Parliament in 1835 for the London to Bristol line, the first section from London to Maidenhead opening in 1838. The Chippenham to Bath section, including Sydney Gardens, was the last part to be opened, in June 1841. As the line was originally broad gauge, a two track line was 30ft wide, which determined the span of the overbridges like this footbridge, added to which the line through Sydney Gardens is in quite deep cutting with elegant walls each side plus two more (skew masonry) bridges.

A spokesperson for Friends of Sydney Gardens, a group formed in 2013 to preserve and improve Sydney Gardens, said: "The Friends of Sydney Gardens are delighted the Grade II listed footbridge designed by Brunel, is being restored. The cast-iron pedestrian bridge built in 1841, is a rare survivor of Brunel's legacy. Brunel's railway cuts through the center of Sydney Gardens. [It is the] sole surviving Grade II listed pleasure garden in the UK, which deserves to be protected and preserved for future generations. The Friends have been in discussion with Network Rail for several years about the state of the bridge and we are so pleased new funding has now been found to carry out the necessary work.

East of Bath near Corsham, engineers will survey and repair the Grade II Listed eastern portal of Box Tunnel, another important Brunel structure and one of Britain's most significant early railway tunnels.

Scaffolding for both projects will be installed during rail closures between Bath Spa and Chippenham on two successive weekends in April and May. During the closures other work in the area will also be carried out including track renewal at Bathford and drainage improvements at Corsham.

[New Civil Engineer 10 April 2026](#)

[Network Rail media centre](#)

Liverpool Street Station/Trainshed (HEW 0303)

London's Liverpool Street station has just had all the glazing panels replaced over five successive weekends in March as part of its major roof refurbishment project, during which the station was closed. Liverpool Street is Britain's busiest station. The discoloured, lichen-covered GRP 70s-installed panels and Georgian wired glass over platforms 1-10 were replaced with clear GRP and new wired glass, covering an area of 11,000 m², allowing much more light into the station. The new panels, together with drainage improvements across the roof, would reduce leaks on to the concourse and platforms. More works on the roof refurbishment are planned this year with, scaffold removal and replacing the decorative wooden valance at the end of the train-shed after a full restoration.

Contractor for the project is Morgan Sindall Infrastructure.

During the March weekend closures extensive track upgrades were carried out including:

- Improved track drainage at Liverpool Street and Harold Wood
- Fixed overhead line faults at Liverpool Street and Shenfield
- Repairs to the underside of the road-over-rail bridge at Forest Gate station
- Replacing worn-out track crossings at Stratford, Shenfield and Ingatestone
- Replacing 1.5km of aging track at Ilford and Gidea Park
- Dug out poor quality ballast and carried out overhead line maintenance at Cambridge Heath and Hackney Downs
- Replaced old drainage pipes at Prittlewell, on the Southend Victoria line
- Repacked ballast and improved track quality at various locations

In addition, with Network Rail's support, Transport for London delivered improvements at three Elizabeth line stations:

- Manor Park: roof replacement works, including removal of an asbestos canopy roof, and general maintenance to the main station building
- Harold Wood: repairs to the structure of platform 4
- Manor Park, Harold Wood and Chadwell Heath: platform works, including adding more effective drainage, resurfacing, reinstating markings and replacing tactile paving

[New Civil Engineer 1 April 2026](#)

[Network Rail Media Centre 31 March 2026](#)

Sizewell C Power Station

Two new roundabouts have been installed along the A12 near the Sizewell C power station site, replacing busy junctions which had been experiencing long queues at peak hours daily. The upgraded junction at Friday Street and Yoxford will improve safety, ease congestion and support smoother journeys for the local community, businesses and visitors, as well as ensuring the efficient movement of workers and materials to Sizewell C. The works were completed in time for the Easter weekend.

The new roundabouts are part of a wider programme of upgrades along the A12 corridor and other key roads. These include the 6.5km Sizewell Link Road, which will divert construction traffic away from Theberton and Middleton Moor, and the 1.8km Two Village Bypass connecting to the new Friday Street roundabout and bypassing Stratford St Andrew and Farnham (who have been calling for a bypass for decades). The roundabouts were completed by Needham Market, Suffolk-based Breheny Civil Engineering, who originally worked on Sizewell B in the 1980s and had already completed other Sizewell C projects beforehand. Suffolk-based Toppesfield acted as subcontractor for the roundabout surfacing.

As part of wider efforts to reduce East Suffolk road traffic, Sizewell C has already opened two park and ride facilities in Darsham and near Wickham Market which, when fully operational later this year, will accommodate up to 2500 vehicles, significantly cutting the number of daily car journeys into Leiston, the town next to Sizewell and most affected by the project.

Construction is also underway on the project's Marine Bulk Import Facility- a 500 metre structure extending into the North Sea to enable construction materials to be delivered by freight vessel. Together with the recently-upgraded rail link, the new infrastructure is designed to transport 60% of materials by rail or sea, reducing road traffic and emissions and minimising disruption for local communities.

At its peak, almost 8000 people will work at Sizewell C, creating 1500 apprenticeships, with a third from Suffolk. The power station will generate 3.2GW of low-carbon electricity, enough to power six million homes,

reducing carbon emissions by around nine million tonnes each year.

[Sizewell C website 31 March 2026](#)

East-West Rail

East West Rail will connect communities between Oxford, Milton Keynes, Bedford and Cambridge, supporting sustainable economic growth in the area. The project involves

- upgrading an existing section of railway between Oxford and Bicester
- bringing back the railway between Bicester and Bletchley
- refurbishing existing railway between Bletchley and Bedford
- building brand new railway between Bedford and Cambridge

The Oxford to Bicester section was completed in December 2016 and services operated by Chiltern railways are already being run. The East West rail Alliance completed this section on time and on budget and handed over the line to Network rail in December 2024.

Chiltern railways are now working with the Department of Transport to finalise details on the introduction of services onward to Milton Keynes. Recently announced:

- Bicester will now get an underpass for pedestrians and cars to replace an existing level crossing, which has been a subject of concern for some years for locals.
- A new train maintenance depot will be built with passing loops at Bletchley.
- Bletchley station will get a new eastern entrance.,

Work on the section from Fenny Stratford (Milton Keynes) to Bedford, the Marston Vale Line, will be accelerated to accommodate one train per hour between Oxford and Bedford from 2030. The line will get four new stations at Woburn sands, Ridgmont,

Lidlington and Stewartby to include walking cycling equestrian and wheeling links to local communities. Stewartby in particular will be the closest station to the proposed Universal theme park, the first in the UK, part of a larger 476-acre entertainment resort complex, construction of which is expected to begin in 2026, with a planned opening date of 2031, subject to planning approvals.

In Bedford itself the updated proposals include:

- a realigned track curve south of Bedford St Johns station
- revised Bedford St Johns station design with multi-storey carpark
- a remodelled Bedford station with new civic plaza, western entrance, new platform for fast trains to London and a new location for the multi-storey carpark

In the Bedford to Cambridge section will be a new station at Cambourne, 700m west of the previous consultation.

In Cambridge itself, the main station will get a new eastern entrance. There will be a new Cambridge East Station together with a new Cambridge East train care centre.

The latest proposals, including the above, are out for public consultation from 14 April to 9 June 2026, which are intended to be the final consultation before submitting the Development Consent Order application.

[East West Rail website](#)

Southsea Coastal protection Works

The first-ever Sir John Armitt Prize awarded to a project deemed an example for delivery across all aspects was won by Southsea Coastal Scheme Frontage 4 and 5, being recognised as 'more than a coastal defence' as it integrated flood protection with heritage preservation, regeneration and place-making.

The Southsea Coastal Scheme is the UK's largest local authority-led coastal defence project, worth £185m, designed to protect the 4.5km length of Portsmouth

coastline from Old Portsmouth to Eastney. Led by Portsmouth City Council, the project aims to protect approximately 10,000 homes and 700 businesses from a 1 in 200 flood event for the next century. After years of planning the scheme began construction in 2020 with the finish due in 2028.

Frontage 1 included the historically significant area around Long Curtain Moat, as well as the car park and promenade near Clarence Pier in the west. Work included replacement of the old seawall with a new one with a higher, wider promenade. This included 525m of sheet piles, 6300 m², 1,474t of rock from Norway, 136 parapet units and 5700t of in situ-concrete, 18 new rock pools along with two new bridges, lighting, plants and seating were created, as well as renewal of Clarence Pier carpark.

At present Frontage 5 is underway, complete between Pyramids and Speakers Corner, with the stretch between Speakers Corner and South Parade Pier underway. The flood defence here is being raised 600mm with a new stepped revetment and a new managed beach and low back wall. Along this stretch all Grade II listed shelters and lamp columns are being refurbished and a new beach was imported as the primary defence.

For this long running programme an Integrated Delivery Team was created with delivery partners all under one operation including Environment Agency, Portsmouth City Council, Boskalis Westminster & VolkerStevin JV.

Some of the work involved special measures like Sub-Frontage 4, which had to pass between the seafront and Southsea Castle, built for Henry V in 1544 amid fears of a French attack on Portsmouth.

The long timeframes allowed trials of newer materials including basalt mesh instead of steel after a small trial on Frontage 5, which resulted in a reduced impact on local roads as a full load of mesh needs fewer truck deliveries.

Public perception also improved with public engagement, animations and flyovers improving public support from 40% to between 85-90%.

[New Civil Engineer 26 March 2026](#)

[South Sea Coastal Scheme website](#)

Chepstow Bridge or Old Wye Bridge (HEW 0145)

Chepstow Bridge or the Old Wye Bridge (HEW 0415) between Chepstow in Monmouthshire and Tutshill in Gloucestershire has been closed to traffic since September 2025 and to pedestrians and cyclists since March 2026 after more cracks were found on its elements. Chepstow locals are unhappy at the apparent lack of progress, but in a joint statement Monmouthshire and Gloucestershire County Councils acknowledged the concern and said that they are continuing with investigations and assessments.

Designed by John Rastrick and built by Hazeldine, Rastrick & Co of Bridgnorth in 1815-16, the bridge comprises five open-type spandrel spans with a central span of 112ft clear, intermediate spans 70ft clear and end spans 34ft clear. The central span was strengthened in 1889 using steel and again in 1979-80.

The Grade I Listed structure, reputedly the world's oldest five-arch cast iron bridge, was the main link between south Wales and the West Country until the Severn Bridge opened in 1966. The M48 Severn Bridge includes the bridge over the River Wye on the 'Chepstow bypass' section, opened in 1966 as part of the original M4 motorway before the second crossing opened in 1996, when it was re-designated as the M48.

[BBC 20 April 2026](#)

[Monmouthshire Council website 14 April 2026](#)

Peaks and Dales Railway

Plans to reinstate the former Midland Mainline railway between Ambergate and Chinley - fondly known as the Peaks and Dales Railway - have been announced by Peaks and Dales Railway Ltd, which is a special purpose company, established with support from Manchester and East Midlands Rail Action Partnership.

The project is being run by the Goodshelter Group, who have experience of planning and promoting new railways and extensions of existing ones. Peaks and Dales Railway is working towards applying for

development funding from the Department for Transport 'Ideas Fund' to reinstate the railway closed after the Beeching Report. Funding is needed to deliver the Strategic Outline Business Case and then to seek a Transport and Works Order to reinstate the railway.

Proposals include

- upgrading 23 miles and reinstating 13 miles of railway to link Matlock to Buxton by rail via Bakewell
- reconnecting communities across the Peak District National Park left isolated by the Beeching Report consequences
- increasing the economy across Derbyshire with new jobs and growth
- reprovisioning the Monsal Trail and connecting it to stations along the reinstated railway
- enabling more of the 13.25m annual visitors to the Peak district National Park to travel by train, reducing the environmental impact of current car journeys and boosting economic benefit,
- transporting more of the heavy stone traffic from Peak District quarries, removing HGVs off the local roads and relieving the congested Hope Valley line
- creating new passengers services to link Derby and Manchester via the Peak district National park

Various alternative routes are proposed between Manchester Piccadilly and Derby including routes to include Chapel-en-le-Frith, Chinley, Millers Dale, Monsal Dale Bakewell, Darley Dale, Matlock, Cromford and other new stops between, and even one route across to Chesterfield.

[Peaks and Dales railway website](#)

Tees Transporter Bridge (Hew 0010)

The 1911 Tees Transporter Bridge (HEW 0010) has been included on this year's Top 10 Endangered Buildings list by the Victorian Society. The bridge has been closed since 2019 and faces an estimated £60m repair bill with corrosion and long-term structural issues to be solved. Totalling 851ft (259m) in length, it has three main spans that give it its unique appearance.

The bridge comprises two almost independent structures joined at the centre of the river. Each half comprises a 140ft (43m) anchor span and a cantilever span of 285ft (87m) from the tower leg to meet the other half from the opposite bank. Rising 160ft (49m) above the River Tees in Middlesbrough to allow for shipping clearance, the bridge is able to carry people and small vehicles in a gondola suspended from the overhead structure. Designed by the Cleveland Bridge and Engineering Co and built by Sir William Arrol & Co the bridge is one of only three remaining transporter bridges in the UK, the others being Newport Transporter Bridge (1906) in South Wales and Warrington Transporter Bridge (1916). The Middlesbrough bridge was Grade II* Listed in 1985, with floodlights installed in 1993 to enhance its appearance.

[New Civil Engineer 28 April 2026](#)

Sibsey Trader Mill (HEW 1897)

The Sibsey Trader Windmill (HEW 1897) in Lincolnshire plans to reopen this May after years of repair work. The six-sailed mill was severely damaged in a storm in 2018 and all six sails had to be removed for safety. A programme of repairs was begun by Suffolk millwright Tim Whiting. He rebuilt the mill's timber cap and sails in his workshop and restored the curb – the iron track at the top of the tower on which the cap turns. The cap was lifted back into place in July 2022 and the restoration work was completed in 2024. Owned by English Heritage, the mill was built in 1877. It is unusual in having is described as having 'superior engineering' and increased efficiency in low winds because of its six sails. It also originally had four mill stones to grind flour rather than the usual three.

There are very few six-sailed windmills left in the UK; the others being:

- Waltham Windmill (Lincs), with work ongoing at present by Tim Whiting's team at Suffolk Millwright
- Heage Windmill (Derbyshire),
- Wymondham Windmill (Norfolk) which has the cross for six sails only.

[BBC News 27 April 2026](#)

[English Heritage website](#)

Preston Tram Bridge (HEWs 1349a & 1349b)

A new £6.6m bridge to replace the historical Tram Bridge will officially open on 22 May 2026. The bridge links Avenham Park in Preston city centre with the 1,200 yard tree-lined embankment to Penwortham Mill on the south bank, along which the original Lancaster Canal Tramroad used to run. This bridge replaces the previous bridge which closed in 2019. The four-span, 426ft (130m) length steel truss bridge has camuru wood vertical deck panels with stonework on the approach. It will serve as a bridleway for pedestrians and cyclists. Designed by Architects Studio John Bridge with DYSE Structural Engineers and steelwork by Harrison Engineering, work began in 2024 by Eric Wright Civil Engineering, but paused over winter 2024-25 with poor weather and breeding salmon in the River Ribble. The four bridge sections were lifted in between 30 November and December 2025.

Originally the Lancaster Canal Tram road was designed by John Rennie, built by Wm. Cartwright, and opened in 1803, in lieu of an aqueduct that was never built over the River Ribble, to connect the northern and southern ends of the Lancaster Canal (see HEW 395). It included inclines at Avenham Park and Walton Summit, and this wooden bridge, over the River Ribble. The horse-drawn tramway ceased operations circa 1860, and the bridge was transferred over to Preston Corporation by the London & North Western Railway in 1872. The bridge was badly damaged by flood waters in 1935 and rebuilt with concrete trestle supports in 1936, to resemble the original with nine spans of approximately 45ft and an overall length of 405' 4", and the timber deck renewed. In 1965-6 a prestressed concrete beam superstructure was built to replace the deck by Matthews & Mumby Ltd. The bridge was closed in February 2019 after cracks were found in two thirds of the beams, demolition of the bridge beginning in August 2024.

[BBC News 10 April 2026](#)

Demolition of old Bridge [BBC News 22 February 2021](#)

PHEW newsletter mailing list

We hope you enjoy reading this newsletter. Since moving to digital, we realise some people may miss some issues. We are setting up a mailing list so we can circulate a link to the latest newsletter when it is posted on the ICE website.

If you would like to join the list, please send your email address to PHEW@ice.org.uk

[Past copies](#) are all available to download from the ICE Library catalogue.

Editor's Note

By Dermot O'Dwyer

Readers of this newsletter are asked, whenever they read of something which they think might deserve mention to pass it on for inclusion in the next issue.

Contributions should be sent to the ICE as soon as possible after receipt of this newsletter by post to:

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