



Dock Gates Get Makeover



Another Century of Work Looms!

The impressive lock gates at King George Dock in Hull have been given a new lease of life that should keep them in good working order for at least another century!

Following the failure of one of the gates HBPW was asked to complete the considerable task of replacing the anchorage system to the 20th century structure's East and West inner gates.

HBPW's Paul Withers said: "The original restraint system was built at the beginning of the 20th century by the Hull Joint Docks Board and had served well for just over a century. However, when problems arose with one of the restraints, ABP decided that remedial work to both top gate anchorages needed carrying out as a priority."

HBPW was commissioned to design a new gate restraint

system with the brief that the system should be robust and durable with a design life of at least 100 years.

"A parallel requirement was that during the course of refurbishment the lock gates should also continue to be operational," added Paul.

Major ocean going vessels, including the Hull to Rotterdam ferry, experienced some minor disruption when the upper anchorage on the inner East gate failed.

However, HBPW was able to design an emergency remedial repair scheme, enabling Associated British Ports' facility to return to full operation quickly.

Client: Associated British Ports
Contractor: A Torn Construction Ltd

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anchoring system. The brief was that it should have a 100 year shelf life which will make me about 157 years of age before any remedial work is required!

And I couldn't help but notice a recent editorial in one of the trade magazines outlining the rail embankment collapse on a single track line in Hampshire early this year. It got me thinking not only about the weather – do we ever talk about anything else in the UK? - but also the Victorian period's engineering legacy.

Changing weather patterns – essentially heavier rain - mean that clay based embankments with steep side slopes, will probably find themselves under increasing pressure from the elements. I feel sure that some interesting engineering challenges lay ahead.

HBPW's Geoenvironmental Engineer, Jay Fox, will be looking at the issue of rising groundwater in a future newsletter, however, on a cheerier note we are delighted to have been associated with Lincolnshire's new £850,000 bow string bridge across the River Witham. Think of us when you cross it! Meanwhile keep an eye on the HBPW blog to see what we've been up to (www.hbpw.co.uk).

PAUL WITHERS
 MANAGING PARTNER
 HBPW CONSULTING

Welcome



Paul Withers - Managing Partner

If you haven't already noticed, there's a new female voice answering the phone on our switchboard! It seems timely, therefore, to formally introduce you to our new office manager and my PA, Michelle Stubbs.

I'm also delighted to welcome Jon Livesey as our newest Partner, and look forward to working with his various colleagues over the coming months.

You will also quickly appreciate from this newsletter that we are as busy as ever and, if variety is the spice of life, then there should be little room for complaint at our Retford offices!

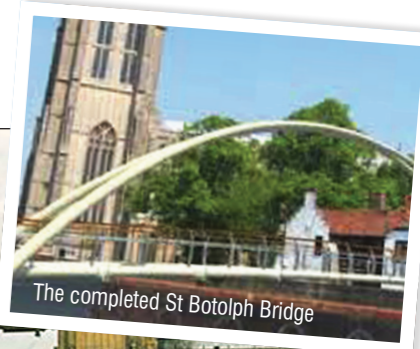
Long after I have shed my mortal coil Hull's King George Dock should still be in full swing and, hopefully, HBPW will have played its part in keeping the ships going over the decades, courtesy of the new dock gates

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Lincs Welcomes New HBPW Bridge



St Botolph Bridge is lifted into place



The completed St Botolph Bridge

Admirers of Lincolnshire's famous 'Boston Stump' now have a unique platform from which to admire what is said to be one of England's finest parish churches.....the town's new £850,000 bridge designed by HBPW!

The church, started in 1309 and finished in 1390, is just across from the new St Botolph bowstring footbridge which not only spans the River Witham, but also features an elliptical deck so that people can admire the 'Stump' without obstructing the crossing.

And, after months of planning and hard work between Lincolnshire County Council, contractors Britcon Civil Engineering and HBPW, the impressive 65 metre long construction was lifted into place, courtesy of a 1000 tonne crane and a weekend of hard work!

Principal design engineer on

the project Dian Coleman, said: "The lifting equipment was mobilised and assembled on the Saturday with the central bridge section lifted into position by early evening. The two ramp sections then arrived, under police escort, the following morning, and were lifted into position the same day, signalling the end of months of hard work."

The 65m long bridge, weighing in at a cool 54 tonnes, was assembled along the river with the majority of the finishes, such as handrails, being installed prior to the lifting procedure.

Wider than the existing bridge, key features also include a non-slip surface which has improved access for pedestrians, wheelchair users, dismantled cyclists, pushchairs and mobility scooters.

The bridge also colour matches the yellow lighting of

the octagonal lanterns in the church tower, which is believed to have originally been used as a marker to guide travellers on land and sea.

"It was a complex project," said Dian "but one that has completed with a great outcome. The final phase of the works now involve upgrading the public realm on both sides of the bridge and high quality block paving will be laid to replace the existing and new bollards. Ornate street lighting and seating areas will also be provided to enhance the wider area."

Client: Lincolnshire County Council
Contractor: Britcon Civil Engineering Contractors

It's Hello & Goodbye!

HBPW welcomes new receptionist Michelle Stubbs, and Partner, Jon Livesey, as it waves goodbye to Rachel Flack, its long standing and loyal PA who recently become a mum for the first time.

Michelle, who hails from Retford, has worked in the construction industry for four years and joins the company from Lafarge Tarmac where she was a business administrator.

"My new role is already proving a positive challenge because a smaller company like HBPW gives me the opportunity to get involved in a range of things including the marketing

function and accounts, as well as engaging in other parts of the business."

Meanwhile, the company's newest Partner, Jon Livesey, is a man who likes to go the extra mile for his clients and, as someone who has walked the 1247 miles from Lands End to John O'Groats, you might say he's had more practice than most!

Jon, who began his working life with Pell Frischmann, and his wife Teresa are big walkers, regularly travel to Scotland and have also successfully completed Wainwright's coast to coast hike from St Bees to Robin Hood's Bay.

The Leeds University graduate has worked predominately in civil engineering structures which has involved inspection, assessment & design of bridges, culverts and retaining walls for both highways and rail projects.



Jon Livesey

Rachel Flack, left, with Michelle Stubbs

Bridge Design Enhances Derby Traffic Flow



An artist's impression of the new London Road bridge

A new bow string arch bridge being built in Derby promises to end traffic chaos that has seen one of the city's main arterial roads restricted to buses only.

The London Road over bridge on the south east side of the city centre carries the two lane A5194 over a total of seven railway lines and sidings, which form part of the Derby to Birmingham line.

However, when assessed, the ailing structure failed Network Rail's BE4 liability for carrying two lanes of traffic, and an 18 tonne 'buses only' restriction was introduced until the problem could be solved.

Following design and build competitive tendering, contractors Morgan Sindall, working alongside Network Rail and the City Council, won the bid and invited HBPW to produce a bridge design to improve the situation and restore better traffic flow to Derby's London Road area, which is close to the city's main rail station.

"The existing over bridge is being demolished as part of the scheme," said engineer James Cable, "with four existing spans being replaced by two new superstructures crossing a total of seven railway lines.

"Three of the spans will be replaced by a bow string arch bridge which, in turn, will see the removal of two supporting piers whilst creating a more open area beneath the new bridge. In addition the vertical alignment will also be altered to increase minimum vertical clearance from the railway to 4.78m in order to allow for future electrification of the lines."

The scheme will also feature a traditional pre-cast concrete bridge deck across the remaining Bombardier span.

"The detailed design has been completed and work has now commenced on the sub structure for the span featuring the bow string arch bridge as well as the sub structure of the second span," added James.

"Once complete the new bridge will certainly improve rail passenger safety, as well as enhancing traffic flow in the local area by once again, becoming available to all types of traffic."

Client: Derby City Council / Network Rail
Contractor: Morgan Sindall

Victorian Legacy Creates Engineering Challenge

Extreme UK weather this year and the limited knowledge of Victorian engineers, has probably been instrumental in causing the failure of embankments and landslips on Britain's rail network.

That is the view of HBPW's Managing Partner, Paul Withers, as a single track line between Eastleigh and Fareham in Hampshire experienced three landslips within half a mile, earlier this year, resulting in the line's closure.

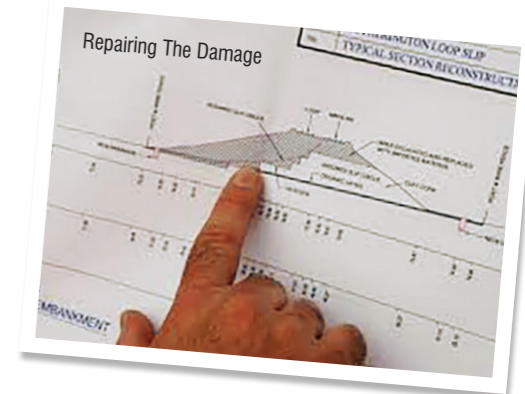


The Nightmare of Collapsed Embankments

"It is almost inevitable that a railway will be on an embankment or in a cutting," said Paul. "When they were originally built more than 100 years ago, engineers probably made the side slope angle to the embankment too steep, in order to minimise the material required as part of the construction process.

"At the time they didn't have quality control of materials in the way we do now, and there were no formal standards of compliance; material taken from a cutting may well have been used to create the embankment. However, where clay was used, this cracks to a certain level letting in water and the build up of hydrostatic pressure can cause a catastrophic failure, bringing about collapse and line closure.

"Added to this the Victorians probably wouldn't have had the best compacting equipment and methods available, further exacerbating the potential problem. To some extent our Victorian forefathers have left us



an engineering legacy which has come home to roost, courtesy of the extreme weather we have experienced in the UK this year."

Jay Fox, HBPW's Geoenvironmental Engineer, added: "This year's wet weather, which is set to continue over the foreseeable future, is speeding up the rate of deterioration of many earthworks.

"Unfortunately the economic situation has led to cutbacks in routine inspections, where more obvious problems would have been spotted, and it is these that are now causing the greatest problems. Engineers are going to be busy in coming years addressing these issues."

Confusion As Regs Are Scrapped

Many public sector regulators remain ignorant of a key change in the law and are still imposing planning conditions no longer required, according to Jay Fox.

The Site Waste Management Plans Regulations 2008 (SWMP) were repealed on the 1st December 2013 following consultation. Initiated as part of the Defra Red Tape Challenge, the aim was to reduce bureaucracy for business.

However, according to HBPW's Geoenvironmental Engineer, Jay, there is still much confusion. He said: "Ironically many companies and regulators are blissfully unaware that a change has even happened.

"If the value of a construction project was more than £300k companies were required to

produce a SWMP detailing the types and quantities of waste that would be produced, recycled and disposed of over the duration of the scheme.

"However, following their implementation, uptake of the regulations was slow with many organisations simply not producing plans. This was despite the construction industry allocating considerable sums of money for additional training and to engage staff generally. Some companies were even established solely to prepare SWMPs."

Despite this the decision was taken to scrap the SWMP regulations.

"The plans were largely ineffective because the information provided was often inadequate with much of

it difficult to predict with any certainty; once written such plans were rarely updated or inspected by the Environment Agency," added Jay.

But he maintained that SWMPs had been better than nothing, however, there were more superior systems now in place to control waste production and promote better recycling.

"Essentially cost savings are a better motivator than any so-called 'plan' and, with ever increasing landfill costs, the construction industry is moving towards better waste management practices anyway. This additional layer of regulation was, in truth, unneeded.

"Ironically many businesses, and regulators including planners, are not even aware that the regulations have been axed,

and are still asking for such reports to be prepared. Planning conditions are still being imposed insisting on a plan being in place. I predict that many organisations will be asked to, or chose to, produce SWMPs on an informal basis for many years to come," added Jay.

A public consultation on the plans to repeal the SWMPs Regulations ran from 18th June to 16 July last year and 49% of respondents said that they were in favour whilst 49% were against scrapping the Regulations. Significantly however, 83% of respondents said they would still use some form of tool to record and manage waste on site.



Jay Fox