

THE CONSTRUCTION AND A DESCRIPTION OF THE YEAR OF THE

# **GREEN AGENDA**

NEW CIOB PRESIDENT MICHAEL YAM ON BUILDING FOR NET ZERO

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# ▲ HS2 launches giant bridge-building machine

HS2 has launched a giant, 700 tonne bridge-building machine to help construct the the 3.4km-long Colne Valley viaduct in north-west London. Under the supervision of main works contractor Align JV (Bouygues, Sir Robert McAlpine and VolkerFitzpatrick), a 160m-long 'launching girder' will lift into position the giant concrete deck segments that form the viaduct's arches.

# JCB machines join Platinum Jubilee Pageant

JCB machines from landmark years of the Queen's 70-year reign took centre stage at the Platinum Jubilee Pageant in London last month. The five diggers paraded down The Mall towards Buckingham Palace. JCB test site operator Georgina Williams, 30, of Derby drove a 2022 model powered by hydrogen (pictured).

Over and above: How Institute of Roofing CEO Kay Rose is on a mission to change the sector, p32





## Graham campaigns to make all site defibs available to public

Contractor Graham, in partnership with the Northern Ireland Ambulance Service, is urging all businesses to register their defibrillators onto the new UK-wide National Defibrillator Network to help save lives. The Circuit, developed by the British Heart Foundation (BHF) in partnership with Resuscitation Council UK, St John Ambulance and the Association of Ambulance Chief Executives, maps public access defibrillators across the UK.

### Stepnell calls for skills boost

Stepnell has called on construction companies to collaborate to solve the skills shortage. More than 17% of employees at the contractor's Midlands, East Midlands and Southern regional offices are classified as trainees or apprentices. The industry standard is 5%. The company has placed a focus on emerging talent to bridge the skills gap.



# Joanne Conway new chair of FM Conway Group

Infrastructure services company FM Conway has announced the appointment of Joanne Conway to the role of chair of the FM Conway Group. Conway, daughter of late chairman and owner Michael Conway, has worked in the business for 21 years across a number of roles, including as a member of the FM Conway board since 2011.





# Grade II-listed building restored after empty decade

Yorkshire construction firm Hobson & Porter has completed the £2.45m restoration of a Grade II-listed building in Hull that had previously sat empty for more than a decade. Built in 1881, 79 Lowgate has been transformed into a modern office building. It now features solar panels, energy-efficient heating and LED lighting.



# Balfour Beatty and Ford in high-visibility construction suicide campaign

Balfour Beatty, Ford and the Lighthouse Construction Industry Charity have launched a campaign to combat suicide rates in construction. The Make it Visible campaign has created a specially designed hi-vis safety vest and mental health Transit van that will identify designated onsite support counsellors at construction sites across the country. Up to two construction workers are lost to suicide every day, according to figures from the Office for National Statistics.

# New planning gateway fails half of higher-risk building applications

HSE flags concerns on more than 50% of proposals, as Hackitt tells CIOB conference industry is still resisting change

The new 'planning gateway one' has

rejected over half of all higher-risk building applications in the first six months of the system.

Dame Judith Hackitt, speaking at the CIOB's first Safer Buildings UK conference, said that developers and construction firms were "still trying to game the system" and "not taking building safety seriously".

The government introduced planning gateway one in August 2021 as part of reforms to the building safety regime following the Grenfell disaster. Higherrisk building planning applications must go through the gateway, which is run by the Health and Safety Executive (HSE). In future it is likely to be operated by the Building Safety Regulator, currently in shadow form.

Planning gateway one aims to ensure developers consider fire safety needs such as site layout, safe escape routes and safe access for firefighters at the planning stage.

It is one of three gateways introduced as part of a more stringent regulatory framework for design and construction of new high-rise residential buildings, care homes and hospitals which are more than 18m in height or at least seven storeys tall. Gateway two (before building work starts) and gateway three (when building work is completed) are still to come into effect.

Common fire safety design issues HSE has identified in applications to date include smoke vents and external wall openings close to neighbouring properties and restricted or non-existent access for fire appliances.

Hackitt, who chairs the Industry Safety Steering Group and the transition board overseeing the establishing of the new Building Safety Regulator, told the CIOB conference: "It is unfathomable to me why people have still not woken up to the need for a very different approach to building safety.

"At Grenfell, not only were lives lost, but trust was lost too. The regulatory system had failed, but this industry had showed a lack of regard for building and resident safety. The good news is that the regulatory system is going to change. But I'm going to tell you all, yet again, to stop waiting. The time to change your behaviour and rebuild trust in this industry is now – not when the regulator makes you do it."



It is unfathomable to me why people have still not woken up to the need for a very different approach to building safety Dame Judith Hackitt

# CIOB calls for collaboration as building safety reforms gather pace

CIOB has called for greater industry collaboration on building safety and launched several initiatives to prepare construction professionals for the new regime.

The Building Safety Act became law on 28 April and to

support its implementation CIOB has launched a Level 6 Diploma in Building Safety Management, designed for construction professionals. It has also released the Level 6 Certificate in Fire Safety for Construction, designed for those in dutyholder roles as well as those working on higher-risk buildings.

CIOB public affairs officer David Parry said: "There is still much work to do. The process of bedding in the new roles and responsibilities created in the act into the very heart of construction must now begin. "Professional bodies, trade

groups and government should collaborate to ensure that the behavioural change that Dame Judith Hackitt set out in her independent review becomes a reality."



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**Difference between 2022 inflation** forecast and 10-year average of UK's top import markets



# **Challenges in Europe** threaten already strained **UK supply chains**

How should construction firms respond to inflationary pressures around the world? Kris Hudson looks at the numbers



As inflation continues to affect the UK construction sector. navigating price rises in materials is set to prove a headache for those managing

committed and in-flight projects. With few signs that the impacts of the war in Ukraine will subside soon, the industry must focus on building resilience in its supply chains.

The UK's reliance on imports from Russia and Ukraine, and therefore direct exposure to supply chain disruption driven by the war, looks comparatively low at first inspection. Overall, just 1.2% of the country's imported construction materials come from Russia or Ukraine. However, this includes critical components such as 13.5% of the UK's imported concrete reinforcement bars and 9.3% of asphalt products.

The more pressing issue is the knock-on impact to the UK from Europe. Fifty-two percent of all imported materials and components in UK construction come from the EU, according to the Department for Business, Energy and Industrial Strategy (BEIS). The European common market is itself heavily reliant on imports from Russia - so, overall, supply has become increasingly constrained.

With inflation showing little sign of abating, clients who have already made an investment decision need to carefully assess their exposure to specific regions and products

This scenario is set to be compounded by rising domestic inflation across EU economies. Of the country's top 10 import markets by value, all except China - as the only non-European market - are seeing estimated consumer price inflation rates for 2022 (see chart, left). These exceed their 10-year averages by at least 3.5 percentage points. Even with China's comparatively low inflation rate, imports from the market are still at risk of cost escalation due to supply constraints and disruption caused by ongoing Covid-19 lockdowns.

With inflation showing little sign of abating, clients who have already made an investment decision need to carefully assess their exposure to specific regions and products. To take one example, 47.5% of the UK's imports of radiators and 36.6% of our imports of steel tubes come from Turkey - where inflation is anticipated to be 49 percentage points higher than the previous 10-year average. Though exchange rates between the pound sterling and the Turkish lira are in the UK's favour, Turkey's high inflation rate is expected to layer on cost pressures for UK imports.

**Diligent pre-contract and in-project** planning will be essential to mitigate commercial risk - fully interrogating material requirements and scenariotesting contracts to plan for potential impacts. Engaging and collaborating with the supply chain and ensuring a balanced allocation of risk will also be vital, reassessing inflation and fluctuation clauses where necessary.

Just as the industry did during the pandemic, a pragmatic and robust approach to risk mitigation will need to be adopted by all parties to face up to current supply challenges and support projects in flight. Kris Hudson is an economist and

associate director at Turner & Townsend.

The annual percentage rate of construction output price growth in the 12 months to March 2022 – the strongest annual rate since records began in 2014, according to data from ONS

# Value of imported materials and components used on UK building sites in 2021







# Why measuring productivity is key to industry success

It is only by measuring construction site productivity that we can build a stronger, high-performance sector, says **Katy Dowding** 



### "Productivity isn't everything, but in the long run, it's almost everything," as Nobel laureate in economics Paul Krugman once said. Higher productivity is what drives higher profitability for business and wages for workers.

The construction industry has long struggled with the P-word too. Our average productivity levels (less than 0.5% improvement year on year) remain consistently below the UK's economy (more than 2% on average). It's for this reason that Be the Business, a not-forprofit organisation on a mission to boost UK productivity levels, united some of the biggest names in construction to form the Construction Productivity Taskforce.

Within the taskforce, we have three interlocking pillars of activity: collecting productivity and waste metrics to inform better decision making; improving the contracting process through a private sector playbook that builds on work already carried out in the public sector; and trialling methods of improving productivity on construction sites across the UK. Measuring productivity will guide our design solutions, help us use automation and digital technologies, improve collaboration, pinpoint upskilling opportunities and offer guidance on where to reduce waste

# 77

### Economic challenges

But why now? The post-pandemic enthusiasm for major construction projects must contend with an increasingly challenging economic environment. According to the Building Cost Information Service, the cost of raw materials is projected to more than treble in 2022. And then there are material shortages, exacerbated by the conflict in Ukraine, and the skills gap.

In the midst of this perfect storm, the taskforce's agenda is all the more timely: our work is directed exactly in the areas that will help the sector improve performance in a way that meets these challenges head on.

The Construction Productivity Taskforce has now published its first document,

Measuring Construction Site Productivity: A seven-step framework for success. The taskforce has produced this framework to provide practical, real-world guidance for improved construction site productivity.

Construction site productivity is the rate at which a building or construction activity is being completed: it's a measure of efficiency of production, the ratio between the work completed and the resources used. That means projects being built quicker, more affordably and safely, with a lower environmental impact. As such, measuring productivity is key for construction's success: it will guide our design solutions; help us use automation and digital technologies in the appropriate ways; improve collaboration; pinpoint upskilling opportunities; and offer guidance on where to reduce waste.

The framework was informed by activity being carried out on two major projects selected as the two pilot sites for the taskforce's productivity trials: Landsec's The Forge and Norton Folgate, the development Skanska is delivering for British Land's Blossom Street site.

The taskforce's framework has been designed to be put to work in service of a higher-performing sector. Like all the taskforce outputs, it is designed not to sit in desk drawers, but to be taken into the field, across the industry. It represents an opportunity for the sector to establish itself as a productivity leader and we can do this by collaborating to get the best results.

The guidance within the framework, however, is not construction-specific and it can be mirrored across every sector – in every business – within the UK to improve productivity.

Katy Dowding is executive vice president at Skanska UK and a member of the Construction Productivity Taskforce. Members of the taskforce include British Land, Landsec, GPE, Lendlease, Mace, Skanska, Sir Robert McAlpine, Morrisroe, SOM, Cast and Bryden Wood.

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Caroline Gumble

# Spreading the message about safer buildings

Dame Judith Hackitt and Peter Baker, speaking at CIOB's Safer Buildings UK event, gave a clear message: act now on building safety. Now is the time to bring that message to an even wider audience, says **Caroline Gumble** 

### The UK construction sector is facing

fundamental changes, following the Royal Assent of the Building Safety Act in April. However, there have been concerns in the sector about the lack of detail around secondary legislation which will be key in how the new regulatory regime will work.

CIOB has been able to go some way to address this – at the end of May, our Safer Buildings UK event brought together more than 200 professionals from across the built environment sector to hear directly from most of the senior figures behind the new building safety regime.

It was important for CIOB to address the subject of safer buildings – a focus on raising quality in construction has been on CIOB's agenda for many years now, even prior to the tragic Grenfell Tower fire. We have been vocal about the culture change needed to ensure buildings are constructed and managed to be safe for all those who create and occupy them.

Keynote speakers included Dame Judith Hackitt, chair of the Independent Review of Building Regulations and Fire Safety, and Peter Baker, chief inspector of buildings at the Health & Safety Executive. They both thanked CIOB and many of the other professional bodies which are 'aligned' to the need for change.

There was a clear message from both of them: don't wait. The industry can and should be acting now: taking steps to ensure staff and contractors are trained, qualified and competent; working throughout the supply chain to collaborate and communicate; understanding the 'golden thread' of building information and how best it can be delivered. We did also get some insight into the new Building Safety Regulator's timetable and the plans for secondary legislation.

I found it heartening to hear from delegates that there's a willingness to come together to collaborate in working towards a culture of quality in our industry. There was a clear appetite among the 200-strong audience for this discussion.

Perhaps one of the questions to address next is how to reach the entire audience, not just preaching to the converted already on this journey with us. How do we, as an industry, reach out now to colleagues, contractors, clients and the public? • For insight into the new Building Safety Regulator's timetable and the plans for secondary legislation, see constructionmanagement.co.uk.



Safety must be key to building management

I found it heartening to hear from delegates that there's a willingness to come together to collaborate in working towards a culture of quality in our industry

### Feedback

Having been a CIOB member since 1992, I have gained a vast amount of practical experience working mainly on reinforced concrete structures, basements and steel frames on industrial projects. The advancement of IT has been swift and relentless, which has led to much better communication between site and professionals. As an older employee, the IT storm has left me behind, unable to comprehend how it works. But it cannot always foresee problems occurring.

I am retiring at the end of the month and feel that a wealth of knowledge will

be lost to the industry because the hands-on/onsite type of manager is no longer appreciated. Younger trainees often ask me: "How did you know that would happen?" I am sure there are other 'dinosaur' site managers out there coming to the end of their careers who feel the same. RT Langridge

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# Building a sustainable future

New CIOB president Michael Yam is turning the spotlight on construction's green agenda. From his home country of Malaysia, he spoke to CM editor **Will Mann** about his plans for the year



ichael Yam believes CIOB should be on the front line of the built environment's battle against climate

change. The institute's new Malaysia-based president is making sustainability the core theme of his term in office and brings to the role 35 years of construction and property experience from around the globe. Speaking to *CM* on Teams, he is excited about the year ahead and CIOB's ability to make a difference.

"As the world's largest professional body for construction, with 47,000 members operating in 100 countries, CIOB is in a position to bring about positive change to the sustainability agenda," says Yam.

"CIOB members work as clients, consultants, project managers, constructors and asset managers – they are involved in all aspects of development, construction and the built environment.

"Through academia members, the institute can also shape the education and standards taught on sustainability, at university level and through to CPD courses. "This influence means CIOB is well placed to lobby government and other key stakeholders on the adoption of sustainability policies, and adherence to the COP26 agenda."

### **Environmental focus**

One of Yam's key focus areas is the imminent publication of a *CIOB Sustainability Guide* with the 6th Edition of the *Code of Practice in Project Management*, which he calls the "gold standard" of industry reference manuals.

"I am currently chairing a panel of 16 environmental experts, including Professor Chris Gorse, the director of the Leeds Sustainability Institute (at Leeds Beckett University) and editor of the guide," Yam explains. "It essentially embeds and threads sustainability into all phases and aspects of the construction process."

Yam, who currently chairs two investment funds and holds various non-executive director positions, has worked in the UK, Australia, and South Africa, as well as Malaysia.



The journey towards a sustainable world will involve applying good practice lessons from existing sustainable cities and the newbies like Neom Michael Yam, CIOB So how has his global perspective shaped his views on sustainability?

"My experience in the more developed countries where I have had investment interest is that the government created an 'ecosystem' – through both regulation and incentives – that imbued a culture of sustainable behaviour," Yam replies. "This has helped shape the attitude of people and how businesses operate, to the point where it is almost second nature.

"This is the case in the most sustainable cities in the world, which include Copenhagen, arguably the greenest, Vancouver, Stockholm, San Francisco, Helsinki and Singapore."

But there are newcomers on the world sustainability map, Yam continues.

"We are now seeing planned cities like Neom in Saudi Arabia, a US\$500bn net zero development, and Masdar in the United Arab Emirates," he says. "The journey towards a sustainable world will involve applying good practice lessons from existing sustainable cities and also the newbies like Neom. ►



Malaysia's Women's Aid **Organisation Child Care** Centre will save up to 60% of energy usage compared to a conventional building



"But for many countries, the economic viability of green policies can get in the way of the desire to save planet Earth."

Yam says his home country of Malaysia is still "getting to grips" with the significance and impact of climate change.

"People in Malaysia are shielded from the cost increases in fossil fuels that have affected other countries because of government subsidies," he explains. "As an example, petrol is sold at less than 40p a litre at the pumps, compared to £1.70 in the UK. With electricity, 1kWh is sold at 4p for domestic consumption and 7p for commercial customers, while in the UK it is 18.9p. These low prices do not encourage consumers or businesses to save and reduce their use of fossil fuels."

### Lessons from Malaysia

But, with increasing incidences of heat waves and severe flooding, the government is now taking a serious view of sustainability, Yam says.

"The government's 12th five-year strategy plan, for the period 2021-2025, aims to make Malaysia a carbon neutral country by 2050," he explains. "The plan includes developing a roadmap for reducing carbon from sectors with high emissions and increasing use of renewable energy such as hydro power, solar and biomass. No more coal-fired power stations will be approved.

"Additionally, the stock exchange requires that all plcs must produce a sustainability report yearly on the company's policies and actions and the Malaysian Institute of Corporate Governance also scrutinises their environmental performance," he continues. "There are incentives such as reduced tax on rental income for green-rated buildings."

Yam is proud of his involvement in a sustainable construction project which was completed recently in Malaysia. The Women's Aid Organisation Child Care Centre is a shelter for victims of domestic abuse and is one of a select number of residential buildings given a rating by GreenRE (the Malaysian real estate sustainability certification body) of platinum, the highest score available. The financing, design and construction came almost entirely through REHDA Youth - an organisation set up by Yam 10 years ago when he was president of Malaysia's Real Estate and Housing Developers' Association.

"REHDA Youth is like CIOB's Tomorrow's Leaders, it aims to develop the next generation of property professionals," he explains. "They took on the construction of this centre after the previous building burned down. REHDA Youth worked with industry partners to source sponsorship and donations for the project, which included around 80% of the fixtures, electrical appliances and building materials."

Green features at the centre include LED lighting, a solar photovoltaic system, rainwater harvesting and water-efficient taps. The new centre will save up to 60% of energy usage compared to a conventional building and provide 15% to 20% savings in utility bills, Yam says.

"It's a special project supporting a very worthy cause," he adds.

Projects such as this will help the built environment industry promote itself more effectively as a desirable career choice for young people, Yam believes.

"Just as the growth of BIM and information technology has created a new generation of digital construction specialists, sustainability will be the catalyst for greater innovation and new skills," he says.

"This will, in turn, increase productivity, reduce labour requirements through better quality and precision, minimise waste, lead to better health and safety outcomes and ultimately more efficient operation and maintenance through the asset's life cycle.

"I forecast a positive and gradual reset of the construction and built environment sector as the 2050 net zero target approaches."

### Site workers' welfare

Beyond sustainability, Yam has two other main themes as president, one of which is supporting the CIOB's work on health, safety and wellbeing.

"Site workers are well looked after in developed countries compared to in Asia and in other parts of the world," he says. "In the UK, most construction workers live in their own homes and commute to work. In Malaysia and other countries around the Far East, 90% to 100% of labour is imported.

"They are not directly employed labour so tend to be overlooked in the areas of health and welfare. If there is torrential rain and no work is possible, they don't get paid. They are recruited by subcontractors, who have bid for the work on lowest price, so housing and welfare is not a priority. And developers outsource labour supply, so they tend not to ask questions about workers' accommodation."

But attitudes have changed because of the pandemic, Yam says.

"When Covid-19 struck, contractors faced site lockdowns due to infections which hit them in the pocket," he explains. "So now, developers are paying more to ► One of Yam's main themes is supporting work on health, safety and wellbeing



# Michael Yam on...

...sustainability skills

"Just as the growth of BIM has created a new generation of digital specialists, sustainability will be the catalyst for new innovation and skills."

## ...influencing change

"CIOB members work as clients, consultants, constructors and asset managers – they are well-placed to lobby on sustainability."

# ...site welfare

"If workers sleep well, if they are healthier, then their productivity is better – everybody wins."

### ...planet CIOB

"The UK leads the way in health and safety, but there is plenty of digital innovation in the Far East. CIOB can share all this knowledge around." ensure that the workers' welfare is taken care of. This means every site having centralised labour quarters, and these have tightly regulated hygiene standards.

"The living quarters are typically modular, often like shipping containers with windows and doors cut out and an insulated roof on top, which are stacked up in blocks four storeys high. There is a long way to go to meet welfare standards in developed countries, but it's a start. For contractors, the cost of this accommodation has to go into their preliminaries."

The message from this, Yam says, is that there is a benefit to developers in paying "a little more" for worker welfare. "Consumers have recognised and accepted the fact that they have to pay more for their property in the interest of the wellbeing of workers," he says.

"If workers sleep well, if they are healthier, then their productivity is better - everybody wins," he says. "So, I will be using my CIOB platform to communicate this message."

Yam's other main theme as president is to promote the benefits of CIOB membership around the world and strengthen the link between the institute and the international hubs.

"Being based in the Far East, and having visited many countries here and around the world, I understand

the very different cultural nuances of these nations," he says. "I've spent time in China and Hong Kong, Singapore, India, Sri Lanka, Thailand, Japan, Korea, Indonesia, to name a few, and invested in Australia and South Africa.

"All these countries have very different legislation and regulations,

while their construction industries vary in maturity. I will help develop their strengths while supporting them to mitigate their weaknesses."

Yam is multilingual; Cantonese is his mother tongue, he also speaks English, Malay/Indonesian and conversational Putonghua, the most common form of Chinese. "When I speak to CIOB hub members in China using Putonghua, they are always really pleased that I've made that effort," he says.

#### **Global recognition**

Yam sees engagement with CIOB's global community as a "two-way flow" of information and ideas.

"The UK will be a central hub, as the headquarters of CIOB, but this is not about imposing standards on the rest of the world in a 'one-sizefits-all approach', because there is so much we can learn from other countries," he explains. "The UK and other developed countries lead the way in health and safety, but there is plenty of innovation in digital and modular construction in the Far East, for example. CIOB can share all this knowledge and help harmonise best practice.

"I believe that with understanding of the different cultures and histories of countries around the world, we will achieve the global recognition that CIOB deserves," he concludes.

**CV: Michael Yam FCIOB** • Over 35 years' experience in the construction, real estate development and corporate sectors in Malaysia, UK, Australia and South Africa, including leading two public listed companies as the MD.

Chairman of InvestKL Corporation, a trade promotion agency of the Ministry of International Trade and Industry Malaysia.

• Until recently independent non-executive director of four different public listed companies and Standard Chartered Bank in Malaysia.

• A former Advisory Board member of Kuala Lumpur City Hall and former director of construction regulator Construction Industry Development Board.

President of CIOB Malaysia from 2005-2007 and member of CIOB Board of Trustees from 2008-2012.

Educated at the **Royal Military College**  and the University of Westminster and awarded an honorary doctorate by Heriot-Watt University in 2021.

• Conferred the Malaysian title 'Datuk Seri', the highest state award for Kuala Lumpur, in 2011 by HM the King of Malaysia.





# architectural acoustic finishes

SonaSpray fcx in the Hard Rock Hotel, London.

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David Mason, Director of Scott Brownrigg Architects.





# PI cover: the gathering storm

CIOB gathered representatives from other industry bodies to discuss how construction can overcome the insurance sector's reluctance to offer professional indemnity cover. **Justin Stanton** reports



he construction industry has a professional indemnity insurance (PII) problem, ranging from cover being too expensive to not being available at all. CIOB recently pulled together representatives from other professions in the built environment - and from the insurance sector - to debate the issue at a round table.

### **Difficulties securing PII**

CIOB president Mike Foy started the event by setting the scene: "We understand from our membership that there are some difficulties securing PII now, with premiums rising and availability falling with fewer insurers willing to take the risk. We want to see whether this issue is similar across the wider built environment, and we want to find out what other organisations are doing around these issues and whether we can get this even higher up the government's and industry's agenda than it currently is.

"We are well aware that the **Construction Leadership Council** is working on the issue, and we are keen to support their activities wherever possible and see what we can do from a professional bodies perspective."

The event was chaired by PII expert Roger Flaxman, chairman and principal consultant of Flaxmans. In response to Flaxman's questioning, Association of British Insurers (ABI) director of general insurance policy James Dalton contextualised the issue that the construction industry now faces: "Pre-Grenfell, we saw a significant push for deregulation, the effect of which was to make buildings less safe and therefore more difficult and costly to insure. Overlay that with: poorly documented risk

management processes and procedures;

 some very large claims, not necessarily from construction but in the wider PII market:

• the historic unprofitability of the PII market: and

the reduction in Lloyd's capacity (reflecting a global reduction in PII capacity and in the UK building and construction sector) and you've got a perfect PII storm."

Flaxman noted: "The question is if we were starting today what kind of insurance would we design to cover today's criteria? It is easier to build [insurance cover] that has not been built before that fits the purpose than change what we have already got. I think the smart thing to do is to bring out, finally, the best and experienced brains to create a proposal that an insurer can say 'yes' to."

With that in mind, he asked those around the table: "What is the single most prominent issue to address to preserve the incentive Pre-Grenfell, we saw a significant push for deregulation, the effect of which was to make buildings less safe and therefore more difficult and costly to insure James Dalton, Association

of British Insurers





Les Copeland UK commercial director, Ramboll UK, and vicepresident, CIBSE



Jennifer Dixon Architect, lead client adviser at **Dixon Architects** and RIBA



**James Dalton** Director of general insurance policy, ABI



**Timothy David** 

President, Royal

Town Planning

Crawshaw

Institute

**Roger Flaxman** Chairman and principal consultant. Flaxmans



**Eddie Tuttle** Director of policy, external affairs & research, CIOB







**David Parry** Public affairs officer, CIOB



Gary Strong Global director of building standards, RICS

CONSTRUCTION MANAGEMENT JULY/AUGUST 2022 21



for people like us to continue in the built environment? Why do you want to be in it?"

CIOB president Mike Foy answered: "Pride of being involved in something that does not continually hit the press with unwelcome news, rather with all the good stuff that we do. We do a lot of things well, but we do other things that are not good.

"I think we've got such a diverse industry, from the major contractors – some of whom do things well – to the smaller contractors, some who perhaps don't have the knowledge and skills required, and therefore that generates a bad reputation, such that whatever we do, people just frown upon us."

This sentiment – of an industry striving to make the world a better place – was echoed around the table.

#### **Defensive behaviour**

Jennifer Dixon, architect, lead designer and Royal Institute of British Architects (RIBA) client adviser at Dixon Architects and RIBA, said: "As a society, we need to be able to build more and better. I think that there is too much friction in the system, making our industry inefficient. There are parts of the country, and indeed the world, that need more and better homes and better communities that could be enabled if there was less 'drag'. There is a huge amount of friction in the English system, partly because of punitive contractual conditions and poor understanding of professional roles, duties and risks which have created a culture of defensive behaviour that is very wasteful. The PII problem is just a symptom of this."

Ramboll UK commercial director and Chartered Institution of Building Services Engineers (CIBSE) vice-president Les Copeland agreed with Dixon's view: "Engineers want to be the partners of sustainable change, which means we want to partner and develop the ideas into reality. I think if you want to look at the worst case, it is engineering a solution for survival of humanity, but, to the other extreme, it is to provide better social environments for people to flourish.

"As engineers, we want to be partners to a utopia. But unfortunately, we carry the bolts and chains of legislation and rules and principles that have been written decades, if not centuries, before us. The insurance provisions and the way to behave is trying to, in some instances, strangle the creation and the inspiration of engineers/designers."

Royal Town Planning Institute president Timothy David Crawshaw said: "For me, it is making the world a better place. And there are a lot of planners that think that. I think that is what we get into it for. We are doing this for the wellbeing of





There is a huge amount of friction in the English system. The PII problem is a symptom of this Jennifer Dixon, Dixon Architects people. Buildings can heal or harm, and in many ways, in terms of the built environment professionals, we are the general practitioners."

Flaxman noted that, while those around the table represent industry professionals striving to do the best possible job, "What do we do with the parts of the industry that don't want to do a professional job, but just make money? That's where the insurance money goes: it is spent mainly on defending things that should never have happened and never been allowed to happen."

#### **Regulatory regime**

CIOB director of policy, external affairs and research Eddie Tuttle declared: "I have some sympathy for the insurance sector: in many ways it's been asked to pick up the tab for the failings of an industry and a regulatory regime that simply has primarily been deregulated. A number of the flaws highlighted already through the Grenfell Inquiry ask many questions of the industry and indeed government(s).

"Quality, competence and professionalism are key to addressing this. I would like to see a return to sensible and coherent regulation that both addresses the safety case and ensures that those who reside in these properties have a voice that is heard. Professionalising the industry is key from the trades upwards, and the

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professions are key to ensuring that their members are both competent and current in their skills sets and are driving the culture change that is so evidently required across the built environment.

"There also needs to be a serious review of how we address issues of reputational damage that is done to the industry, and not least in an industry that is unlicensed, and whether this is worth a further review and to give further reassurance to the consumer. More broadly, the issue of risk at many levels in the industry is not one simply for the insurance sector to resolve: all the main players need to be actively engaged in finding the right solutions.

"I think the strategy that sits underneath government policy needs to be integrated with a sensible approach to the planning regime that links strongly to building safety and a building safety regime that links to the planning regime."

CIOB public affairs officer David Parry echoed Tuttle's decisive point: "One of the things that drives me is that there seems to be a serious disconnect between what we as professional bodies are calling for and what is coming out of Westminster."

#### **Opportunity for change**

Gary Strong, global director of building standards at Royal Institution of Chartered Surveyors (RICS), emphasised the need for change and for someone to formally drive it: "It is about influencing change, being at the forefront of leadership really. I think there are a lot of people that sit back and think it is somebody else's job to secure change for the better."

CIBSE's Copeland underlined this: "We are at a crossroads here: we can use the Building Safety



Bill as the lever to demand those competencies in the industry that could be the foundations of change. If we don't really grasp this with all hands right now, we are going to miss a fantastic opportunity to make a meaningful change."

There was common acceptance that the industry's PII problem cannot be solved overnight and that the professional bodies will need to work together to draft a proposal, some sort of proof case for a more resilient and non-adversarial way of working in collaboration that will engage the insurance sector in a sustainable insurance concept that it can say 'yes' to.

Having listened to the points made, the ABI's Dalton noted that the construction industry has recognised that it has a problem, which is "an important first step".

He added: "The insurance industry started by insuring fire risk. And it is an industry that has seen the development of cars, seen the development of the internet and has There is no ready-made solution, but there is ample opportunity to create a solution. All it needs is a joined-up approach Roger Flaxman, Flaxmans responded, innovated and adapted to serve the changing needs of customers over a very long time.

"Enabling people like you and the people that your organisations represent, helping them to help their customers to build quality buildings that are safe, that are fit for purpose and that will stand the test of time: I think insurance can be a facilitator and enabler of those objectives.

"You're our customers and we've got to help you."

#### Government support

Drawing the discussion to a close, Flaxman said: "I believe, and this is supported by James [Dalton], that the insurance industry wants to engage with the built environment, but, frankly, doesn't know where to start. That is because there are so many diverse vested interests in the construction, development, professional and built environment arena, each lobbying for their own insurance solution, but not taking into account the necessity of addressing the presently uninsurable risks that have been so comprehensively exposed since the Grenfell tragedy.

"There is no ready-made solution, but there is ample opportunity to create a solution. All it needs is a joined-up approach to 'quality, competence and professionalism' with the support of government to rigorously enforce standards not just to protect life but also to protect sustainable property and above all protect the interests of the people that occupy the built environment, trusting that the government has ensured it is 'safe'.

"This cannot and should not be left to market forces. They are at odds with the concept of safety and sustainability and insurers will no longer just 'pick up the pieces'."

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The 1960s facade was retained, with a new reinforced concrete building constructed within and steel frame added above

# BAM's 1960s revival

When plans to double a 1960s building proved unviable, BAM had to come up with a new solution. Construction manager Robert Biddle explains the build to **Kristina Smith** 

n first sight, it is difficult to understand why the facade of Central House in Whitechapel – now rechristened The Rowe – has been retained. Designed to accommodate multiple small textile industry units in the 1960s, the original building was designed to be cheap and cheerful: a sturdy reinforced concrete frame clad in precast concrete panels.

Architect AHMM's original idea had been to retain the whole of the six-storey building. But when BAM Construct came on board, quite early in the design process, there was bad news for developer Frasers Property, which is entering the London office market for the first time with The Rowe. "As we got into more detail, it quickly became apparent that the costs were spiralling to such an extent that the scheme was becoming non-viable," says BAM construction manager Robert Biddle. "I got a call from the development director, and we decided that we needed to do some radical thinking."

This project has required a lot of thinking all round. Initially, there was the challenge of working out how the original concept design might be delivered. And then, once that was abandoned, there were the complexities of working within a retained facade and connecting new structures and elements to it. BAM worked ► "

I got a call from the development director, and we decided that we needed to do some radical thinking Robert Biddle, BAM



## CV: Robert Biddle, construction manager, BAM Construct

You could say that construction runs in the Biddle family. Robert Biddle's father is a carpenter, and his younger brother works for BAM too, as a senior site manager.

However, Robert Biddle headed off down a different career path, studying a business degree for a while until he realised it wasn't for him and he switched to a BSc in construction management. He has worked for BAM since leaving university, starting in the West Midlands and then transferring to London, with a two-year stint in the Netherlands.

He has worked mostly on commercial schemes including the Angel Building for Derwent London and Thirty Broadwick Street in Soho for Great Portland Estates. One of the most complex projects was a new extension and remodelling project at Chelsea and Westminster Hospital, working over a live A&E unit. The Rowe has involved plenty of structural challenges, he says.

### Project team: The Rowe, Whitechapel

Client: Frasers Property Contractor: BAM Architect: Allford Hall Monaghan Morris (AHMM) Structural engineer: Robert Bird Group MEP consultant: Sweco UK QS and contract admin: Burnley Wilson Fish Construction cost: £80m

> Amended JCT 80 On site: January 2020 to September 2022

> Form of contract:

Subcontractors: Demolition: Robore Facade retention: Apex Facade restoration: Szerelmey Foundation: Foundation Piling Concrete frame: Mitchellson Steel: Elland Steel Structures Glazing: Structile UK PHOTOGRAPHS: TREVOR PALIN





under a pre-contract service agreement for 18 months before the full contract was signed.

The final scheme involves the retention of the 1960s facade including the infilling of two sections that were recessed for stairwells on the north and south sides; constructing a new five-storey concrete building within the facade and then adding a seven-storey steel-framed structure on top of that. Two smaller buildings have been added to the back of the main one, each with flat roofs that will double as roof terraces. Tenants will also have a roof terrace, and balconies on higher floors.

#### **Changing plans**

Back in 2016 when Frasers Property bought Central House, which sits on the junction of Whitechapel High Street and Commercial Road in east London, the intention was to demolish the whole thing and replace it with a 21-storey hotel. However, Tower Hamlets Council did not like that idea and after several attempts to get planning permission, Frasers looked for a new architect and a new vision.

AHMM's first idea was not only carbon efficient, it had a public realm story too. The Cass school of art and architecture had occupied the building for decades until 2017; some ▲ Installing the seven-storey steel framed structure

of the architects working on this scheme had studied in the building.

"It would have been a feat to have pulled it off," says Biddle. "The idea of retaining a building and increasing it, effectively doubling it in size, is quite unique. And the reduced environmental impact would have been significant."

However, it would also have introduced a raft of safety, cost and time risks, says Biddle. The existing foundations and columns would have needed beefing up, requiring heavy civils works in very confined spaces.

The other challenge was that the existing concrete columns were

The 12-storey building has a new five-storey concrete building within the facade and a seven-storey steel-framed structure on top

# 2

set back 5m from the face of the building. "When we put the steel frame on top, we would have wanted to align the steel columns with the concrete ones, but that would have meant a 5m cantilever at the roof structure," explains Biddle.

"That would have meant we needed a transfer structure around 1.5m deep at the 12th floor level that the cladding would have hung off." Building a new concrete frame means that the grid can be changed to avoid that huge cantilever.

BAM's solution, though less risky and less costly, has not been without its technical challenges. These have included the design of the facade retention structure, temporary and permanent piling works, attaching the new structure to the old.

The scheme's structural engineer Robert Bird Group (RBG) created the concept design for the steel frame which supported the facade, with specialist contractor Apex delivering the detailed design. BAM wanted the frame to have a dual purpose, providing access for ►



▲ With the facade retained from within, new CFA foundations could be installed to support the new structure

 Erection of the tower crane. Logistics were challenging on the busy London site



Digital technology was used to attend to detail at The Rowe

"BAM culture is that we are able to get into the detail and sort out problems before they grow," says BAM's London region director Rod Stiles. "Digital is part of that."

Often, BAM will commission 3D designs, if they don't already exist, particularly for tricky interface areas, says Stiles. "It's a cost we will bear ourselves, because we will see the benefit."

The Rowe's design team was already working in 3D, but some elements required physical checking. In fact, BAM has had a team of two engineers on site to survey and check.

"Their job has been to get to understand this structure," says BAM construction manager Robert Biddle. The BAM team at The Rowe is also trialling the latest version of BIM 360, using it for document management as well as for viewing the 3D designs. "It is much more instinctive than our previous EDM system," says Biddle. The plan is that it will be rolled out throughout BAM.

BIM 360 helps with governance too, says Biddle. For instance, when documenting temporary works signoffs. "It is safer too because it requires you to be physically out on site,



BIM360 model of The Rowe

taking photos, rather than filling out forms at your desk," comments Biddle.

BAM's planner on the project used 4D design to help plan the piling works. With two rigs on site and the need to control which elements of the facade support could be removed at any one time, this was vital to plan the sequencing.

The Rowe is also trialling a Trimble system that projects the position of building services runs onto the ceiling of a room so that they can be swiftly marked out – providing the building services engineers have previously calculated where the runs and brackets should be.

"The benefit is there are no mistakes because the setting out is from the model," says Stiles. "There is less risk and it is faster because they are just focusing on the installation."



restoration specialist Szerelmey to work on the precast units of the facade. It also had to be installed in large chunks to speed up erection and reduce footpath closure times, as the site is right by Aldgate East tube station.

Installing the piles for the facade support was a fiddly job, avoiding existing piles and drainage runs. And so was installing the permanent continuous flight auger (CFA) piles. Piling close to the building's perimeter required that beams from the facade support system had to be removed – and carefully sequenced and controlled.

One of the clever details that the project team came up with – after

extensive brainstorming, according to Biddle – was the connection between the sections of the original floors around the edge of the building and the new floors. These could not be cast together until the steel floors had been added and settlement had taken place.

The detail involved installing 200mm dowels into the existing pieces of slab and casting sleeves into the new slabs. Initially the slabs were fastened together with bolts through back-to-back Halfen angles, through vertical slots to allow movement up and down. Once everything had settled, grout was injected into the sleeves and the angles removed.

 The Rowe is set to complete in September 2022

We have managed to absorb quite a lot of the delays. We have built transparency in our relationship with Frasers, which has really helped Robert Biddle, BAM

BAM created a mock-up of the system first. "Everything was bespoke," says Biddle. "We needed to prove that the solution worked."

#### Two buildings in one

With the building due to be handed over later this year, the external envelope is almost finished. Yet to be installed is a mural by Cass alumnus Yinka llori, an artist and designer known for his bold use of colour. This will run on the underside of the seventh floor, where a balcony runs around the whole building, demarcating the old and the new.

The building has a very industrial feel inside, with the concrete and steel members and services all visible. The development is aiming for a BREEAM Excellent rating and WELL gold certification, as well as a Platinum WiredScore rating for its connectivity. There has been a lot of interest from prospective tenants, says Biddle, with several visits to site.

The project isn't quite running on time, due mainly to the impacts of Covid, including a site closure, delays from suppliers and labour shortages when some of the Eastern European workers could finally go home for visits. BAM and Frasers have verbally agreed a three-week extension from 26 August to mid-September. "We have managed to absorb quite a lot of the delays," says Biddle. "We have built transparency in our relationship with Frasers, which has really helped."

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# Raising the roof

The Institute of Roofing CEO Kay Rose is on a mission to change the sector. She talks to Will Mann about professionalism, drones, diversity - and music



e're at a major crossroads in our industry," says Kay Rose, CEO of the Institute of Roofing (IoR). "With the Building Safety Act, there is pressure

on our organisation to step up. We

need to show we are relevant, provide

the right training and qualifications,

and drive up competency standards

in roofing - there must never be

another Grenfell."

### Institute of Roofing Established

in 1980 1,200 members Members work

in manufacturing, distribution, contracting, training and support services

For Rose, this means making significant changes at the loR. Established in 1980, it has 1,200 members - but the new CEO has growth ambitions. She launched her new vision at this year's AGM in London's National Gallery. "I wanted a high-profile venue, to make a statement of intent," she says.

One of her ideas is to bring in expertise from beyond the roofing sector to offer "fresh eyes". To that end, she invited CIOB CEO Caroline Gumble to speak at the AGM.

"CIOB is an example of where we should be," Rose says. "In theory, because every building has a roof, we could have 47,000 members like the CIOB. That's obviously some way off. But we are speaking to CIOB's director of education Ros Thorpe about how we could work together on training. Many of our members are also CIOB members."

Rose, who is a fellow of the loR. worked at the National Federation of Roofing Contractors (NFRC) prior to joining the institute, and spent 11 years with Axter. She acknowledges that roofing manufacturers develop their own courses but thinks there is other training the loR can offer.

"We see our role being more at a professional and project management level, less so the hands-on skills," she says. "We also want to support members who work for small organisations which don't have the resources to provide training inhouse. We will collaborate with other trade bodies like the NFRC on issues such as competency.

"I see the IoR as a lynchpin for the industry. We must become the go-to professional membership organisation that every person in the roofing industry aspires to join." Rose says roofing can be "an

old boys' club", an image she

We're behind with digital adoption in the UK, compared to the USA, and that's something I want to promote in our industry. It's also a good way of attracting people to careers in roofing Kay Rose, Institute of Roofing

wants to change. "But things are improving, with greater diversity," she says. This is where the new loR Ambassadors scheme comes in. "They will be individual members who act as mentors for others at any level, providing support to new members or people who are thinking of joining the loR," she explains.

One skills area she feels "strongly" about is digital technology. "I spent two years with US firm EagleView, which uses aerial imagery and drone technology to measure roofs. It can be used for everything from solar installation to repairing storm damage. And you don't have to spend a day measuring a roof; with EagleView you use their imagery of the roof and can generate an estimate for the work from their app.

"But we're behind with digital adoption in the UK, compared to the USA, and that's something I want to promote in our industry. It's also a good way of attracting people to careers in roofing."

Rose has an unusual career background herself, having graduated with a music degree and worked in the music industry for more than a decade, before joining Jewson. "But this shows you can develop a roofing career even if you come from another sector," she says.

Obtaining chartered status is Rose's ultimate goal for the loR. "The changes we are making now will hopefully help us achieve that," she says.





# Regs raise bar on energy performance

New Building Regulations changes include tougher energy performance standards for non-domestic properties in England and Wales, relating particularly to the fabric and HVAC systems. **Rob Gill** explains

# hat's changing?

The misleadingly titled Building (Amendment) Regulations 2021 take

effect in England on 15 June 2022. These contain tough new standards for the energy performance and carbon emissions of new non-domestic properties in England and Wales.

### Part L2A, which has effectively been rewritten, is the section which contains the most sweeping changes and is likely to have the greatest impact on construction professionals. It includes specifics relating to fabric limits, carbon factors, and heating, ventilation and air conditioning systems.

▲ New maximum U-values have reduced the heat loss allowed

# What are the objectives of the changes to Part L2A?

They aim to cut carbon emissions from new non-domestic properties by an average of 27% – and those from warehouses by a typical 36% – compared to the previous regulations implemented nine years ago.

# What do the rules say about fabric limits?

They specify new maximum U-values, the heat loss allowed through particular building elements, expressed in watts per square metre Kelvin (W/m<sup>2</sup>.K).

Reductions from the 2013 figures include for walls (0.35 to 0.26), floors and roofs (both 0.25 to 0.18), plus windows (2.2 to 1.6 or possession of energy band rating B). Doors are cut from 2.2 to 1.4. Rooflights remain unchanged at 2.2.

In addition, the regulations reduce a building's maximum air permeability – the amount penetrating its fabric from outside. This is expressed as the hourly total of air entering, per square metre of the internal envelope, at a particular reference pressure in pascals. Here, the cuts are from the previous sole 10m²/h.m² @ 50Pa to new levels of 8m²/h.m² @ 50Pa and 1.57m²/h.m² @ 4Pa.

### You also mentioned carbon factors?

Yes. This is an estimate of the amount of carbon produced through a unit of energy generated from a particular fuel. Carbon factors are

## The changes aim to cut carbon emissions from new non-domestic properties by an average of 27% compared to the regulations of nine years ago



used to help calculate a building's overall emissions. They are updated regularly, as the carbon intensities of fuels change. They are expressed as kilograms of carbon dioxide per kilowatt hour (kg CO<sup>2</sup>/kWh).

Headline news from the new rules is the huge reductions they make in carbon factors for gridsupplied electricity. These reflect the fuel's significantly greater cleanliness, due to the upsurge in the amount generated from renewable sources since 2013.

The new factors indicate the consequent desire of the authorities for designers to use grid-supplied electricity, rather than alternatives such as the previously popular natural gas, as the predominant fuel for building elements, including heating and hot water systems.

The carbon factors for grid supplied and displaced electricity were previously both 0.519, but the new regulations have introduced a system under which these values vary with the month. For power, except that generated by solar photovoltaic (PV) systems, the updated numbers range from 0.163 in January to 0.111 in July. For grid-displaced electricity from PV systems, the variance is from 0.196 in January to 0.092 in July.

Other reductions in carbon factors include for natural gas (from 0.216 to 0.21), biogas (0.098 to 0.024) and biomass (0.031 to

0.029). Cuts have also been made for waste heat (0.058 to 0.015), smokeless fuel (0.433 to 0.366) and dual fuel appliances (0.226 to 0.087).

The carbon factors for coal (0.345 to 0.375) and anthracite (0.394 to 0.395) have risen, while those for oil and liquefied petroleum gas have remained unchanged at 0.319 and 0.241 respectively.

# What about heating, ventilation and air conditioning systems?

The main changes here are the rises stipulated in minimum energy performances.

These increases include in the efficiency of natural gas boilers with capacities of less than 2MW (from 91% to 93%) and natural gas water heaters (from 90% direct and 80% indirect to 91% across the board). The upgrades for cooling systems are from standard energy efficiency ratios (EERs) of 2.6 to seasonal ratios (SEERs) of 5.0, for both the split and variable refrigerant flow types.

In contrast, the requirements for heat pumps and domestic hot water heat pumps have remained unchanged, at 2.5 and 2.0 coefficient of performance (COP) respectively, reflecting an understandable desire by the authorities to encourage their use. Rob Gill is founder and managing director of building physics engineering consultancy Yonder.

# Creating safer steel facades

The steel sector has responded to post-Grenfell fire safety concerns with a new steel facade system, writes Jonathan Arnold



Trisobuild cladding on an ambulance centre in Cardiff

The Grenfell Tower tragedy turned the spotlight on cladding and other facade systems and their components. Evidence heard at the inquiry, where the industry has been called on to justify all its current practices, has done little to allay the fears of clients and the public.

All cladding products for medium and high-rise buildings must now be noncombustible or of limited combustibility. As well as owners, building tenants are looking for assurances that the building is going to be safe to house their operations and staff, and visitors including the public.

Tata Steel has responded by developing Trisobuild Facade Systems, a range of non-combustible or limited combustibility facade systems that meet **Building Regulations** and other fire safety requirements. The range is aimed at low to mediumrise buildings in markets including residential, schools, hotels and student accommodation, on both new and refurbishment projects.

**Rainscreen facades** are multi-part systems, intended mostly to provide protection to the underlying structures, allowing buildings to 'breathe' and keeping the risk of interstitial condensation or structural degradation to a minimum.

The systems comprise a ventilated zone between the weathering screen and the insulation, eliminating thermal cold bridging where possible. Water has to be allowed to drain from within the cavity, with air gaps allowing evaporation of any remaining humidity.

Post Grenfell, concerns have placed new demands on fire resistance capabilities. Tata now offers facade systems comprising non-combustible, or, at the very least, of limited combustibility, pre-finished steel products classified as A1 or A2-s1, d0, as defined by BS EN 13501-1:2018. This includes all the components forming the system, including fasteners and insulation elements.

Tata Steel supports this with its 25-year Platinum Plus system guarantee derived from a project specification particular to the building's needs.

All products receive third-party testing, closely examining reaction and resistance to fire, thermal performance, hard and soft body impact and resistance to water penetration. Jonathan Arnold is product development and technical services manager in Tata Steel's Building Systems UK.



# Managing highways surface water

This CPD, in association with ACO, discusses water management on highways and how drainage solutions should be implemented to ensure safety, sustainability and performance A

dverse weather conditions brought about by climate change are subjecting roadways to

intense and frequent rainfall across the UK. In the face of such an erratic climate, it is more important than ever that the construction industry takes effective steps to manage water across highway schemes.

Without appropriate measures in place, rainfall events can give rise to a host of issues. As well as dangerous driving conditions and pedestrian safety risks, surface water can cause considerable damage to roads through surface deterioration.
In association with



When retrofitting drainage systems, existing infrastructure such as sewer and water pipes or fibre optic cables within the highway may pose obstacles to application



Surface water

can cause safety

risks and damage

Section through

a highway drainage

system

It is with these problems in mind that construction managers must look to implement highperformance drainage systems, in order to safeguard highways and those who use them.

#### Standards and guidance

When considering solutions, following documented standards is critical to determining the right application. As such, the Manual of Contract Documents for Highway Works (MCHW) and Design Manual for Roads and Bridges (DMRB) should always be used as reference points. The former provides guidance on the selection of surface and subsurface types of drainage. The latter offers further detail into specific systems on the strategic road network.

Within the *DMRB*, construction managers should pay particular attention to section CG501, which stipulates rainfall design criteria to be used for highway drainage systems. For all types of road drainage it requires no flooding for a one-in-five-year storm, with minimum 20% uplift in peak rainfall intensity for climate change.

At the same time, it's worth keeping in mind that guidelines may vary depending on the location. Therefore, it is paramount that construction managers consult local authorities when approaching a highway scheme.

Equally important to note are regulatory principles for the products

themselves. BS EN 1433:2002 is a key document to refer to as a standard for linear drainage channels – offering classification, design and testing requirements.

With an increasing need for sustainable drainage across industry, it is also important to consider consultation around SuDS (sustainable drainage systems). Here, *The SuDS Manual* (CIRIA C753) offers comprehensive guidance for planning, design, construction, operation and maintenance of water management systems.

#### **Product application**

There are a multitude of factors to take into account both in choice and design of a product application. For channel systems, National Highways and local authorities predominantly require monolithic systems. As the gratings and covers are integral with the channel, this reduces the risk of separate gratings becoming dislodged. Grating widths are another key

consideration for channels. As mentioned, BS EN 1433:2002 is the applicable standard here, and describes the allowable widths of gratings in their relevant locations. Pedestrian environments will require narrower channel slot widths of typically 8-10mm, while wider slot sizes up to a maximum of 42mm should be specified to reduce maintenance and risk of slot blockage for motorways.

When retrofitting drainage systems, existing infrastructure such as sewer and water pipes or fibre optic cables within the highway may pose obstacles to application. It is in these scenarios with limited space that combined drainage and kerb units and linear channels can prove to be valuable solutions. Due to their shallow profile and high invert, such systems aid installation where underground services are near the surface.

Load class is also a critical factor in specifying these systems. As outlined in the *MCHW*, all drainage channels for highways must be Load Class D400. In exceptional circumstances where the ►



# 20

For all types of road drainage the *DMRB* requires no flooding for a one-in-five-year storm, with minimum 20% uplift in peak rainfall intensity for climate change



▲ Access points are required for waterjetting of drainage units

Combined drain and kerb units can integrate with green infrastructure application is more likely to be subject to high impact from heavy goods vehicles, Class E600 may be selected. Class C250 units can only be installed in locations which are protected from direct traffic loading, such as areas behind safety barriers.

#### SuDS

Controlling the quantity and quality of run-off is intrinsic to managing flood risk and preventing pollution. From here, the construction industry can create and sustain better environments for both people and nature.

With an increasing requirement for sustainable drainage, engineered and natural resources will need to be applied in tandem. Combined drainage and kerb units and linear channels are ideal applications as they facilitate a range of invert levels. Again, the comparative shallower inverts of these systems offer a high degree of functionality – when connecting to green infrastructure in this instance. Combined drain and kerb units and linear channels enable direct integration with swales, for example.

Soakaways can be set beneath grass verges adjacent to highways for returning surface water run-off from the carriageway to ground at a safe rate. Geocellular tanks may also be installed in these areas to aid in infiltrating and draining excess rainfall or to provide attenuation.

As a key element of sustainable drainage, consideration also needs to be given to future access and maintenance of systems. Here, geocellular applications are recommended for greater accessibility.

#### Maintenance

Maintenance is too often an afterthought in projects and tends to be the first measure cut in line with budget constraints. Keep in



ACO's online design tool provides guidance on maintenance



mind that all drainage systems will require maintenance – both in natural and engineered solutions.

You can design for maintenance through a range of means, whether this be designing the topographic area to create flow, make more access points or calculate the potential build-up of material and debris that will run off the surface into the drainage network.

DMRB CD 523 is a useful point of reference here as it gives valuable guidance on assessment of sediment deposition. ACO has also previously undertaken research in this area along with Middlesex and Cranfield universities to shed further light on the accumulation processes from road ACO drainage systems for highway use

#### Conclusion

With an increasing

will need to be

be carried out.

applied in tandem

drainage, engineered

and natural resources

requirement for sustainable

surfaces. It is with the above in

mind that ACO's online design tool.

QuAD Hydraulic Design 2.0, may

be used to help calculate forecast

of sedimentation rate in relation to

channel capacity. From here, the

software can provide a guideline

of how often maintenance should

linear channel units should be

common practice, and therefore

requires access points. When doing

this, pressure should be controlled

to prevent water and debris spraving

back out of channel slots on to the highway surface. Inspection and

cleaning can be effectively carried

out for geocellular systems using

CCTV to navigate visually.

Water-jetting of combined kerb and drainage units and monolithic

With increasingly erratic weather conditions to contend with, it is vital that the right drainage solutions are used in managing surface water across highway schemes. To this end, the construction industry will need to have a firm grasp of the guidance around such practice and look to implement correctly specified systems for sustainable performance.

It is only through these measures that transport infrastructure can be safe for both for the environment and those who interact with it.



#### **CPD** Questions

1. What does the *DMRB* stipulate for rainfall design criteria? a) No flooding for a one-in-fiveyear storm, with minimum 20% uplift in peak rainfall intensity for climate change b) No flooding for a one-in-10year storm, with minimum 15% uplift in peak rainfall intensity for climate change c) No flooding for a one-in-15-

year storm, with 10% uplift in peak rainfall intensity for climate change d) None of the above

2. Which guidance document can you refer to when looking at SuDS on a scheme?

a) BS EN 1433:2002 b) *MCHW* 

c) The CIRIA SuDS Manual (C753) d) The Drainage Directive 1993

3. What is the main reason for using monolithic systems on highways, over traditional channel and grating systems?

- a) Cost savings
- b) Road user safety c) Easier to install
- d) Less maintenance required

4. What is the maximum permissible slot width of a linear drainage channel system (as set out in BS EN 1433:2002)?

- a) 12mm
- b) 32mm
- c) 42mm
- d) 52mm

5. As outlined in the *MCHW*, what is the minimum load class required for drainage installed on highways for those areas which are not protected from direct traffic loading (except in exceptional circumstances)?

a) C250 b) D400

c) E600

d) F900

To test yourself on the questions above, visit www.construction management.co.uk/cpd-modules.



Gammon hopes to boost productivity by as much as 40% by using robots, drones and other technology



# Five live

How could bigger data pipes benefit construction? Singapore is testing a 5G site, as **Rod Sweet** finds out

cobots and drones equipped with scanners are often held up as a productivity breakthrough for construction, allowing teams to monitor activity and measure progress automatically without requiring the physical presence of surveyors and supervisors. But their usefulness is limited by the data-carrying capacity of today's wireless telecommunication networks, the 'pipes' through which data travels. Robots and drones may be able to collect gigabytes of data per second, but it takes a long time to send that quantity of data over the airwaves through today's fourth generation (4G) networks,

▲ Drones can collect massive amounts of data, but can be limited by slow 4G data transmission meaning real-time interaction between the BIM model, say, and the new data coming in is difficult.

The emerging fifth generation (5G) standard for broadband cellular networks could change that because its 'pipes' are exponentially bigger. Claims vary but, according to Verizon, 4G delivers data at a rate of 100MB per second while 5G can deliver at a rate of 20GB a second, a nearly 20,000% increase, meaning real-time transmission of huge amounts of data becomes possible.

What this might mean for construction is now being tested in Singapore in a pilot run by Gammon Pte Ltd, the Singaporean subsidiary

#### Global



of Hong Kong-headquartered Gammon Construction, with mobile operator Singtel and the Building Construction Authority, an agency of the government of Singapore.

The trial is taking place on Sentosa island, where Singtel has deployed a standalone 5G network for Gammon's site running in the 3,500MHz spectrum band. Supported by Govtech Singapore, the project is set to run until the end of 2022.

The GSMA, a global organisation representing mobile network operators, has prepared a case study of the trial to show the potential of 5G combined with mobile computing and data collection to advance construction productivity.

#### **5G-connected robots**

According to the GSMA, Gammon hopes to boost productivity by as much as 40% by using robots, drones and other technology in four ways. In the first, 5G-connected robots from Boston Dynamics track the progress of the structure being built. The robots use 3D laser scanners to update a building information model (BIM) residing in the cloud.

Secondly, the 5G network is used to connect to a wireless mobile CCTV station that moves around the site to transmit live video back to Gammon's command centre, where video analytics developed by Gammon can detect hazards or breaches of safety protocol. This system spots whether a worker is wearing a hard hat or entering a restricted area, for example. Gammon bets this could reduce the number of supervisors it needs on each project.

The third method uses drones equipped with a Quectel RM5000-GL module to inspect parts of the structure that are inaccessible without scaffolding or cherry pickers, which would speed up the inspection process and cut costs. It also opens up the possibility for future authority inspections to be conducted remotely.

Finally, Gammon is using 5G and augmented reality (AR) headsets to let workers and supervisors on site see how the planned construction methodology will unfold around them, so they can detect issues before work starts. "You start seeing potential risks that you wouldn't see if you look just at a 3D model or step-by-step pictorials," Michael O'Connell, general manager at Gammon, tells the GSMA.

The high capacity of the 5G network allows for the 3D scanning data collected by the robots to be processed live while they are still on site. "This is something that we've never managed before," O'Connell says. "I wouldn't say it's the Holy Grail, but it is quite close."

He adds: "If I have got 50 to 60 scan points that I want to do in a day, I'd send two skilled employees down to the site to do that scanning ▼ Specially equipped drones can be used to inspect inaccessible parts of site structures



You're taking a team and going through the step-by-step installation in the actual location, a digital trial run for the upcoming activity Michael O'Connell, Gammon

and it would probably take them the entire day and even then I can't process anything until they come back [with memory cards]."

The 5G-connected CCTV notifies Gammon staff immediately about any safety or operational risks. O'Connell says he couldn't quantify the benefit of that yet, but expected that the system would lead to a significant reduction in accidents.

O'Connell approves of using AR to visualise the sequence of construction on site. "The trial that we did on Sentosa was very, very successful," he says. "You're essentially taking an operations team or your safety team and you're going through the step-by-step installation in the actual location on site, a digital trial run for the upcoming activity. So we will certainly be looking at using that for some of the key risk activities on our new MRT (mass rapid transit system) project."

He adds that 5G would enhance the usefulness of BIM models. "You need 5G capabilities because of the size of the data you're dealing with now with some of the BIM models – they're so detailed. If you want to use those models for verification of what you've built, then you need that 5G capability. If I want to laser scan something and overlay it for the BIM model, I can get a very accurate representation. But if you don't have the bandwidth... the 3D model tends to drift."



Jonathan Booton Beale & Company Solicitors

# 'Our main contractor is insolvent. Can we stop work?'

In our latest Contract Clinic column, **Jonathan Booton** explains why new legislation makes it harder for subcontractors to walk off site

#### THE QUESTION

We are a subcontractor on a UK project and the main contractor we are supplying has become insolvent. Can we stop work and terminate the contract?

#### THE ANSWER

A key piece of legislation you should be aware of is the Corporate Insolvency and Governance Act 2020, introduced by the government because of the pandemic.

Much of the act has now expired, but the addition of Section 233B to the Insolvency Act 1986 remains. This provides that, if a company goes into a formal insolvency process, a supplier to that company is not entitled to stop supplying goods or services under their contract, simply because of the insolvency process. The aim was to protect the supply of goods and services to a company when it goes into insolvency proceedings.

The Corporate Insolvency and Governance Act 2020 applies



The Corporate Insolvency and Governance Act 2020 was introduced because of the pandemic

# e 2020

only to termination clauses in a contract for the supply of goods and services which affect the 'supplier'. So, it applies to whoever is supplying goods or services.

Most standard form construction contracts, such as JCT, NEC and FIDIC, contain provisions allowing a party to terminate the contract on the insolvency of a party or an insolvency event. For example, this appears under Clause 8.1.4 of the JCT Design and Build Contract 2016 and Section 9 of the NEC3 engineering and construction contract.

But Section 233B of the Insolvency Act 1986 affects the supplier's rights in several ways:

• The supplier cannot terminate the contract or the supply;

• The supplier cannot do "any other thing" when insolvency arises, such as making it a condition of continued supply that outstanding charges are paid;

• The supplier cannot rely on pre-insolvency termination events; and

• The supplier must continue to supply even if payment has not been made for goods or services already delivered.

These provisions make it very difficult for you to terminate the contract or cease supplying the main contractor. However, there are circumstances where termination may arise under Section 233B of the Insolvency Act 1986. These are: • if any subsequent administrator or liquidator agrees;

 where the contractor is subject to a company voluntary

arrangement and they agree; or • by court order, the court being satisfied that the continuation of the contract would cause the supplier 'hardship'.

The supplier may also terminate if its right to terminate arises after the insolvency procedure begins, for example, non-payment for goods or services supplied.

Additionally, you have the statutory right to suspend work for non-payment (under Section 112 of the Construction Act 1996).

Section 233B of the Insolvency Act 1986 only covers contractual rights and not statutory rights. Yet, it is likely that relying on your statutory rights to suspend work (under Section 112) would fall within the scope of doing some "thing", which has the effect of making further supply conditional on payment.

Note that the 2020 act does not affect the rights of an employer to terminate for insolvency of a contractor. Similarly, the rights of a contractor to terminate for the insolvency of a subcontractor (supplier). In these circumstances (subject to the contract), employer or contractor would be able to terminate for insolvency.



The **Insolvency Act** 1986 provides that, if a company goes into a formal insolvency process, a supplier to that company is not entitled to stop supplying goods or services under their contract

#### Step-in rights

Another option is to try working with the employer directly. The employer may be able to trigger a unilateral 'right to step in' with your contract, if such a right exists.

Step-in rights under a collateral warranty may be caught by the Corporate Insolvency and Governance Act 2020. Step-in rights usually arise in specific situations. A supplier has grounds to terminate its appointment by the contractor for insolvency and allow the employer to step into the shoes of the contractor.

The step-in rights typically provide that, before terminating the appointment, the supplier will first have to serve a notice on the employer, notifying them it intends to terminate. This gives the employer the option of stepping in and replacing the contractor.

However, the 2020 act stops contractual termination, in an applicable contract, when a party enters insolvency proceedings. This could also cover any contractual rights that may have arisen before insolvency. This is assuming that the right to terminate was not exercised before the contractor's insolvency process was commenced.

It is unlikely that the supplier will have time (before the moratorium is in place) to issue the relevant notice to start the step-in process. • Jonathan Booton is an associate at Beale & Company Solicitors. This much I know Brian Moone Director, Mace Business School

# 'A growth mindset is the most important skill anyone can have'

Brian Moone tells **CM** how he moved from preaching best practice to delivering it



### What made you go into construction?

I became an apprentice carpenter in 1976 before returning to technical college 11 years later to gain further qualifications. I had a habit of always questioning 'why?' and searching for a better way, so I decided to become a surveyor.

Even as a chartered surveyor, I was frustrated by current regulations in place, so I took on the role of director at the CIOB to influence industry standards. I grew close to Mace after being appointed as a director of construction best practice and was on the board of Rethinking Construction and Constructing Excellence. After several years, I moved from 'preaching' best practice to actually delivering it at Mace.

### What was the best advice you were given?

As a leader your role is to shield, promote and nurture your team to help develop them into future leaders.

### Which project that you worked on are you most proud of?

The business school is definitely my greatest achievement and the legacy I want to leave behind at Mace. It is a real honour to have helped people in the supply chain develop and see them achieve professional recognition – even taking on new roles as leaders in their business.

Be fair, foster true and lasting relationships, and have fun while you're doing it. These are values I learned from Ian Wylie Brian Moone, Mace Business School I'm also very proud to have developed and created the Mace Master Bid List System, built to provide a data-driven solution to support project lead procurement.

### Who do you most admire in the industry, past or present?

The late Mace founder, lan Wylie. I first met him when I was with the CIOB and he chaired the Construction Manager of the Year judging panel. He always showed interest in everyone irrespective of grade and was a great supporter of the business school.

#### What advice would you give to someone starting in construction?

Having a clear understanding of both business goals and your own personal goals is what provides direction. Be fair, foster true and lasting relationships, and have fun while you're doing it. These are values I learned from Ian Wylie.

#### What has changed the most about construction since you've been working in it?

The industry is almost unrecognisable compared to when I first joined. Having paved the way for change in the industry, I was often looking forward. But it's not until you look back, that you actually see the great strides that have been made on safety, wellbeing, sustainability and more recently diversity.

### Do you have a motto that applies to your work and, if so, what is it?

'Even as a teacher, I'm still a student; that way, I always have something new to learn.' A growth mindset is the most important skill anyone can have. Openness to admit that you don't know something and willingness to learn create the greatest opportunities.

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Job spotlight Ruth Scarrott Head of careers, NFRC

# Positive difference

**Ruth Scarrott** brings her passion for improving life chances and challenging the myths around millennials to her new role at the National Federation of Roofing Contractors

#### Describe a typical day in your job?

No one day is the same – I can be dealing with employer enquiries about how to hire new talent, or supporting them to upskill existing staff, working on content for the careers website (finally utilising my creative writing degree for something productive!) or working with training providers to develop their roofing sector related training. I also represent the National Federation of Roofing Contractors (NFRC) at a strategic level with key stakeholders like the CITB, CLC and employer networks. My daughters have summed up my job in two words: changing minds.

### What specific skills, knowledge, and attributes do you need?

To be able to influence decisionmaking is the most important skill I have. This works alongside my experience of 15 years in the careers sector. I have gained in-depth knowledge and understanding about the challenges faced by SMEs alongside the technical knowledge of the training landscape and how to navigate the changing priorities of subsequent governments.

As a passionate advocate for improving life chances for everyone, especially disadvantaged groups, I have a good understanding of what NFRC wants to achieve, and I am looking forward to dedicating my knowledge and experience to delivering these aims.

#### You came to the job from outside the construction industry. How does it compare with your previous experience?

Previous to my role with NFRC, I worked for a heritage construction charity, so I have come from a very different organisational culture. However, I am still fighting the same challenges in the roofing sector: not enough skilled people to do the job on the scale the country needs.

The first months in my role have been fantastic, with most people I've spoken to embracing the changes that I'm proposing. It's been exciting Hearing the good news stories from young people and their employers about what offering careers in roofing can do is what keeps me in this line of work Ruth Scarrott, NFRC

to enter a role that hasn't been done before too, and being given the freedom to translate business priorities into action.

### What are the challenges your job presents? What are its rewards?

Challenges faced include meeting with jaded business owners who really want to make a difference and address the skills shortages but not being able to due to the complex conditions they've been working in. Bringing an outside perspective to them can really turn their opinions around.

I am particularly interested in the part that new talent can play in revitalising organisational culture and challenging myths around millennials in the workforce.

Hearing the good news stories from young people and their employers about what offering careers in roofing can do is what keeps me in this line of work. The reward of seeing a positive difference made (an employer seeing returns on their employee they've invested in, for example) is the reason I do my job.



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# **CIOB** Community



# Nitman becomes first chair of CIOB trustees

Willmott Dixon manager takes on new role created following the institute's recent governance review

#### A CIOB fellow and Willmott

Dixon manager is to take on the newly created role of chair of CIOB trustees.

Steve Nitman FCIOB is commercial manager with Willmott Dixon, where he has been for nearly 20 years,

#### New TCIOB membership grade gets closer

CIOB technical grade will be important to its work with apprenticeships and is also a long-standing CIOB trustee.

The decision to create a role of CIOB chair follows a recent governance review carried out by the institute. It is a two to three year term to provide leadership to the Board of Trustees, with a ▲ Steve Nitman, chair of CIOB trustees with Caroline Gumble, CEO of CIOB I am looking forward to leading the trustee team to help move the institute forward at a time of transformation for all construction professionals, the institute and the industry Steve Nitman FCIOB

focus on ensuring it has agreed priorities, appropriate structures and processes and a productive culture. The chair will work alongside the CEO and president.

Commenting on his appointment, Nitman said: "I am privileged to be part of CIOB, as a global organisation combining an open culture with professional commitment.

"I am looking forward to leading the trustee team to help move the institute forward at a time of transformation for all construction professionals, the Institute and the industry.

"I would also like to thank my colleagues at Willmott Dixon for their continued support, which has given me the opportunity to take on this role and give something back to the industry and future professionals."

Nitman will take up the role officially at the conclusion of CIOB's AGM, which will take place virtually on 29 June 2022.

Technical experts in the built environment could soon become recognised professionally with the TCIOB grade.

CIOB introduced a new technical grade in 2020, tested by a set of rigorous competences that assess sustainability, professionalism and ethics and technical competencies. The board of trustees approved this proposal in December 2021 and CIOB is now working with legal experts to develop a solid case for TCIOB to the Privy Council with a view to introducing it later this year or early in 2023.

The grade will be important to its work on apprenticeships. As an end point assessor organisation (EPAO) in England for degree apprenticeships in construction site management, design and construction management and quantity surveying, CIOB aligns the end point assessment for degree apprenticeships with the MCIOB qualification. It will now align sub-degree apprenticeships with the new TCIOB grade.

#### CIOB fellow tells MPs of value of apprenticeships

Matthew McCarrick speaks to committee

# Student challenge tackles flats for occupants with learning disability

Hartlepool College took home the prize in this year's Newcastle Hub Student Challenge for its approach to specialist accommodation

Hartlepool College was the winner of this year's Newcastle Hub 2022 Student Challenge, which saw three

Student Challenge, which saw three teams compete on a task based on building specialist accommodation.

Teams from Hartlepool College, Gateshead College and RE:geon were challenged to construct six one-bedroomed, self-contained flats over two floors for people with learning disabilities and/or autism. Entrants had to consider wheelchair use for the ground floor flats, car parking spaces for six cars and a communal garden.

The teams, who were working as consultant and contractor, were to advise the client if their needs for the development could be met. They were required to look at the layout of the site, construction methods, delivery, sustainability both within the building and the construction.

They then had four and half hours to complete the challenge and produce a presentation for the five expert judges.

The winning Hartlepool team were: Alexis Burn, Bryn Suggett, Harry Emerson, Adam Middleton, Jack Smith and Louis Anderson.

RE:geon won Best Innovative Idea, and Thomas Wilson from Gateshead College won Best Leader.

Special thanks to RE:GEN who sponsored the Student Challenge.



Teams were challenged to construct six onebedroomed, flats for people with learning disabilities and/or autism

▼ The winners line up at the 2022 Newcastle Hub Student Challenge





CIOB fellow Matthew McCarrick of McCarrick Construction spoke to parliament's

Education Committee Session on Post-16 Education at Westminster in May.

McCarrick (pictured) was one of seven representatives of SMEs from a diverse range of sectors who were asked to present their thoughts on the current pathways of post-16 education to the committee of MPs.

Up for discussion were whether A-levels, apprenticeships, the new T-levels or other routes are doing enough to prepare young people to succeed in the world of work.

McCarrick (pictured) emphasised the importance of work experience for all school leavers, in terms of gaining confidence in a workplace and ruling out careers that might not suit them.

He explained that training colleges have experienced competition from schools who push students to complete academic A-levels without adequately explaining the value of apprenticeships.

McCarrick Construction has a long history of apprentice employment and repeated success at the National Apprentice Awards. McCarrick himself has a wider perspective gained from discussions with other members of regional committee Construction Alliance Northeast (CAN), where he is a board member.

He highlighted concern about a chronic lack of lecturers in training colleges due to the skills shortage which has seen many experienced tradesmen return to direct work where the pay is better.

Discussing a possible switch to a universal baccalaureate system, McCarrick was not enthusiastic. "Apprenticeships work. We just need more of them," he told the MPs.

McCarrick said he found the experience positive and hoped that he had been able to make a useful contribution. "It was a chance to make a real difference in the lives of young people," he said.



# HS2 team shares challenges of Birmingham viaduct build

BBV project team explains all about high-speed rail site on hub visit to new Curzon Street station

#### On a recent visit to HS2's

Birmingham Curzon Street site, CIOB Birmingham Hub members heard from the project team about the work under way, future plans and the challenges they face.

Birmingham Curzon Street station will be at the heart of the high-speed rail network in the

# Webinars capture construction zeitgeist

CIOB is discussing two topical issues online in July

West Midlands. Part of the Curzon Street site will become home to two viaducts which will carry the HS2 trains to the new purpose-built station.

Main works contractor BBV is currently carrying out piling works on site in preparation for the construction of the viaducts' piers.

CIOB is running two webinars on topical issues in July.

On 13 July Building Awareness: Understanding how the Menopause can affect your Team, June Potts, a women's health and wellbeing advocate and sessional lecturer at Liverpool Business School, shares the facts around the impacts of the menopause. ▲ Birmingham Curzon Street station and Birmingham Hub members



Main works contractor BBV is currently carrying out piling works on site in preparation for the construction of the viaducts' piers

The station itself will be net zero carbon in operation and will adopt sustainable technologies including capturing rainwater and utilising sustainable power generation, with over 2,800 sq m of solar panels located on platform canopies. It has been designed to meet BREEAM Excellent standard.

On 21 July Michael Burnside from Jackson Jackson & Sons – an SME building contractor delivering energy efficiency measures – will explain How Robotics can reduce Carbon Emissions in Housing

He will talk on how housing contributes to the overall reduction of carbon, as well as the development of new technological advancements for the application of insulation and the use of robots for applying underfloor insulation without having to lift carpets or floorboards.

• Further information on both events is available from ciob.org/events.

#### Mace managers and supply chain celebrate MCIOB

Graduation ceremony for Mace Business School

Thirty new CIOB members from across Mace and the supply chain came together at Clothworkers Hall in London recently to graduate at the Mace Business School CIOB araduation ceremony.

Mace Business School began life in 2006 to bring together Mace's own staff and supply chain partners in a collaborative environment.

Led by director Brian Moone (see Careers, p44), it runs externally accredited courses, workshops and talks to help Mace and its supply chain reach new levels of excellence, share valuable insights and expand on knowledge and skills to accelerate their careers.

Mace Business School joined the CIOB training partnership in 2009, with the aim of developing Mace's supply chain managers. Since then, the school has supported over 100 managers who have joined the industry at varying levels to achieve chartered status.

Moone said: "The Mace Business School was born to pioneer smarter ways of delivering better, higherquality, more sustainable built environments. We create space where ambitions are encouraged, lessons learned, networks formed and knowledge shared through high-level services that ensure Mace can deliver world class solutions and exceed standards for its clients.

"The CIOB Awards symbolise our people's commitment to professionalism, and we hope our deserving graduates will continue to flourish in their careers with the skillset that they have had the dedication to build."

### Belfast dinner discussion covers rugby, golf and the role of clients



Adrian Logan interviews Chris Henry and Wilma Erskine at the CIOB dinner

#### **Over 250 construction**

professionals attended CIOB's Belfast annual dinner in May, with TV personality Adrian Logan as master of ceremonies.

CIOB president Mike Foy used the opportunity to speak about the important role clients have in delivering successful construction projects, while Roger Gillespie, chair of the CIOB Belfast Hub committee. was another of the speakers.

After-dinner entertainment included a question-and-answer session with retired Ulster and Irish rugby player Chris Henry, as well as Wilma Erskine, former secretary manager of Royal Portrush Golf Club, who is widely recognised as a key figure in securing the hugely successful Open Championship for Northern Ireland.

Belfast Hub committee member Philip Corr, who died in 2019, was remembered during the event and over £3,000 was raised in his honour during the evening and donated to Air Ambulance NI.

#### **Q&A with experts on Building Safety Act**

Birmingham Hub members can quiz industry speakers at a CPD event in July

Birmingham Hub members will have a chance to quiz the experts on the Building Safety Act in July.

A CPD and networking event at Cundall's Birmingham office on 27 July will feature presentations, Q&A sessions and industry networking.

Expert speakers from Turner & Townsend, Sir Robert McAlpine and Ball & Berry will join CIOB CEO Caroline Gumble. To book contact gfloyd@ciob.org.uk.



< CIOB CEO **Caroline Gumble** will join Nicola Markall MCIOB, **Birmingham Hub** chair and head of technical compliance at Sir Robert McAlpine, at the Birmingham event

Free auide to logistics A free technical

CIOB

information sheet (TIS) on logistics is available to CIOB members to download.

The TIS gives an overview of what logistics means, what benefits early planning, good management and technology can bring and describes how to get started on a logistics plan. Read more and

download the guide at www. ciobacademy.org/ product/logistics.



# Ensuring that innovation and creativity are underpinned by skills and experience

If you are looking for a trusted construction company or consultancy, you can find hundreds of firms who have met our rigorous standards as part of our CBC Scheme.

Each CBC must evidence that the organisation operates to high standards in all areas, including corporate social responsibility, the environment, health and safety and quality.

### TO FIND OUT MORE VISIT OUR SEARCH DIRECTORY

https://ciob.me/directory





#### One to watch

Aby Wallace MCIOB Site manager, Robertson Construction Central East



Why did you choose construction – what else would you have done? When I was younger, I wanted to be a child nurse or midwife, however my career path didn't quite go down this route due to my fear of injections! My backup was architecture – I've always wanted to build my own house.

But after applying for an architecture course at university, a family friend encouraged me to study for a HNC in construction and it was at college that I found an interest in site management.

From there, I attended Heriot-Watt University, where I gained a first class degree in BSc in Construction Project Management and was awarded the CIOB Certificate of Excellence, and the CIOB (Scotland) Graduate Award.

Your path in the industry is moving rapidly – from student challenge winner to MCIOB in a very short time. How has that been for you? The CIOB Student Challenge gave me my first real stepping stone. The event was sponsored by Robertson and winners received a work experience placement, which encouraged me to apply for the summer internship.

I worked part time while completing my final year, then on to the graduate programme in 2017 where I was awarded Robertson Young Person of the Year. I progressed to assistant site manager, then site manager, completing my chartership and gaining CIOB status within two years.

#### What are your ambitions?

At present I want to continue managing site, working on a range of projects and gaining further experience. In the future I'd like to progress to project management.

### What do you do in your spare time?

Between planning a wedding and trying to get planning permission for our house, my favourite thing to do is spend time outdoors with our two golden retrievers.

#### Lively discussions at Ipswich and Norwich hubs

EDI, skills and apprenticeships were all topics at events in the east of England

#### CIOB head of equality, diversity

and inclusion transformation Mark Harrison spoke about the work CIOB is doing to make the industry more diverse and inclusive, as part of a recent series of networking and CPD events held by the lpswich and Norwich hubs.

#### Further support for degree apprenticeships

CIOB approval on register offers apprentices the option of becoming MCIOB

#### CIOB has been accepted on the

register of end-point assessment organisations (EPAOs) for apprenticeships and is officially approved to deliver end-point assessments for the following standards:

- Level 6 Construction Site Management
- Level 6 Construction Quantity Surveyor
- Level 6 Design and
- Construction Management
- Level 4 Construction
   Site Supervisor
- Level 4 Construction Quantity Surveying Technician.

CIOB has also partnered with University College of Estate Another CIOB speaker, apprenticeship manager Steve Conopo, updated local businesses on CIOB's recent acceptance on the end point assessments register.

In Norwich, CEO Caroline Gumble, took part in a dynamic round-table discussion with the Norwich Hub committee, local CBCs and training partners, the CITB and Anglia Ruskin University. The session focused on skills, education and the future of the construction workforce.

In Ipswich, The Hold welcomed a wide-ranging group, including a representation from the Sizewell C supply chain, to a discussion around EDI and the CIOB charter.



Management to complete end-point assessments for its first cohort of Level 6 Construction Site Management apprentices.

As part of this partnership, CIOB will also offer the option of becoming MCIOB for all apprentices.

Achieving MCIOB is a process of mapping evidence of the on-programme journey towards membership requirements. If you would like to register your interest in CIOB becoming your partner for end-point assessments visit https://d8.ciob. org/learning/apprenticeships/ end-point-assessments or email epa@ciob.org.uk.

# Updated Code of Practice for Project Management out now

Sixth edition of one of CIOB's most popular guides is published, with greater emphasis on insight into a whole-life approach to asset delivery



**One of CIOB's most popular guides,** the Code of Practice for Project Management for the Built Environment, has been updated for its sixth edition.

In what has been described as a "bold revision", the Code of Practice (CoP) has undergone a significant restructuring, reflecting

#### CIOB judges Plymouth event

Top university students take home awards

how the practice and processes in construction have changed, and increasing pressures on the industry.

In this edition, CIOB is aiming to equip construction and project managers with insight into a whole life-cycle approach, where assets can be delivered not only to meet the expected quality, cost and time targets, but where broader but equally important notions of value can be incorporated.

The CoP acknowledges the many challenges in our industry today with a set of strategic drivers such as sustainability, competence, and quality and guiding principles such as EDI and whole-life perspective woven through all of the chapters. The Code of Practice for Project Management for the Built Environment starts at £52.99, with a 20% discount for CIOB members. It is available now as an ebook from Wiley and a paperback edition can be pre-ordered. CIOB members can pick up the discount code from the members' portal or contact lis@ciob.org.uk for more information.



The Code of Practice has undergone a significant restructuring, reflecting how the practice and processes in construction have changed



#### Cycle journey raises thousands for construction mental health charity

Morgan Sindall manager rides length of Great Britain

#### A construction industry professional

has raised thousands of pounds for construction mental health charity the Pagabo Foundation, by cycling the length of the UK from Land's End to John O'Groats.

Rob Hall (pictured), framework manager at Morgan Sindall, undertook the 980-mile cycle in September and handed over a cheque during Mental Health Awareness Week.

The Pagabo Foundation provides signposting and funding to existing charities and is committed to making sure financial support is made available to SMEs and other organisations associated with the construction industry, providing a platform for greater mental health support for the sector.

n real radioactive waste management and at Babcock International fudges. Group; and Tom Carne, project n surveyor at Willmott Dixon. CIOB's Natalie Breakspear and Harvey Morris, associate director at Construction UK, Colin held an employment surgery for nanager the students.

Top-performing students were rewarded at Plymouth University's annual Built Environment Awards 2022 in May.

The event, which was sponsored by CIOB, brings together students from across built environment project modules to work together in groups, on a task based on real life projects in Plymouth and then present to a panel of judges.

The judges were: Susan Thompson, Cornwall and Plymouth Hub chair; Colin Norman, Cornwall and Plymouth Hub committee member; Colin Stapleton MCIOB, asset manager

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# A rich heritage

**CM** explores how CIOB works with the heritage sector and how members can be involved

#### When it comes to the heritage

sector, CIOB is probably best known for the conservation conference it has hosted for the past 10 years. But there are other ways the institute works with the sector – from CIOB Academy courses and certification schemes to field trips and awards.

For example, the Construction Manager of the Year Restoration category in the annual CIOB Awards recognises the work of exceptional individuals leading the work on restoration projects. Entries are closed now for this category, but you can still join us at for a fantastic evening of celebration as a sponsor.

As a sponsor, you will stand on stage at CIOB's flagship event, presenting an award to the winner in front of around 800 CIOB officials, key players and industry influencers. A full list of benefits can be found at awards.ciob.org/sponsors.

#### Malta conference

In November CIOB is organising a trip to Malta for a three-day conference exploring the challenges and opportunities of working in locations of historical significance. In particular we will share international experience looking at the impact of climate change on built heritage.

This will include presentations by local and international speakers, with a mix of discussions and visits to sites such as the Grandmaster's Palace and Valletta Design Cluster. ▲ CIOB's November conference in Malta will feature visits to sites including the Grandmaster's Palace in Valletta

CIOB is organising a trip to Malta for a three-day conference exploring the challenges and opportunities of working in locations of historical significance

#### **Conservation certification**

The CIOB Building Conservation Certification Scheme provides recognition for those who work on traditional and historic buildings, including clients, consultants, academics, regulators and contractors. It recognises competence in their professional role within building conservation. Candidates must have some knowledge and experience of working on traditional buildings, although this does not need to be in conservation areas or listed buildings.

#### Introductory course

If you do not hold conservation qualifications, you can undertake the CIOB Understanding Building Conservation course. Endorsed by English Heritage, this two-day course is designed for building professionals.

The course looks at residential and commercial property as well as historic monuments. In accordance with ICOMOS, it introduces the philosophy behind conservation and the technical analysis of buildings. You will be eligible for further recognition under the CIOB Building Conservation Certification Scheme. Further details on the course can be found at ciob.me/ubc. To raise the profile of your organisation through sponsorship of the CIOB Awards or Malta field trip, please contact Nicola James at njames@ciob.org.uk or on +44 (0)1344 630781.



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# CELEBRATING INNOVATION & TECH IN THE BUILT ENVIRON/MENT

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### **Diary dates**

Highlights of the CIOB Calendar for the coming month

### Equality, Diversity and Commerciality

5 July 2022, 2-3pm, online This online event is a conversation on how diversity builds highperforming teams, including the reputational risks of getting it wrong. This session will look at recent stories and cases of the impact equality, diversity and inclusion (EDI) has on a business.

The speakers are Mark Harrison, head of EDI transformation at CIOB, and Musab Hemsi, a qualified lawyer and director in the employment, immigration and pensions team at law firm Anderson Strathern.

The event will:

 provide advice on further embedding equality and diversity in your company's culture;
 offer practical advice on embedding equality, diversity and inclusion into policies, processes, procedures and practice;
identify the challenges and costs of not implementing strategies successfully; and
ensure you have the knowledge

and expertise to provide leadership in relation to equality and diversity matters. **Contact: wmarshall@ciob.org.uk** 

#### Building Awareness: Understanding how the Menopause can affect your team

▶ 13 July 2022, 1-2pm, online This online presentation is given by June Potts, a women's health and wellbeing advocate and a lecturer at Liverpool Business School.

Having been negatively impacted by the menopause at work, Potts left a corporate role in 2020 and studied for an MBA exploring the issues around women and menopause in the workplace.

Potts feels passionate about making sure women are fully supported in the workplace and has taken part in podcasts and given talks and courses.

During this session she will share her lived experience of menopause and dispel the myths on menopause by sharing the facts and discuss why women often soldier on in silence. She will also talk about how menopause symptoms can impact home and work life if left unchecked, as well as suggesting tips for getting back on track. **Contact: kpercival@ciob.org.uk** 

#### Mental Health and Wellbeing in

the Construction Industry ▶ 19 July, 7-9.30pm, Maidstone A presentation by Steven Moore, associate director and mental health first aider at Faithful+Gould, who will provide some of the disturbing facts about suicide, how you can recognise the signs and potentially provide the appropriate support when necessary.

Jason Wickenden and Ian Pickard, founders of the Sussex Wellness and Action Group (SWAG), will provide an insight into the objectives of the group and how companies and individuals can becomeinvolved. Contact: blawrence@ciob.org.uk

#### An Overview: The Building Safety Act 2022 and what it means for

► 2022 tion ► 20 July 2022, 6-8pm, I-Construct Innovation Hub, Braintree Join CIOB past president Paul Nash and the institute's director of

policy affairs and research, Eddie Tuttle for this evening event. Nash will provide a presentation on the Building Safety Act and the implications for those who commission, design, construct, own and manage high-rise residential buildings.

There will also be include an update from Tuttle on the work that CIOB has been doing to support its members and the wider industry to prepare for the act. **Contact: hhosking@ciob.org.uk** 

#### Creating Sustainable Construction Contracts

> 26 July, 7-8pm, online This webinar explores the creation of sustainable construction and design contracts in Egypt.

The speaker is Ziad Abdeen, a construction engineer with a minor in business from the American University in Cairo. He will talk about identifying the challenges of sustainability and the long-term benefits of taking imminent action.

The session will introduce the concept of sustainable contracts in Egypt and provide case studies alongside sample incentive clauses for sustainable development. The objective is to increase awareness and to awaken the construction community to sustainability in Egypt. **Contact: gmassey@ciob.ae.org** 

For a full list of events and to register visit www.ciob.org/events.



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Circulation: Net average 31,275 Audit period: July 2020 to June 2021 Subscriptions: To subscribe or for enquiries, please contact: Subscription team: Tel: 01293 312160 Or go online at: https://constructionmanagement. imbmsubscriptions.com

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# Celebrating 30 Years

of assisting our members and their families when they need a helping hand.

Over the past three decades, we've been providing peace of mind for our membership community. Formerly known as the Benevolent Fund, we've been offering **support** on everything from **financial concerns**, **practical advice**, circumstances of crisis such as **illness and unemployment** to **wellbeing** and **mental health**.

We're here to help members get back on track! Join us in celebrating this huge milestone together by supporting us if you can. And if you need our support, please do reach out to us!

TO FIND OUT MORE VISIT: assist.ciob.org



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