

NEWSLETTER – JANUARY 2015

Promoting construction offsite



*Richard Ogden
Chairman*

We are getting 2015 off to a flying start with the inaugural meeting of the Buildoffsite Offsite Housing Hub meeting on 12 January and the Buildoffsite/Mott MacDonald Infrastructure conference taking place on 21 January at the Institution of Civil Engineers. These are important events in our calendar which will help to shape the future direction and work programmes for Buildoffsite – more in a few minutes.

2015 also brings us the prospect of the General Election. Although taking place in May, we know that the machinery of Central Government will grind to a halt around the end of March. After that, the political system goes into a state of ‘purdah’ – meaning a period of around six weeks of no new policy announcements, no decisions about spending and no political interventions.

Government and Opposition will be making their pitches for your vote. It is inevitable that directly or indirectly the performance of the construction economy will be very much centre stage in the wrangling to come. Commitments to support key areas of public life such as the NHS, Education and Housing, and to improve infrastructure, all require major investment in construction. Politicians of all shades will be out looking for photo opportunities where they can be seen to be welcoming construction projects of all types. For a while, all politicians will be our friends, and all will be championing fresh investment in construction and advocating the need for a dynamic and successful construction industry to drive the economy, and to provide the assets that the UK needs to support our quality of life and opportunities for all.

So, for a few short months, let’s bask in the political

sun before the post-election reality sets in and we find ourselves once again facing a construction market impacted by strict limits on public expenditure, the need to achieve much more for much less, the pressure to deliver the improved value that clients are demanding and the challenges presented by an industry where levels of productivity remain unacceptably but stubbornly low. Do we know what this near future will look like? No, not for certain, but there is a reasonable chance that Governments of all shades have finally recognised that it makes no sense – as well as being impossibly short-sighted – to use public sector investment in construction as an economic instrument to turn on and off as the mood (and the political wind) dictates. No country that is going to be successful in an increasingly global market place can afford to neglect investment in infrastructure. The dynamic new economies understand this simple message implicitly – it has taken our politicians rather a long time to finally get the point that it is simply not possible to economise your way to long term prosperity.

Long term assets such as housing similarly cannot be ignored by Government. No one seriously doubts that we are facing a chronic shortage of homes at affordable prices. It really doesn’t matter if your focus is on the Shires or on the Metropolitan areas; there is a simple message that too few homes are being built for a rapidly expanding population. This challenge is not going to suddenly go into reverse – if anything it will increase. Every single commentator I have heard speak or reported, talks in terms of the need to build around 250,000 new homes a year – around twice what we build at present, simply in order to stand still. Yes, clearly this is a big ask, but let’s not forget that even at this level the rate of build would only represent around 60 per cent of what is built in, say, France year on year.

I have to say finding a way forward that makes sense is inevitably going to require some fresh thinking. In part, we face the need for a change of mind-set. If any other industry was faced with a demand led opportunity to more than double its production, it would be something for the nation to celebrate as a major triumph, bringing with it the prospect of more jobs, economic growth, profits and a more secure

future. However, when applied to house-building, a different set of considerations seem to apply. Perhaps someone can explain to me why this should be so? Why do we have to be so lacking in confidence?

One thing that is abundantly clear, is that if we are ever going to raise our output of homes to anything like the numbers required, it will be inevitable that there will need to be a fundamental shift away from a reliance on traditional craft skills as the primary means of production and a step-change in favour of offsite manufacture with onsite assembly. There is simply no other way in which the required programme can be delivered at the pace and assured quality required. This does not of course mean that offsite solutions will automatically become common place. The supply side is in large part a new industry and there is a lot of work that needs to be done to convince clients, constructors, funders, designers and others that offsite solutions will meet their needs for quality and value, and that the supply side has the capacity to consistently deliver to the required volumes. There is also an important piece of work to be done to ensure that designers and specifiers are much better informed as to the range of offsite solutions that are available and how these solutions can be incorporated into developments, whilst ensuring design excellence alongside assured cost of ownership and performance in use.

Our ambition is that the Buildoffsite Offsite Housing Hub will provide the focal point through which those things (both perceived and real) that get in the way of the increased take up of offsite solutions can be identified and addressed, as well as promoting improved awareness of the best that the modern offsite supply side can offer. This is an important piece of work which I believe will do much to support the commercial ambitions of those of our Members who are or who wish to be active in this space, as well as supporting the client and customer communities to become much more open to the possibility of optimising the use of offsite solutions for new homes.

Our model of focusing attention on key markets through the vehicle of dedicated sectoral Hubs is already well established, with the setting up of the Water Industry Hub. After the Housing Hub will come the Retail Hub, which has its first meeting on

10 February. I believe that it is through the development of Hubs that Buildoffsite can best support the interests of its Members, and provide the mechanism through which those with a commercial interest in the development of certain markets can best work together to develop strategies and action programmes to optimise the case for the increased use of offsite solutions. It is unlikely that all the Hubs will develop in precisely the same way, but by creating a family of Hubs, we will be well placed to share experiences and practices rather than learning from scratch each time. I believe that the focus on sectoral Hubs will become an important component of Buildoffsite's work programme over the next year or so.

On 21 January, together with Mott MacDonald and the Institution of Civil Engineers, we will be hosting a major conference – Infrastructure: Engineering the Future Today. This is the third year running that we have teamed up to deliver this celebration of infrastructure and each year the event has become more popular. We are constantly looking to introduce some element of originality into the programme and this year's event is no exception. In addition to a focus on some of today's most important projects, we will also be looking forward to 2025 – the timeframe for the Construction Strategy – and we will be looking to tease out some of the learning points from other manufacturing industries which may help the construction sector to fast-track to the new best practices. Finally – and something that matters hugely to all of us – we will be hearing from a number of the industry's brightest and best young engineers to better understand their vision for the industry around 2030 and beyond. To hear their thoughts on what the industry might look like, the technologies that might be combined to deliver the future of infrastructure and how we can best play a part to plan for the inevitable journey to come.

This event is a great way for us to get 2015 off to the best possible start and I look forward to meeting many of you at the ICE on 21 January. I would like to thank Tekla for their generous sponsorship.

So, that represents just some of the activities we have underway at the start of 2015. What I think emerges loud and clear is that after 10 years, Buildoffsite is still full of energy and sense of purpose. We are constantly looking to work to support the case for offsite solutions in all

construction markets and to help create business opportunities for our Members. We are also totally committed to working with other organisations who share our ambitions to help bring about a better, more sustainable industry that is focused on delivering increased value to clients and customers.

Delivering Construction 2025 – The RIBA’s Action Plan

At the December Buildoffsite Direction Group Meeting a presentation was made by Roger Burton, Director at architectural practice nvrohaus and a member of the Royal Institute of British Architects (RIBA), regarding the recently published Action Plan which sets out how RIBA will support the delivery of the UK Construction 2025 strategy. RIBA is the professional body for architects at home and abroad with 29,000 UK members and 5,000 more worldwide.



The Government recognises the role of the UK’s world class expertise in architecture and engineering in supporting growth and sustainable construction. Good design, RIBA believes, is crucial to achieving the Construction 2025 targets. RIBA has identified four key areas where architects can support the construction industry to improve quality, efficiency and whole-life value in the built environment. The profession’s plan, launched in 2014 and endorsed by the Construction Industry Council, was outlined in Roger’s presentation



Roger Burton

Profile: Roger Burton

Roger Burton is an architect and urban designer and a member of RIBA. He sits on the CPD group and is closely involved in the development of RIBA activity in support of the Action Plan. He was the architect for Roundhay Primary School with Waco UK and has ongoing work in offsite for both the residential and educational sectors.

and set in the context of the construction industry, architecture, sustainable design and information and communication technologies. The proposition is that off-site construction is a crucial linking element in the delivery of Government and Industry ambitions for the built environment.

The Action Plan can be downloaded from: <http://www.architecture.com/RIBA/Professionalsupport/DeliveringConstruction2025-RIBAActionPlan.aspx>

First of the four areas, RIBA will encourage an evidence based approach to delivering construction projects and will work to develop better briefing and design quality evaluation techniques. This will range from the definition of project outcomes to reduce costs and risk, and speed up delivery through to support for post-occupancy evaluation to facilitate continuous improvement, sharing knowledge, supporting research and providing best practice case studies.

Secondly, RIBA recognises the important role that construction clients play, supporting their capability in enabling innovative and whole-life value for money solutions and encouraging early contractor engagement to give more collaborative and effective construction procurement.

The third key area relates to innovation in construction procurement, recognising the need to review and assist with new approaches. It is recognised that procurement methods have often been costly, resource intensive, slow and adversarial. Achieving high quality and meeting industry targets for reduced time, cost and carbon emissions requires significant innovation in construction procurement processes which requires early engagement with specialist subcontractors and the supply chain in design development.

The fourth area encourages an integrated approach to design for manufacture and assembly, specifically supporting construction innovation in offsite manufacture. If the industry is to drive out waste, improve the speed of delivery, reduce carbon emissions and achieve whole life value and quality, an integrated, collaborative and design led approach to component standardisation and off-site manufacture will also be required.

To this end, RIBA will support the profession in

developing the specialist technical knowledge to engage in construction innovation and also will promote mechanisms for the greater use of offsite manufacture and pre-fabrication, providing best practice case studies to demonstrate innovative design solutions. RIBA is also beginning to explore ways to develop understanding and capability in offsite construction in a range of CPD activity.

RIBA is committed to working with the industry and its clients to help to develop a world class industry.

The Buildoffsite Water Hub

The renewal of the asset base in the water sector, in common with other infrastructure renewals in highways and rail for example, is a major source of revenue for the construction industry. The water companies will spend £25 billion in the 5-year investment period which starts in April 2015 but will do this whilst under pressure from the economic regulator, Ofwat, to decrease bills to customers in real terms. This demands that the water companies drive significant efficiencies in the cost of renewal of its asset base. Indeed, when procuring the contractors and consultants to deliver the 5-year investment, key requirements included meeting efficiency and commercial targets, delivering truly lowest whole life cost solutions, reducing carbon and water footprints and improving the service for the ultimate customers.



Paul Jackson



Mark Enzer

These requirements chime with the demands of the government's Construction 2025 report which was published in July 2013. Construction 2025 is a joint strategy that sets out how the Government and industry will work together to meet a number of challenging goals:

- A 33% reduction in the initial cost of construction and the whole life costs of built assets
- A 50% reduction in greenhouse gas emissions in

the built environment

- A 50% reduction in the overall time, from inception to completion, for new build and refurbished assets, and
- A 50% reduction in the trade gap that exists between total exports and total imports for construction products and materials.

Buildoffsite Members well know the scope for making savings in both capital and operating costs whilst at the same time improving safety, quality, productivity and sustainability by adopting DfMA techniques, standardisation, lean and, of course, BIM. Indeed, a number of water companies are already making considerable use of offsite solutions. The challenge for Buildoffsite is to spread the practice of offsite to others in the water sector and to explain how the project benefits can meet both the customers' needs and the water company and Government targets.

The Buildoffsite Water Hub was conceived with precisely this aim in mind. In particular, it will focus on creating a network of champions to facilitate change in the water sector in support of the Construction 2025 targets.

Early in 2014, Mark Enzer from Mott MacDonald and Paul Jackson from NG Bailey agreed to co-chair the Buildoffsite Water Hub. After a number of steering group meetings to determine the direction of the Buildoffsite Water Hub, a series of activities were proposed for Buildoffsite Members to start creating the network of champions.

The first meeting was held at Severn Trent Water, and was attended by representatives from six water companies as well as a number of Buildoffsite Members. The presentation by Lindsey Taylor about Anglian Water's approach to offsite products was particularly well received. As a result, representatives from the water companies have met to explore how they can derive value from using standard products more widely. This is a promising early development and the Buildoffsite Water Hub will continue to encourage it. The challenge going forward will be to bring this client group and the Buildoffsite Members to collaborate to grow the network of champions.

The first Buildoffsite Water Hub event of 2015 will be a presentation by Mark Enzer (Mott MacDonald)

and Steve Fozard (Costain) at the Buildoffsite Infrastructure event on 21 January at the ICE in London.

A series of further visits and events are planned for 2015 – there are visits to a water company site, an offsite factory visit, a showcase event at a client group meeting and involvement in the Offsite Construction Show at ExCeL in October 2015. Keep an eye on the website and email notifications for further details.

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BIM – Delivering Real Business Benefits



Since BOPAS was launched at the Royal Institute of Surveyors Head Office in London in April 2013, there has been growing recognition, within the offsite industry, that BOPAS is the only certification process that delivers ‘concept’ to construction site assurance’ for all stakeholders.

BOPAS obviates the need for expensive third party certification in offsite construction but delivers far more than any alternative certification process currently offers – providing:

- The assurance of the adoption of best practice through manufacturing and construction
- The assurance of a 60 year durability of the construction system
- The certainty of a 10 or 12 year warranty
- Greater certainty to developers of mortgage finance
- Valuer confidence of accuracy of valuation through access to the BOPAS website and details of the property construction system.

Recognition of the unique benefits that the scheme delivers has resulted within the last year:

- Over 50 enquiries
- Over 30 fully costed proposals issued
- 5 organisations under assessment
- A further 5 organisations due to commence assessment in the early new year
- 4 organisations currently fully accredited under the scheme
- Recognition by DCLG as the benchmark standard for the offsite industry.

Innovate UK has announced two new competitions



Innovate UK (formerly known as the Technology Strategy Board) is the Government Body that provides public funding to support collaborative research to help innovative businesses to accelerate sustainable economic growth.

Innovate UK has recently announced two competitions aimed at improving performance in the construction sector which are likely to be of interest to the Buildoffsite Membership. These competitions deal with Supply Chain Integration and Building Whole Life Performance. The details and web links for more information are set out below:

Supply Chain Integration – Feasibility Studies

Lack of integration in the construction industry supply chain is leading to lost innovation opportunities. If your business has ideas that will encourage the creation of more integrated, collaborative supply chains in the construction industry, you could win a share of £2 million.

Innovate UK is to invest funding to explore new ways of:

- Increasing collaboration in the construction industry supply chain
- Improving the flow of information throughout the construction industry supply chain.

If you’re working in construction or any other industry sector your business can apply for this funding. These feasibility studies must be business-led and projects are open to companies of any size working in collaboration.

If successful:

- Small businesses could receive up to 70% of their eligible project costs
- Medium-sized businesses could receive up to 60% of their eligible project costs
- Large businesses could receive up to 50% of their eligible project costs.

We expect projects to last 6 to 12 months with total costs ranging from £50,000 to £150,000.

Competition dates:

- This competition opens on 9 March 2015
- The deadline for registration is midday on 15 April 2015
- There will be a briefing day for potential applicants in Bristol on 19 March 2015
- There will be a consortium-building workshop in Birmingham on 27 January 2015.

For more information on this competition visit:
<https://www.gov.uk/government/news/construction-funding-2-million-to-improve-the-supply-chain>

Building Whole Life Performance – Collaborative R&D

Innovate UK is investing up to £4 million in collaborative R&D projects that can lead to better whole-life performance of buildings.

The aim is to maximise the long-term contribution of buildings to the economy, society and the environment. This is in line with Construction 2025, the joint strategy by Government and industry for the future of UK construction.

If you're working in construction or any other sector your business could win grant funding to develop products, processes and services through this competition. Proposals must be collaborative and led by a business.

We expect total project costs to range from £150,000 to £800,000.

Competition dates:

- This is a two-stage competition that opens for applicants on 23 February 2015
- The deadline for registration is at midday on 1 April 2015
- Briefing for potential applicants will take place during the Resource event at ExCel, London, on 4 March 2015.

This competition is co-funded by the Engineering and Physical Sciences Research Council.

For more information on this competition visit:
<https://www.gov.uk/government/news/business-funding-to-improve-buildings-whole-life-performance>

News

Graham Construction launches road bridge above operational train lines

At the end of last year, the most significant milestone to date of the Tennison Road Bridge Replacement Project in Croydon was achieved, with the live launch of the new steel bridge over 10 operational Network Rail lines. The 55m long bridge, 26m long temporary launch nose and partially constructed deck, weighed in at 565 tonne and were launched in a continuous operation using a strand jack and skid plate arrangement.



The steel bridge was pre-assembled onsite over a 5-week period and a section of the concrete deck was cast in situ to act as part of the counterbalance during the launching phase. The assembly period included three weeks of continuous welding of the main joints on the girders, followed by the application of the protective coatings.

On 6 December 2014, nearly a month ahead of schedule, an 8 hour possession of the Selhurst Depot lines was taken to allow the 50-tonne temporary launch nose to be lifted into position and connected to the front of the steel bridge, using a 1000-tonne mobile telescopic crane. Following connection of the nose to the bridge, a delicate operation of vertical jacking was undertaken to distribute the loads from the bridge evenly through the 8 no. temporary supporting skid plates. Once this vertical fine tuning was complete, the live launch commenced and this continued until the bridge reached its final position over the 10 rail lines.

The live launch ensured that passengers using the lines between East Croydon and London Bridge experienced no disruption while the bridge was

being launched overhead.

To view a time-lapse video of the launch, use the following link:

<http://www.constructionenquirer.com/2014/12/18/graham-launches-road-bridge-as-trains-run-below-video/>

For more information on the Tennison Road Bridge project, visit:

www.graham.co.uk/tennisonroadbridge, or contact Keith Patrick, Project Director by emailing keith.patrick@graham.co.uk or calling 02892 689500.

NG Bailey opens ground-breaking £40m motorway services

Thanks to offsite manufacturing, NG Bailey has completed ahead of schedule a £2.4million project that brings to life the first of a new breed of modern motorway service stations – and has now started its role in creating the second. Working in partnership with main contractor, Buckingham Group Contracting Ltd, the company secured a design and build contract for all mechanical, electrical and power work at the flagship ‘green’ £40million Gloucester Services.

With a strikingly different look, the service station features Cotswold stone walls and a grass roof, and will eventually include a lake and beehives so honey can be produced on site.



The project pooled the experience of NG Bailey’s Engineering and IT Services divisions, working in tandem with its dedicated Offsite Manufacture facility in Bradford, to accelerate the installation

process and improve health and safety onsite.

Together, they were responsible for the installation of all heating and ventilation, domestics, electrical low voltage panels and power distribution, small power; internal and external lighting, fire alarms, CCTV and data systems. This helped to ensure end-client Gloucester Gateway Ltd was able to move into the facility ahead of project completion to carry out staff familiarisation and training before opening to the public.



David Thomas, operations director for NG Bailey’s Engineering division, said: *“The opening of Gloucester services heralds the start of a new era for the UK motorway network and the millions of drivers who use it every year. The unique building shape and size made the coordination and installation of services more difficult than usual, yet our team rose to the challenge, including harnessing 3D computer-aided design technology for the delivery of plant rooms.”*

“The skills of our specialist offsite manufacturing team were harnessed for bracketry and distribution board assemblies which ensured optimum quality and reduced installation times on site. We are delighted to play such an important role in its creation and we are now looking to extend the concept further by working on the southbound service station, due to open in the summer.”

The project also has a charitable arm called Gloucestershire Gateway Trust to make sure the business provides good jobs and to plough money into local social regeneration schemes. The service station will donate a percentage of its profits to the Trust – an estimated £10million over 20 years – to spend on community projects.

NG Bailey's £4.3m Aerospace Research Factory M&E Role

NG Bailey's offsite manufacturing team is to play a key role in a £4.3million contract to bring to life what is poised to become the world's most advanced factory for aerospace research and have been tasked with delivering all mechanical and electrical (M&E) design and installation work for the University of Sheffield's new £43million Advanced Manufacturing Research Centre (AMRC) Factory 2050.

Working alongside Interserve, as the project's main contractor NG Bailey will pool the expertise of its Engineering, IT Services and Offsite Manufacture divisions to create a world-class centre of engineering excellence built to BREEAM 'Excellent' environmental standards.



NG Bailey's work is spearheaded by the installation of a major ground-source heat pump package, which eliminates any need for a boiler or chiller plant. The NG Bailey team helped to develop the final design for the heat pump after carrying out some research of its own by using thermal modelling to assess and understand the building loads required – information which then shaped the final solution.

Andy Morley, operations director for NG Bailey's Engineering division, said: *"We're delighted that our work will support the engineers at this facility in taking forward their own global reputation for manufacturing research into an exciting new era. The biggest challenge we faced was meeting the University's demands for the centre to be both future-proof and flexible, and the bespoke approach*

we are taking reflects that."

The AMRC Factory 2050 will have an area of around 4,500 sq m and will be built largely from glass to showcase the advanced manufacturing technologies being developed within. The creation of the new facility is supported by a £10 million grant from the Research Partnership Investment Fund, managed by the Higher Education Funding Council for England (HEFCE).

For more information, please contact Milly Rose, Marketing Department, NG Bailey, tel: 01943 601933 x3336 or email milly.rose@ngbailey.co.uk, visit the website www.ngbailey.com.

Portakabin sees record demand from schools

Portakabin Hire has delivered a record number of school buildings and classrooms to accommodate around 22,000 school children in the last academic year. Demand was so high that in the two months prior to the start of the new autumn term, Portakabin Hire installed over 1,000 modular units at schools from Penzance to Penrith, accommodating nearly 9,000 children. This is an increase in pupil accommodation of more than 40 per cent compared to the same period last year.

According to the Local Government Association, despite the creation of an additional 90,000 primary school places, an extra 130,000 places will still be needed by 2017/18, and a further 80,716 new secondary places will be required to meet the growing demand by 2019/20. Commenting on the issue, Robert Snook, Director and General Manager of Portakabin Hire, said: *"The rising birth rates and demographic changes are still putting acute pressure on primary school places nationwide but particularly in London and the South East. The provision of modular teaching accommodation for short-term use is a highly effective solution that more LEAs and schools are turning to. This allows them to react very quickly to place planning issues, which can be very difficult to predict. And we can help ensure there is no compromise on the quality of the classrooms by providing education environments of the very highest standards."*

In the London Borough of Lewisham, Portakabin Hire provided a complete, self-contained primary school in just eight weeks from receipt of order to handover.



The decant accommodation was required to allow Lewisham Council to refurbish and extend Adamsrill Primary School to meet the demand for new places. Margaret Brightman, Strategic Places Manager at Lewisham Council, said: *“We needed the decant school very quickly to be able to provide additional school places in time for the start of the new academic year. Portakabin already had a stock of primary school buildings ready configured and for us to use. Hiring the buildings gave us the flexibility to meet the school’s rapidly changing requirements. The classrooms are lovely and teaching staff are very happy with them. We were surprised how spacious they are compared to older school buildings in London. The Portakabin team worked exceptionally hard to bring the project within our targeted budget and to our deadline. They are a very responsive company to work with and I would have no hesitation recommending the approach and the facilities to other schools and LEAs.”*

The 1,300m2 building will be in use for the next year and accommodates 270 Key Stage 1 pupils and 25 children in the Nursery. Facilities include nine classrooms, a nursery, main hall, school offices, outdoor play area, reception and kitchen.

For further information, please visit www.portanews.co.uk, email information@portakabin.co.uk or call 0845 401 0010.

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Premier Interlink successfully launch cost effective affordable housing product

During November 2014, Premier Interlink launched a cost effective, high quality affordable housing product. The range of modular products have been designed and constructed at the Company’s East

Yorkshire based factories. They are HQI and LABC compliant, Lifetime Homes approved and code 4 or 5. The product comes with a full construction based 10 year (CML approved) warranty.

The product was launched over three consecutive days, attended by 150 selected potential clients. The attendees were treated to a full day involving presentations from a number of industry experts, followed by a detailed and thorough factory and product tour. The Key Note presentation was carried out by Nick Whitehouse (Oxford Brookes University) covering housing and the offsite sector, with additional presentations from David Harris (Premier Interlink) over the product and process, Steve Riddell (Innovate Offsite) over the quality and cost dynamics of offsite construction, Jonathon Wilson (Goodwin Trust) from a client perspective and Janine Armstrong (Checkmate Warranty).

Commenting on the new product, David Harris, Director at Premier Interlink, said: *“We decided that there was no better time to launch our housing product than right now. Labour rates in traditional build have rocketed, whereas costs in offsite can be controlled and effective. With an effectively designed offsite product we can ensure an efficient and cost effective house is manufactured. The process is controlled, therefore quality remains high, environmental impact is minimised through prefabrication of all components and simplified material delivery strategy. We’re delighted with the success of the launch itself, and the fantastic feedback and interest it has generated.”*

On the back of the development of this innovative and effective product, Premier Interlink is delighted to have secured their first housing contract and look forward to developing this sector significantly over the next year.



For more information visit: www.waco.co.uk or call 0800 316 0888. Find us on LinkedIn and YouTube, and follow us on Twitter @Waco_UK.

Case studies

Anua



Bespoke Mónasorb Solution for Scotland's Key Wastewater Treatment Site

Application: Dalmuir Wastewater Treatment Works

Location: Glasgow, Scotland

Product: Mónasorb

Project Summary

Anua worked with Capita to design, install, test and commission two bespoke Mónasorb units, which utilise activated carbon for the removal of odorous gases at Dalmuir Wastewater Treatment Works. The bespoke design was built off-site at Anua's factory in Somerset and designed to be 100% operational during maintenance periods, meeting the clients remit for minimal disruption to the running of the overall facility during installation and maintenance.

Situation

Dalmuir Wastewater Treatment Works in Glasgow is one of Scotland's key wastewater treatment sites and serves approximately 650,000 local people.

Operated by Saur Services Glasgow, the site was under a two year programme of improvements aimed at increasing the operability of the site and reducing H₂S levels and odours.

The site previously relied upon one odour control system to treat odours emitted from five different areas and due to an increase in demand of the treatment works the existing odour control system was becoming overloaded.

To reduce load on the existing system the client requested an odour control solution to treat odours from the pre-treatment inlet channel and the intermediate pumping station.

The design scope also stated a requirement for a

system which could be installed and maintained with minimal disruption to the running of the facility.

Solution

Anua worked with Capita, to design, install, test and commission two bespoke Mónasorb units, which utilise activated carbon for the removal of odorous gases.

The airstream is split between two 1.8m x 1m Mónasorb units positioned adjacent to the existing pre-treatment tanks and designed to take half the loading from the existing odour control unit.

Anua Mónasorb dry scrubbing system is based upon a combination of the principals of adsorption and chemical oxidation and can be utilised for the treatment of airstreams contaminated with low to mid-level or infrequent concentrations of odorous or volatile organic compounds (VOCs).

The Mónasorb odour control units and interconnecting ducting were constructed completely within Anua's manufacturing facility and assembled on site, fulfilling Saur Glasgow's remit and in turn causing minimal disruption to the site.

Performance Results	
Parameter	Value
Design extract rate	4000 Am ³ /hr
Inlet temperature	20°C
Inlet humidity	70 %RH
Inlet H ₂ S concentration (ave)	5 ppm
Inlet H ₂ S concentration (max)	15 ppm
ICF Outlet H ₂ S concentration	<30 ppb
Mercaptans (R-SH) concentration (ave)	2 mg/m ³
Mercaptans (R-SH) concentration (max)	10 mg/m ³
Outlet Mercaptans concentration	0.05 mg/m ³
NH ₃ concentration (ave)	1mg/m ³
NH ₃ concentration (max)	3 mg/m ³
Outlet NH ₃ concentration	0.2 mg/m ³
AMINES (RNH ₂ [°]) (ave)	1 mg/m ³
AMINES (RNH ₂ [°]) (max)	3 mg/m ³
Outlet (RNH ₂ [°]) concentration	0.2 mg/m ³

Result

The innovative, holistic approach to the design meant that the system could be 100% operational during maintenance and constructed off-site, reducing on-site installation by 50%.



Our built-off-site solutions also benefit from improved quality, due to being manufactured in the controlled environment of our production facility, accredited with ISO 9001.

For more information on Anua's Clean Air & Clean Water solutions, visit: www.anuainternational.com

Events

Buildoffsite Direction Meetings 2015

- 25 February – Modularize, Liverpool
- 29 April – Saint Gobain Innovation Centre, London
- 24 June – to be confirmed
- 26 August – London
- 28 October – to be confirmed
- 16 December – Buildoffsite, London

Laing O'Rourke – Elephant Road Discovering Offsite Tour

4 February 2015 | Elephant Road, Elephant and Castle, London SE17 1LA

Host: Alan Clucas, Explore Manufacturing Director, Laing O'Rourke

Laing O'Rourke's Elephant Road project started on site in January 2014 and is due for completion in summer 2016. The live project is using the Group's offsite capabilities to its best – manufacturing over 9,775 components at Explore Industrial Park; 7,500m² of Smartwall; 829 bathroom pods coming from Modular; stairs, landings and hollowcore floors from Bison; and modular MEP, as well as over 390 pre-fabricated utility service cupboards from our MEP pre-assembly plant in Oldbury. The majority of structural elements will be manufactured

offsite –enabling finishing works to commence early.

The tour will provide an opportunity to hear from the Laing O'Rourke team as they explain their vision and ambition for offsite and showcase one of their current live accommodation projects.

Once complete, the regeneration area by Elephant and Castle will be boosted with three new residential towers and a market square, offering a mix of private and student accommodation, restaurants, a Sainsbury's store and retail units. It is an important development for Southwark Borough Council and DV4 Eadon Developments UK Ltd (a joint venture between long-standing client Oakmayne and Delancey) as they look to develop quality places to live and boost the private rental sector – delivered quickly and with minimal disruption to the central London neighbours.

Tour programme:

- 10.00 - 10.30 Arrivals, and meet and greet. Tea and coffee available
- 10.30 - 10.45 Buildoffsite introductions and welcome
- 10.45 - 11.30 Presentation – three elements:
 1. The housing market and needs for the future
 2. LOR's offsite capability
 3. Project overview of Elephant Road
- 11.30 - 12.30 Site tour
- 12.30 - 14.00 Lunch and Q&A
- 14.00 Depart

Please note: this tour is now fully booked.

The New Offsite Construction Show - The Gathering of the Industry!

14-15 October 2015 | ExCeL, London



In association with
buildoffsite

The Offsite Construction Show 2015 (OSCS2015) is already receiving fantastic support from Buildoffsite Members. Companies such as Invest Northern Ireland, Tekla, Howick, Elements Europe, geoLOGIC

Foundations, Ormandy Group, Modularize, NG Bailey, Willmott Dixon and Lloyds Register have already booked stand space.

All our exhibitors and partners are working with us so that visitors can see what is new in the market and hopefully show why offsite is the UK's fastest growing construction method.

The show is supported by Buildoffsite and we are working together to develop the seminar programme which will reflect the scope of the exhibition and will include the following market sectors:

- Housing (Private and Social)
- Other Residential
- Infrastructure including Transport, Water, Power
- Retail
- Commercial
- Health
- Education

In addition, it is anticipated that seminars will address cross-cutting themes including:

- BIM (in practice)
- Lean (reducing time and cost)
- DFMA
- Standardisation
- Integrating supply chains

The event will not only be a showcase for the offsite supply chain, but also serve as a vehicle to promote the use of modern offsite methods, and educate those who are just starting to recognise and investigate the benefits of offsite and modular construction methods.

Exhibitors will be able to open up new channels of business with hundreds of potential clients. It will be a must-visit for anyone seriously involved in any aspect of the construction industry.

For more details, call Marwood Events on 020 3086 9296 and speak to Eddie Milton on ext 2 or Paul Shelley on ext 3.

New Members

Action Sustainability



Action Sustainability has a proven track record in delivering sustainability and supply chain solutions. We work across many sectors including high value engineering, construction, grocery, property, retail, financial services and the public sector. Our clients include; Molson Coors, Cobham Aviation, FMC Technologies, Skanska, Grosvenor, Network Rail, Premier Farnell, Lend Lease, City of London, Sainsbury's, Sir Robert McAlpine amongst many others.

Action Sustainability prides itself for being at the forefront of knowledge and professional practice. Our directors and consultants have been actively involved in the development and delivery of leading initiatives such as; the multi-award winning Supply Chain School, BS 8903 – the standard for sustainable procurement, Flexible Framework, the Supply Procurement Taskforce and the Commission for a Sustainable London 2012.

Action Sustainability is also the delivery partner of the Offsite Management School, an online learning platform catering for professionals and stakeholders in Offsite Construction. The School, supported by several of the major building contractors, aims to help build a best in class supply chain for the UK construction and infrastructure sector that will enable the industry to deliver its 2025 objectives.



*Ian Heptonstall
Director*

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