



Tony Gee

Consulting Engineers

Tony Gee News

"A positive internal culture and investment in our people is key"



4 Supporting bridge building in Uganda

Meeting the challenges of the White Hart Lane Station development



2



Getting connected

Tony Gee has worked on a dual two-lane marine viaduct structure connecting the northern shore of Lantau with the new reclamation area of the Hong Kong Border Crossing Facility.

The viaduct, approximately 1.6km long, forms part of the Tuen Mun – Chek Lap Kok Link - southern connection viaduct section and is currently under construction.

The structure is made up of precast segmental concrete box girders with span lengths from varying from 60m - 200m, all supported on reinforced concrete seagull-shaped piers. Tony Gee completed the designs for the viaduct and the precast segmental viaduct and carried out construction engineering services to enable construction of the precast deck.

Highways England debut

As part of Kier Highways Professional Services Alliance, alongside Kier Design Services and RPS, Tony Gee will provide design expertise to Highways England as part of the Regional Delivery Partnership (RDP) North Region.

An innovative professional service alliance delivery model from Kier draws on the strengths of this group to deliver

Highways England with customer focused fresh thinking.

The £8.7bn RDP Framework will deliver significant investment to England's highways infrastructure and comprises of multiple schemes across various regions. Lots 1 to 3 (termed 'Band A') are for packages valued below £100m, with Lots 4 to 8 (termed 'Band B') for packages exceeding £100m.

In this new partnership, Kier will be delivering Schemes in the North Region (Lot 8). Contractors on the RDP Framework will be responsible for the consenting, design and construction of new motorways and trunk roads, delivering junction improvements and road widening schemes.

Works start on the first schemes early in 2019.

Winning ways



Tony Gee is part of the Midland Metro Alliance which won the Partnership Initiative of the Year category in the *New Civil Engineer's* annual British Construction Industry Awards 2018.

Announcing the winner at the Grosvenor House Hotel in London, the judges said the Midland Metro Alliance was an innovative example of businesses moving away from traditional alliancing, with collaboration at the heart of all of its actions.

Alejandro Moreno, Midland Metro Alliance Director, said: "We're dedicated to leaving a lasting legacy the West Midlands can be truly proud of."

Phil Hewitt, Director of West Midlands Metro, said: "It is great that the Alliance was highlighted as an excellent example of partnership working. It was also fantastic that the team was recognised locally too for helping local unemployed people find work within the sector."

COMMENT CORNER



Chris Young

Executive Managing Director

It is now just under a year since I took the reins at Tony Gee and a lot has happened in that one year. It started on a sad and sour note with the demise of Carillion which the whole industry has felt the knock on effects of. Many of our clients were also clients of Carillion and it is only when something like this happens that we fully realise the full extent of the risks in this industry. I am sure there is still more to come from this and whether it changes the contracting market in the UK for the better remains to be seen.

"A positive internal culture and investment in our people is key"

Moving forward through the year, I have spent an enjoyable period really getting to understand the detail of our business. I've been working with people within our team to strengthen our culture to ensure we maintain the high degree of technical excellence and flexibility I know our clients demand of us. A big focus of my year has been to look at the internal working environment, the mentoring culture and how we train and continually provide opportunities for our staff. Tony Gee has always valued its positive internal culture and investment in our people is key – from undergraduate students and apprentices through to our senior directors. This will certainly continue as we grow and move forward.

This internal focus has meant I have not had as much time as I had hoped to meet and engage with our major clients and this is something that I intend to focus on in the coming year. I look forward to seeing as many of you as possible very soon.



White Hart challenges

Works are well underway at the new White Hart Lane London Overground Station where Tony Gee is providing the structural and drainage design for the project on behalf of Taylor Woodrow for Transport for London.

There have been many technical challenges to deal with on this project, such as building new station buildings and interconnecting underpasses. Two independent, brick arch viaducts support each of the existing two platforms and retain the earth embankment which sits between them, supporting the tracks. Ground lowering for the works required the existing brick piers to be underpinned, followed by the carefully staged installation of temporary king-post retaining walls at the rear of the viaducts.

The precast concrete box underpasses were designed to be jacked into position during a weekend possession. With tight clearances all round, two hand dug headings were constructed

under each box, containing reinforced concrete and steel slide beams which interfaced with steel shoes, cast into the boxes.

Tony Gee also developed steel shields, attached to the front of the box assemblies incorporating a drag reducing system which allowed lubricated elastomer membranes slide over one another.

The jacking operation took place over the last weekend of October, with the jacking staggered between the two box assemblies advancing at a rate of about 1mm per second per stroke.

Simultaneously, two mini excavators, straddling conveyors in each box removed the soil. The works were successfully completed on time and normal rail services resumed on Monday morning. The sub-contractor responsible for the jacking was Joseph Gallagher Ltd., working under our client, Taylor Woodrow, the jacking assembly was devised and operated by Bill Boley Ltd.

Stats on White Hart Lane:



260m³ of soil removed during



Jacking was at a maximum speed of 1mm/second



Average jacking force was around 250 tonnes per box



Clear span – 3.95m

All change at the Tomatin Substation

Work for R J Mcleod on the Tomatin substation in Knockna Gael saw Tony Gee lead beneficial changes to the platform location and orientation.

Our proposed amendments cut the visual impact of the works, improved the drainage design (so flow through adjacent peat areas continued), reduced bulk earthworks and cut the necessary peat excavation.

Tony Gee also worked for I&H Brown to design abutment extensions for a

water course bridge crossing on the access to the substation, which raised the deck level.

This ensured vertical clearance for the girder frame trailer used for the transformer delivery. The work involved assessing the stability of the existing abutment and designing pre-fabricated steel abutment extensions, as well as detailing for the bolted connections linking it to the existing abutment.



IN BRIEF

• £330M WATERSIDE CAMPUS

The University of Northampton's new £330m Waterside Campus welcomed its first students in September 2018. The campus was built on a site by the River Nene, on which the derelict old Northampton power station buildings had been located. A steel-concrete composite flat arch road bridge links the campus in the west to Bedford Road. While as the pedestrian and cycle bridge connects the eastern side of the campus directly into Becketts Park and the town centre with a double curvature 'S' plan-form which is over 140m long. Tony Gee delivered the detailed design to VolkerFitzpatrick for the design and build infrastructure contract.

• CHECKS IN BERMUDA

Tony Gee undertook an independent checking role for the Government of Bermuda on a new concrete jetty structure for visiting cruise ships. The checking role included review of insitu, pre-cast and pre-stressed concrete elements which will be placed on re-used concrete piles. The team provided input on material usage in the marine environment to help the project meet its intended design life.

• LIFETIME AWARD RECOGNITION

Former Executive Managing Director, Graham Nicholson was awarded the Lifetime Achievement Award at the Association for Consulting Engineers (ACE) European CEO Awards. The awards were held at Grace Hall in London in conjunction with the ACE European Conference. The Lifetime Achievement Award "recognises an individual that has made a significant, sustained and exceptional contribution to the betterment of consultancy and engineering over the course of their career as a chief executive."



Chris Young collected the award on Graham's behalf



Pumping station progress

Tony Gee has been involved in a project to replace the pumping station and associated intake structures at Bells and Mocketts, on the Isle of Sheppey.

The Bells Creek and the Swale both flow to the station, which cuts through an existing flood embankment. The new pumping station consists of two Archimedes screw pumps to elevate the water over the existing flood embankment. The permanent structure consists of a 37m x 11m sheet pile cofferdam, with a maximum retained ground height of 7m.

Tony Gee was initially commissioned by Breheny Civil Engineering to undertake a CAT3 check on the upstream cofferdam propping designed by GroundForce.

The team then worked alongside GroundForce to design the downstream cofferdam propping and worked with Breheny and Ivor King on the project construction sequence. Tony Gee also carried out a CAT2 check of the concrete formwork designed by TAG Construction Ltd.

Project challenges included the poor ground conditions and the need to maintain existing flood level protection. The top 9m of ground was very weak alluvium, with SPT N-values between 0 and 1 and the downstream section of the cofferdam had to resist a head difference of 5.3m above excavation level. Tony Gee determined the sequencing and propping provisions to enable the safe excavation and subsequent construction.

A fond farewell

Tony Gee bids farewell to former Executive Board Directors, Mike Thomas and Richard Newman at the end of the year.

Mike has been with Tony Gee for 29 years and was instrumental in building Tony Gee's presence in the Midlands, where he played a key role in securing our position in the Midland Metro Alliance.

Richard has been with Tony Gee for over 15 years and created and developed our Geotechnics Group, providing expertise on the award-winning Victoria Station upgrade, DP



World London Gateway and many other projects.

All at Tony Gee wish them a long, happy and healthy retirement.

In their stead, Alasdair Fowler and Cyrus Toms have been welcomed onto the Executive Board. Residing in Glasgow, Alasdair has been influential in establishing our presence in the Power and Energy market. Cyrus, based in Esher, is Tony Gee's Geotechnical Group Director and has been involved in delivering geotechnical designs of large infrastructure projects worldwide.

IN BRIEF

• EXPO 2020

Tony Gee has been appointed by Cleveland Bridge Middle East to provide multi-disciplinary design services for the Expo 2020 Sustainability Pavilion. The pavilion consists of a three storey concrete podium shaded by an asymmetric elliptical cantilevering canopy structure, 130m x 90m, which is covered by PV power panels. The geometry of the structure is complex and its progressive 'growth' gives rise to a particular focus on the tolerances applied to secondary steel work and its connections. Cladding contractor PTC has also appointed Tony Gee to carry out the secondary steel design to support cladding respecting the pre-cambered and final geometry.



• ELY OPENING

The Ely Southern Bypass was officially opened on 31st October. Tony Gee was employed by VolkerFitzpatrick to undertake the detailed design of the bypass which connects the A142 at Angel Drove with Stuntney Causeway. It features a 1.7km long single carriageway road, including a viaduct crossing the Great Ouse and a bridge over two railway lines.

• JIM GUILD JOINS THE TEAM

Following the recent growth in the Highways Sector, Tony Gee is delighted to bring in Jim Guild as one of our new Highways Group Directors. Joining from Atkins, Jim brings a wealth of experience to the new role, delivering major infrastructure projects on a global scale.



Delivering for local communities

Tony Gee and Knights Brown Construction have worked with the global charity Bridges to Prosperity (B2P) to build a 90m footbridge in Uganda.

At the end of August, the team of 10 volunteers including five from each organisation, travelled to Namakhokolo village in Uganda to construct a footbridge stretching across the River Passa. The river has claimed 12 lives over the course of three years.

The new bridge provides safe, year-round access for 4,000 people from the local Namakhokolo and Lubolo communities. It enables them to access essential services such as schools and medical facilities, as well as local trade opportunities, which in turn will boost their local economy.

Prior to the trip, the team from Tony Gee and Knights Brown worked tirelessly to raise £15,000 to support the project. Their fundraising activities included a Yorkshire Three Peaks, 24-mile ascent and descent - completed within 12 hours.

The team sourced multiple tools and safety equipment to help with construction, which can also be used on other B2P

projects in the future.

Whilst on site, the team worked alongside the B2P staff, as well as with casual labourers from the local communities to complete the construction. This provided local people with training and helped teach them valuable construction skills which they can use in the future to support more infrastructure projects within their region.

Speaking about her experience in Uganda, one of Tony Gee's B2P volunteers, Zoe Barnett said: "This was an amazing experience, particularly being able to work alongside the local community who will personally benefit so much from the bridge. Every day on site, there would be people from the local villages coming to watch us work and see the progress of the bridge. They were all so grateful and it was evident the impact it would have on their lives."

"It was an incredibly rewarding experience both for myself and most importantly, for the communities that will benefit from this bridge. It was just great to be able to see first-hand what a positive impact our work as civil engineers can have in communities well beyond our own."



Tunnelling landmark

Works at Newton-le-Willows Station has seen the completion of a temporary tunnel beneath the existing railway station.

Tony Gee has been involved with this project since the outset, working with Galliford Try to provide all civils, structural permanent works and temporary works design.

The works have included the design of a 27m subway, new station building, lift, stairway and platform canopies.

Working closely with Galliford Try, an innovative approach was developed for the installation of a portal structure that ensured rail operations were not affected. Consisting of 30 temporary steel pipes positioned through the existing embankment, this solution involved tunnelling out the material within the pipes and shoring them to create a temporary tunnel beneath the railway. The permanent subway could then be cast in situ.

Contact

If you have an opportunity you would like to discuss, please contact:

UK: Chris Burton
☎ +44 7989 746 576
✉ chris.burton@tonygee.com

Asia: Lee Brown
☎ +852 2377 2765
✉ lee.brown@tonygee.com

UAE: Ted Helsby
☎ +971 2 635 5887
✉ ted.helsby@tonygee.com

Malaysia: Bill Addington
☎ +60 3 6206 1332
✉ bill.addington@tonygee.com



Follow us for our latest news