

# Tony Gee News

"We're excited to see the prestigious multi-million dollar Doha Link take shape"

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## Full steam ahead

Engineers from six Tony Gee offices have been involved in an intense race to reconstruct the Folkestone to Dover railway following storm damage

**P**iling works are continuing apace in the race to reconstruct the railway route between Folkestone and Dover in Kent.

The route had to be closed in December 2015 after cracks were found in the sea wall and the track began to sink. Since then, engineers have worked to

stabilise the 750m long wall and build a new concrete viaduct.

Working closely with Costain and Network Rail to reinstate the railway in the shortest possible time, Tony Gee devised reconstruction works in January and detailed designs within three months. Piling has now commenced on a new 235m

long raft with pile positions adjusted to avoid the now rotten timbers and buried steel tie rods from the wall. Work will next commence on a new 750m long rock armour revetment, two culverts and a new two-span fibre-reinforced polymer footbridge. The rail route is due to reopen in December 2016.

### Top 100 recognition



Tony Gee has been named in the *Sunday Times*' 100 Best Companies to Work For List.

This was the first time Tony Gee completed the Best Companies Survey, which ranks companies based on employee surveys.

An awards ceremony recognising the top 100 was held in London in February where Tony Gee also achieved a Best Companies Two-Star Accreditation.

Graham Nicholson, Executive Managing Director, reflected: "A large part of our lives is spent at work so we strive for to ensure it is a satisfying, rewarding and enjoyable experience for everyone at Tony Gee. We really appreciate this Best Companies Accreditation and award as they help to show that we are achieving this."

### New Civil Engineer



### Top ranking for Tony Gee

Tony Gee has been placed 21st in the first edition of the NCE 100, a list which ranks the top civil engineering firms in the UK.

The ranking position was unveiled in May at the Grosvenor House Hotel in London where

Tony Gee was recognised for technical excellence, and praised for services to advance technology within the engineering industry. NCE labelled Tony Gee as 'innovative, supportive and flexible'.

## COMMENT CORNER



**Graham Nicholson**  
Executive Managing Director

It was encouraging to be recognised by the industry again recently for the way in which we embrace technology. Using science to find better solutions pretty well sums up what we do here at Tony Gee. It is not just about the latest software though, it's about designing solutions by mixing practical experience, in-house tools and strong client collaborations.

As I write, we are in the process of expanding our IT systems in all our offices with faster and more resilient hardware. The challenge of running our existing systems whilst installing the new systems will be familiar to many of our clients

I'm delighted we have signed up with Bridges to Prosperity to sponsor the construction of a footbridge in Rwanda

upgrading their own infrastructure. Whilst many have moved data to the cloud, we are keeping the bulk of our information in-house to ensure we keep control of the vast volume of data our engineers and technicians require, and ensure it is always quickly accessible. It may not be the cheapest solution but it is one which we think is best for our business.

In contrast, I'm delighted we have signed up this year with Bridges to Prosperity to sponsor the construction of a footbridge in Rwanda. We've joined forces with Raymond Brown and together, ten of our people will head off to Africa in early September to build a suspension bridge which will link two remote communities together. The technology may be old, but it is practical and it uses first principles engineering design. It's a great project and we are really excited to be involved.

# Hong Kong office leads on Doha

**T**ony Gee has been employed by Korean contractor, GS Engineering and Construction, as lead designer for the US\$583 million Sheik Jaber Al Ahmad Al Sabah Causeway Project (Doha Link) in Kuwait.

A major road link across Sulaibikhat Bay, between Shuwaikh Port in Kuwait City and the Doha Peninsula, the project includes tie-in infrastructure and is 13km long, 7.7km of which is on a marine viaduct. The marine bridge comprises of single cell precast concrete box girders which will be erected by Full Span Launching Method.

The works are led by Tony Gee's Hong Kong office,



supported by teams in the UAE, Esher and Ashford and include all structural, highway, marine, M&E and landscaping works.

Piling work started just before Christmas 2015, and regular casting of deck spans is now well underway.

## The Doha Link in numbers. It all adds up:



US\$583 million has been committed to the Sheik Jaber Al Ahmad Al Sabah Causeway Project (Doha Link) in Kuwait



The link is 13km long and provides a strategic link between Kuwait City and the Doha Peninsula



Some 7.7km of the link is a marine bridge created from single cell precast concrete box girders



The mainline comprises seven modules with a max length of 200m and typical span length of 40m



Four Tony Gee teams have been working on the project all bringing their own specialisms to the task and led by the Hong Kong office



## Integration for delivery

Tony Gee is acting as civil designer to Buckingham Group Contracting for Network Rail's Trans-Pennine Electrification West (NWE Phase 5) programme.

The project to electrify and cut journey times between Manchester Victoria and Stalybridge includes three different bridge reconstructions, platform works at Ashton-under-Lyne station and the modification of Stalybridge's platform 4 canopy.

The Manchester office is showing off its BIM capability on this project with all designs being developed in 3D using Bentley AECOSim, which are then integrated into a route-wide model for interdisciplinary checks. Project models, drawings, documents and all other project data is being created and managed using Bentley's ProjectWise. BIM techniques are improving design quality and streamlining processes.

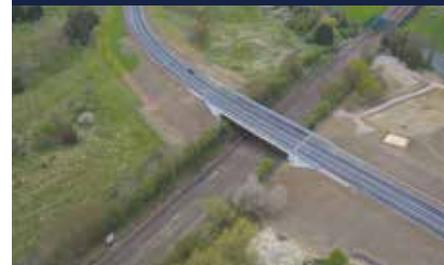
Image: Tony Gee's Glasgow office has been working for BAM Nuttall on the Shotts Electrification project since 2014 designing bridge re-decks and parapet extensions

## IN BRIEF



### Midland Metro Alliance

Tony Gee is part of a joint-venture team chosen as preferred bidder for the design role within the Midland Metro Alliance, by client Centro. Over a period of up to 10 years this programme of works will extend the West Midlands tram network across the conurbation, revolutionising travel choices and reducing congestion across the region. The joint-venture, which includes consultants Egis Rail and Pell Frischmann, will collaborate with preferred contractor Colas and the new West Midlands Combined Authority, under a bespoke alliance form of contract that incentivises behaviours aligned to the success of the programme. The main programme of work is due to commence in June after an extensive procurement process that commenced in July 2015.



### Bedford Western Bypass

The Bedford Western Bypass, now officially known as the Great Ouse Road, was opened to the public on the April 25. Tony Gee completed the detailed design for the railway bridge, the subway and the associated drainage works.

### Highway Specialist Services

Tony Gee is a member of the TRL Alliance which is providing services to Highways England under the Specialist Professional and Technical Services (SPaTS) framework. We will work alongside TRL and other Alliance members on this four year framework to deliver a range of highway services.

# Shotts electrification

**T**ony Gee's team on the Shotts Electrification scheme has most recently created detailed designs for the project's most complex structure, the OB63 Benhar Road.

This latest design involved a re-deck and widening of the existing road to accommodate a 6m carriageway with 2m footpaths on either side. A separate trough bridge deck was also designed to carry diverted utilities. The widened main deck and new service deck required 7m wide piled abutment extensions on the east side of the existing structure.

The height of the abutments will be up to 5m so considerable

temporary works were required for in-situ concrete construction with the additional complication and risks of track-side working.

Tony Gee proposed a bespoke solution using stacked precast RC shell units as permanent formwork, within which a reinforced in-situ core could be cast. Installation of the abutment extensions has now been completed to very positive feedback from both BAM Nuttall and Network Rail and this solution will be used again on the project.

Using the units meant each abutment, after pile completion, was installed in a single seven-hour Rules of the Route possession and the in-situ concrete cores were

poured in "high street working" environment during daytime.

David Clark, of Network Rail, said: "On the railway we have to work to very limited timescales. Tony Gee's innovative solution allowed us to install the extensive abutment extensions within these timescales while avoiding the need for temporary works adjacent to the live railway. This allowed us to realise some major health and safety and programme benefits, reducing the time that operatives are exposed to the railway environment. This is the type of solution that we will be looking to utilise on future projects."

## Bridging the gap in Hong Kong

**G**ammon Construction Limited has engaged Tony Gee to carry out a value engineered detailed alternative design of a 1.6km long marine viaduct (Viaduct E) on the Tuen Mun - Chek Lap Kok Link.

The viaduct connects the northern shore of Lantau with the new reclamation for the

Hong-Kong-Zhuhai-Macao Bridge Hong Kong boundary crossing facilities.

The new route will reduce the current travelling distance and time between Tuen Mun South and Hong Kong International Airport by nearly 22km and 20 minutes respectively.

The viaduct deck comprises precast segmental concrete

box girders with span lengths varying from about 60m up to 200m and is supported on reinforced concrete seagull-shaped piers.

The deck is built by the balanced cantilever method and features both internal and external prestressing.

The project is currently under construction.



## IN BRIEF



### Award for Victoria Station

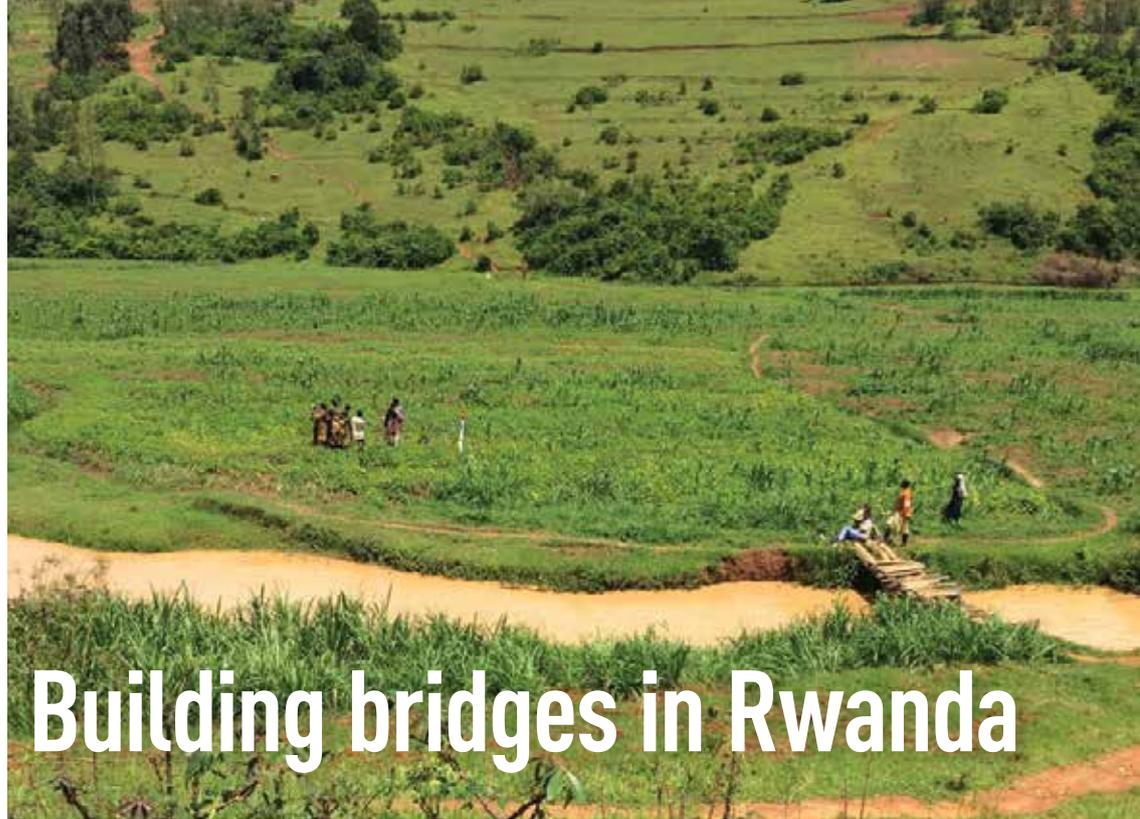
The District and Circle Line Underpass, which forms part of the major upgrade of Victoria Station, has won the Award for Complex Infrastructure at the ICE London Awards. Working on behalf of Taylor Woodrow and BAM Nuttall JV, Tony Gee completed the design of the PAL#6 underpass which connects the new north and south ticket halls. The judges commented that the project is "an exemplar of an extraordinarily complex scheme, extremely well-executed with commitment to high standards of technical excellence, collaboration, delivery and health and safety".

### BIM technology benefits

Tony Gee has embraced the benefits of BIM technology using intelligent modelling to assist power sector clients with scheme development and planning issues. Using unmanned aerial vehicle surveys and aerial imagery, we can create up to date 3D models of the site and use these to develop and design the project. Using Autodesk InRoads, we can create data rich 3D models of the design proposal. This model goes beyond basic 3D images and allows our clients to navigate around the model in a standard internet browser. They can also comment on the design using the Live Design Feed.

### Thames Tideway Tunnel

Tony Gee has been selected to help deliver the western section of the Thames Tideway Tunnel in London by designing temporary works for the joint venture of BAM Nuttall, Balfour Beatty and Morgan Sindall. The project is valued at over £400 million and will last seven years.



# Building bridges in Rwanda

**T**ony Gee will be working in collaboration with Raymond Brown Construction to construct a new bridge in the village of Kigohe, in the South Province of Rwanda.

The project is part of a Bridges to Prosperity (B2P) initiative set up to provide aid to impoverished countries by giving communities the knowledge and tools needed to build bridges over previously impassable rivers and hazards.

Five volunteers from each company will help the 6500 strong community replace their current makeshift river crossing with a suspension bridge in 10-12

days in September.

The river swells in size during the rainy season rendering it impossible to cross and cutting locals adrift from government services. It has infamously been dubbed 'Umujura' ('thief' in Kinyarwanda) by the locals as it regularly lays claim to the lives of their friends and families.

The new bridge will allow locals to access neighbouring communities, in turn boosting local economy and providing links to healthcare and education.

Executive Director Chris Young comments: "Any bridge engineer would jump at the chance to walk

across a suspension bridge they physically helped to construct, especially one also bringing massive social and economic advantage in an undeveloped part of the world. The team is very keen and excited about this opportunity and hopes that with client partnerships we will be able to carry on and provide this opportunity to many more Tony Gee engineers and other communities in the future."

The team is looking to raise £13,000 in funds by organising a host of events. You can donate by visiting [mydonate.bt.com/fundraisers/kigohebridge](http://mydonate.bt.com/fundraisers/kigohebridge)

## Darlaston's strategic success

**T**he £26m Darlaston Strategic Development Area Access Project has unlocked 40 hectares of derelict land for improvement and helped to create over 2,000 jobs.

Located in Walsall, between junctions nine and ten of the M6, the scheme improved the road alignments of Bentley Road South, replaced the existing railway bridge at the



north end of Bentley Road South and lowered Bentley Mill Way at the existing James Bridge aqueduct.

Network Rail appointed

Tony Gee to undertake the detailed designs and check of the new railway bridge.

Tony Gee was also subsequently appointed by Walsall

Council to provide detailed design and construction support for all the new retaining walls.

## CONTACT

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