

Foundations

A publication written by our students and apprentices to let you know more about what it's like to work with Tony Gee and Partners as an Undergraduate Engineer or an Apprentice.

Who are Tony Gee and Partners?

Tony Gee is a practice of Civil, Structural and Geotechnical design engineers providing specialist technical services to the worldwide construction industry. We strive for innovation and pride ourselves on the satisfaction of clients – providing them with efficient designs, clearly presented on time.

We are strongly committed to supporting and training all our employees, encouraging all to meet their full potential.

Students and Apprentices at Tony Gee

Currently there are around 400 staff working at Tony Gee worldwide, approximately 50 of whom are students and apprentices.

All sponsored students undertake a work placement during their summer vacation. Whichever team you join, you can be sure that there will be another student working close by, making it easier to settle in and ask as many questions as needed. Students will slot into live project teams and will work alongside staff of all levels.

Tony Gee is part of the Technician Apprenticeship Consortium (TAC) and is involved in the development of a framework of learning for those who wish to go into engineering but do not want to go to university. Our apprentices split their time between working on projects and studying at college one day per week.



What will you gain from your placement?

At Tony Gee we involve every member of the design team, allowing you to be extremely 'hands-on' in all forms of work. As a student, you have the opportunity to work in all of the groups at Tony Gee including Highways, Structures, Rail, Geotechnics, Marine and Special Projects. Along with the technical aspects of engineering, you may also have the opportunity to work with the critical support functions of the business such as marketing and finance, increasing your knowledge of how the company works.

Aside from the work there are plenty of other activities to keep you occupied. Regular socials are arranged including trips to the Comedy Store, go-karting, squash leagues, five-a-side football tournaments and fund-raising events for our chosen charity RedR.



Watch our videos to find out more about what it's like to work at Tony Gee from our students and apprentices tonygee.com/careers/students

Tony Gee Projects

Tony Gee is an international consultancy, and while the majority of our work takes place in the UK, the business also completes a number of projects around the globe. Students will be based in one of our seven UK offices and stationed in different technical groups, giving experience in a variety of fields. Below is a selection of the type of projects you could be involved with.



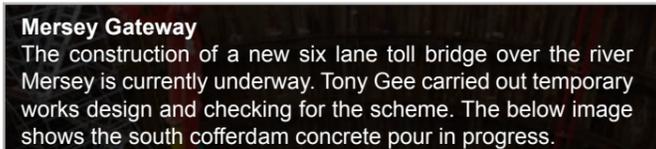
River Arun Tidal Walls

Tony Gee was commissioned by VolkerStevin to design the temporary works for this new tidal wall as part of a tidal defence scheme for Littlehampton in West Sussex.



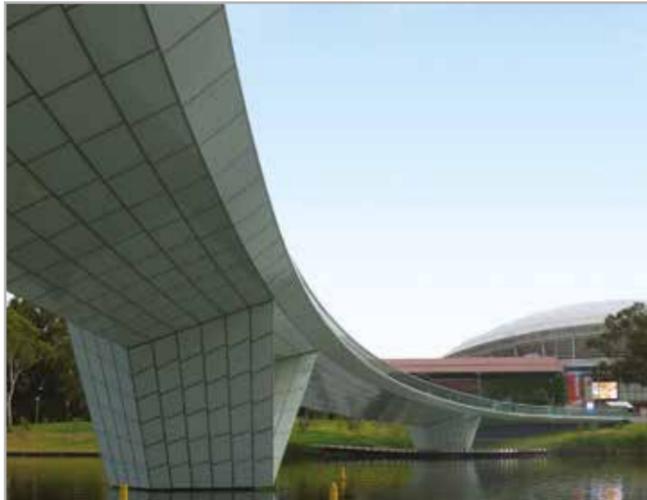
Dawlish Sea Wall

Tony Gee was Network Rail's designer for the repairs to Dawlish following the extensive damage caused by the storms of February 2014. The repaired sea wall was officially reopened in August 2015 with an event for the public.



Mersey Gateway

The construction of a new six lane toll bridge over the river Mersey is currently underway. Tony Gee carried out temporary works design and checking for the scheme. The below image shows the south cofferdam concrete pour in progress.



Adelaide Riverbank Pedestrian Footbridge

Crossing the River Torrens, the new footbridge provides access to the 140 year old Adelaide Oval which has been redeveloped into a 50,000-seat world-class multi-purpose stadium. Tony Gee carried out the detailed design of the 135 m structure.



Victoria Station Underpass

Tony Gee carried out permanent and temporary works design for a new underpass connecting the north and south ticket halls below the District and Circle lines.



MTR 810A – West Kowloon Terminus Building

Tony Gee is the independent checking engineer for the erection of the structural steel roof and associated temporary works for the new West Kowloon Terminus building in Hong Kong.

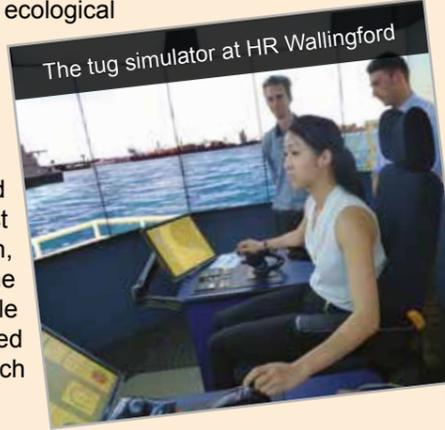
Student Week: Out of the Office and on the Road



By Louiza Azzi and Jo Hartnell

Students and apprentices at Tony Gee from around the country congregated at Esher head office in mid-August for the annual Student Week. The week consists of a number of site visits, giving the opportunity to see engineering projects up close. The diverse itinerary promised an insight into the integral link stages which form the project delivery chain.

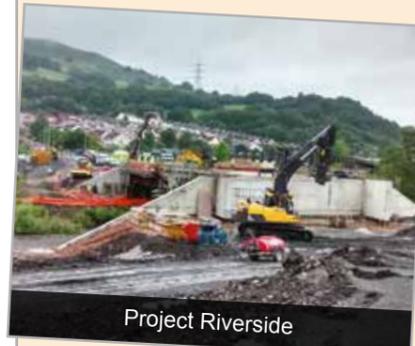
Monday involved visiting HR Wallingford. This facility undertakes world-leading engineering and environmental hydraulics research, integrating outputs from physical modelling and computational fluid dynamics. The 'working with water' ethos of the organisation is central to its guidance on human management of the water environment and minimising ecological impacts of marine construction. We were given the opportunity to operate ship and tug simulators during our visit which are industrially exploited as cost effective design tools and training resources.



The tug simulator at HR Wallingford

Travelling north, Laing O'Rourke's fabrication facility at Steetley demonstrated the economic and quality assurance benefits of manufacturing precast concrete members. As well as relieving site congestion, waste and pollution, prefabrication technology reduces construction times by 30%. Visiting the 24,000 m³ covered workshop enabled us to develop an appreciation for the scale of production required to standardise the supply chain. We were also introduced to innovative surface finishing techniques and construction approaches which we hope to apply in future designs.

Overnighting in Scunthorpe was the prelude to our Wednesday visit to Tata Steel's Long Products UK Hub. The 2,000 acre site, navigated by 100 miles of road and 70 miles of rail, produces high quality and strength steel products. Notably, these have been used in the construction of Wembley Stadium and the Malaysian Petronas Towers. The dry heat experienced from viewing platforms above the molten production lines emphasised the energy intensity of the process and importance of continuous casting due to its efficiency and reduced CO₂ emissions.



Project Riverside

To commemorate the 50th anniversary of the fatal Aberfan coal spoil slip in 1966, Project Riverside is constructing a modern housing development on a former Methyr Vale Colliery. Implementation of design work undertaken by Tony Gee on a new semi-integral road bridge and drainage network were observed. The visit poignantly reinforced the role of engineers to ensure public safety and the social benefits that frequently result from infrastructure projects.

To complete the week we went to the new Crossrail station at Whitechapel where underground construction has exploited two deep access shafts. Tony Gee continues to work on the reinforced concrete detailing and CAT III check however the spatial constraints which have governed the design strategy can only be fully appreciated onsite. The opportunity to descend into the Durward

Street shaft gave students a new perspective of the project, confirming the advantages of precast technology as well as the complexities of minimising water ingress.

A walk across Tower Bridge enabled a return visit to London Bridge. Onsite, novel mobile temporary works were facilitating the casting of concrete onto polystyrene blocks to form modern quadripartite arches, achieving structural continuity with the existing listed building. The adoption of a technique discovered earlier in the week was also witnessed, with a concrete block work finish on external facades being produced from reusable rubber moulds.

Our appreciation for this week goes to our hosts who have worked to further our understanding and to our mentors and chauffeurs, Graham Nicholson and Gareth Drought. Many thanks from us all.



London Bridge Station

For more information visit: tonygee.com/projects



Watch the Student Week video at tonygee.com/careers/students

Working at Tony Gee



Martin Blagoev is about to return to the University of Bath for the third year of his degree following a year with Tony Gee's Highways Group.

I have really enjoyed my industrial year. I have had a chance to work with everyone in the Highways Group at some point, and across a few large projects all at various stages of completion. I have also

really enjoyed the social side of work, and have learnt to play golf alongside my deskmates!

I feel I have adopted a whole new thought process when it comes to problem solving. At university, you never really get to see the bigger picture of what you're working on, while at work you come to understand what precedes your involvement and what will follow. I have got better at managing time and priorities; at university our deadlines are far more flexible and not in stages. I believe these skills will be invaluable for third and fourth year design projects, which will be closer to real work than previous university tasks.

I would definitely recommend a placement to any student, particularly an industrial year. As Tony Gee is a medium sized company, you get a lot more chances to be involved with a number of projects while being able to get to know your whole group as well. An industrial year is a particularly good way to become familiar with more stages of a project so that you can see it progress, while just a two month summer placement may not provide all those opportunities.



The above BIM image shows Project Riverside, a scheme Martin was involved in during his placement year and one of the sites visited on Student Week.

Q&A

Craig Lambert is about to start the second year of his apprenticeship based in our Stonehouse Office. Here he answers some questions about what it's like being an apprentice at Tony Gee.

What led you to choose the apprenticeship route?

I have always preferred practical learning over theory, being able to get involved and engage with the work you are doing. I think it makes it easier to pick up new skills and broaden the scope of your knowledge over sitting behind a desk taking notes; although that is still part of the apprenticeship. Being able to interact with other apprentices from different companies who are doing the same course also drew me to this route, as you are able to share the work you are doing with others and compare, which is a good way of tracking your own progress throughout the course. Also being paid whilst you are learning isn't a bad thing either!

“I think the best thing about working for a company like Tony Gee as an apprentice is that every day can involve doing different kinds of projects and types of work.”

How have you found your apprenticeship?

Extremely enjoyable and rewarding! I think the best thing about my experience as an apprentice has been the people I have been able to work with over my first year with Tony Gee. From the first day they were very welcoming and never turned me away when I had a question or hit a barrier with the work I was doing. Everyone I have worked with is really good at their job which makes it easy to learn from them and improves my own work in the process. Considering I didn't know much about what civil engineering involved before joining Tony Gee, I am glad to say I made the right choice in choosing this apprenticeship.

What do you enjoy most about your job?

I think the best thing about working for a company like Tony Gee as an apprentice is that every day can involve doing different kinds of projects and types of work. The work I have been involved in has ranged from checking over an engineer's drawings to make sure they meet the standards to helping with the design and modelling of a railway bridge, using computer programs such as AutoCAD. It is this variety in workload which keeps you on your toes and, for me personally, makes being a Tony Gee apprentice enjoyable and worthwhile.



Want to find out more?

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