



THE UNIVERSITY OF
AUCKLAND
Te Whare Wānanga o Tāmaki Makaurau
NEW ZEALAND

ENGINEER YOUR CAREER

ISSUE 116

Information from Industry for Student Engineers

Charlotte Peyroux Civil Engineer



How did you get the job at T+T?

A close university friend received the T+T undergraduate scholarship and, having had the opportunity to work as a summer student at both T+T and an overseas firm, she recommended I apply for a graduate position at T+T. My earlier Civil Engineering studies focused on a structural and hydrological foundation (as opposed to T+T's main discipline, Geotechnical) and in my final year I developed my interest in Hydraulics and wet services management which led me to apply online for a graduate position at T+T within the Water group. During my first interview it was suggested that I might enjoy the variety of work offered within the Civil group. For someone still unsure what she wanted to do, variety sounded great and a few weeks later I accepted the position.

What do you actually do?

Over the past two years I have dabbled in infrastructure assessment and design (mainly the three wet services - stormwater, wastewater and water supply), design and construction supervision/quality assurance of landfills, retaining walls and seawalls, cycle paths and foreshore reclamations, erosion and sediment control plans and strategic planning for New Zealand Defence Force bases. On reflection... I have done quite a bit of everything!

It is hard to describe a typical week as it is very work dependant but during summer I am typically on site one to three times per week, which reduces during the non-construction season. This week I will be providing construction supervision at the New Zealand Steel landfill. During my time back at the office I will be analysing settlement data and preparing a Quality assurance report for a geomembrane liner installation I recently supervised at the Omarunui Landfill in Hawkes Bay.

How has T+T supported your career?

At T+T, employees are expected to take ownership and act on initiative to drive their own personal development. Graduates, find themselves surrounded by approachable, supportive and knowledgeable staff at various expertise and levels. I can ask anyone at any level for advice and be reasonably confident I will get some useful pointers. It is a work hard, play hard culture and a great work environment with ample job opportunities to develop a career in whichever direction you wish to pursue.

What's the best thing about working for T+T?

The best thing about T+T are the diversity of employees and the environment which we create and enjoy working in. Being a New Zealand and Employee owned and operated company, there is a real focus on making the office an enjoyable place to work. An active social club ensures there are plenty of activities and team sports to get involved in.

And it's not just the employees who think T+T is a great company - we recently won the Australasian Beaton client choice awards for best New Zealand firm, best consulting engineering firm*, best provider to government and community and joint best professional services firm*.

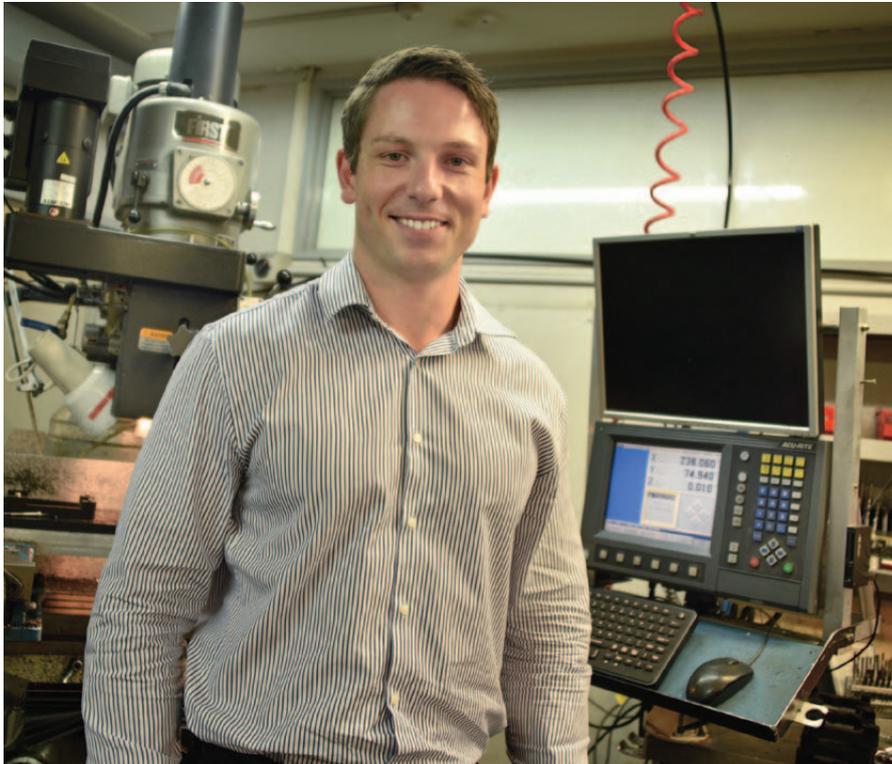
What advice do you have for current students?

Have a strong work ethic. Your attitude, even when assigned to the most mundane task, is your greatest asset to gaining opportunities.

* within our annual revenue category



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Matt Evans
BE Mechatronics

I began my employment with Cubic Defence New Zealand (CDNZ) with a summer internship following the completion of Part III of the BE (Hons) degree in mechatronics at the Auckland University. Cubic offers a range of research-and development-based internships that I was able to take advantage of. During the internship, I worked on the development of a number of vibration energy harvesting prototypes, intended to be integrated with CDNZ products. The project was truly open-ended, which allowed me the freedom to drive the direction of design and development. I applied theoretical concepts to solve a tangible problem and see the process from concept to fabrication. The experience also provided me with an excellent opportunity to get to know both the company and the diverse range of employees.

Following my internship, I worked part-time with Cubic while completing the final year of my engineering degree. I transitioned to project-related design work immediately, which gave me a running start when I began full-time work after

completing my degree. Cubic was extremely supportive during this process, providing the flexibility I needed to meet both my university and work deadlines. Reflecting on my internship, part-time and full-time employment at Cubic, the company brought support and opportunity to the table every step of the way.

As a mechatronics graduate, I am involved in both mechanical and electrical design. Software development also forms a large part of the company's engineering department. The multidisciplinary nature of Cubic's products provides an excellent base for exposure to a variety of engineering disciplines. The in-house prototyping and production team are a major advantage in product design, providing valuable insight and feedback into the design process. The Cubic team is full of skilled staff members with years of experience and their advice and support has been invaluable, helping guide design choices and fast-track development of my skills as an engineer. Cubic also provides educational support for employees and offers an in-house support program. This is particularly advantageous for those wishing to bolster their competitiveness for international and highly sought after roles.



Day-to-day project work for a company that specialises in military training systems is far from mediocre, and by working for Cubic, I feel as though I'm doing something extraordinary to enable a safer world. Cubic products have a unique application in a field that is not commonly found in New Zealand. The opportunities I experienced in my employment at Cubic gave me a leading hand in developing new and innovative products. Such projects not only attract a vast array of international clientele that appreciate innovative, high-quality products, but also provided me with a challenging and exciting start to my career.

More about Cubic Defence New Zealand

Cubic Defence New Zealand Limited (CDNZ) works with a range of state-of-the-art technologies to develop advanced "laser-tag" type training systems used by defence and security forces around the world. Our systems focus on providing realistic battle scenario training and include communications and position tracking capabilities to provide real-time monitoring and control of exercises. CDNZ is part of Cubic Corporation, a global leader in defence and transportation systems and services with offices worldwide.

Matt is one of eight graduates employed by CDNZ as part of the 2015 graduate intake. All are taking part in a buddying/mentoring programme aimed at helping graduates transition from student-life to work. In addition, nine third-and fourth-year engineering students worked as summer interns on designated projects which they found very absorbing.

CDNZ recently moved into modern premises at 70 Stanley Street, Auckland.

<http://www.cubic.com/Careers/Worldwide-Work-Locations/Auckland-NZ>

Email: cdnzcareers@cubic.com

WHERE DO YOU SEE YOURSELF?



With their collaborative thinking, bold use of technology and their appetite for delivering solutions to complex challenges, graduates are pivotal to keeping our business focused, energised and fit for the future.

With an experienced global team, AECOM is built to deliver a better world. From remote villages in developing nations, to some of the world's largest and most vibrant cities, we design and deliver infrastructure that creates lasting and positive change.

To achieve our purpose takes a talented and diverse team of professionals and technical specialists. AECOM has the people, technology and vision to create smart solutions for our clients' challenges.

WHAT ARE OUR GRADUATE OPPORTUNITIES?

We are seeking applicants from a wide range of disciplines, including civil, electrical, environmental, geotechnical, mechanical, structural, building services and chemical engineering, as well as design, planning, and program and cost management fields.

As a graduate, you'll have the chance to work alongside industry leaders on iconic projects that help shape and connect our cities and communities.

Our Growing Professional Skills (GPS) graduate program is designed to help you bridge the gap between formal education and the workplace. The GPS program is spread across three years and comprises a range of core competencies and recommended training. As part of the program, we work with you to develop a plan, set your goals, and the actions required to achieve them.

HOW WE SELECT

Your application for a graduate role will be assessed through a staged approach including an initial application review, telephone interview, online video game testing, and assessment centre / face-to-face interview.

APPLY ONLINE

aecom.com/australia-new-zealand-graduate-careers

MEET ONE OF OUR GRADS

Hi, I'm Maddison. I work as a Graduate Civil Engineer in the Ground Engineering and Tunnelling team, based in the Auckland office. I started working for AECOM as a summer intern at the end of 2013 and was offered a graduate position once I finished studying. I started full time as a graduate in February 2015.

I felt extremely nervous on my first day of work. Although I'd worked as an intern, I felt like there would be a lot more pressure on a graduate. I was worried I would be given menial tasks to complete – or the opposite – that I would be given something I couldn't handle. I quickly realised that everyone was there to help, I felt comfortable asking questions and my colleagues made me feel like I was part of their team. The focus for graduates is on teaching and training, learning on the job and growing your skill base. I was given real projects to work on, but also given the support I needed to succeed. The NDG Auckland Centre project is the coolest project I have worked on so far!

I learn something new every single day just from having conversations with people. All of the graduates help each other out; we share our experiences together and learn from each other's achievements and mistakes.



Maddison Forde
Graduate Civil Engineer, Auckland, New Zealand

WANT TO WORK FOR A COMPANY THAT CREATES SOFTWARE FOR THE WORLD'S BEST CINEMAS?



Vista Entertainment Solutions is the world leader in cinema management software. With an estimated 38% global market share, our set of interconnected and scalable software modules are installed worldwide. We are the heart of the publicly-listed Vista Group of companies that offer solutions across the wider film industry. We live and breathe cinema.



Candice, Services Consultant



Theo, Software Developer

Our success is built on recognising the importance of our employees. We are a company that looks after our own, with many of our team being part of Vista for more than a decade. We offer a collaborative workplace and encourage people to share their views and experiences. Our mission is to enhance the cinema experience for all.

With offices in Auckland, LA, London, and Shanghai, and software installed in over 60 countries, Vista provides opportunities for career growth and travel.

MEET OUR GRADUATES

Experience life at Vista through the lens of Theo and Candice – University of Auckland Engineering graduates and now full-time employees at Vista!

Theo is a Software Developer who was elected to be the Scrum Master for his team just six months after starting at Vista!

One of the first projects that Theo worked on was enhancing the UI for Vista's Point of Sale product. This involved a lot of re-working and communication with multiple stakeholders. Theo was involved throughout the process and found the end result even more satisfying after receiving positive feedback from the customer.

Candice is a Services Consultant. Her multilingual skills are particularly helpful when interacting directly with our global customers.

Working at Vista is all about finding innovative ways of solving problems and as a Services Consultant, you're always looking for new ways to ensure the best customer experience. Candice finds it "rewarding to have a positive influence on someone's business."

There are heaps of learning opportunities at Vista. All staff attend plenty of training sessions in their first few months that arm them with the tools they need to get them going. From then on there are knowledge sharing sessions that occur throughout the year. We also hold the Innovation Cup competition to encourage company-wide collaboration on creative ideas and product and process solutions.

HERE'S WHAT THEO AND CANDICE LOVE ABOUT THEIR ROLES:

"The people. Simply put, the people I work with are great to be around. We have good banter and help each other...I think the environment starts from our CEO [Murray Holdaway] who has built Vista from the ground up. It's a great culture to be in."
Theo

"I enjoy the team environment at Vista, we are all working towards the same goal. Everyone is friendly and ready to help each other, no matter how busy they are."
Candice

THINKING ABOUT A FUTURE IN SOFTWARE?

"If you enjoy it, do it. I didn't do any software before I started Uni but when I took the introductory course, it just clicked and I loved it. Doing something you enjoy gives you more motivation to learn."
Theo

"Software engineering is the future. It's in everything that surrounds us. There are so many opportunities for a software engineer. It's a valuable degree that's definitely worth all the effort put into it."
Candice

Vista has graduate and internship opportunities for Developers, Test Analysts, Services Consultants, and Business Analysts. To register your interest and for more information visit us at www.vista.co/en/careers

for the  of cinema

"I'M CHRIS LIKE BATMAN, I LOVE WORKING WITH TECHNOLOGY THAT SIMPLY DID NOT EXIST BEFORE, DEVELOPING SOFTWARE FOR THE WORLD'S BEST CINEMAS."





Harry Shepherd

Transportation Engineer
TDG Auckland branch
Bachelor of Civil Engineering (Hons)
University of Auckland

Having enjoyed taking the transportation papers in my third and fourth years of civil engineering, I was keen to pursue a career in the transportation engineering field. TDG was an easy choice for my first graduate role after completing my studies at the University of Auckland, as they are the largest and best transportation engineering firm in New Zealand. I have been working here for several months after beginning in December 2015.

Primarily, my role involves working with project managers to assess what are the key objectives of any given project and to complete the required tasks. As a mid-sized company, I have been able to take on a high level of responsibility and learn more by taking a hands-on approach. Being able to work with the company directors and principal engineers has also allowed for me to learn from their valuable experience. One of my main responsibilities so far has been to manage our traffic surveys. I have appreciated TDG trusting me with this role after just starting, and it has allowed me to develop my management skills in addition to my technical skills. Some of the other tasks I have undertaken in my time include site visits, analysing traffic data, report writing, and modelling traffic flows.

There is much more to TDG than just work. I have been part of the touch and futsal teams, as well as joining the office social club. Throughout the day, my breaks are



spent playing table tennis or playing cards at our poker table.

TDG believes that the strength of the firm lies within the quality of its staff. Training, mentoring and personal development are important as well as career development. Therefore it is not uncommon for staff at various times to be sponsored to attend training events and conferences. I have already been given the opportunity to attend a traffic control course and I am now a qualified Level 1 Traffic Controller and have attended various other courses in my short time.

TDG have offices nationwide and to enable contact with members of other offices, TDG have social regional and national events where it is possible to meet the rest of the TDG staff that we may not see on

a daily basis. At the end of February, the TDG regional weekend for the Auckland, Hamilton and Tauranga branches was held at Hahei. The trip included various activities such as Kayaking, drinks, a visit to hot water beach and a sports tournament.

My favourite part of the job is being able to work on a project from inception to completion and see the results first-hand. The ability to contribute to a successful project and provide output that is of a constructive nature, is very rewarding.

I have immensely enjoyed my first few months at TDG. This is attributed to the fantastic work environment and being actively involved in a company that is positively contributing to traffic issues around the country.

CREATING OUR TOMORROW

SPOTLIGHT ON: **JAYSON HODGSON** Graduate Environmental Engineer

Here at Opus International Consultants, we are a leading multi-disciplinary infrastructure consultancy with global reach and local connections.

Within New Zealand, Opus operates from a network of 40 offices and employs over 1,700 staff. What sets us apart is our wealth of collective experience and the collaborative way we work across disciplines and with our clients. Opus projects are ‘powered by connected expertise’.

Graduates are the young blood that will drive Opus into the future, so keep reading to see what Jayson a recent University of Auckland graduate has experienced already. Jayson joined the Opus Environmental team and has been working at Opus for three months now.

What is one of the projects you are currently working on?

“I am currently working on a job for the Christchurch office that is designing and planning a water treatment system for when they clean the inside of coal train tunnel. The system looks to capture the water used to clean the inner lining of the tunnel then treat it so it can be released back into the local environment. In particular, I am working on the specifications required for this project in order for it to be built correctly, as well as the Operation and Maintenance manual which will show our client how the treatment system will work. There are many factors to consider but some elements I have to look into are piping and pumping systems, sediment settlement, polymer dosing systems, infiltration and filtration methods.”

What attracted you to apply for the Opus Graduation Programme?

“In my last year of university I attended the Opus Employment Presentation Evening, which sparked



my interest in Opus. The presentation covered some projects Opus has undertaken, what they provide as a company and experiences from past graduates. All of these points attracted me to the Opus Graduate Program. Plus they take on both big and small projects worldwide, you get a mentor, offered a competitive remuneration with reviews, and they are an international firm which supports future office transfer and you have flexibility to move teams. Overall it was the support and flexibility they provide in their Graduate Programme that made them stand out.”

Is it all work and no fun?

“No far from it, there is always something to do and see or a team to be a part of. Whether it is playing ping pong at lunch in the chill out space, boot camp in Vic Park, lunch at one of the surrounding shops, joining a touch or soccer team, a Friday night outdoor movie at Silo Park or taking in the sights of Wynyard Quarter. If there is something you want to do, at Opus you will always find someone interested in tagging along and joining you.”

What advice do you have for current students?

“Marks don’t mean everything, companies want graduates who are going to fit into their environment and have the ability to work with others effortlessly. Do your own research before applying and start applying early, the more interviews the better. Don’t be scared to ask questions in your interview either. Explore all your options don’t take the first offer and weigh up the pros and cons for each.”

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Diana Kim

**BE Hons (Civil) 2014
University of Auckland**

“I love seeing my designs for wastewater treatment plants come to life”

Since joining PDP, I have been involved in a range of water infrastructure projects, including the process and civil design of wastewater treatment plants, the detailed design of wastewater reticulation systems, and the assessment of environmental effects of land discharge of treated wastewater.

I love working for our clients in the meat industry, as their wastewater treatment systems are often complicated. Providing solutions for them is always challenging, but very rewarding.

Currently I'm undertaking the detailed design of a public wastewater reticulation system for an industrial zone. It will be satisfying to see the system actually being built and commissioned successfully.

At PDP, we have technical experts in water and wastewater, in both process and civil aspects. There's so much to learn from them, so at a graduate level, I think internal marketing of yourself is very important. You need to ask for work with a can-do attitude. Your project managers see that you're keen and you get given more projects to work on and you're able to gain skills in different areas.



If you show the interest and potential, PDP invests in you and your future. I expressed my interests in air quality and although I'm in the water infrastructure team, PDP acknowledged my interests and allowed me to go on a training course on understanding and managing air quality. I also recently got my nose calibrated as I'm due to undertake an odour assessment for a poultry farm.

PDP encourages your professional development and with their support, I aim to become a Chartered Professional Engineer in a couple of years.

More about PDP

PDP is an environmental consultancy providing engineering, scientific and planning services. We are dedicated to finding environmental solutions that work for both our clients and the environment. At PDP you will be working with other high calibre Civil and Environmental Engineers and Scientists at all levels, and professionals who are leaders in their field. We are a mid-size consultancy employing about 100 people nationwide.

Talk to us on campus at the Engineering Careers Expo on 27 April.

Presentation Evening: Thursday 5th May 6pm Room 403.401

Come along to our Presentation Evening when we will give you more insight into the work we do in Environmental Engineering.

Applications Close: 31 May 2016

Send your application to: employment@pdp.co.nz including your Cover Letter, CV and Academic Transcript.

www.pdp.co.nz/careers.cfm

Check out our website and download our booklet 'Launch Your Career at PDP' for more graduate profiles and information about working at PDP.

Not only will you get good quality work at PDP, but you will also have the opportunity to be part of an active social club.

We hope to hear from you.



Tegan Blount

Graduate Water Engineer in the Northern Stormwater and Asset Planning Team since 2015.

BE (Hons)/ BA at the University of Auckland

Your path to your career: how did you end up where you are?

I always had engineering in mind as a possible career path because there are engineers in my family.

At high school I studied mathematics, the three sciences and classics. When applying for university I decided to pursue civil engineering while also studying towards an Arts degree as the combination of the two subject areas best fit my wide-ranging interests. Although challenging at times, studying diverse disciplines was stimulating and expanded my areas of knowledge in many directions. In my final year I took the opportunity to go on exchange to an Italian university via the University of Auckland's study exchange programme. When I came back I saw an opportunity to apply for a position in the Stormwater Team at GHD, a decision that I couldn't be happier with.

What you do in your role at GHD day-to-day: some interesting stories from life at GHD

My role in GHD's stormwater team involves:

- Catchment assessments
- Hydraulic design of pipes and culverts
- Pipe network rehabilitation
- GIS mapping and data analysis
- A little project management working with engineers in other disciplines around the business

I'm currently working in the East West Link Stormwater Design Team. This is an awesome opportunity to get stuck into a large project and expand my skills and I'm really excited for the challenge.

Why should University of Auckland students strive for GHD?

Quite simply GHD is a great place to work. The people are friendly and supportive and there are opportunities to work on a wide range of interesting projects, grow your abilities and develop your career. The work place is professional and flexible, an environment that allows all graduates to follow their passion in the engineering field.

Ben Francis

Geotechnical Engineer

BE (Hons) – Civil and Environmental Engineering

MEngSt(Geotech) – Specialising in Geotechnical Engineering

My journey to becoming a geotechnical engineer began with summer jobs in excavation and bulk earthworks, working for subcontracting companies. I decided early on in my studies that the challenge of a postgraduate degree was the direction I wanted to take, which led to my careful selection of university papers so I could pursue a Masters specialty in geotechnical engineering.

The transition from the contracting world to consulting started near the end of my undergraduate honours degree. I was instantly interested in pursuing a position with GHD after attending their careers information evening, and haven't looked back. I had completed my degree and was taken on as a summer student as part of GHD's Summer Intern programme, finishing my Masters degree the following year.

As a summer student I was able to experience a completely different aspect

of the engineering industry as a consultant. Interfacing with colleagues at a high level, alongside the early exposure to large projects and some of GHD's most important clients provided me with a stimulating and exciting work environment. As a student, GHD certainly provides great opportunities in an atmosphere that allows young engineers to pursue their career aspirations.



Following the summer student programme I completed my masters in an intensive one year period, and I was fortunate enough to integrate my research with projects being undertaken by GHD at the time. Having signed on with GHD, I started full time work in 2015 and have since been involved in a number of projects which have challenged me on a day to day basis. I maintain a good balance between office work and field work which keeps things really interesting and fresh. I've made some great friends within the company as well, allowing me to create an awesome social work environment whilst continuing to strive towards my goals!



my  impact



Janet Van

**BE (Hons) Mechatronics Engineering;
BCom majoring Commercial Law and
Economics**

What I do

I started three years ago as a student and now work as a full time Graduate Product Development Engineer in the Surgical Humidification team, which basically means working on improvements and the design of our HumiGard system. The product humidifies and warms up dry, cold CO2 that is used in laparoscopic and open surgeries, to prevent the dessication of tissue due to evaporation and ultimately improving patient care and wellbeing during and after surgeries.

A lot of what we do is very innovative in most markets, because of this I spend some days meeting with nurses to find out what they want in a product, researching, designing and testing out various concepts. My work days are always filled with different exciting things to do. It is definitely nice to be in a role where I'm not stuck behind my desk being a CAD monkey or only coding!

My skills

I came in with a very broad and shallow overview of programs like CAD, LabVIEW, and basic practical skills on workshop machinery. Now I have an enormous amount of technical knowledge of LabVIEW

and I have been learning how to use the CNC machine, injection moulding and the list goes on.

There has also been a lot of development with my soft skills. I have been able to improve my professional communication to be more effective in the workplace.

Fisher & Paykel Healthcare has an awesome culture where we are encouraged to do home projects using the variety of high quality tools and machinery. The laser cutter is definitely my machine of choice, I've been able to use it after work to make personalised gifts for my friends or family, like dinosaur skeleton puzzles, leather wallets and engraved picture frames, you name it!

Why Fisher & Paykel Healthcare

As much as I love my work, what really makes it here are the people. My colleagues and managers are great role models and friends. They are people that are dedicated to their jobs, go above and beyond to help out and guide new-starters like me, all whilst being personable and keeping a community/family like vibe. There is something pretty amazing about how a company with more than 3000 staff can maintain an environment where everyone still knows everyone! The people that come to work here and get jobs all align with our company values of originality, internationalism, relationships, commitment and life.

During my time as a student, I was not just treated as the 'intern'. The team and company were very genuine and welcoming, but moreso, they had a real interest with facilitating my professional development. My recent experience during grad rotation with other teams across the company provided the same experience, where the engineers and managers have a genuine interest in my professional learning and development.

I also get to see our products really making a difference. Knowing that at the end of each product is some family's story and that you have been able to help with saving someone's premature baby, improving the life quality of your friend's aunt, minimising someone's father's post-surgical recovery time.

The absolute cherry-on-top is the cafeteria of course. Like most engineers, food is very important to me and having amazing on-site cooked meals every day is a major plus.

Explore your Future

We have Graduate and Intern opportunities in Product Development, Operations and Process Development. Applications open for our Graduate intake 6 May 2016. Go to www.fphcareers.com to register your interest.



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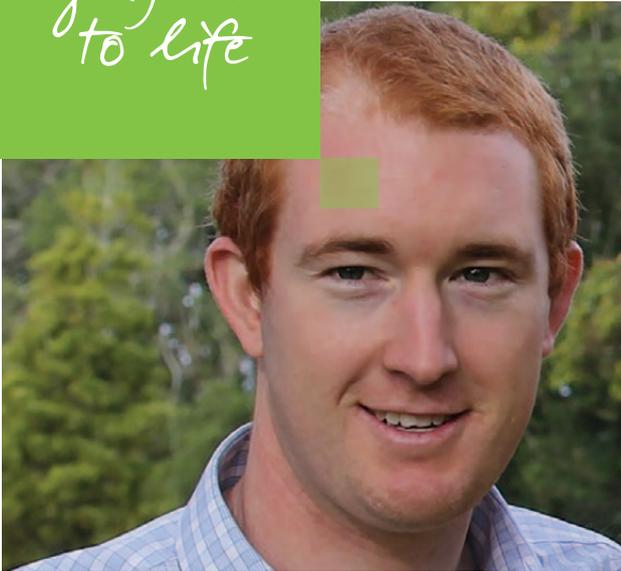


ORIGINALITY



INTERNATIONALISM

Bringing ideas
to life



William Stone

Senior structural engineer at Aurecon

I always enjoyed constructing my own creations and I found that my brain was better at designing than my hands were at building, so I found engineering a great fit. In 2010 I completed a conjoint degree in Engineering and Business at Auckland University.

Prior to my last year at university I was awarded a scholarship and a paid summer internship at Aurecon. It included site work at Eden Park where I checked foundations, concrete pours and helped design the video screen support stand (sport replay screen). It was a huge learning curve for me so that when I went back to finish my final year, I felt that I was ahead of the other students.

As I had developed a good rapport with Aurecon and had demonstrated my strong work ethic while interning, when I applied for a full time job, I got a phone call from Aurecon to say, "We don't need to interview you; do you want the job?"

I have been at Aurecon for five years now and really enjoy the diverse range of projects and experiences presented.

"It is pretty rewarding being a part of the design process which helps bring a client's idea to life, from the computer screen to a usable and practical real life object."

A notable project I have worked on is the Hobson Street Substation which supplies and distributes power to the commercial and residential market in Auckland. My work spanned over a two year period. I spent nine months working in the design team, designing all sorts of components such as piles, columns, walls and slabs, and then spent 15 months on site doing construction monitoring of the build.

It was a particularly complex project as we were squeezing a lot of electrical equipment into tight spaces inside buildings on a small site. It was also a huge responsibility working in a client facing role.

"As an engineer, it's very important to develop your communication skills so that you can work alongside clients and keep the project moving."

Another major project which I'm currently working on is the Otahuhu Bus Rail Interchange where I am the lead structural engineer and design coordinator. This involves designing many of the structural elements and ensuring the coordination between the architect and construction process.

I'm also working on a building situated on Auckland's waterfront that requires innovative engineering solutions for the foundations due to its location on reclaimed land. The project work involves trialling several alternatives to find the best design solution for the building substructure.

At Aurecon I'm involved in a number of initiatives which have helped me to advance my career and develop my leadership skills. This includes being on the Limelight Committee which is Aurecon's Emerging Professional Programme for engineers, and the chair of the Sustainability Committee which organises environmentally friendly initiatives.

The best thing about working at Aurecon is the level of technical expertise available and the career advancement opportunities to work on interesting projects. My advice to any aspiring engineer is to never stop learning as you never know where your next opportunity may take you.



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Apply now for Graduate positions, closes 4 May 2016
Vacation student applications open 9 May 2016

For more information visit
www.aurecongroup.com/Graduates

Find us on





The Beginning

We may have come through but time hop back to eight years and all it ever was was a dream.

It took one man to get off the ground to make this happen.



His name is Danushka Abeysuriya, University of Auckland -- Bachelor of Engineering (Honours), Software alumnus and

founder and CEO of Rush Digital. Danu was like any other student — he had the passion to write code and develop projects, and strived hard to be an exceptional software engineer.

But what made Danu stand out was when many great students decided to go work for big tech companies, Danu believed differently. The world was changing so quickly around him and no company offered the services and projects that he wanted to do. In every respect, he knew exactly what he had set his heart on — to start a tech-creative company that was not shoehorned into any particular category. He brought in likeminded people and started building a team around him.

Thinking back, the success of Rush Digital can be traced back to its beginnings in the walls of the University of Auckland.

From one person, the company grew to a team of 40 passionate, driven and hardworking engineers, creatives, and production team meshed together with

similar mindsets and goals, all tied in with a sense of achievement in Rush. “Deep down, we’re a development team with incredible smarts that allow us to deliver solutions that potentially have not been done before,” says Danu.

Fast forward to six years in operation, Rush Digital is continually soaring high both in the local and international engineering, marketing and tech-creative industries.

We blur the lines between reality and digital.

Rush has developed a methodology to solve any problem in the digital space. We are the little train that could. We push the boundaries.

One of our most effective campaigns was the Monteith’s Meatpack Hunt Augmented Reality App, one of the country’s most successful Augmented Reality campaigns ever. This award-winning AR game let you hunt virtual animals in the real world, and best of all, win scads of prizes!

On the other hand we have also created a virtual Tug of War Machine for TVNZ Amazing Race which allowed the Aussie public to pull against the Kiwis, live! Rush Digital designed a bespoke four-tonne Anchor system, electronic sensor technology and the live video link setup to create a trans-Tasman game of Tug of War between Australia and New Zealand, like never before.

On top of that, we have developed Top Gear: Drift Legends, an original IP multi-platform mobile drift racing game licensed under BBC Top Gear. Aside from these, our other award-winning projects have won awards at the

PromaxBDA for Australia New Zealand, Axis and Caples Awards and a finalist for the NZ Hi-Tech Awards 2015.

The A Team

We are a development team with incredible smarts that allow us to deliver solutions that potentially have not been done before. A team of creative and thinkers, we are motivated individuals who are greatly passionate about technology who care about delivering good work with a real love of seeing what’s possible in this age that we live in.

At Rush, the team values education -- and for us it doesn’t stop within the four walls of the classroom. We offer internal training programs, The Rush University, and most importantly, the best benefit of working with us is the ability to get real-world, hands-on experience. To quote our Software Engineer Adrian Van Nierop, one of the the many University of Auckland alumni at Rush Digital:

“At uni, I’d always been given a problem, solved it and got marked on how good my code was or smart my solution was. At Rush, I was really good with coding and I enjoyed it. But something at Rush definitely taught me that being part of a broader team, working with clients, is actually about seeing the whole project and not just actually delivering something that is really smart but delivering a successful project that solves the business problems, makes our clients happy, and working as a team.”

We Want You

Here at Rush Digital, we don’t operate in a box. Innovation is right at our core — doing things that are evolving, changing and pushing the boundaries. We are not afraid of the hard problems. We are willing and able to tackle the unknown and guide ourselves through the dark to an outcome.

Want to develop cutting edge and challenging projects? Keen to stand out from the pack and learn from a fun, professional team, and gain real world experience? If you share our mission, we are looking for people like you to join our team!

Put your skills to work. Join our team now! For full-time employment or internship, send your CV to jobs@rushdigital.co.nz.



‘Right now, I’m lucky to be working on the amazing Commercial Bay project, and I’m absolutely loving it.’

Annie Scott

Bachelor of Engineering (Hons) 2015
Graduate Engineer
Holmes Consulting Group



ENGINEERING IN THE BLOOD?

Growing up I was always building things with Lego, and then I graduated to Meccano—my dad and I built all sorts of things together. I’ve always had an interest in maths, science and the way things work, so engineering felt like a good fit. When I started out at university I thought I’d probably go down the chemical engineering path, but I really enjoyed the Statics paper with Jason Ingham, and that helped set me on the way to a career in structures. My awesome internship with Holmes Consulting Group at the end of third year sealed the deal: I really love structural design.

DAY-TO-DAY?

I was recruited as an engineer at Holmes Consulting Group, and I did engineering from day one—no awful initiation of filing or photocopying (like some of my friends elsewhere). I stepped straight into a live project with some big responsibilities, with all the support and guidance I need to succeed. I sit right beside people from my project team and close to the Project Director, and I can talk to our Technical Directors for expert technical help anytime I need to. I play a full part at project meetings, and I’m collaborating with architects and contractors all the time.

AND THE PROJECTS?

Right now, I’m lucky to be working on the amazing Commercial Bay project, and I’m absolutely loving it. There are 8 buildings including a 39-level tower, all sitting over the top of a rail line, so it’s one of the biggest and most challenging developments in New Zealand. It’s great to tell friends and family I’m part of the team designing it. I’ve also been working on Sylvia Park, following the design through to construction monitoring, with direct contact with the contractor and plenty of time on site watching the structure come to life. Along the way I’ve worked with some of the industry’s best engineers, as well as knocking shoulders with great architects, contractors and other project partners.



BUT WHAT'S IT ACTUALLY LIKE?

It's a very positive, forward-looking environment. Holmes Consulting Group has a high-performance culture—we're always motivating each other to come up with new and better ideas and solutions. We're forever looking for more effective and efficient ways to get things done, and everyone has a chance to contribute. I guess that's what I like best: if I have a great thought or idea, people will listen and help make it happen, even though I've only been here a year.

AT HOME AT HOLMES

Aside from the work, we have heaps of fun in the office and after hours. We have 'Funtechs' some Fridays, where we're set a challenge in teams—like building towers out of toy blocks or making load-bearing bridges out of straws. We have football and netball teams, annual ski and cycle trips, boot camps, and we had a big group in Round the Bays. There's always something going on, and we celebrate the week's successes in the lunchroom every Friday evening. The new bar fridge is a feat of engineering in itself.

WHAT NEXT?

I've got my own career development plan mapping out my future at Holmes Consulting Group. There's a lot of opportunity for progression and in the next little while I'll be taking on more responsibility with clients, extending some of my technical competencies and contributing to some great new projects. There's also the opportunity to work in other parts of the world—Holmes has offices across NZ and in the Netherlands, San Francisco and Los Angeles. That's something I'll explore in a few years.

Join us at the Auckland University careers evening on Tuesday 3 May 2016, or apply for graduate or summer intern positions at www.holmesgroup.com

HolmesConsulting

At Fulton Hogan, we've built up more than 80 years' experience in the transport infrastructure, water, energy, mining and land development sectors across Australasia. Our engineering graduates are our future, set to become leaders playing a pivotal role in the ongoing success of Fulton Hogan.

Throughout our 18-month programme, graduates learn the science of producing asphalt and other raw materials to maintain infrastructure surfaces along with the technical know-how to tender for and estimate jobs. They also gain valuable experience working on infrastructure projects building project management skills whilst focussing on safety, quality, and sustainability.



Lucian Doig

Project Engineer

I joined Fulton Hogan in 2012 after completing my Bachelor of Engineering (Hons) at the University of Auckland. Working within the Civil North Infrastructure team, I plan the construction of various structures, managing subcontractors and suppliers, and assisting the project management team to deliver the work on time and within budget.

Working at one of New Zealand's leading contracting companies has been a great experience. The graduate programme at Fulton Hogan has exposed me to a range of construction activities to build a solid foundation to my engineering career. Over the last three years, I have played a hand in road construction, surfacing, bridge construction, wastewater upgrades and retaining wall construction. Each day is different, whether I am out on site coordinating crane lifts, or in the office tracking job costs.

Currently, I am working on a project to upgrade Pukekohe's wastewater network. On this project, I am responsible for overseeing the construction of a 700 litre/second pump station. The Pukekohe population is expected to double by 2050 and I am proud to be part of this project, because Fulton Hogan is helping to build and future-proof the Pukekohe community.

Angus Gillies

Project Engineer

While at school, I always enjoyed Math and Science, so studying engineering was a natural transition when I entered university. Towards the end of my degree, I actively sought out to find a job in this industry, and an opportunity arose within Fulton Hogan. Being in the Graduate Program at Fulton Hogan gave me the best possible start to my career as it exposed me to the world of contracting.

I feel privileged to have been part of the Fulton Hogan Graduate program because they are an organisation that places a strong emphasis on training and professional and professional development. One of the benefits of being in the Graduate Program is being immersed in the different sectors of the contracting world. This has given me the confidence to take on future challenges. Fulton Hogan places a strong emphasis on training and professional development, which sees me constantly up-skilling my knowledge and technical skills.

One of my first assignments was being a Project Engineer on the West Auckland Maintenance Contract. Not only did I get to oversee the construction of numerous complex designs (from structural asphalt over concrete to foamed bitumen stabilisation), I also had the support of a great team who had a wealth of knowledge and years of experience behind them. I learnt a lot through this process as I was able to witness the entire project process, from design through to construction of what would ultimately become a multi-million dollar community asset.

IF YOU'RE READY TO GROW YOUR FUTURE, HARRISON GRIERSON CAN HELP DESIGN THE PLANS.



We know that when university's over, you've got some exciting decisions to make. And with an engineering degree, you have a world of options for that next step.

WHY HARRISON GRIERSON?

As one of New Zealand's most experienced multi-disciplinary companies, we've got a lot of expertise to help you really go places. We've got a lot of talented employees and we'll make sure you become part of the team from day one.

HARRISON GRIERSON IS LOOKING AHEAD WITH YOU.

We have several graduate opportunities available for new engineers looking to take that next step in their career. As an HG grad, we invest in your training. Your personal development is as important as your contribution to the projects we're running, and you'll be supported every step of the way. Find out more at our dedicated **graduate site**.



A GREAT PLACE FOR GRADS.

You're part of one great team at Harrison Grierson. We work hard, and there's some great perks too – with social events and group activities all part of the work life balance here. And while we're a big company – we're small enough that we have a culture where everyone can build on their strengths.

Aside from making real change through hands-on projects, you'll get the benefits of working in a company that's proudly NZ owned, has incredible employee benefits, and keeps you thinking on your feet all the time.

That's a future worth designing.

To learn more, head to www.harrisingrierson.com



Applications open in April

Work at the leading edge

Aviation is one of the world's most dynamic sectors of the economy, where engineering innovation is often the best answer to increasing demands for comfort, convenience, efficiency and environmental responsibility. Air New Zealand is a global home to talented people with diverse skills sets. We work hard, get on well and take a lot of pride in wearing the Koru.

We provide a structured development programme that builds professional engineering skills, develops commercial acumen and promote diverse thinking in a fast-paced, supportive and dynamic environment. Air New Zealand Engineering and Maintenance runs a two year graduate

programme, selecting top engineering students (typically mechanical or electrical specialisations) and developing them into well-rounded aeronautical engineers.

PROGRAMME STRUCTURE

In the first year of the programme, graduates have the opportunity to work in a commercial aviation operation, learning about fleet technical management, repair design, reliability and maintenance programmes through a series of 2-3 month placements with different engineering teams.

In the second year graduates develop their systems understanding, leadership and project management skills through

a longer placement in one cross-functional team.

At the end of the Graduate Programme we encourage graduates to apply for permanent positions throughout the business. This is a unique opportunity to be part of one of New Zealand's most successful organisations while shaping your career.

YOUNG PROFESSIONALS NETWORK

Air New Zealand has a business-wide forum for young people to connect. There are regular events offering the chance to network, learn about different business areas, hear from inspiring speakers, and work on business problems.

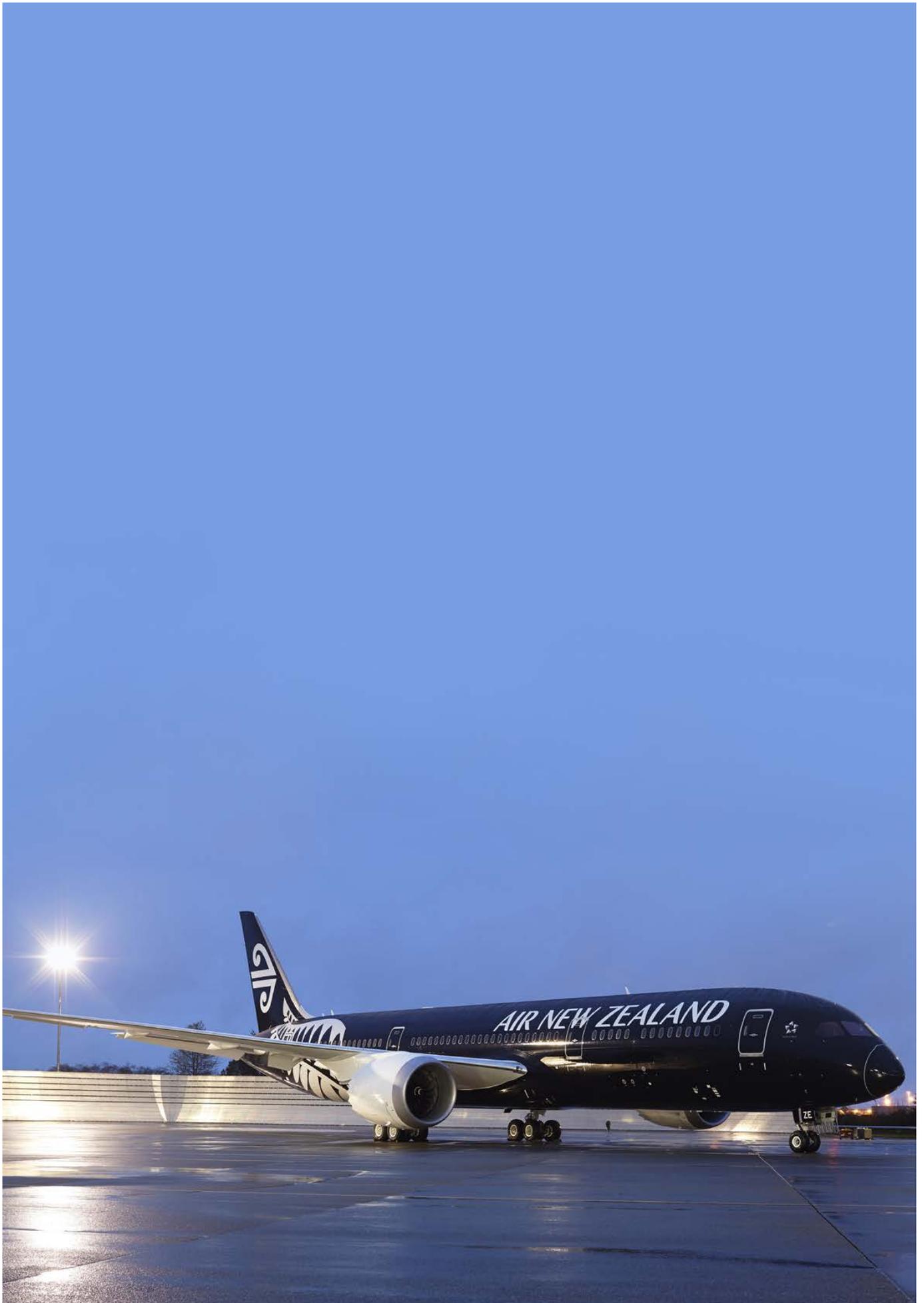
“ I'm really enjoying the day-to-day variety that comes with the programme, and working alongside great people in a fascinating and dynamic industry. ”

“ The best part of the graduate programme was the flexibility – I always felt that my feedback was listened to and the programme adapted to my aspirations. ”

“ I enjoyed leading a project to review our QMS user interface – I was able to apply some of the software engineering skills I learned at uni and I got to work with a range of people across the business, including from our regional subsidiary airlines. ”

“ Last year I worked in a role establishing the Reliability Programme for an overseas airline. The project was intense and had quite a steep learning curve, but I enjoyed the role as it was a mixture of project management, analytics and required an understanding of aircraft systems and engineering processes. ”

“ The project that had the most impact on me during the grad programme was the 787 eEnablement Project. As part of this project I was able to go to Boeing in Seattle where I saw the long queues of aircrafts being built as well as meet the people who design the tech that goes into our aircrafts. ”





HEB Construction

"Serving one another"

Aileen Mckinstry

BE(Hons) Civil, University of Auckland

HEB Construction is a nationwide contracting company that operates in many areas within the construction sector, including Civil Works, Structures and National Projects.

I started with HEB Construction as a Summer Intern at the end of the 3rd year of a Bachelor of Engineering at the University of Auckland. During my final year I was offered an engineering position with HEB as part of their graduate programme.

Until recently HEB was a privately owned construction company. In mid-2015 the global French based company VINCI bought out HEB. As an employee this is very exciting as this opens doors to opportunities to work overseas.

I started with the company at the start of 2015 after finishing my degree. Since then, as part of the graduate programme I have gained experience in three different roles within the company.

Initially I was placed in a Site Engineering role within the Land Development Department of the Company for 3 months. This is a part of the Civils Sector of the Company. Land Development encompasses the work involved in a subdivision before a building is constructed. This includes roading, drainage (waste and stormwater, services (power, water, gas and internet), earthworks and landscaping. While in this position I was involved in quality assurance, testing and claims.

I was then given the opportunity to experience the process of tendering. I worked as part of an Alliance team bid for the Hamilton Bypass Project. This project is part of the 'Roads of National Significance' programme put together by that New Zealand Transport Agency (NZTA). I was part of the estimating and procurement team, mainly getting experience in estimating and quantity surveying. Tendering is an important part of the engineering process. Two or more companies or groups of companies compete to produce the best possible pitch and price for how they would complete the work if it was awarded to them. Working in this environment is very rewarding as there are many experienced people in both



the design and construction areas of civil engineering to learn from. The benefits of these two teams working together was very obvious in their ability to refine the design to the most cost effective solution by involving the constructability knowledge of the construction team during the design phase.

Once the bid for the Hamilton Bypass Project was submitted I was moved to an environmental engineering role on the Huntly Bypass Project. This is another of NZTA's 'Roads of National Significance'. Official work began on this Joint Venture project at the start of October 2015. As part of a joint venture team the best brains of both Joint Venture companies come together to produce a highly successful project. As a large earthworks project the environmental controls on the project are of great importance. Ranging from erosion and sediment control to lizard, fish and bat management to construction noise and vibration management. My role mainly involves quality assurance, testing and ensuring we complete all conditions stated

in our management plans.

As part of the HEB Construction Graduate Programme there is a large focus on working towards registering as a Chartered Professional Engineer (CPEng) with IPENZ. Each graduate is assigned a mentor. Quarterly summaries are required, reporting progress and experience gained during that time, with a follow up meeting with your mentor. This gives an opportunity to reflect on your work and appreciate the new experiences that have been gained. HEB has a very structured programme which provides a list of competencies, based on the key objectives set out by IPENZ, to work towards achieving. This gives a sense of satisfaction by clearly being able to see the progress you are making while just completing your daily goals.

HEB is a company where one can grow as a person and as an engineer. It provides many and varied opportunities for experience in various facets of ones chosen speciality.



DOWNER YOUR FUTURE



We offer a comprehensive graduate programme, hands-on summer work experience and a selection of scholarships that will help you acquire the experience you need to succeed in the industry.

The Downer Graduate Programme is three years in duration and we work to bring Washington Accord degree-level engineers and other specialisations into Downer to develop their skills and become our future leaders. You can expect:

Rotations through the business

We aim to develop well rounded, highly skilled professionals by exposing you to the wider business before you specialise in one area.

Dedicated mentor programme

Downer has an established network of mentors across the country. As a graduate who joins Downer, your Manager will identify and engage an experienced colleague who has time to meet with you on a regular basis.

Young Professionals Conference

Every year, we invite graduates to participate in the Young Professionals Conference. This event incorporates professional development, team building, networking and technical updates.

Volunteer Services Abroad (VSA)

We focus on developing strong partnerships and our recent NZAGE win for best innovation was due to our partnership with Volunteers Services Abroad (VSA). This exclusive partnership has led to graduates being able to apply for placements in the Pacific region – fully funded by Downer. Downer has a proud history of delivering life-changing projects across the Pacific region, so the partnership has been a natural extension to the work that we do.

OWN YOUR CAREER



I'm currently on rotation between the pavement design team and pavement construction department. I've designed two full urban arterial road rehabilitations in South Auckland. It was a great experience to be responsible for a complete road rehabilitation design, right from investigation to the design report.

Kelsey - Graduate Programme



For further information, email talent@downer.co.nz

KEY DATES



McConnell Dowell

Grads join McConnell Dowell for lots of reasons. Often, they start with us as an intern and return when they finish their degree. What is it that attracts them?

Here are a few reasons

- Large scale multi-disciplinary projects across New Zealand and the Pacific.
- The backing of a multinational organisation.
- A values-based culture that prioritises safety and cares about people.
- Opportunities to work in locations 'away from home' - around NZ or overseas.
- Seeing the full picture, with work on site and in the office.
- Plenty of training and development.
- Support to get chartered.

As grad Site Engineer Jason puts it "McConnell Dowell is large enough to be involved in leading projects such as Waterview and the City Rail Link, but still places a high value on its employees. There is potential to work on a wide variety of different projects and roles."



Arthur Torres



Waterview Tunnel, Auckland

"McConnell Dowell focuses on giving students the opportunity to build their professional career and leadership for the next generation."

Meet Arthur

You don't get much bigger than the Waterview Connection project that's been under construction since 2012. Arthur Torres first joined McConnell Dowell as an intern in 2014 and then full time in 2016 after completing his BE(Hons) in Civil Engineering.

What do you do at McConnell Dowell?

I'm the Site Engineer for the service relocations at the Waterview Connection Project. My main responsibility is to complete the final phase of the relocation of water, stormwater, gas, sewer, power and communication services at Great North Road, the busiest arterial road in New Zealand. From the beginning, I've been involved in the design, planning, material requisition, construction, quality assurance, and liaison with service providers, subcontractors and other teams at Waterview.

Working with services is about planning for the unexpected and ensuring that the team knows what they're doing and what to look out for. My focus is on getting it

right the first time and doing it safely. Regular communication with service providers is a must to ensure you get their confidence and approval in the work you are doing.

What do you like about your job?

Every day brings new challenges, experiences and lessons learnt. Doing project management at the office and overseeing the construction work on site makes each day quite dynamic. It's critical to get to know the crew doing the job, so everyone understands each other and sees the same picture.

What's good about working at McConnell Dowell?

Since my internship with McConnell Dowell, I've been involved with work that has provided bigger opportunities to strive towards. Support of my development in the engineering profession has included numerous training courses and a mentoring system. I've appreciated being trusted and supported to do my job and learn from it.



Lower Hatea Bridge, Whangarei

What makes a good McConnell Dowell person?

We're practical sorts at McConnell Dowell, and not averse to a bit of adventure. Our story started over 50 years ago in New Zealand when Malcolm McConnell and Jim Dowell reckoned they could do things better. Over the decades, we've built a reputation for taking on the complex jobs.

We chose 'creative construction' as our tagline for a reason - many of our people could tell you a story or two about the 'creativity' required to get the job done on a remote Pacific Island, or in a badly earthquake damaged city.

McConnell Dowell people are resilient and tenacious, practical and hands-on, flexible and multidisciplinary, innovative, hardworking and down to earth. They understand the value of teamwork, look out for their mates, share learnings and ask for help. They're not daunted by the big jobs or the small details. They could be asked to go anywhere - from a few weeks to a few years.

Like we said - adventurous. Are you?



Pukapuka Solar Power Project, Cook Islands

Find out more

Come and see us at the CDES Engineering Careers Expo on 27 April, 10.30am - 2.30pm
www.mcconnelldowell.com
twitter.com/McConnellDowell
linkedin.com/company/mcconnell-dowell

Apply

- Applications for graduate jobs are open from 4 April - 14 May.
- Applications for summer internships will open in June.

Set up a job alert on our website to be notified when the jobs are listed.



CREATIVE CONSTRUCTION™



'Shaping your city – it's in your hands.'



Tamoko Ormsby

First year engineering graduate at Auckland Council

Tell us about your journey to the council / your background.

Kia ora whaanau! My name's Ta (short for Tamoko-o-te-Rangi, but I'm known as Ta) and I'm one of the new council graduates this year.

I was born and raised in the beautiful Waikato in a town called Ngāruawahia. World renowned for its mussel fritters and bacon & egg rewana burgers, it's also home to Kingitanga - the Māori King Movement.

One of the biggest reasons I chose the council is that Māori values are actively integrated at the council and mana whenua engagement is a crucial aspect. Being Māori, this really resonated with me.

What did you study and why?

I did my first year of study at the University of Waikato and then transferred to the University of Auckland. I chose to study there because of the fantastic support available for Māori and Pacific engineering students. And of course, Auckland has so many places to explore and new places to eat out at! I was initially unsure which engineering specialisation I wanted to do but I'm quite happy I landed in Engineering Science because I get to help solve real world problems using maths which is really exciting.

What interests you about the field of engineering?

I have a deep passion for seafood - I love kina (sea urchin) and as it so happens I also enjoy the 'art of numbers'. Problem solving is also fun for me, I'm always on the hunt to figure out a solution to life's many challenges such as figuring out the fastest way to my local super market or what the difference between a muesli bar and a slice of chocolate is. Engineering is fun because it gives me the chance to embrace my passion for solving the many problems and challenges that come up in life.

Why did you choose our graduate programme?

The transition between university and the workforce can be tricky – kind of like playing darts with spaghetti. I chose the council's graduate programme as I saw it as an awesome opportunity to gain support during this transition and because I knew I could contribute to making Auckland a better place to live. The rotations we go through during our two years here give us rapid exposure to the different aspects and teams and the chance to learn how they interact.

What was your first rotation like? What have you been able to do since you started here?

I'm in a uniquely cool situation where another graduate in my team and I are able to rotate through different teams during the week. We spend three days in design and technical guidance, and two days in stormwater operations. In the short time I've been on the programme I've already been involved in shaping stormwater management across the Auckland region, engaging with mana whenua, and going out to stormwater sites to check for blockages and failures. So far, so good!

Do you have a favourite story/memorable experience?

My first mana whenua engagement hui was great! Seeing how it all unfolded between the council and mana whenua. Once they knew I was Māori though, the most common line was 'get the graduates to do that'. I had to learn a lot really quickly.

What's your favourite thing about engineering?

My favourite thing about engineering is finding out when we don't know anything about something.



Linlee Tram

Former Building Control graduate at Auckland Council

With a Bachelor of Civil and Environmental Engineering under her belt, Linlee joined the graduate programme at Auckland Council in 2014. Linlee tells us more about her experience.

"Over the past two years I've had the opportunity to rotate through nearly every team in Auckland Council's building control department.

It was an amazing opportunity and has given me access to knowledge and experience in all the different areas.

About halfway through the programme I travelled to Wellington and spent two weeks working at the Ministry of Business, Innovation and Employment (MBIE). MBIE writes most of the guidelines and legislation that Building Control follows and enforces so it was awesome to gain high-level insight and see the bigger picture.

Having completed the graduate programme, I have gained a solid foundation for my career. I definitely recommend Auckland Council's graduate programme and am looking forward to the challenges and opportunities ahead."

Applications for our 2017 engineering graduate programme are open from 20 April to 5 May – visit www.aucklandcouncil.govt.nz/graduates for more information and to apply.

James Overton

Graduate Controls System Engineer

Bachelor of Engineering (Honours)

Evident is an Auckland-based company focused on improving the performance of the built environment. They work on leading-edge building projects throughout New Zealand, supplying consultancy services and building control systems that achieve extremely high levels of energy and water efficiency, and occupant comfort. They also run communication campaigns based on these buildings that aim to inspire and enable uptake of innovation in the building sector.

I have always been interested in unconventional solutions to engineering problems. The field of electrical/electronics engineering is so broad in its application, that it is often at the forefront of innovation. After completing my degree, I searched for a role that would allow me to develop new ideas into working solutions. Evident's aspiration to change the built environment for the better has innovation at its core and I joined as a Graduate Controls Engineer in October 2015.

During my time with Evident I have been working on New Zealand's largest Net Zero Energy and Living Building Challenge project, a 100-bed tourist and education centre currently under construction in the South Island. Net Zero Energy buildings generate as much electricity as they use and the Living Building Challenge is considered an international benchmark for sustainable building practices. Evident is designing and supplying a control and monitoring solution for the site that manages its solar-thermal, ground source heat pumps, heating, hot water and lighting systems. This control is essential to achieving the energy efficiency required for Net Zero Energy.

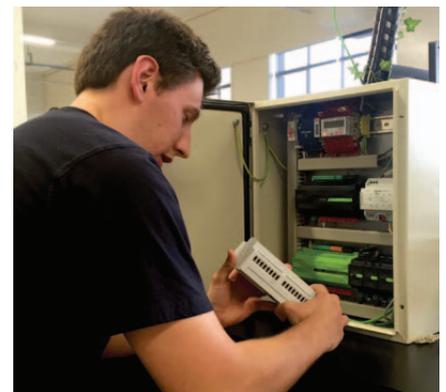
A core part of my role so far has been developing real-time control logic for the solar thermal plant. One of the inputs to this is the number of people using each building, which has required me to develop software interfaces between the building control PLCs and a cloud-based booking system. Two areas I've just started working on are designing logic for external lighting that will 'follow' people as they move along pathways, and an open loop position



control solution that will operate retro-style electricity meters on the walls of buildings to show real-time energy generation and use.

Evident is also heavily involved in the communication side of this project, and my role is starting to overlap with those elements through design of the approach to monitoring performance of the site. Energy, water and thermal performance data is monitored and then pushed to the cloud for viewing by building users, staff and the general public. I've researched the devices that allow us to capture this data and worked with our web developer to build the backend of prototype apps to present data from these devices to building users in real-time.

Evident has a friendly, relaxed social atmosphere, where individuals are self motivated and have an intrinsic work ethic. The company aims to innovate in business practices as well as its projects – in 2016 it is implementing a transparent approach to make revenue and costs (including salaries) public, and it is also exploring shared equity schemes to give ownership to employees. There is a constant drive to innovate and push the boundaries of solutions. A factual



engineering-driven approach is taken to achieving sustainability outcomes in buildings, without sacrificing functionality or comfort.

Evident are intending to offer a range of small, paid projects in the second half of 2016 to give students exposure to leading-edge building projects and a chance to work alongside the team. These projects will be announced at a presentation evening at the Faculty of Engineering in mid-May.

www.evident.co.nz

Engineering for the Future: Career Development Opportunities at Milmeq

INTRODUCING MILMEQ

Milmeq specialises in delivering capital plant equipment for food processing operations around the world.

Our areas of expertise include primary food processing, chilling and freezing and materials handling. We provide performance-enhancing solutions to clients across the meat, poultry, dairy, seafood and horticulture industries.

Having already established ourselves as leaders in New Zealand, we are now recognised globally for offering world class technologies and support systems.

DEVELOPMENT OF ENGINEERING TALENT

We recognise that bringing young engineering talent into the business provides fresh ideas and theories, which are essential ingredients for long term growth and sustainability.

Milmeq supports the development of New Zealand engineers through a variety of initiatives including:

- > Auckland University Scholarship programme
- > Summer Internship
- > Graduate Recruitment

MEET OUR RECENT INTERNS



From left: Interns Catherine Clark, Ryan Ennor, Evan Simmers and Milmeq Commercialisation Manager Ross Clarke.

"In my internship, I worked on linking Milmeq's 3D design software to their parts ordering systems, to automate the generation of bills of materials and parts ordering.

I also further developed a diagnostic data box, ready for deployment, to measure air velocity and temperature inside Milmeq freezer tunnels during regular tunnel operation.

While at Milmeq I was mentored by employees with a wealth of knowledge and experience. I really enjoyed the ability to work on projects under supervision with an open scope for my developments."

Ryan Ennor

2015/2016 Summer Intern

"During my time at Milmeq I developed a low-cost temperature sensor array that, when retrofitted to Milmeq plate freezer installations, automatically diagnosed any refrigeration issues down to the individual plate level.

The sensor will enable Milmeq's clients to identify under-performing plates more efficiently, saving them time and money.

My 10 weeks at Milmeq helped me develop my innovative thinking and problem solving skills. I think more than anything, the open and collaborative culture at Milmeq is what I enjoyed the most."

Evan Simmers

2015/2016 Scholarship Recipient and Summer Intern



Milmeq Scholarship – Apply Now

The Milmeq Scholarship (Code No. 422) offers a \$3,000 contribution to tuition fees for University of Auckland undergraduate BE (Hons) student interested in primary food processing and low temperature materials handling systems.

Find out more on the University of Auckland website or email recruitment@milmeq.com.

Applications close 31 July.

www.milmeq.com

milmeq
engineering for the future



Gabriela Surja

I was born and raised in Indonesia where I experienced first-hand various transportation and other infrastructure issues. Combined with my interest in mathematics and problem solving, my heart was then set on pursuing a career which allows me to develop and implement practical solutions to infrastructure problems – civil engineering.

I graduated from the University of Auckland with a BE (Hons) in Civil and Environmental Engineering in 2013, majoring in Transportation. Since graduation I have been working for AECOM in the Highways and Bridges Team, starting in Christchurch and now based in Auckland.

In Christchurch I was involved in the design, management, and delivery of several NZ Transport Agency's roading improvement projects, such as the SH1 (Russley Road) Widening and the Broughs Road Extension. I was also seconded to the Christchurch City Council Traffic Operation Team where I designed solutions to local traffic issues around Christchurch.

Currently I am part of the Additional Waitemata Harbour Crossing Route Protection Highways Design Team. I am assisting with the production of drawings and report, as well as the design of various highways elements, and I really enjoy the fast-paced nature and close collaboration across multidisciplinary teams. I served as Vice Chair on the IPENZ Engenerate Canterbury Committee in 2014, and was also part of the AECOM Growing Professional Skills Committee leadership team; organising professional development as well as social events.



Claire Oliver

I graduated with a BE(Hons) from the University of Auckland in 2010. I enjoyed my degree course, made some lifelong friends and was involved with various clubs and the Women in Engineering Network, taking on the role of co-President in my third year. I chose to study civil and environmental engineering as I was, and still am, interested in community and environmental improvement.

After graduation, I worked at a small environmental engineering company for 3 years, mainly working on the optimisation of industrial wastewater treatment plants and undertaking environmental engineering feasibility studies.

I moved to London in 2013 and took a job at a large multinational engineering company, Amec Foster Wheeler Environment and Infrastructure, where I work as an engineering project manager leading project teams on multi-disciplinary design and construction of waste infrastructure projects. Some of my most memorable projects in the UK are: undertaking an options assessment to choose the safest option for decommissioning a disused nuclear waste pipeline in Dorset, investigating the source and stopping acidic hot wastewater from a factory polluting a local river, and managing the engineering and planning for a new solid waste transfer station in central London. In 2015 I passed my Chartered Professional Review and was accepted as a member of the Institution of Civil Engineers (ICE) in London. This was my goal when I came to London three years ago.

I love the challenges in engineering because no two days are the same.



Irina Boiarkina

I only learnt about studying engineering as a degree in my last year of high school, through Engenuity Day at the University of Auckland. The mix of fundamental knowledge, problem solving and practical applications appealed to me immediately.

At the end of the first year I chose to specialise in Chemical and Materials Engineering, because I found the idea of large scale processing plants fascinating; that the parts of such large systems could work together to produce something useful. After graduating in 2008, I worked shortly for Harrison Grierson Consultants doing water treatment plant design, and enjoyed the project variety. However, I went back to do a PhD shortly after as I felt the drive to learn in more depth, and have since carried on to a postdoctoral position at the university.

My current research is industry focused and we work on real time quality of milk powder. I have been enjoying the challenge as it was a new process to understand and I have had many opportunities to apply skills such as mathematical modelling, programming and systematic thinking in trying to predict the quality of milk powder as it comes off of the production line.

One of the parts that I find most enjoyable in engineering is problem solving as part of a team; it always amazes me how much more you can achieve with the right kind of collaboration, and solving a problem in itself never fails to provide me with a great sense of satisfaction. I have also had the opportunity to lecture, which is a lot of fun, and it was interesting to have the switched perspective from being a student at the other end to standing at the front of the lecture theatre.