



Women in Construction

Foreword

Welcome to the latest edition of Women in Construction, we hope this booklet will ignite your interest and encourage you to look further at the career opportunities construction has to offer.

As a CITB NI Board Member and a HR Manager with a local construction company, I am totally committed to ensuring the construction industry is viewed by women as one that is innovative, challenging and rewarding. As an industry we are all working hard to make construction more diverse and we would like to be recognised as an industry with opportunities for all.

In Europe, the construction sector employs approximately 14.1m with around 88% of those employed being male. In the UK, as of 2015, the proportion of the UK's construction workforce jobs held by women is around 20% or 1 in 5, however women are expected to make up a quarter (26%) of the UK's workforce by 2020 (according to research from Ranstad CPE). This figure could grow even further with the right cultural change and we hope you will be part of this growth!

For many construction companies in Northern Ireland, the past year has seen continued growth in workloads and employment, with many delivering high-spec, innovative buildings throughout the UK and further afield. We continue to invest in research & development and we are embracing technology and digital working in the way we work.

CITB NI continues to work with schools, employers and women in the industry to promote careers in construction and I'm sure, on reading the case studies, you will be in no doubt that construction has a lot to offer girls and women when choosing their career.

We would also like to thank the women featured in the booklet for sharing their career journey and wish them continued success in the years ahead.

Maria Bradley
HR & Quality Manager, Gilbert-Ash Limited
and CITB NI Board Member



Introduction

The construction sector covers the design, construction and maintenance of buildings and infrastructure projects such as bridges, roads, tunnels, waterways, etc.

The industry offers everyone, male or female, a wide range of interesting and varied careers – everything from hands-on site-based work, to office-based management roles. There are a number of routes into the industry depending on your interests and skills, including through apprenticeships, and college or university qualifications. The majority of trades require a minimum NVQ Level 2 or above. Professional occupations usually require a degree qualification or equivalent. Depending on the role, skills such as problem solving, management, organisation, communication, planning, practical skills, commercial skills, design, IT, and analytical skills are all in demand. In addition, the industry looks for enthusiastic, hard-working, creative and innovative people with lots of determination.

Typical roles in the industry including painting and decorating, bricklaying, carpentry, architecture, quantity surveying and site management. Other occupations include plant operator (e.g. cranes, excavators), demolition operative, road building operative, estimator, site engineer, and health and safety manager). There are also lots of opportunities in developing areas such as learning to build sustainably to reduce the impact of construction on the environment. Another new development is the use of Building Information Modelling techniques and specialist software to plan

construction projects. Traditional building skills are also in demand for the restoration of historic buildings. There are also lots of opportunities within the construction supply chain e.g. supply chain logistics.

Working in construction you will:

- make a real difference to the environment;
- have access to a huge range of training & professional qualifications at all levels;
- have opportunities to progress and work throughout the UK, Ireland and further afield;
- work in an environment that is constantly changing;
- work in an office and / or outdoors; and
- have the potential to become self-employed in your chosen occupation.

So it's up to you to decide what areas interest you and where your talents can be used!

CASE STUDIES AND VIDEOS

The following case studies will give you a taste of working in the construction industry and more case studies, including some video case studies are available at www.citbni.org.uk/Careers.aspx or www.goconstruct.org/

Aine McNicholl, Chartered Construction Manager, Combined Facilities Management Ltd

Having only worked in the construction industry for a year and a half, Aine is already making a big impact and has already achieved her own five-year career targets.

Aine comes from a construction family background and spent much of her time as a child around construction sites. This led to Aine and two of her three sisters all choosing a career in construction. Aine and her twin completed a Masters in Construction and Project Management, while another sister is a Civil Engineer.

Following her time at university, Aine started working for CFM as a graduate and was trained as a building surveyor. Within six months of starting work, she had been promoted to Project Manager, and has now expanded her skills set to work on business development and a range of other tasks within the business.

With such a wide variety of responsibilities, Aine says no two days are the same. She spends half of her time on site and half in the office. On site, she acts as building surveyor / project manager for insurance restorations. These are difficult jobs as there is a balance to be achieved between working with the end client (policy holder) and the customer (the insurance company). Aine feels that the communication required for this role is something that women



excel at. While on site, Aine surveys properties for damage, identifies solutions, and prepares a Bill of Quantities¹ for the customer. She prepares the programme of works and attends weekly or monthly site meetings, managing subcontractors, specialists and suppliers.

Aine's office-based role is primarily in business development – preparing and submitting bids and identifying new clients. She also manages the marketing and social media for the company and enters the company for Awards. In addition, Aine oversees the company's Corporate Social Responsibility e.g. social clauses², working with local communities and charity work. She also developed, and chairs,

1 Bill of Quantities: a detailed statement of work, prices, dimensions, and other details, for the erection of a building by contract.

2 Social clause: a clause in a contract that results in benefits to the wider community e.g. employment or training of local people.

CFM's Health and Wellbeing programme 'Restore' and will ensure the delivery of the three-year strategy. Finally, she also looks after CFM's environmental sustainability.

Aine says, 'It is stressful and there are a lot of deadlines but it's all worthwhile in the end. I like that I can be involved from the beginning of the process right through to the end, from winning the work to managing the actual job'. She says construction is very fast-paced and she likes that she has been given a lot of responsibility from early on.

In terms of advice for other young women considering a career in construction, Aine says 'Go for it!' She feels that women are equally competent and if they have the right capabilities and the determination to succeed then there is no reason why they wouldn't do well in the industry.

One of Aine's biggest career achievements to date has been to get chartered with CIOB³ within a year and a half of starting in the industry – this was a five-year goal she had set herself and she was delighted to achieve it so early. She has also contributed to CFM's first Construction Excellence Award for Environmental Sustainability on their first time entering in 2018.

³ The Chartered Institute of Building

Amy Wright, Chartered Civil Engineer, Farrans

A trip to Lesotho, the small country in South Africa, resulted in a desire to help people and Amy's ambition is still to work in development engineering in Africa.

Amy entered the construction industry by completing a Masters Degree in Civil Engineering at the University of Nottingham. She had originally intended to study Biology but following her sixth form trip to Lesotho and seeing first-hand the poor living conditions, she developed a passion for helping people and decided that Civil Engineering was the route she wanted to follow.

She had her first taste of development engineering at University when she founded a team to complete a project to build a small-scale hydro and solar power scheme in Malawi. This project provided lighting and refrigerators to a health centre allowing the community to receive important vaccinations. In addition, lighting was provided to a primary school, community centre and village homes allowing an estimated 1,000 local residents to benefit from access to education after sunset.

Following her degree, she worked for Sir Robert McAlpine, a leading UK construction company, for two years as a Graduate Engineer. Next, she worked in design consultancy at Amec Foster Wheeler but found that an office-based career was not for her.

The construction of the iconic Northern Spire (part of the Sunderland Strategic Transport Corridor programme and the first new bridge to be built over the River Wear in forty years) was to be the biggest civil engineering infrastructure project in the north of England and when Amy saw that Farrans had won the contract and were advertising for Section Managers – she immediately applied to work on the project. She was appointed initially as Senior Site Engineer and progressed to perform the role of Section Engineer during the three years she worked on the project. Amy's day-to-day role was fully site based and involved managing sections of work including planning, programming and resourcing. She managed labour, health and safety and quality and was also responsible for setting out, surveying and training Apprentices and Graduate Engineers.

On completion of the project Amy moved to work at Farrans' Dunmurry headquarters in Northern Ireland in order to broaden her skills and gain experience in the tendering and bidding aspects of her chosen career.

Amy loves working as part of a team, gains great satisfaction and takes great pride in a project as it develops into a finished structure that will have a lasting positive impact on a community. She says, 'Every day is different; you are constantly on the move and being challenged, it is hard work but very enjoyable'.

Amy believes that to attract more women into the industry, visible role models are required and there needs to be more women in key roles who can create change. Amy is a registered



STEM ambassador and in her spare time worked as Regional Education Coordinator for the Institution of Civil Engineers (ICE) North East. Here she created a number of initiatives including a workshop that is now being rolled out by the ICE across the whole country and a competition which is open to every school in the North East. Both initiatives have reached thousands of students and encouraged them to think about Civil Engineering as a career by graphically demonstrating what a fantastic and varied industry construction is. Amy is currently trying to introduce the ICE Inspire competition into Northern Ireland schools.

Amy's credentials are growing as she progresses through her career with nominations for several Awards including appearing in the 2017 list for The Telegraph and Women in Engineering Society Top 50 Female Engineers. She was also selected as one of six women to be recognised at the New Civil Engineer Recognising Women in Engineering Awards this year and was one of six finalists for the IET⁴ Young Woman Engineer of the Year Awards.

⁴ IET = Institute of Engineering and Technology

Ashlene McMonagle, Student, Braidwater Group

Working two days a week with Braidwater and spending three days at university means that Ashlene is kept busy, but she is enjoying the challenges and is looking forward to a bright career as a Quantity Surveyor.

Ashlene grew up surrounded by construction as her father is a building contractor and her uncle owns a waste and civil engineering company. Despite following her family into a career in construction, Ashlene doesn't see herself working in the family business, preferring to 'spread her wings'.

Ashlene began her studies with a Foundation Degree in Sustainable Construction at North West Regional College, and during this time completed a placement with Braidwater Homes (now part of the Braidwater Group). During this time, she worked on a social housing project, shadowing the site manager and helping to ensure that the day-to-day running of the site was smooth, and that work was completed to schedule. She also attended site meetings with clients and subcontractors, carried out health and safety checks and managed quality assurance. Ashlene is proud that the project was completed ahead of schedule and achieved over and above the required standard for Considerate Constructors Scheme.

Upon successful completion of her Foundation Degree (she achieved a Distinction), Ashlene moved straight into the second year of her university degree in Quantity Surveying and Commercial Management at Ulster University

and continues to work part-time in Braidwater. Ashlene's two days a week at Braidwater are spent in the office working on costings and orders, taking specifications and measurements from architectural drawings. She is mentored by a senior Quantity Surveyor and is learning new skills each week. Ashlene hopes that she can remain with Braidwater for her third-year placement.



Ashlene would encourage other young women to consider a career in the construction industry and says she never gets bored, it is exciting, and no two days are the same. In addition, there are so many areas to branch out into and there are also opportunities to travel – once you have your degree you can go anywhere. Ashlene says 'there is a shortage of Quantity Surveyors and my degree course has something like a 98% employment rate once qualified⁵, so I am confident that I have chosen the right career'. She says her company are very supportive of all their students and that they encourage them and make them feel that they are part of the team.

Ashlene hopes to be a Quantity Surveyor / Commercial Manager when she completes her degree and says that due to current shortages in the sector, her future should be secure.

Sarah McGuinness, Solicitor, GRAHAM

Sarah never envisaged working in the construction industry, but now loves her job and enjoys applying her skills and knowledge in the male-dominated profession of construction law.

Sarah fell into a career in law by accident. Originally intent on pursuing a career in prosthetic makeup, her parents encouraged her to have a back-up plan and she chose to follow her brother and complete a law degree. Having spent a year on work placement in the US during her studies, her interest in corporate law was sparked and she subsequently undertook her professional exams in Liverpool.

After qualifying Sarah was intent on working in property law but found it hard to obtain employment in this field. Following a brief spell as a paralegal, she found a job with a large law firm in Northern Ireland. Initially she worked on general commercial disputes but when she was drafted in to help with a large construction dispute, she found her niche. Sarah enjoyed working on this case and gained a lot of practical knowledge. Deciding to pursue this career option and finding that there was not enough construction-related legal work in Northern Ireland, Sarah moved to Dublin where she worked on a wide range of construction law matters, from tendering to disputes. When she saw her current role being advertised, she jumped at the chance to work in-house for a construction company.

Within her current role, Sarah works on anything from employment law, health and safety law, corporate governance, tendering and contract frameworks right through to disputes. Every day

varies and one day she could be in court and another advising on risk at the pre-tender stage. She currently travels almost weekly for work, but this fluctuates depending on the type of projects she is involved in.



Construction has historically been quite a male dominated field, but Sarah believes that is changing. She would advise young women thinking of entering the legal field and the construction industry to be open-minded – she says she is still surprised by the range of different job types in the industry and within her own company. There are lots of opportunities and they are not all technical. The industry is very rewarding and exciting, whilst allowing you to continuously progress and develop. Getting into the right company can help too.

Sarah's enthusiasm for her job is obvious and she says she really enjoys working with the different commercial and technical teams involved in projects and learning from others within the company. She likes that she can see a tangible outcome at the end of a project, having worked through it at all the different stages. Certainly, not many solicitors can physically see the results of their work in the shape of a building or a road that people are going to use. It has also given her the opportunity to work on some of the most high-profile contracts across the UK and Ireland.

Carla O’Kane, Architectural Technologist, Montgomery Irwin Architecture and Design

Carla has been in the industry for four years and as well as working in a busy architectural practice is contributing to the profession overall as a member of the CIAT⁶ Northern Ireland Regional Committee.

Carla became interested in the construction industry by chance, when her family added an extension to their house. At first, she thought about interior design as a career but decided that she wanted more control over the building as a whole which led her to Architecture. Studying Art and Technology & Design at school were her preferences but unfortunately, she was required to choose between the two at GCSE Level. Carla chose Technology but later regretted this as she thought she had ruined her chances of becoming an architect given that Art was required for the degree programme. Undeterred, Carla prepared and submitted an art portfolio which secured her an offer. Due to increased course demand, and A¹ Level results the admission grades required for the Architecture degree were increased, so Carla decided to pursue a degree in Architectural Technology at Ulster University. This was a degree programme she had been encouraged to look at by one of the lecturers at a university open day she had attended.

As an Architectural Technologist Carla is able to manage a project from inception to completion. By taking the lead on the design of a project, she can form a link between concept,



innovation and realisation holistically, whereas an Architect is mainly concerned with the overall appearance of a building and the spaces created.

Carla’s job involves working on residential projects including new builds and extensions. This involves carrying out site surveys, dealing with planning and Building Control applications, and liaising with engineers, NI Water, SAP⁷, CDM⁸ Co-ordinators and Quantity Surveyors. She also drafts construction drawings for the builder which include floor plans, measurements, details of key areas, construction joints, detailing and indicative mechanical and electrical layouts. Carla is mainly office-based although she does get out

6 Chartered Institute of Architectural Technologists

7 Standard Assessment Procedure – provides energy ratings for buildings

8 Construction Design and Management

on-site to monitor projects, particularly on larger builds. Carla says 'I really enjoy my job and get great satisfaction from it. I have the benefit of being involved in the entire process from start to finish and seeing how happy the client is at the end of it, especially when a challenging brief has been achieved. Like most jobs there are downsides such as demanding hours and unreflective salaries in comparison to other roles in the construction industry.'

Carla has worked on numerous projects across Northern Ireland but there are two that stand out from her recent portfolio. The first is a £1.7 million private residential home complete with a pool, steam room, open plan kitchen and luxurious finishes. The scale of this project was a first for Carla. She was part of an extensive design team and responsible for submission of the planning application. She then developed construction drawings for tender and was heavily involved in responding to technical queries on site. This project gave her a realistic insight into project management and contract administration.

The second project involved working with a Canadian company to design bespoke elements of two log cabin style homes which were initially built in Canada and then dismantled, shipped and rebuilt in Northern Ireland. Carla was heavily involved in the detailing aspects of this build in particular roof construction, windows, wiring and insulation.

Whilst women are in the minority in this job role, the industry is generally very supportive, and numbers are increasing. Carla's employers value her strength in communicating with female clients, instantly making them more comfortable to contribute without the anticipated judgement.

Carla has progressed to Chartered membership with CIAT, this qualification allows her to practise on her own as a partner or director if she decides to set up her own business. Within the NI regional panel, she is involved in the PR committee, helping to get the institute's messages out across social media.

Ciara Doherty, Project Manager, H&J Martin

It's not everyone who can say they helped construct a bridge across a Rwandan river, but Ciara Doherty has recently returned from a trip to do just that as part of an ICE (Institute of Civil Engineers) team.

A family background in construction trades led Ciara to consider the construction industry as a career. She initially thought about Architecture but after a week's work placement at school decided that Civil Engineering and construction was the route for her. With a good grounding in science and maths at A Level, Ciara then progressed on to a 4-year sandwich Civil Engineering degree.

Ciara's career to date has been varied, something she likes about the industry is the flexibility to move around. Ciara has worked in utilities, in building (multi-million-pound high rise commercial and residential apartment projects) and has recently moved into house building. Another positive she mentions about the construction industry is that 'most companies will provide you with continuous professional development throughout your career, whether that is on- or off-site. This learning can then take you on towards your professional Chartership'. Ciara feels that by entering the construction industry you are investing in your career. For example, Ciara has recently achieved an NVQ Level 5 in Controlling & Planning Lifting Operations in Construction, one of only a few, if not the only, female to do so in Northern Ireland.



There are some downsides to the industry in that there are long hours and sometimes it can be hard to switch off. Issues need to be resolved as and when they arise for example. But Ciara says all the hard work pays off in the end when you deliver a good project – there is a great buzz at this point.

Ciara's role on a day-to-day basis is generally site-based and she will start with daily briefings to the supervisors of each subcontractor working on site. These briefings cover work activities for the day and coordinating the trades. This might be followed with site inspections by clients or designers and general management of the works. Ciara will also plan

procurement and materials orders for the next day and determine what equipment and labour resources are required, relating all this back to the contract agreement. She will also review construction drawings and at the end of the day she will complete a daily diary which is used for costings, incidents, and reporting.

In between large projects, Ciara might be drafted in to help the tendering teams with costings for a short period.

So, what about the bridge in Rwanda? Ciara, as part of a team of 10, constructed a 46m suspension bridge for the Bridges to Prosperity charity in less than two weeks. This allows 6,000 members of the local community to cross the river. She says they learnt a lot from the locals who use simpler techniques and are much more resourceful and less wasteful than Westerners.

Ciara's advice for those considering a career in construction is to keep your options open. The industry is very varied and diverse so there is lots of career choice. Civil Engineering is a professional role and you can work across different roles, meeting different people and then there are the opportunities for travel.

There is demand for a more diverse workforce, whether that be gender or ethnicity and most companies are now recruiting with diversity in mind and using new ways of advertising such as social media to try and reach a wider audience.

Ciara dedicates time to raising the profile of Civil Engineering and is member of the Education and Inspiration Group Committee for the Institution of Civil Engineers NI. She is an active STEM Ambassador and as such has received various award nominations and finalist short listings including: WISE Awards 2015 - Inspiring Young People, Women in Business Awards 2016 - Advancing Diversity in the Workplace, CCEA Fairness Inclusion and Respect 2017 - Inspiration Award, and the Belfast Telegraph's Top 50 Females in Construction 2017.

Fiona Martyn, Associate Director of Building Consultancy, CBRE and Julie Sweeney, Bid Manager, McAlier and Rushe

Having been exposed to the construction industry from an early age, it was not surprising that sisters Fiona and Julie both decided to follow their father and other siblings into successful careers in the industry.

Fiona's background is in Building Surveying and Julie's in Business and Marketing, however through experience and further study their roles have evolved within the construction industry leading them to careers in Project Management and Bid Management respectively.

Both worked in Australia during the downturn in the NI construction industry, and this broadened their experience and skills. Julie found herself working within a very different insurance and remedial works system, managing the countryside division which reinstated buildings after fires and floods. She also worked as a project coordinator for a government owned Power Generation provider. Fiona worked in the commercial and estimating teams on a number of multi-million pound projects such as apartment blocks, new schools, and a winery, and gained an estimating diploma, giving her a broader perspective on construction. She found the pace, extent and variety of projects being completed in Australia very different to those at home.

When they returned from Australia, Julie accepted a role as a Bid Manager which at that time was a developing role within the industry. Although she had completed a Masters in Project Management she was attracted to the



role of Bid Manager as she could use her knowledge in project management as well as her business and marketing skills. Meanwhile Fiona based herself in Dublin working initially for an environmental company as a project manager and then moving on to CBRE and working on high profile projects.

Fiona's role as a Senior Project Manager involves her 'being the eyes and ears' of the client. She manages the project from its initial stages to completion – looking after the programme, budget control and resolving any issues as they arrive. Excellent communication skills are essential for this role so it makes a good choice for women who may be more empathetic to the needs of the client. Some of Fiona's most notable work has been project managing several fit-out schemes for Google in Dublin and monitoring projects for Deloitte and Bazaarvoice in Belfast. These large American companies are changing the idea of how an office space should look and working with them provides ideas which can be transferred to the local market.

Fiona says 'There is a lot to squeeze into a week. Aside from the day-to-day office activities of responding to the ever-present stream of

e-mails and phone calls from clients and construction teams, I also have to manage to get around to my various sites, to inspect and chair site progress meetings. After all that it's a case of preparing progress reports and other paperwork including budget updates and approvals. Business development is also very important particularly as we are relatively fresh on the ground in Belfast so-to-speak, so making time to speak to potential new clients is also crucial'. Fiona enjoys the variety of work and how that provides a constant supply of new techniques, skills and knowledge to acquire. Fiona has just been promoted to Associate Director of Building Consultancy.

Julie's role as Bid Manager involves preparing technical bid proposals for large scale projects within the hotel, residential, student accommodation and office sectors. This includes working with estimators, planners, construction management, suppliers, SHEQ (Safety, Health, Environmental and Quality) personnel, and legal advisers to coordinate a professional bid presentation outlining how the company proposes to deliver the project and at what cost. Technical aspects of the project are discussed with construction management personnel and suppliers, including the methodology for delivering the project to the client's requirements safely and on time. The aim is to encompass this information accurately into a high-quality proposal, in a creative and professional fashion within challenging submission timeframes.

Julie enjoys working with individuals within every aspect of the construction process and can be working on bids from £15 - £150 million. She loves seeing the concepts transformed into reality and is particularly proud of having worked on two of the biggest student housing schemes

in Northern Ireland for Queens' University Belfast. She thoroughly enjoyed being involved in the bid process and witnessing the client's ideas for design and requirements for the scheme turn into reality.

Julie says, 'Careers in construction were never mentioned for girls at school, but everyone has the same capabilities and drive so those who are interested in professional careers should also consider construction. It is fast-paced and ever evolving and there are opportunities for people with all sorts of skills and experience.'

Both women mentioned that the industry has good companies who will support women and help them to advance their careers, whilst allowing them to manage their work life balance and families. Many construction companies are starting to think more about the well-being of their staff with nursing rooms, transgender facilities, and yoga rooms being incorporated into workplaces. Fiona says that work-life balance is essential as jobs in construction can be all-consuming, but with clear boundaries, teams are often more productive and produce better results.

Both Fiona and Julie stressed that young women should not be put off by what they might hear elsewhere. If they have a strong and confident character, they will succeed in the construction industry. At the minute, women often have to work harder to prove themselves but as the number of women in the industry increases this is becoming less of an issue. Their advice was to get as much experience as possible whilst studying as this will prove beneficial when applying for jobs. Options include summer placement year, and part-time options are also available. Fiona's final piece of advice is, 'If you are passionate about something, do it'.

Joanne Lennox, Head of People and Engagement, Farrans

Joanne is proud to make a difference in the construction industry in terms of diversity, inclusivity and equality.

With more than 25 years in the HR sector behind her, including roles in retail, banking and manufacturing, it is this experience which has equipped Joanne perfectly for her current role as Head of People and Engagement at Farrans, and which has shaped her into one of the progressive-thinking people she talks about.

Having joined the Belfast-based company in Spring 2016, Joanne reflects on how the initial task of working with senior management to visualise the future direction of the company has transformed company culture for the better in the past few years. 'It has been something of a whirlwind', Joanne reflects. 'But a well-planned one!' she adds. 'In the past two years, the 'people' agenda has been at the heart of everything that Farrans do'.

As a founding member of the company's first Fairness, Inclusivity and Respect working group, Joanne is committed to championing females in construction as an integral component of her 'people' agenda and has set out a clear vision and introduced a wide range of training opportunities, performance management initiatives, leadership development programmes and career planning tools.

Joanne is keen to increase the number of women in the industry and in senior roles, she says 'Construction is an untapped marketplace that women need to think more about.

'It doesn't matter what discipline – operations, planning, HR, design. There is a role for you in construction. Not every role requires you to work away from home. There is diversity in the opportunities available'.



As well as making a tangible difference within internal company culture, the success of the 'people' agenda led by Joanne has been externally recognised, with Farrans receiving a Silver 'Investors in People' accreditation and a host of industry awards, including the 2018 CEF Training Award and 2017 Construction Investing in Talent Award for 'Outreach Initiative of the Year', amongst others.

Joanne sees such awards as milestones on a journey, rather than being the end goal. 'Our 'people' agenda is an ongoing and exciting journey', she says. 'There are more challenges to overcome and more innovative, progressive thinking required, but I am proud to be part of a team which is fully committed to this venture', she says. 'We're focusing on creating defined career pathways and transparent routes to progression so that every employee, no matter what their talent, can see clearly the opportunity to develop and progress in their career if matched with a strong work ethic, commitment and ambition'.

Robyn Newberry, Assistant Design Manager, GRAHAM-BAM Healthcare Partnership

Working on two high-profile healthcare projects keeps Robyn busy but she still finds time to visit schools to encourage others to join the construction industry.

Robyn was good at practical subjects at school and was interested in a career in interior or product design, however whilst browsing through some university prospectuses she decided to apply for a Construction Engineering course. As her father is a roofer, and her brother a civil engineer, it seemed like a logical choice.

Whilst at university, Robyn undertook a placement with Lagan Specialist Contracting Group at the Ulster University project and was offered a job after her placement, so she finished her degree on a part-time basis whilst working. Unfortunately, after three years, Robyn was made redundant however within a week she had been interviewed for and had secured her current role, which she had initially felt she might not be qualified for.

Robyn is currently working on both the new maternity unit at the Royal Victoria Hospital and the Mental Health Unit at Belfast City Hospital. Her day-to-day role is to manage the design process in liaison with subcontractors. This involves engaging with subcontractors to help them create a design proposal which meets the client's requirements. This is submitted to the client through a common data environment⁹ and any changes requested by the clients can be incorporated into the design proposal before

it is re-submitted. Occasionally a BIM¹⁰ model is used as it is easier to explain things using a 3D model. Robyn also liaises with the client's internal design team and with the architects.



Robyn is based in the site office, which means she has easy access to the site if required, however she spends most of her time in the office. She likes that she is always busy, there is something different and new problems to solve every day, and she also likes being part of a team. She is not so fond of all the administration and paperwork that goes with her job!

Going forward, Robyn would like to complete a Masters and get her Chartership as well as progressing to Design Manager and taking on her own projects.

Robyn says 'It is important for young women coming into the industry to explore all the options. There is more to construction than site engineering which can be daunting for women as there are so few females in the role and studying the subject, in fact I was the only female on my university degree course. There are plenty of other options to explore such as health and safety, project management and digital construction so don't be disillusioned. Construction is a good career path with lots of opportunities and good earning potential - the starting salary for a placement engineer is much higher than for other industries.'

9 Common data environment – an online facility for all partners (client, contractor, subcontractor) to share and collaborate on documents.

10 BIM - Building Information Modelling – a system for the storage and management of all digital information about a construction project which may include a 3D Model.

Melanie Thrush, Geoenvironmental Engineer, Arup

Melanie Thrush became an engineer because she wanted to help people – helping to rebuild Christchurch in New Zealand following the earthquake in 2010 is just one example of how she has done that.

With a family background in engineering, Melanie was interested in a similar career, however she didn't find much support from her school careers advisors. Determined to find out more, she organised her own work experience in an engineering consultancy, trying marine biology for a few days first. Having decided this was not for her, she spent the remainder of the work placement with the environmental engineering team building a coastal model and testing it at the QUB wave tank. With science and maths A Levels under her belt, Melanie proceeded to undertake a degree in Civil Engineering, followed by a Masters in Water Resources Management.

Due to the recession and a lack of work in Northern Ireland, Melanie joined hundreds of other construction workers and travelled to New Zealand to help with the rebuild following the Christchurch earthquake. Here she gained valuable experience moving from a graduate engineer level to an intermediate engineer level.

Melanie returned to Northern Ireland and found employment within the contaminated land team at Arup where she carved out a role for herself as a Geoenvironmental Engineer, working within a UK-wide team.



Melanie describes her job role as a bit like a detective – she has to determine from the evidence she gathers what potential contamination there is on a particular site and how to protect the environment, construction workers and future users of the development. Using the example of a contaminated landfill site that is to be redeveloped, Melanie will carry out a desk study, speak to regulatory bodies and identify gaps in the information which she will then fill in with results from ground investigations. She looks at the type of buildings which can be constructed and what potential issues there might be e.g. with settling. Once ground investigations such as the chemical analysis of water and soil have been specified and tendered for, Melanie will supervise the work on site on behalf of the

wider geotechnical and structural teams. She also carries out risk assessments to identify potential risks to local water supplies, and to human health. It is important to ensure that construction and maintenance workers as well as the end users (e.g. children, pregnant women etc.) are not at risk. Finally, Melanie will develop remediation solutions and supervise the whole process.

She also develops waste materials management plans to ensure contaminated products are removed and disposed of correctly and safely.

This detective work paid off on one occasion when she identified that a family were unknowingly getting ill from eating fruit from a tree on their land. Their house had been built on land used for agricultural and industrial purposes and the fruit tree was absorbing heavy metals from the contaminated soil. Identifying the cause of the illness prevented the family from getting any sicker and potentially facing life-threatening illnesses.

Geoenvironmental engineering is a growing sector as more and more land is being redeveloped so there are lots of opportunities for young people. Melanie says that the engineering community is very friendly and that any young woman with an interest could contact any female engineer and they would be happy to provide some advice and guidance on what degree or apprenticeship to undertake and how to get into the industry. Melanie is on the Work+ Steering Committee for apprenticeships in Civil Engineering and says this is the route she would choose to follow if she was coming into the industry now as it allows you to earn while you learn.

Melanie would encourage any young woman to consider a career in engineering as employers are much more open to diversity and have much better family-friendly policies etc. She feels there is still some education to be done in terms of the perception of female engineers amongst careers advisors and parents but says that young women should do their own research into this interesting career.

Natalie Briggs, Placement Student, Gilbert-Ash Limited

From teaching to a trade, Natalie's career has taken a few twists and turns but she has clear plans for her future in construction and is working towards completing further qualifications to pursue a career in the industry.

Natalie is currently undertaking a Foundation Degree in Construction Engineering with Surveying and is on placement with Gilbert-Ash, attending college one day a week, working two days on site, and two days in an office-based role to gain as much experience as possible. On site she is helping to create a display area with balcony in W5, which involves installing steel beams, metal decking and pouring concrete. She speaks to the client daily and works with the civil engineering subcontractors. In her office role, she is working in the buying department, gaining experience in gathering quotes and arranging deliveries. During her placement she will spend time in a number of departments to get the maximum amount of exposure to different aspects of the construction industry, which will ultimately help her to decide what direction to take when she has finished her Foundation Degree. Natalie has plans to transfer to a construction degree programme and is seriously considering Surveying as an option.

So how did Natalie get into construction? After school Natalie studied Biology at university and then completed a Masters Degree in Biomedical Science before going on to complete her PGCE¹¹. Unfortunately, due to the large numbers of teachers being trained in Northern



Ireland, Natalie was unable to find permanent work and spent five years working in short-term contracts covering other people's maternity leave before taking some time off to have two children of her own. When a note came home from her child's school advertising courses at WOMEN'STEC for unemployed women or women working less than 16 hours a week, Natalie decided to go along for a few taster sessions. As her father had been a wood machinist, Natalie decided to follow in his footsteps and train in Carpentry and Joinery, and with the help of WOMEN'STEC approached Belfast Met.

11 PGCE = Postgraduate Certificate in Education

Whilst the college was dubious at first as there are so few women in trade roles, they agreed to let her commence training and as soon as the course started she fell in love with using the tools and with the construction industry. Natalie completed a City and Guilds Level 2 and then progressed quickly onto a Level 3, completing both courses in two years.

Natalie was considering working in Carpentry and Joinery and possibly helping with some teaching at WOMEN'STEC, however her tutors at BIFHE encouraged her to go on and consider being the person managing the work rather than the person doing it. Natalie took this advice and started her Foundation Degree, taking the opportunity to do her placement with Gilbert-Ash, who she had already connected with at site visits and careers events organised by WOMEN'STEC.

Natalie finds it tough on the days she works on site as she needs to manage childcare very carefully and is concerned about the fact that for most jobs in construction, she would be required to work away from home for at least a few days a week. However, these challenges are not unsurmountable, and Natalie is keen to continue with this career path, stating that construction jobs are well-paid, and this will ultimately help her to provide for her children.

Her advice to young women is to consider the fact that a lot of opportunities in construction require travel and this may impact on family life. Unfortunately, the current situation with the NI Government means that there are less opportunities at home, but this may change in the future. Construction companies are also very keen to invest in their staff and there are

good benefits. Women with families may want to consider more office-based roles in the commercial side of construction as these are still well-paid career options.

Natalie is keen to see what the future holds and looks forward to a well-paid career in a role she loves.

CITB NI's Women in Construction Network

The CITB NI Women in Construction Network for Northern Ireland runs a number of events each year for its members to meet up, share their experiences and support each other. Many of the events are site visits – in the past members have visited major roadworks, a gasification plant, a waste water treatment plant, a hotel, and a bus maintenance facility. Occasionally the Network runs a seminar featuring speakers on a range of business and construction-related topics.

CITB NI Chief Executive, Barry Neilson, says, 'It is important that the construction industry in Northern Ireland has a wider pool of talent from which to recruit and that it recognises the benefits a diverse workforce can bring. There are already many successful women working in the construction sector in a variety of capacities, and they are excellent role models for our future recruits. In fact, our Board has a high proportion of female representation, highlighting the fact that women are making inroads into this male dominated industry and that they are seen as equal and valued members of the industry at all levels.'

CITB NI also runs events for schools to encourage young women to consider a career in the construction industry and members of the Network are able to volunteer at these events and share information on how to get into the industry, what their job roles involve and encourage and inspire the young people. With a wide mix of members from all parts of the industry including civil and structural engineers, health and safety officers, business development and human resource managers, a wide range of careers can be demonstrated at these events.

The Network has a dedicated webpage on the CITB NI website which is updated monthly with events of relevance to women working in the industry and it also features news items of interest to the members or featuring women working in the industry.

If you would like to become a member of the Network, e-mail your contact details to karen.hunter@citbni.org.uk. Membership is free and is open to all women working in the NI construction industry in all roles.

Women In Construction Events

Site visit to A2 Shore Road



Site visit to A8 Larne



Site visit to Bangor Wastewater Pumping Station



Site visit to Translink Milewater Service Centre



Site visit to Connswater Community Greenway



Site visit to AC Hotel by Marriott Belfast





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