

Lessons learned from one of New Zealand's most challenging civil engineering projects: rebuilding the earthquake damaged pipes, roads, bridges and retaining walls in the city of Christchurch 2011 - 2016.

Hays NAWIC Excellence Awards 2015 submission: Category: Professional Woman of the Year – Paula Lock

Story: Women in Construction

Theme: People and Culture

An award submission nominating Paula Lock for the Hays NAWIC Excellence Awards 2015:
Category: Professional Woman of the Year.

This document has been provided as an example of a tool that might be useful for other organisations undertaking complex disaster recovery or infrastructure rebuild programmes.

For more information about this document, visit www.scirtlearninglegacy.org.nz



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Hays NAWIC Excellence
Awards 2015

CATEGORY: Professional Woman of the Year

Nominee: Paula Lock

Biography / CV Summary Page

Paula Lock - BEng(Hons), CEng(UK), CPEng(NZ), MICE, MIPENZ

Paula Lock is a Principal Engineer/Project Manager and Associate with Opus International Consultants (Opus), currently seconded to the SCIRT programme.

Paula's well rounded engineering career started with 13 years working for Contractors on road construction (new and upgrade works, including associated structures) and maintenance. Paula then moved to a professional services organisation, Opus, where she carried out the role of Engineer's Representative, Operations Manager and Programme Manager on the Manukau City Council Roding Network Contract. She then moved to Christchurch to work in Project Manager/Project Team Leader roles in the Transportation Asset Development team, project managing various schemes for the NZ Transport Agency and Local Authorities.

Since October 2011 Paula has been seconded to the Stronger Christchurch Infrastructure Rebuild Team (SCIRT). She started at SCIRT in the role of Roding Engineer and has been progressively promoted through Design Team Lead to Design Manager to her current role of Professional Services and Design Manager managing the asset assessment and design for rebuilding the horizontal infrastructure damaged by the Christchurch earthquakes of 2010 and 2011.

Paula's Key Achievements include:

- Qualified as a Chartered Engineer in the UK and NZ
- 23 years' experience in Civil Engineering
- Leading the SCIRT multi award winning programme as a member of the strategic SCIRT Management Team
- SCIRT Professional Services and Design Manager leading the change management process for the Design and Asset Assessment teams through the transition of design creation to construction support
- SCIRT Design Manager leading, developing and coaching the Design Team members to their full potential. At its peak this was 180 designers, delivering on average an impressive \$100 million of design (concept and detailed) each month
- SCIRT Design Team Leader for the Opus-led design team of 44 designers. Opus awarded this team "The Excellent Service Delivery Award" in 2013 for dedication to helping clients achieve their wider goals
- In the set up stage of the programme contributed as a key leader in developing robust systems and innovative solutions to SCIRTs unique circumstances
- Civil Manager for the Opus Team involved in the Infrastructure Rebuild (pre-SCIRT), responsible for the management of the roading, bridging and retaining wall aspects of the infrastructure recovery works
- Member of the Management Team responsible for Opus' (September 2010 and February 2011) Earthquake Emergency Responses
- Proactive liaison with clients in the roles of Team leader and Deputy Team Leader on various NZ Transport Agency and Christchurch City Council Projects resulting in positive feedback and successful project completion

Paula understands the power of trust and respect as a leader and works to engender that within the teams she leads. She is unflappable, conscientious and committed, enabling her to achieve outcomes with and through others without fanfare or drama.

Christchurch's lifestyle "Avenues" magazine featured Paula in a March 2015 article "Women in Neon". Recognised in the community, her organisation and by the men and women she works with, Paula is an inspiration and has demonstrated the levels of an individual's success that can be achieved in the construction industry.

Background - Christchurch and SCIRT

Greater Christchurch has experienced more than 13,000 earthquakes since September 2010. The most devastating was in February 2011, killing 185 people, irreparably damaging around two-thirds of the city's commercial buildings and liquefying about a third of its land area. Entire suburbs have since been disestablished with a massive rebuilding programme underway above and below ground.

One organisation involved in the rebuild programme is the Stronger Christchurch Infrastructure Rebuild Team (SCIRT), based on an alliance contract between five large civil construction companies (City Care, Downer, Fletcher, Fulton Hogan and McConnell Dowell) and three client organisations (Christchurch City Council (CCC), CERA, NZTA).

SCIRT's task from 2011 to 2016 is the rebuild of earthquake-damaged infrastructure assets: publicly-owned pipes, roads, bridges and retaining walls. This involves more than \$2.5 billion of work and 600-plus projects by 2,000 team members seconded from 100-plus organisations. These include professional services organisations like Opus, Beca, GHD, URS, Aecom, Jacobs, MWH, Aurecon, through to small-to-medium civil contractors. SCIRT recognises that it is an unusual organisation established for a unique reason: *"To create resilient infrastructure that gives people security and confidence in the future of Christchurch"*. Contributing organisations also want to ensure that this rare opportunity leaves positive legacies to industry and other places recovering from a disaster of this scale beyond December 2016 when the SCIRT work finishes.

Paula Lock's role at SCIRT and how she got here

Heading up this complex organisation is a management team of ten. As at April 2015, four of those leadership roles are held by women. Paula Lock represents her large team as the Professional Services and Design Manager. To understand her impact of her leadership within her team and wider, we need to go back to the beginning of her journey.

Paula grew up with three sisters on a farm in England. She says that she always knew she would live somewhere else and do something involved with math. At school, she could not understand why others did not 'get' math and physics like she did.

New Zealand was a likely destination for the 'somewhere else' as her family had been there. *"My granddad came to a ploughing competition in New Zealand in the 1970s and as a child I was always asking to look at his photos of it over and over again."*

After gaining a degree in civil engineering in the UK, she spent several years working on projects there before making the move overseas.

In the organisations she has worked in all her technical experiences have prepared her for the role she has now. This has ranged from construction, where she started, through contract management to engineering team leadership.

But it is not her technical expertise of 23 years in the construction industry that makes Paula a stand out amongst her peers. It is her ability to lead, inspire a diverse and large group of professionals to not only do the best that they possibly can for the people of Christchurch but also to maximise their own opportunities to learn from the situation that the SCIRT environment provides.

Fast forward to 2015 and in the SCIRT organisation of more than 2,000 people, Paula has had the fastest trajectory in promotion of anyone. Joining SCIRT from Opus as one of 180 designers, Paula's focus on delivering on time to a high standard immediately stood out – an achievement in such a large and driven team. She was elevated to the position of 2IC in a team of 40 designers and soon took over the team leadership role.

When the Design Manager role became available in 2013 Paula put her hand up and was the successful candidate after a robust selection process. In December 2014 she moved to a seat around the management team table, reporting to the Executive General Manager of SCIRT as the Professional Services and Design Manager.

She has successfully led her team to a point where they are 90% through the design of more than 600 infrastructure projects. Due to Paula's leadership, of all the teams within SCIRT, the professional services team is the most reliable in being on schedule and to budget. This has been achieved despite an environment of uncertainty as the clients' expectations of design standards have changed over time and the funding scope has not always been clear. This is to be expected in a post-disaster environment.

The scale of work

Just to give a sense of scale, the spend over the life of the programme in professional services will be approximately \$140 million. Paula is responsible for an annual budget that has ranged from \$21 million to \$40 million. On average, when operating at its peak, the design team produced \$100 million worth of design (concept and detailed) each month. The highest value the team achieved in a month was when Paula set them a break through target of \$100 million – they rose to her challenge and exceeded it, delivering \$118 million.

But more importantly, the sense of complexity needs to be explained to fully appreciate Paula's leadership impact. The 180 designers have been seconded from about 18 different design consultancies who are usually strong competitors in the 'business as usual' environment. Each of those organisations has their own cultures and indeed, many of them have employed engineers from all over the world to come to Christchurch and work for SCIRT. Consequently, the SCIRT professional services team is a diverse group of people.

It has taken inspiring leadership from Paula to create an environment where those diverse team members and businesses come together and collaborate to share ideas and deliver outstanding outcomes. There is now no sense of competition amongst the team members of SCIRT. Instead, Paula says, "the industry has pulled together". Paula clearly exudes the positive energy that ongoing recovery effort leadership needs. *"Everyone is going to look back and this is going to be the project they remember,"* she says.

Paula not only challenges herself to continually learn and improve - in the last 30 months she has become a Chartered Engineer, engaged a leadership coach, undergone a 360 survey, attended "Leading Change" training and completed the Opus' "Emerging Leader" course. Paula's view is that a strong part of her leadership role is to encourage others to learn and grow. Feedback from the 360 survey undertaken includes comments such as: *"Paula's greatest leadership asset is upskilling people, enabling them to take on extra work in order to achieve targets/deadlines faster"*, and *"Paula always strives for the benefit of both the team and the community for whom we work for. This, combined with strong, positive relationships with her own team and others provides for a good working environment and demonstrates high levels of leadership"*.

Whilst there are many examples of her doing that, the story of Tessa Flaws, a graduate engineer when she joined SCIRT is a good one. When in the Design Manager role, Paula identified Tessa as having a strong work ethic so promoted her into the Design Coordinator role, ahead of more experienced people. She did this to engage and stretch Tessa with multiple learning opportunities. Tessa recalls, *"When Paula offered me the position I was at the time planning to pack my bags and head overseas for my OE. The opportunity to work with Paula and learn from her was enough to keep me in New Zealand and take on the role. I was able to work closely with Paula, who I and others see as an inspiration. She always makes herself available to respond to queries, or provide mentoring advice, keeping everyone on track both with their work and their career development."*

When a crisis happens, strong leaders come to the surface. But to sustain the high level of energy that is required to lead in the years that follow takes something extra – stamina, a strong reserve and the ability to keep on track to the long-term goal.

Four years on from the Canterbury earthquakes of 2011, Paula Lock is quietly continuing to do her bit, playing her leadership role, to get Christchurch back on track. On the journey she is inspiring many others to do the same.

APPENDICES



Recognition from Opus of the contribution of its staff to the SCIRT programme



Paula (and the SCIRT Value Manager) with the Institution of Civil Engineers (ICE) Brunel Medal, awarded to SCIRT for engineering excellence for 2013



SCIRT celebrating success in being awarded the 2014 Supreme Award (medium to large organisations) at Champion Canterbury
(Paula is in the centre)

Paula (on the left) featured in the March 2015 edition of Christchurch's Avenues Magazine

