

INFRASTRUCTURE **XIMAG**

CIVIL ENERGY TELECOMMUNICATIONS WATER



***FUTURE-
PROOF
YOUR
CAREER***

***HUGE PROJECTS
GIANT TOYS
BIG MONEY***

INFRASTRUCTURE **XMAG**

PUBLISHED 2023

CONNEXIS
INFRASTRUCTURE TRAINING

 **Te Pūkenga**

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Connexis, business division of Te Pūkenga
- New Zealand Institute of Skills & Technology
is a leading provider of vocational training
for New Zealand's infrastructure workforce in the civil,
energy, telecommunications, and water industries.



**TRAINING NEW ZEALAND'S
GREATEST ASSETS**

LET'S TALK INFRASTRUCTURE

INFRASTRUCTURE is what keeps New Zealand connected - we're talking about the roads you use to take you from Wellington to Auckland, the pipes that bring fresh water to your house, the electricity network you use to charge your phone overnight, as well as the wifi network that lets you post on TikTok.

Infrastructure in NZ is made up of four key industries:

**CIVIL, ENERGY,
TELECOMMUNICATIONS
AND WATER.**

CIVIL

THE CIVIL INDUSTRY
EMPLOYS OVER
58,000 PEOPLE
WITH AN AVERAGE
NZ INCOME OF:

***\$78,900**

PER ANNUM

[MORE PAGE 10](#)

ENERGY

THE NZ ENERGY
INDUSTRY
EMPLOYS OVER
15,000 PEOPLE.
AVERAGE INCOME:

***\$93,300**

[MORE PAGE 14](#) PER ANNUM

TELCO

THE NZ TELECOMMUNICATIONS
INDUSTRY EMPLOYS OVER
7,000 PEOPLE WITH AN
AVERAGE INCOME OF:

***\$81,900**

PER ANNUM

[MORE PAGE 18](#)

WATER

NZ'S 3 WATERS
INDUSTRY
EMPLOYS AROUND
3,000 PEOPLE.
AVERAGE INCOME:

***\$79,700**

PER ANNUM

[MORE PAGE 22](#)

MORE HERE

CONNEXIS

WWW.CONNEXIS.ORG.NZ

*2022 Infrastructure Industry Stats.

JOIN AN INDUSTRY WHERE YOUR ROLE WILL ALWAYS BE NEEDED...

FUTURE- PROOF

Skilled people will always be needed
– this means the robots can't take over your job!

With climate change and rising ocean levels, our communities are going to be faced with some tough challenges and infrastructure will play a huge role in problem-solving and keeping the country functioning.

INFRASTRUCTURE IS VITAL IN KEEPING NEW ZEALAND UP AND RUNNING

New Zealand will invest \$129 billion in infrastructure over the next decade, that means there's a lot of work to be done and a lot of job openings. Due to the booming population, existing infrastructure requires maintenance and replacement. We also need to build new infrastructure to keep up with demand. Naturally roads, pipes, lines and connections will be due for an upgrade as they become worn, or outdated, so there will always be work in the pipeline. Over half of the \$129 billion infrastructure spend is tagged into land transport which includes roads, bridges and tunnels.

WHAT ARE YOU WAITING FOR?

Infrastructure builds the future that keeps New Zealand operating and successful. It is a booming industry with plenty of career opportunities. Jobs in infrastructure are rewarding and you can make a real impact in your community – whether it be by getting a town access to fresh, clean water, building a new main state highway, or making sure the lights turn on at homes, businesses, schools and hospitals.

INFRASTRUCTURE CAREERS

GET PAID AS YOU QUALIFY

Connexis offers on-job apprenticeship and training programmes within the infrastructure industry. By signing up with us, you'll be able to earn money as you complete your apprenticeship or training programme, working and learning as you go.

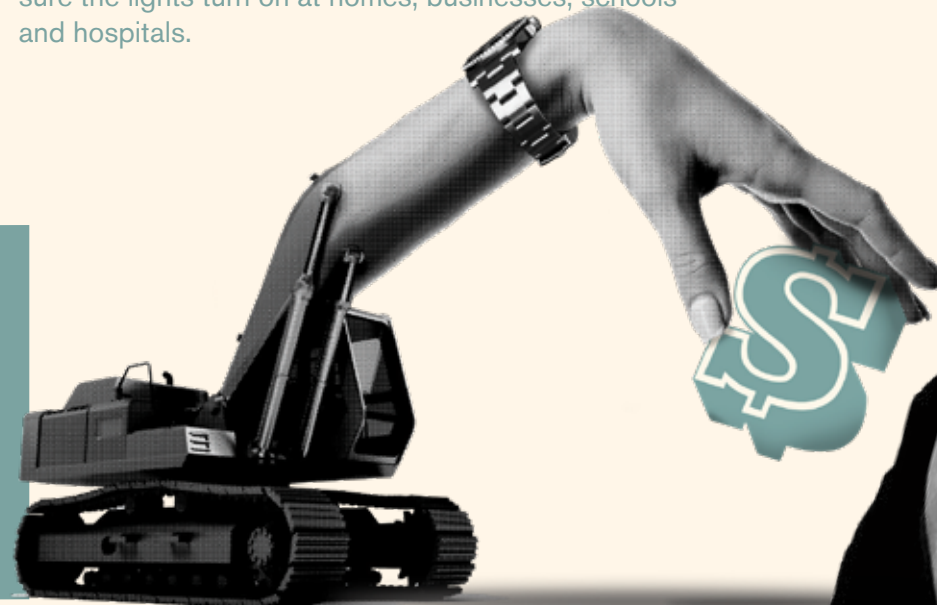
REWARDING CAREER PATH

There are many ways you can work your way up the ladder in infrastructure. Start in 'hands on' roles and progress to a team leader or even start up your own business.

DO YOU FIT THE BILL?

A good attitude, keenness to learn and being a team player are key. No formal qualification is required as long as you are willing to learn and to 'give it your all' in what can be a challenging, but extremely rewarding environment.

**\$129 BILLION
INVESTMENT IN NZ
INFRASTRUCTURE OVER
THE NEXT DECADE**



GET AHEAD WITH ON-THE- JOB TRAINING

✱ Research has found that those who go straight into an apprenticeship after college will have earned on average \$165,000 more than BA, BComm BSc graduates by the time they turn 28, pretty cool right? Industry training will give you a head start in saving money to buy that new car you always wanted, invest in a house of your own, and allow you to learn life skills to work on your own DIY projects. You also get the chance to make a difference in your local community, get involved in some massive projects, and play with some awesome toys.

ABOUT INDUSTRY TRAINING

Industry or on-the-job, training involves you studying, while being employed in the workforce. While studying for an industry qualification you will be expected to dedicate time each week to your study. You will also receive workbooks with assessments related to the work you are doing. Some training programmes may require you to attend short training courses away from your work, or you might have the option to complete courses online. There are key deadlines and support along the way to ensure you are making progress. However, a lot of the assessment work is flexible and can be done in your own time to suit your lifestyle.

WWW.CONNEXIS.ORG.NZ

BIG MONEY \$165K

EARN \$165,000 MORE BY THE AGE OF 28*

WHAT MAKES A GOOD APPRENTICE?

- * Good at communicating
- * Responsible and reliable
- * Keen to get stuck into the job
- * Work well in a team

SOME JOBS MAY ALSO REQUIRE:

- * A current NZ driver's licence
- * Confidence using tools and machinery
- * Comfort working at heights or in a confined space
- * Physical fitness

WHY INDUSTRY TRAINING WORKS:

- * 2 Years Fees Free
- * 2-3 Years to complete your study
- * You will have a job and your training will allow you to progress to new roles
- * You can get a NZ certificate, apprenticeship or diploma
- * You will gain practical experience

BUILD A LONG-TERM CAREER WORKING TOWARD SUPERVISOR OR MANAGER ROLES...YOU COULD EVEN START YOUR OWN BUSINESS!

**EARN
WHILE YOU
LEARN**

CIVIL INDUSTRY

50.0000

EMPLOYEES CONSTRUCT
AND MAINTAIN
OVER 100,000 KM
OF NZ ROADS

FIELD WORKERS AND
EXCAVATOR OPERATORS
MADE UP 11.7% OF
CIVIL INDUSTRY
WORKERS IN 2021

11%

\$4.5
BILLION

INVESTED INTO
CIVIL INDUSTRY
PER YEAR

BUILDING THE NATION

Whether you want to operate machinery, work on massive scale projects, or have a job where no two days are the same, the Civil industry has a role to suit you. Civil infrastructure enables us to keep moving with our everyday lives.

Think big – Transmission Gully, Waterview Tunnel and Auckland Harbour Bridge. These projects are only possible because of our awesome civil industry!

One of the best parts about the job is no two days are the same. You are working in an everchanging landscape with up to date technology, and nowadays the technology is pretty cool.

There is a wide range of roles available and different pathways you can take to progress your career. Roles range from entry level such as an apprenticeship or field worker position to surveyors, civil engineers or site supervisors. You can also work your way up to management level roles. In NZ, there are a large number of smaller, owner operated

civil companies, so if being your own boss and operating a company appeals to you then this could also be an option for you! Find out more about an epic career in civil infrastructure at www.epicwork.nz

JIMMY

ROBERTSON

BUILDING A ROAD TO SUCCESS

Jimmy started with Waikanae-based, earthmoving business Goodman Contractors "as a rookie" with no prior infrastructure work experience. By the time he was 29 he was working as a site supervisor - while still finding time to work on excavators.

WHAT DID YOU LIKE MOST ABOUT YOUR APPRENTICESHIPS?

The great thing about an apprenticeship is that it starts with using the shovel and takes you the whole way through to a lifelong profession.

WHAT KIND OF WORK DO YOU DO?

It varies a lot. Depending on the day, it could be on an excavator, a bulldozer, or one of several other highly specialised machines.

WHAT BIG PROJECTS HAVE YOU WORKED ON?

I worked on the \$330 million McKays to Peka Peka Expressway on the Kapiti Coast.

WHAT IS ONE THING YOU NEED, TO WORK IN THE CIVIL INDUSTRY?

A great, can-do attitude.

On-site we are all learning every day. I'd recommend an apprenticeship to anyone wanting to get into the industry as well as to those already in the industry.



CIVIL CAREER OPPORTUNITIES

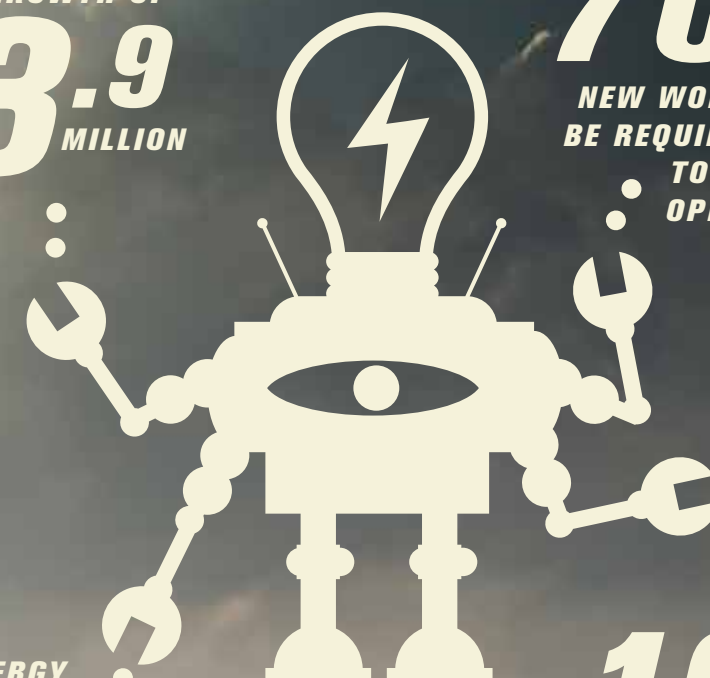
POSITION	ROLE	QUALIFICATION	LEVEL
Infrastructure Asset Manager Tender Evaluator Procurement Specialist Civil Engineering Technician Survey Technician	MANAGER SPECIALIST TECHNICIAN	NZ DIPLOMA NZ CERTIFICATE	6
Contract Manager Multi-Site Supervisor Senior Lab Technician Foreman Project Manager	MANAGER TECHNICAL SPECIALIST	NZ CERTIFICATE	5
Leading Hand Foreman Site Supervisor Agrichemical Applicator Survey Assistant Senior Roadmarker	SENIOR OPERATOR SUPERVISOR SENIOR TECHNICIAN	NZ CERTIFICATE	4
Roadmarker Rural Contractor Civil Laboratory Technician Earthmoving Machine Operator Pipe Installation Technician Water Reticulation Technician Civil Plant Operator Roothing Construction Worker Asphalt Plant Operator	OPERATOR TECHNICIAN ASSISTANT	NZ CERTIFICATE	3
Field Worker Traffic Controller	ENTRY LEVEL	NCEA 2/3 YEAR 12	2

ENERGY INDUSTRY

2021 SECTOR
GROWTH OF
\$13.9
MILLION

7000+

NEW WORKERS WILL
BE REQUIRED BY 2024
TO FILL JOB
OPENINGS



IN 2021 ENERGY
INDUSTRY FILLED •
15,201
JOBS

19.6%

OF EMPLOYEES
WORK AS
ELECTRICAL
ENGINEERS

The Energy industry powers our lives. Every time you flick on the light switch, or charge your phone you are able to do it because of our electricity supply network.

If you enjoy working at height, in confined spaces, or being concise and accurate, a career in the Energy sector may be for you. Like energy itself, the sector is constantly moving and keeping up to date with new technology and industry advances. Because the industry is undergoing such rapid advances, you are constantly learning new things.

There are a wide range of roles available to you. These range from line mechanics and cable jointers, to network designers, engineers, health and safety, and management roles. There are numerous opportunities available to you to progress your career once you have your foot in the door.

Like any career in infrastructure, no two days will be the same and it could even take you around the world.

**POWER UP YOUR CAREER
WITH A ROLE IN THE
ENERGY INDUSTRY**

HOLLY

MURPHY SWITCHED ON

Earning while she learned and getting qualified proved both professionally and personally rewarding for Christchurch-based electrical engineer Holly Murphy, when it came to training.

HOW DID YOU GET INTO THE INDUSTRY?

I saw an advert in the paper in 2010. The Electricity Supply Industry Training Organisation (ESITO) (now Connexis) was running an initiative to bring more women into the Energy Industry. I applied for an apprenticeship and got it.

WHAT DID YOUR FIRST ROLE INVOLVE?

I got to climb high-voltage pylons and get ferried by helicopter to remote and hard-to-access parts of the national power grid.

WHAT QUALIFICATIONS DID YOU STUDY?

I have gained dual qualifications in electricity transmission and line distribution and was the first female trainee in New Zealand to do this. I am currently studying towards a Diploma in Electrical Engineering with Orion on scholarship.

WHERE HAS YOUR JOB TAKEN YOU?

I was initially based in Auckland for my three-year apprenticeship but then my work took me all over the North Island. During my apprenticeship I also spent more than six months on a fly-in fly-out project in Kiribati where we built 28km of towers and installed 300 power lines.

WHAT DID YOU LIKE ABOUT LEARNING ON-THE-JOB?

Being able to earn while you learn is great. Energy industry companies pay their apprentices well and having steady employment while I did my apprenticeships with Connexis has been a real help with planning my future.

WHAT ARE SOME OF THE BENEFITS YOU HAVE EXPERIENCED FROM ON-THE-JOB TRAINING?

I was able to buy my first home in Auckland when I was 21. I've also celebrated Christmas with my partner in New York and Las Vegas.

WHAT ARE YOUR FUTURE CAREER PLANS?

I am looking to step into contract management roles, and in the future I like the idea of helping plan and design the growth of New Zealand's energy grid.

One of the best things about the energy industry is that it is smaller than lots of people think and it is very close-knit. You can go to Connexis' Annual Connection event where you will find yourself surrounded by industry workers who have become friends. Many thanks to Connexis for guiding and supporting me towards a career I really love.



INFRASTRUCTURE X MAG				
ENERGY CAREER OPPORTUNITIES				
POSITION	ROLE	QUALIFICATION	LEVEL	
Infrastructure Asset Manager Tender Evaluator Procurement Specialist Electrical Engineering Technician	MANAGER SPECIALIST TECHNICIAN	NZ DIPLOMA NZ CERTIFICATE	6	
Contract Manager Power Technician	MANAGER TECHNICAL SPECIALIST	NZ CERTIFICATE	5	
Electrician Electrical Engineer Line Mechanic Cable Joiner Faultman Field Switcher Mechanical Fitter Network Operator Thermal/Hydro Operator	SENIOR OPERATOR SUPERVISOR SENIOR TECHNICIAN	NZ CERTIFICATE	4	
Network Operator Thermal/Hydro Operator Utility Arborist	OPERATOR TECHNICIAN ASSISTANT	NZ CERTIFICATE	3	
Meter Reader	ENTRY LEVEL	NCEA 2/3 YEAR 12	2	

NEW ZEALAND'S TELECOMMUNICATION INDUSTRY

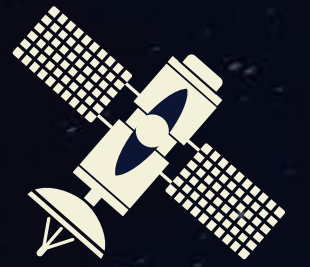
Scrolling through TikTok, gaming online, streaming or uploading YouTube videos are all only possible thanks to our telecommunications (or telco) network.

In today's world, we just expect the internet to work and to have all the information we need at our fingertips or the click of a mouse. The Telco industry keeps us connected via mobile devices and wifi, using cutting edge technology that is constantly evolving.

New Zealand's Telco industry is undergoing its own rapid change. Projects such as the Starlink satellite network, the nationwide fibre rollout,

and new 5G mobile networks, are connecting more Kiwis with each other and the world. It impacts the country's living standards and our economic capacity.

With a job in the Telco industry, you will be a part of all that. You'll start as a technician, designing and maintaining our fibre networks. It's a job that offers great variety, and you'll have skills that can take you all over the world.



TELCO FILLED
7,070
JOBS IN 2021

38%

OF TELCO INDUSTRY WORK AS
TELECOMMUNICATIONS
TECHNICIANS

GET CONNECTED,
CHECK OUT A CAREER IN THE TELCO INDUSTRY TODAY!

5000+

PEOPLE WILL BE REQUIRED
BETWEEN NOW AND 2024
TO COVER JOB
OPENINGS



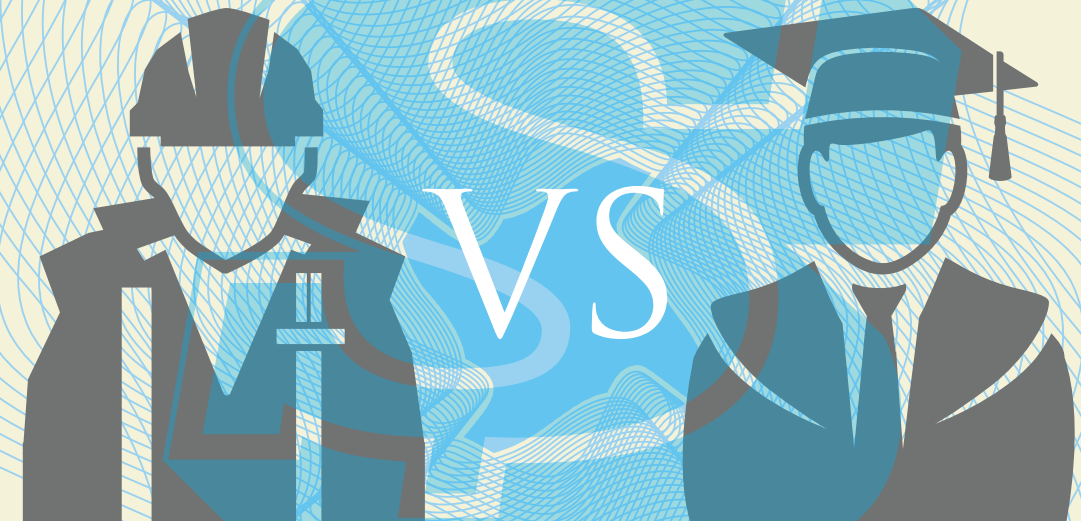
INFRASTRUCTURE X MAG

TELCO CAREER OPPORTUNITIES

POSITION	ROLE	QUALIFICATION	LEVEL
Infrastructure Asset Manager Tender Evaluator Procurement Specialist Electrical Engineering Technician	MANAGER SPECIALIST TECHNICIAN	NZ DIPLOMA NZ CERTIFICATE	6
Contract Manager	MANAGER TECHNICAL SPECIALIST	NZ CERTIFICATE	5
Telecommunications Technician	SENIOR OPERATOR SUPERVISOR SENIOR TECHNICIAN	NZ CERTIFICATE	4
Telecommunications Technician	OPERATOR TECHNICIAN ASSISTANT	NZ CERTIFICATE	3
Field Worker	ENTRY LEVEL	NCEA 2/3 YEAR 12	2



DEGREE VS APPRENTICESHIP

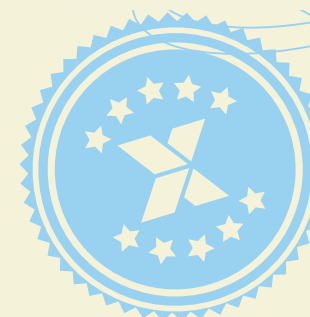


EARLY CAREER

END OF STUDY

APPRENTICE
EARNINGS 3 YEARS
+\$156,000*

STUDENT LOAN
BACHELOR DEGREE 3 YEARS
-\$42,000**



Apprentices earn significantly more in the early stages of their careers. They can purchase a home earlier and for the majority of their careers have a higher net financial position than holders of a bachelors degree and above.

\$\$\$

3 YEARS

*BASED ON AVERAGE \$25 PER HR / 40 HR WEEK
NZ MINISTRY OF SOCIAL DEVELOPMENT
+STATS FROM INFOMETRICS

WATER INDUSTRY

**WATER
SUPPLY**

**3
WATERS**

**WASTE
WATER**

**STORM
WATER**

Having clean, fresh water is something that is often taken for granted in New Zealand but is only possible due to our Water Industry crews.

The Water Industry is dynamic and technologically advanced with great opportunities. If you're after a hands-on career which will give you plenty of variety, lots of new challenges and the ability to work indoors and outdoors then take a closer look at the Water Industry.

The Water Industry can be split into three key areas, otherwise known as 3Waters:

WATER SUPPLY, WASTEWATER NETWORKS, AND STORMWATER NETWORKS

This industry is so sweet to get into that people don't want to leave, making it a career that will set you up for life.

Whether you want to maintain water pipes and systems, supervise sites, manage projects or a water treatment plant, there are plenty of pathways to choose from.

**SECTOR
IS UNDERGOING
HUGE GROWTH**

**7.6%
PA**
NATIONAL AVERAGE
OF 2.4% PA



**WIDE RANGE
OF JOBS
AVAILABLE**



**AVERAGE PERSON
USES 227L OF
WATER PER DAY**

<div> <div> <div>INFRASTRUCTURE</div> <div>  </div> </div> </div>			
WATER CAREER OPPORTUNITIES			
POSITION	ROLE	QUALIFICATION	LEVEL
<div>Infrastructure Asset Manager</div> <div>Tender Evaluator</div> <div>Procurement Specialist</div> <div>Civil Engineering Technician</div>	<div>MANAGER</div> <div>SPECIALIST TECHNICIAN</div>	<div>NZ DIPLOMA</div> <div>NZ CERTIFICATE</div>	6
<div>Contract Manager</div> <div>Water/ Treatment Plant Wastewater Manager</div> <div>Drinking Water Assessor (Ministry of Health)</div>	<div>MANAGER</div> <div>TECHNICAL SPECIALIST</div>	<div>NZ CERTIFICATE</div>	5
<div>Water/Wastewater Treatment Technician</div> <div>Water/Wastewater Treatment Plant Operator</div>	<div>SENIOR OPERATOR</div> <div>SUPERVISOR</div> <div>SENIOR TECHNICIAN</div>	<div>NZ CERTIFICATE</div>	4
<div>Assistant Water/Wastewater Treatment Technician</div> <div>Assistant Water/Wastewater Treatment Plant Operator</div>	<div>OPERATOR</div> <div>TECHNICIAN</div> <div>ASSISTANT</div>	<div>NZ CERTIFICATE</div>	3
<div>Field Worker</div>	<div>ENTRY LEVEL</div>	<div>NCEA 2/3 YEAR 12</div>	2

DYLAN SAMSON

TAKING A LEAP OF FAITH

into a career as a pipe layer at 19-years-old has certainly paid off for Dylan Samson.

By the age of 23, Dylan was a Water Reticulation Technician in charge of his own crew for Allens United Drainage and Earthworks in Hamilton. He loved every minute of it.

WHAT DO YOU LIKE THE MOST ABOUT YOUR JOB?

You have to be willing to work hard. But there's heaps of variety, and when you've finished a job it's really satisfying.

WHAT DREW YOU TO A CAREER IN THE WATER INDUSTRY?

Initially after high school I started training to be a PE teacher. I wasn't really enjoying what I was doing, and I saw an ad for an apprenticeship online and just decided to give it a go. I didn't even know what the job involved. What appealed to me was the ability to earn while I learnt.

WHAT QUALIFICATIONS HAVE YOU COMPLETED?

I completed the National Certificate in Water Reticulation (Level 3) and will look to do the New Zealand Certificate in Pipeline Construction and Maintenance (Level 4), which will lead me towards Civil Trades Certification.

WHAT DO YOU LIKE THE BEST ABOUT LEARNING ON THE JOB?

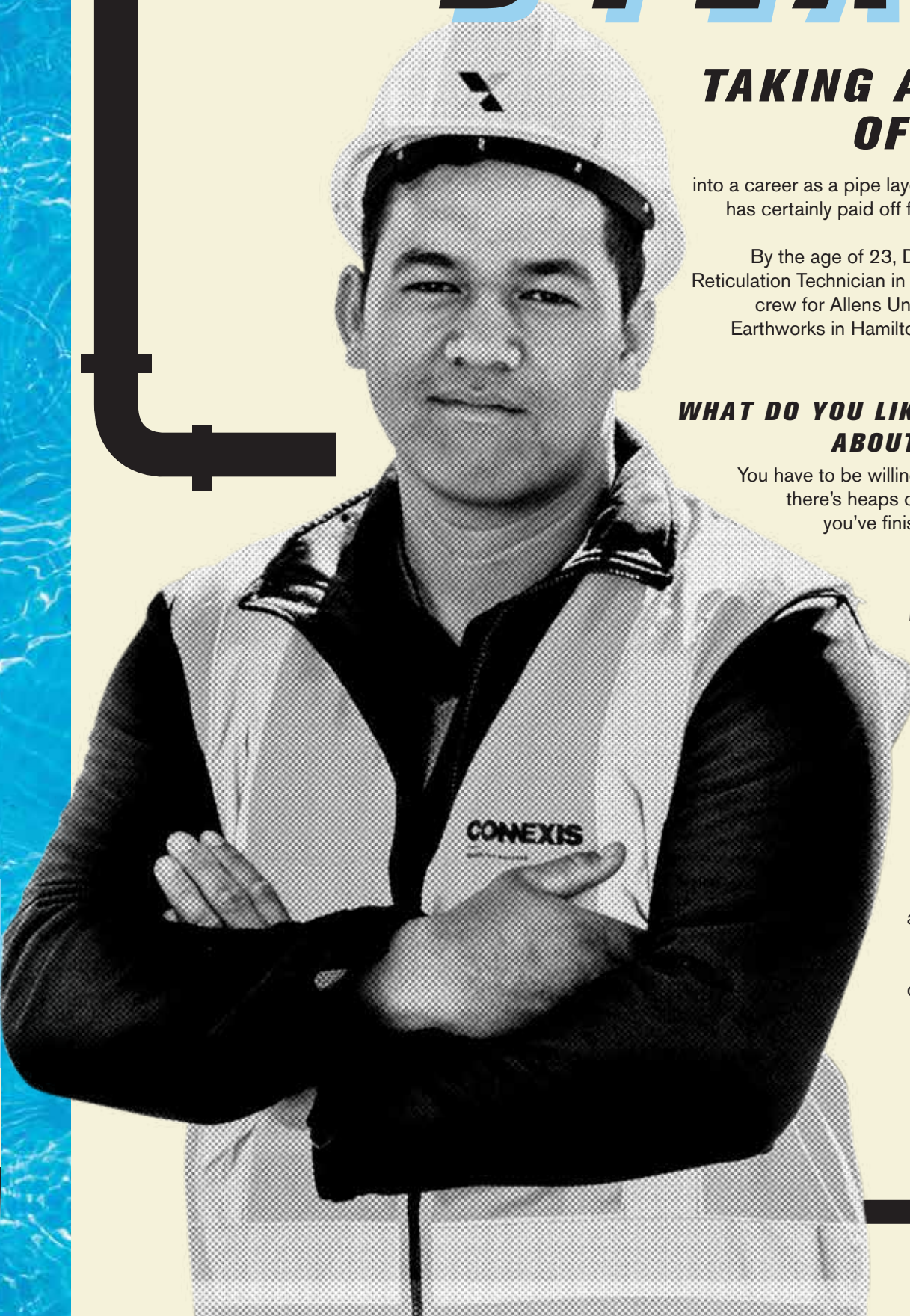
I think that opportunity to earn while you're on the job and training is a really big benefit. I know lots of other people who are full-time students and they're always stressed and struggling with money. With a trade, you're earning something straight away and there are lots of chances to move up the ladder.

WHAT ABOUT YOUR CAREER PROGRESSION?

It wasn't so long ago that I came in and just had to do what the bosses told me. Now I am the guy telling other people what to do. That's quite a good feeling. It has taken some hard work and commitment but it is extremely satisfying to have it pay off.

WHAT HAS EARNING WHILE YOU LEARN MEANT TO YOU?

This job has also helped me support my family and being able to do that comfortably means a lot. At 23 I own my own home. 'I just want to keep training and learning and doing what I'm doing. I love it.'



KICKSTART

**YOUR CAREER
WITH GATEWAY**

**OUR INFRASTRUCTURE
GATEWAY PROGRAMMES ARE
A GREAT OPPORTUNITY IF
YOU ARE IN YEARS 11-13.**

HEAD TO

connexis.org.nz/schools/, or
check out our Gateway
brochure for more detail on
each of our MCs. Chat to your
careers advisor or teacher
about how to sign up and what
Gateway MC you are keen to
do.



YOU GET TO:

- Gain practical work experience and training by heading to a local infrastructure company to complete your micro-credential (MC). You can also start building your network to line up a job when you have your MC.

- Earn NZQA recognised unit standards that count towards a full qualification or apprenticeship.
- Gain an MC in the infrastructure industry.
- Earn credits towards NCEA Level 2 and 3.

With an MC under your belt, you'll stand out to employers, recognising that you already have training and basic knowledge of the industry and the job you need to do.

If you want to hook yourself up with a job, contact local companies to see if they have any opportunities. Showing you are motivated and passionate is appealing to employers. Have your CV ready to go and make sure you have your driver's licence.

**MICRO-
CREDENTIAL**

MC

Micro-credentials
are short NZQA recognised
training programmes that
give you a specific set of
skills and knowledge. They
are a steppingstone toward
a full qualification or
apprenticeship programme.



**GIRLS^{WITH}
HI*VIS**

AN **ultimit** INITIATIVE

Girls with Hi-Vis® (GWHV) is an Ultimit – Women in Infrastructure initiative that runs annually across the month of June throughout New Zealand and aims to raise awareness and encourage young women to consider a career in the infrastructure industry.

By attending a Girls with Hi-Vis® event, young women will have the opportunity to head to a local infrastructure company site for a day, learn about the job opportunities available in infrastructure, experience fun hands-on activities, and hear from women working in the industry.

Visit our website for further information and talk to your Careers Advisor if you're interested in attending an event.
girlswithhivis.org.nz



HOW CONNEXIS HELPS

Connexis | Te Pūkenga offers NZQA recognised training and apprenticeships for New Zealand's infrastructure workforce in the Civil, Energy, Telecommunications and Water industries. We help you enter the industry and provide you with the training to build a career, whilst working on-the-job and earning money.

Our apprenticeship and training offerings range from Level 2 (entry-level) to Level 6 (management) including diplomas. Our programmes are achieved on the job and developed working closely with employers in the industry, so you know they will be useful and relevant for your job and career.



**THIS
COULD
BE YOU**
*FIND YOUR INFRASTRUCTURE
JOB TODAY*





@ConnexisNZ | connexis.org.nz

