

QUARTERLY 3 WATERS INFRASTRUCTURE FUNDING UPDATE

Q3: to 30 SEPTEMBER 2021



CONTENTS

PROGRAMME OVERVIEW.....	3
Q3 HIGHLIGHTS 2021	4
PROGRESS TO DATE.....	5
CASE STUDY: PALMERSTON NORTH DC	6
REGIONAL SUMMARY	9
UPDATE BY REGION	
NORTHLAND.....	11
WAIKATO	12
BAY OF PLENTY	13
GISBORNE & HAWKE'S BAY.....	14
TARANAKI	15
MANAWATŪ-WHANGANUI	16
WELLINGTON.....	17
TOP OF THE SOUTH	18
WEST COAST	19
CANTERBURY.....	20
OTAGO	21
SOUTHLAND.....	22
GLOSSARY.....	23



Cover: Ashburton DC – Trunk wastewater main pipes
South Taranaki – Water bore

3 WATERS INFRASTRUCTURE INVESTMENT OVERVIEW

THE 3 WATERS STIMULUS INVESTMENT IS AN INITIATIVE BY THE GOVERNMENT TO STIMULATE RECOVERY AND HELP REFORM UNDER PRESSURE WATER SERVICES TO A MORE SUSTAINABLE FOOTING.

The Government is funding \$523.1 million to 67 local authorities to invest in the improvement of drinking water, wastewater treatment network renewals, and storm water networks. A number of local authorities have contributed additional funding totalling \$147.8 million. The Government's funding priorities are for investment into drinking water and wastewater infrastructure first, and then storm water.

Each local authority has selected the 3 Waters infrastructure investment most needed in their areas and is managing the delivery of the programme to be complete by March 2022.

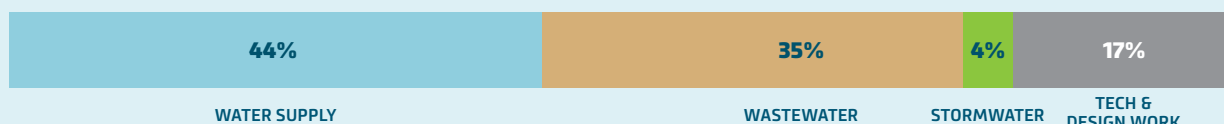
Nationally 44% is to be spent on water supply, 35% on

wastewater, 4% on stormwater and 17% on projects common to all three such as management systems.

The programme is made up of 461 discrete projects or programmes of work from the Far North to the deep South and west as far as the Chatham Islands.

The Department of Internal Affairs (DIA) has appointed Crown Infrastructure Partners (CIP) to monitor the delivery of the infrastructure investment, identify any opportunities for economies of scale, monitor potential regional or national shortages and assist where problems arise. CIP provides quarterly reports to DIA and recommends funding claims by local authorities to DIA.

TOTAL COMBINED SPEND BY INFRASTRUCTURE TYPE

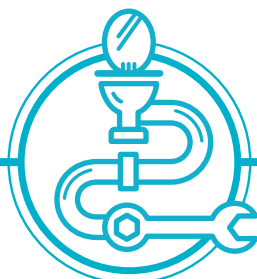


NATIONAL MAJOR INFRASTRUCTURE PROJECTED



266km

**DRINKING WATER PIPE
UPGRADES**



154km

**WASTE WATER
PIPE UPGRADES**



321

**DRINKING WATER
TREATMENT PLANT
(WTP) UPGRADES**



225*

**WASTE WATER
TREATMENT PLANT
(WWTP) UPGRADES**

OVERALL FUNDING 3 WATER INFRASTRUCTURE



GOVERNMENT FUNDING

\$523m



CO-FUNDING

\$148m



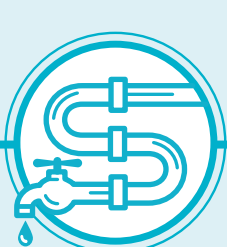
TOTAL FUNDING

\$671m

* Previously incorrectly reported as 419 due to an erroneous data error.

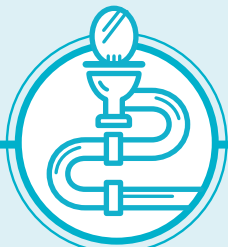
Q3 HIGHLIGHTS 2021

MAJOR INFRASTRUCTURE TYPES



38km

drinking water pipes



30km

wastewater pipes



17

WTP upgrades



0

WWTP upgrades

FUNDING



\$79.5m

Government spend



\$13.3m

Co-funded spend



\$92.8m

Total spend

WORKERS (Full Time Equivalent)



**PROGRESS TO
PROJECTED: 18.8**



**GROWTH THIS
QUARTER: 1%**



**FTE THIS QUARTER:
985.6**

ASSET TOTAL FUNDED¹



\$39.3m

Drinking water
42% of projected



\$30.3m

Waste water
33% of projected



\$1.8m

Stormwater
2% of projected



\$21.4m

Tech and Design Work
23% of projected

¹ Includes Government and co-funding

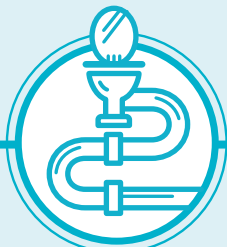
PROGRESS TO DATE

MAJOR INFRASTRUCTURE TYPES



161km

drinking water pipes
62% of projected



64km

wastewater pipes
41% of projected



29

WTP upgrades
9% of projected



60

WWTP upgrades
27% of projected

FUNDING



\$225.3m

Government spend
84% of projected



\$42.6m

Co-funded spend
16% of projected



\$268m

Total spend
100% of projected

WORKERS (Full Time Equivalent)



**PROGRESS TO
PROJECTED: 1,446**



**PROJECTED:
1,925**



**PROGRESS ACHIEVED
OF PROJECTED: 75%**

ASSET TOTAL FUNDED¹



\$120.7m

Drinking water
41% of projected



\$84m

Waste water
36% of projected



\$8.4m

Stormwater
28% of projected



\$54.9m

Tech and Design Work
48% of projected

¹ Includes Government and co-funding



WWTP - Desludging barge on Aerated Lagoon No. 2

PALMERSTON NORTH CASE STUDY: 3 WATERS STIMULUS PROGRAMME

IN NOVEMBER 2020, PALMERSTON NORTH CITY COUNCIL (PNCC) RECEIVED AN ALLOCATION OF \$9.34 MILLION FROM THE GOVERNMENT'S 3 WATERS STIMULUS PROGRAMME. PALMERSTON NORTH WAS ONE OF JUST SEVERAL COUNCILS WHICH ALLOCATED ITS STIMULUS FUNDS ACROSS A MULTIPLICITY OF PROJECTS.

PROJECTS:

CAPITAL NEW (\$3.804M)

- Totara Road WWTP - Replacement of Inlet Pumps
- Upsizing of Kairanga Bunnythorpe Road Sewer and Storage
- Totara Road WWTP - Inlet Screens
- WWPS capacity upgrade - Maxwells line rising main inspection hatch
- Railway Rd Bore Chemical and Pump Buildings
- Turitea WTP Seismic Strengthening
- Turitea WTP Actuator Project
- Three Waters Resilience -Installing Telemetry
- Three Waters Data Centre Upgrade

MAINTENANCE / OPEX (\$1.27M)

- Flow filling large diameter abandoned sewers
- Desludging of aerated lagoon WWTP
- CCTV of critical wastewater pipes
- Totara Rd WWTP - migrate data collection and plant performance data to cloud based system
- Condition assessment of critical 3 waters assets

- Project Management for delivery programme
- Regional 3 Waters Collaboration Study
- PS Telemetry Data Management System Upgrade

CAPITAL RENEWAL (\$4.266M)

- City Wide Wastewater Pipe Renewal
- Lining of Large Diameter Sewers
- Totara Road Wastewater Treatment Plant Sedimentation Tanks Refurbishments
- Replacement of potable water service in WWTP
- Totara Rd WWTP - Biogas Generator Major Overhauls
- Totara Road Wastewater Treatment Plant - Aerators renewal
- Ashhurst Rising Main - Stage 3
- Water Main Renewals
- City-wide Bore and Network Facility Renewals
- Turitea WTP - Equipment and Facility Renewals: Clear water roof replacement
- PS Telemetry unit compatibility upgrade

PNCC allocated this funding to 27 projects across key water and wastewater assets and activities within Palmerston North City.

They range from replacement of plant and equipment, pipe renewals and building upgrades to telemetry and data upgrades, CCTV inspections and condition assessment, and critical maintenance work.

The primary investment is in water and wastewater maintenance, renewals and upgrades (\$8.236M). The balance of the stimulus is targeted to critical asset condition assessments, technology and systems improvements, reform preparations through the Manawātū-Whanganui Regional 3 Waters Service Delivery Review project and management of the expenditure programme by engagement of dedicated additional resourcing

As at 30 September 2021, Palmerston North has invested \$6.48M (69%) of the \$9.34M allocated for its programme of work. Of the remainder, \$0.97M (34%) is committed with contractors and suppliers, making the invested and committed total \$7.45M (80%) of the programme of work.

WASTEWATER PIPE RENEWAL LINING OF LARGE DIAMETER SEWERS - WASTEWATER

The aim of this project is to renew approximately 1.2km of large wastewater mains. The project included CCTV inspections, epoxy coating of manholes and relining pipes and connected laterals. This work extended the life of the asset by a further 60-80 years. The overall budget for the project was \$1.93M, with the stimulus programme funding \$1.43M, and PNCC funding the remainder. The work on this project is continuing. A remaining \$300K is being spent in the drier months.



Before and after the relining of the large diameter sewers

WASTEWATER TREATMENT PLAN DESLUDGING OF AERATED LAGOON - WASTEWATER

The aim of this project is to trial dewatering and composting of accumulated sludge that has settled in aerated Lagoon No. 2 and to confirm if this is an ongoing and viable option for the removal of further settled solids and therefore increasing the aerated lagoon capacity.



WWTP - Geobags in the dewatering phase

This project was fully funded by the Government to the value of \$170K. The first phase of desludging was completed over May - July 2021. This saw sludge pumped from Lagoon No. 2 into three geobags located at Awapuni Resource Recovery Centre 400m away and 22m higher in elevation. The filtrate was contained within a constructed bunded area and then returned to the head of the WWTP to be processed.

The proposal is for the removal of 300 tonnes of Total Dry Solids (TDS) sludge and dewatered within the geobags for 3-6 months. The trial has achieved the removal of 217 tonnes of TDS from the aerated Lagoon No. 2. Currently the project is in the dewatering phase.

Once the dewatering period is complete, testing of the sludge will be undertaken to determine moisture content and then to mix with shredded green waste and windrow to provide compost for site rehabilitation. The project has also enabled PNCC to determine the quantity of sludge remaining in Lagoons 1 and 2 at the Totara Rd WWTP and the oxidation ponds at Ashhurst.



Totara Road WWTP - Replacement lift pump (blue) installed and in operation besides the existing lift pumps

WASTEWATER TREATMENT PLANT - REPLACEMENT OF INLET PUMPS - WASTEWATER

Two of the four lift pumps at the Totara Road WWTP were scheduled for replacement on the basis that they have reached their end of life. The pumps were showing signs of significant wear and were running at approximately 400–450 litres per second wastewater into the plant.

The aim of upsizing two of the four lift pumps was to increase plant operating efficiency and capacity to manage flow rates modelled to 2050 and increase plant resiliency against failure. The total project budget is \$1.1M with Government contributing \$900K and PNCC contributing the remainder.

The project is now complete and has delivered on the original objective of the project with the new pumps currently running up to 750 litres per second.

RAILWAY ROAD BORE CHEMICAL AND PUMP BUILDINGS

The purpose of this project is to install buildings and equipment for pumping and chemical treatment at new bore facility at Railway Road. The bore along with the treatment facilities will enable PNCC to meet the forecast demand for water from the future growth of the North East Industrial Zone and new intermodal freight hub being developed by KiwiRail.

Government is funding the remaining \$750K required to deliver this project. The project is unique for PNCC as it is the first site where a contact tank has been installed. This tank has been designed to allow a half hour contact period for fluoride and chlorine prior to water being introduced to the reticulation, to bring it in-line with the proposed new water treatment standards.

Another feature is that the site has been designed to accommodate the installation of a large reservoir tank at a later date. This reservoir, when installed, will enable PNCC to better manage draw on the aquifer, extending the useful life of the bore. Completion of the current works is February 2022.



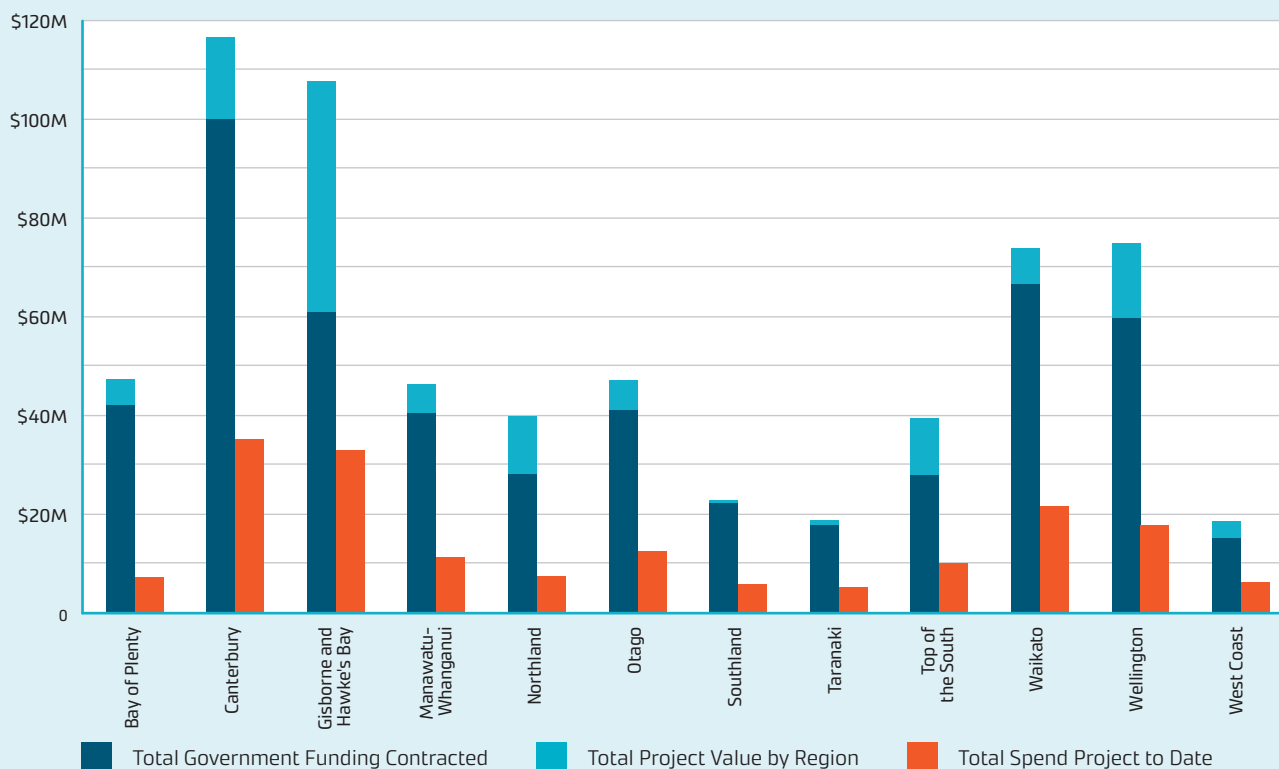
Building for the pumps completed with electrical install underway



Pumps installed

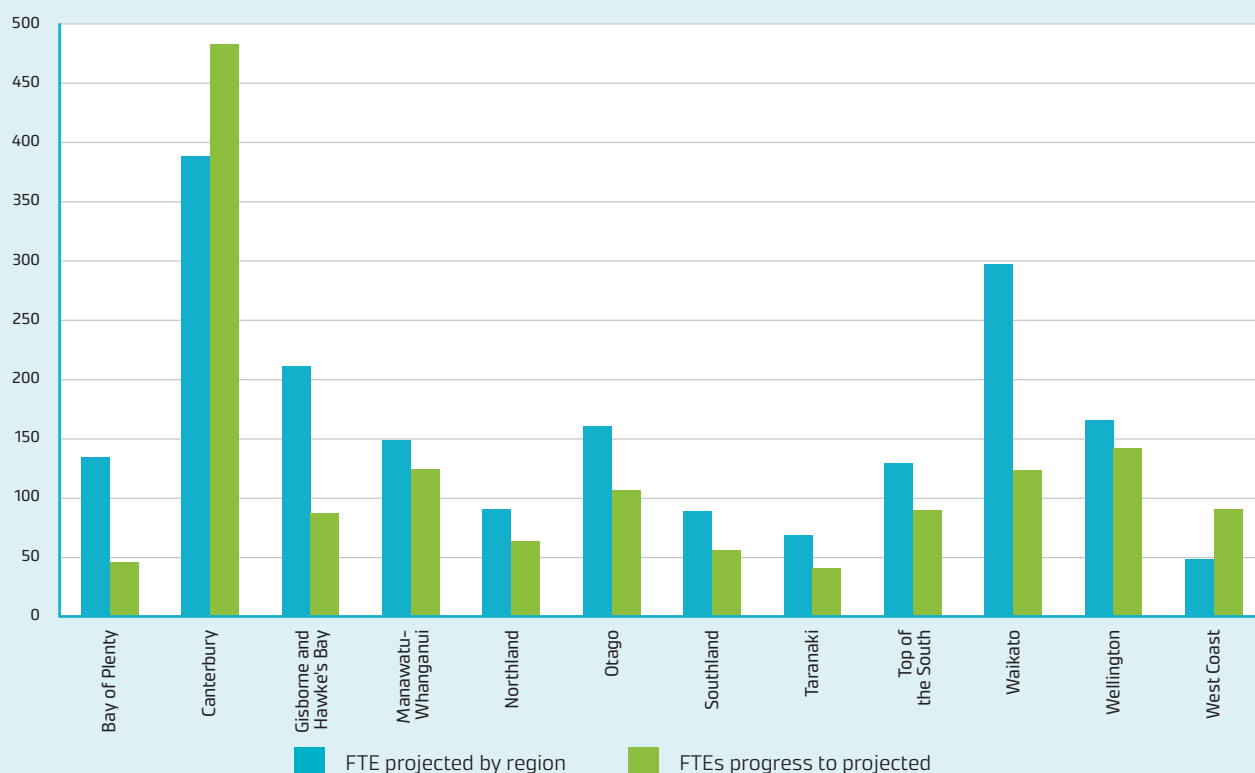
REGIONAL SUMMARY

TOTAL GOVERNMENT FUNDING CONTRACTED AND TOTAL PROJECT VALUE



Total project value is deemed on the same basis therefore is total value of contracted projects

WORKER FTE PROJECTED AND PROGRESS TO PROJECTED





UPDATE BY REGION

Weld -string for the Waikouaiti Watermain replacement, East Otago, Dunedin City Council



NORTHLAND



INFRASTRUCTURE TYPE

In Progress
New water source added

1
WT Plant upgrade

11.5km
Potable water mains/pipes upgraded

0.7km
Wastewater pipes upgraded

2
WWTP upgrades



FUNDING

\$11.5m
Government spend to date

\$0.9m
Co-funded spend to date

\$12.4m
Total project spend to date

\$40.1m
Total projected spend



LOCAL WORKERS FTE*

Progress to projected:
62.8
70% to projected

Growth this quarter:
-

Projected:
90

FTE this quarter
44.9



Far North Okaihau WTP Bore Refurbishment



Kaipara -water main renewals project at Ruawai (on SH12 half way between Dargaville and Brynderwyn)

* FTE refers to number of jobs that are equivalent to full time employment.
COVID Level 3 and 4 restrictions over this quarter have had an impact on FTE numbers.



WAIKATO



INFRASTRUCTURE TYPE

1.8km
Wastewater pipes upgraded

2
Sludge removal from ponds

15.5km
Potable water mains / pipes upgraded

1
Water meters installed

In progress
Strategy Study or report



FUNDING

\$29.8m
Government spend to date

\$2m
Co-funded spend to date

\$31.8m
Total spend to date

\$73.8m
Total projected spend



LOCAL WORKERS FTE*

Progress to projected:
123
41% to projected

Growth this quarter:
2

Projected:
296.9

FTE this quarter
95.3



Huntly De-sludging operations Conhur

* FTE refers to number of jobs that are equivalent to full time employment. COVID Level 3 and 4 restrictions over this quarter have had an impact on FTE numbers.



BAY OF PLENTY



INFRASTRUCTURE TYPE

3.2km
Wastewater pipes upgraded

9
WWTP upgrades

1
WTP upgrades

0.4km
Stormwater pipes upgraded

12.9km
Potable water mains / pipes upgraded



FUNDING

\$13.7m
Government spend to date

\$0.4m
Co-funded spend to date

\$14.1m
Total spend to date

\$47.4m
Total projected spend



LOCAL WORKERS FTE*

Progress to projected:
71.3
53% to projected

Growth this quarter:
-

Projected:
134

FTE this quarter
52.6



Tauranga, wastewater pipe upgrade



WBOP Matakana Kutaroa marae

* FTE refers to number of jobs that are equivalent to full time employment. COVID Level 3 and 4 restrictions over this quarter have had an impact on FTE numbers.



GISBORNE & HAWKE'S BAY



NAPIER
CITY COUNCIL
Te Kaitiaki o Ahuriri



WAIROA
DISTRICT COUNCIL



GISBORNE
DISTRICT COUNCIL



CENTRAL HAWKE'S BAY
DISTRICT COUNCIL



INFRASTRUCTURE TYPE

3
WWTP upgrades

1.5km
Potable water mains / pipes upgraded

6.0km
Wastewater pipes upgraded

In Progress
WTP Upgrades



FUNDING

\$26.8m
Government spend to date

\$21.3m
Co-funded spend to date

\$48.1m
Total spend to date

\$110.6m
Total projected spend



LOCAL WORKERS FTE*

Progress to projected:
86.6
41% to projected

Growth this quarter:
-

Projected:
211

FTE this quarter
69.9



Hastings Eastbourne - Raw watermain



Wairoa - Kitchener Street Stormwater pipe

* FTE refers to number of jobs that are equivalent to full time employment. COVID Level 3 and 4 restrictions over this quarter have had an impact on FTE numbers.



TARANAKI



Te Kaunihera-ā-Rohe o Ngāmotu

**New Plymouth
District Council**



Te Kaunihera o Taranaki ki Te Tonga
**South Taranaki
District Council**



TE KAUNIHERA Ā ROHE O
**WHAKAAHURANGI
STRATFORD
DISTRICT COUNCIL**



INFRASTRUCTURE TYPE

6.9km

Drinking
Water pipes
upgraded

1

Waste pump
station upgrades

In Progress

Stormwater
pipes
upgraded

In Progress

Bore
upgrades

2

WWTP
upgrades



FUNDING

\$7.1m

Government
spend to date

\$0.1m

Co-funded
spend to date

\$7.2m

Total
spend to date

\$21.8m

Total projected
spend



LOCAL WORKERS FTE*

Progress
to projected:

39.9

59% to projected

Growth
this quarter:

-

Projected:

68

FTE this quarter

34.1



South Taranaki – Water bore



Waimate West watermain renewals

* FTE refers to number of jobs that are equivalent to full time employment. COVID Level 3 and 4 restrictions over this quarter have had an impact on FTE numbers.



MANAWATŪ-WHANGANUI



INFRASTRUCTURE TYPE

7.4km
Wastewater pipes upgraded

34#
WWTP upgrades

4
WTP upgrades

In Progress
Stormwater pipes upgraded

4.1km
Drinking water pipes upgraded



FUNDING

\$16.8m
Government spend to date

\$0.4m
Co-funded spend to date

\$17.3m
Total spend to date

\$49.4m
Total projected spend



LOCAL WORKERS FTE*

Progress to projected:
123.9
83% to projected

Growth this quarter:
-

Projected:
148.4

FTE this quarter
34.1



Fitzherbert WW PS Upgrade



Horowhenua infrastructure Development

* FTE refers to number of jobs that are equivalent to full time employment. COVID Level 3 and 4 restrictions over this quarter have had an impact on FTE numbers.

Incorrectly reported in previous quarter



WELLINGTON

Absolutely Positively
Wellington City Council
Me Heke Ki Pōneke

Greater Wellington
Te Pane Matua Taiao

**Te Kaunihera o
Te Awa Kairangi ki Uta
Upper Hutt City Council**

**Kāpiti Coast
DISTRICT COUNCIL**
He Kaiti Whakamāori, He Tāwhiri Māhiora

**SOUTH WAIRARAPA
DISTRICT COUNCIL**
Kia Reretahi Tātau

HUTT CITY
TE AWA KAIRANGI

**MASTERTON
DISTRICT COUNCIL**
Te Kaitiaki o Masterton

**CARTERTON
DISTRICT COUNCIL**



INFRASTRUCTURE TYPE

In Progress
WTP
upgrades

3km
Capital
renewals

9.4km
Asset
condition
assessments

8.9km
Maintenance
(all waters)

25%
Data and
technology
projects



FUNDING

\$28.9m
Government
spend to date

\$0.2m
Co-funded
spend to date

\$29.2m
Total
spend to date

\$75m
Total projected
spend



LOCAL WORKERS FTE*

Progress
to projected:
160.4
97% to projected

Growth
this quarter:
18.8

Projected:
164.7

FTE this quarter
149.3



MDPE Welding Titahi Bay

* FTE refers to number of jobs that are equivalent to full time employment. COVID Level 3 and 4 restrictions over this quarter have had an impact on FTE numbers.



TOP OF THE SOUTH



INFRASTRUCTURE TYPE

1.0km
Drinking water pipes upgraded

1
Waste pump station upgrades

3.8km
Wastewater pipes upgraded

In Progress
WTP upgrades

In Progress
WWTP upgrades



FUNDING

\$13.8m
Government spend to date

\$3m
Co-funded spend to date

\$16.7m
Total spend to date

\$39.3m
Total projected spend



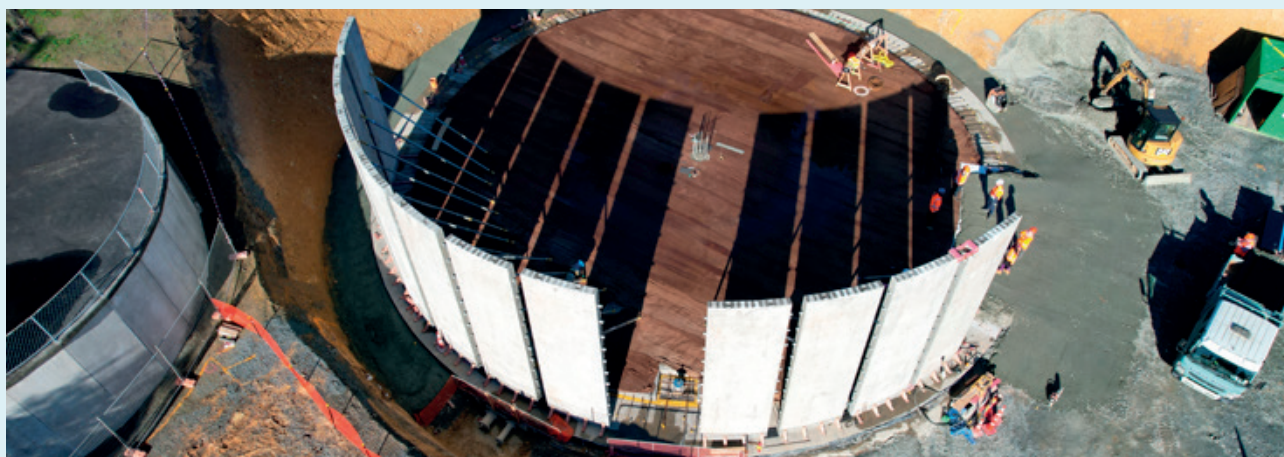
LOCAL WORKERS FTE*

Progress to projected:
89.4
70% to projected

Growth this quarter:
-

Projected:
128.6

FTE this quarter
71.5



Nelson

* FTE refers to number of jobs that are equivalent to full time employment. COVID Level 3 and 4 restrictions over this quarter have had an impact on FTE numbers.



WEST COAST



INFRASTRUCTURE TYPE

10.4km

Drinking water pipes upgraded

In Progress
Treated water storage

15.9km

Wastewater pipe inspections

1.6km

Wastewater pipes upgraded

4
WTP upgrades



FUNDING

\$6.6m

Government spend to date

\$3.1m

Co-funded spend to date

\$9.7m

Total spend to date

\$18.6m

Total projected spend



LOCAL WORKERS FTE*

Progress to projected:
90.0
188% to projected

Growth this quarter:
-

Projected:
48

FTE this quarter
40.1



Westland District Council – Blue Spur Res concrete pour

* FTE refers to number of jobs that are equivalent to full time employment. COVID Level 3 and 4 restrictions over this quarter have had an impact on FTE numbers.



CANTERBURY

Christchurch
City Council



Waimate
District Council



WAIMAKARIRI
DISTRICT COUNCIL

TIMARU
DISTRICT COUNCIL

KAIKŌURA
DISTRICT COUNCIL

Ashburton
DISTRICT COUNCIL

HURUNUI
District Council



Selwyn
DISTRICT COUNCIL



INFRASTRUCTURE TYPE

34.7km

Wastewater
pipes
upgraded

79.7km

Drinking
water pipes
upgraded

3

WTP
upgrades

42

Waste pump
station
upgrades

3

Water meters
installed



FUNDING

\$44.2m

Government
spend to date

\$8.7m

Co-funded
spend to date

\$52.9m

Total
spend to date

\$124.1m

Total projected
spend



LOCAL WORKERS FTE*

Progress
to projected:

482.7

125% to projected

Growth
this quarter:

-

Projected:

387.6

FTE this quarter

274.7



Ashburton DC - Trunk wastewater main pipes



Mount Alex pipe laying

* FTE refers to number of jobs that are equivalent to full time employment. COVID Level 3 and 4 restrictions over this quarter have had an impact on FTE numbers.



OTAGO



INFRASTRUCTURE TYPE

12.4km

Drinking water pipes upgraded

9

WTP upgrades

1

WWTP upgrade

In Progress
Treated water storage

3.4km

Wastewater pipes upgraded



FUNDING

\$16.2m

Government spend to date

\$2.5m

Co-funded spend to date

\$18.6m

Total spend to date

\$47.7m

Total projected spend



LOCAL WORKERS FTE*

Progress to projected:
106.1
66% to projected

Growth this quarter:
-

Projected:
160

FTE this quarter
49.8



Waitaki Palmerston Watermains Upgrade



Dunedin CC - Waikouaiti

* FTE refers to number of jobs that are equivalent to full time employment. COVID Level 3 and 4 restrictions over this quarter have had an impact on FTE numbers.



SOUTHLAND



INFRASTRUCTURE TYPE

5.1km
Drinking water pipes upgraded

1.1km
Wastewater pipes upgraded

2
WWT Plant upgrades

23.9km
Wastewater pipe inspections

.5km
Stormwater pipes upgraded



FUNDING

\$9.9m
Government spend to date

\$0.0m
Co-funded spend to date

\$9.9m
Total spend to date

\$23m
Total projected spend



LOCAL WORKERS FTE*

Progress to projected:
55
63% to projected

Growth this quarter:
-

Projected:
88

FTE this quarter
33.4



Southland DC – Waianiwa SW Renewal

* FTE refers to number of jobs that are equivalent to full time employment. COVID Level 3 and 4 restrictions over this quarter have had an impact on FTE numbers.

GLOSSARY

INFRASTRUCTURE TYPE

Drinking Water: Drinking water (sometimes also referred to as potable water) projects include improvements to any of the components that are used to convey water from the source, make it safe to drink and deliver it to customers. This includes treatment plants, reservoirs, pumps, pipes and instruments.

Wastewater: Wastewater projects include improvements to any of the components that collect sewage and industrial wastewater, treatment to remove harmful contaminants and return the water to the environment. It includes pipes (sewers), pumps, treatment plants, instruments, and outfalls.

Stormwater: Stormwater projects include improvements to the dams and pipes which convey rainwater safely to streams, rivers, and the sea.

SCADA: Supervisory, Control and Data Acquisition systems are electronic networks which enable remote control and monitoring of unmanned network facilities.

Bore: A drilled hole or excavation to provide access to ground water.

Raw Water: Water that is taken from the environment and treated to produce water safe for drinking.

Hydraulic Models: Hydraulic models are computer programmes which mimic the flow and pressure of water, wastewater and stormwater in piped networks.

Potable water: Potable water contains no disease causing organisms nor harmful chemicals and is safe to drink.

Treatment plant: A facility to treat raw water to make it safe for drinking, as per the requirements of the Drinking water Standards of New Zealand.

WTP: Water Treatment Plant. This is a facility/equipment that takes in raw water and treats it through a variety of means (filters, chemical dosing, ultra-violet light) so it is safe and fit for human consumption.

WWTP: Wastewater Treatment Plant. There are many different ways to treat wastewater. A wastewater treatment plant typically consists of a number of different processes (screening, biological processes and sometimes disinfection) to remove solids and treat effluent before it is piped to land, river or sea or used for irrigation use.

FTE Definitions:

Projected FTE is the number of estimated workers that would be supported by a particular project. Established during the planning and due diligence process.

Progress to Projected FTE is the equivalent number of full-time equivalent workers that were employed over the main construction phase of a project or programme of work. For example, in the early stages of a project or programme the number of workers (FTE) can be low, but rapidly increases as a project enters the main construction phase; this is the appropriate number to compare against the project projected.