

Water, Stormwater and Sewerage

LTP Council Workshop

10 August 2023

Key Focus of Presentation

1. Affordable Water Reforms
2. What Assets we have
3. Strategic Key Issues
4. Key Projects
5. Capital Budget Overview
6. Optioneering - Drivers for Decisions
7. Staff – support during change
8. Having a plan for likely outcomes
9. Sector Resourcing and Capabilities

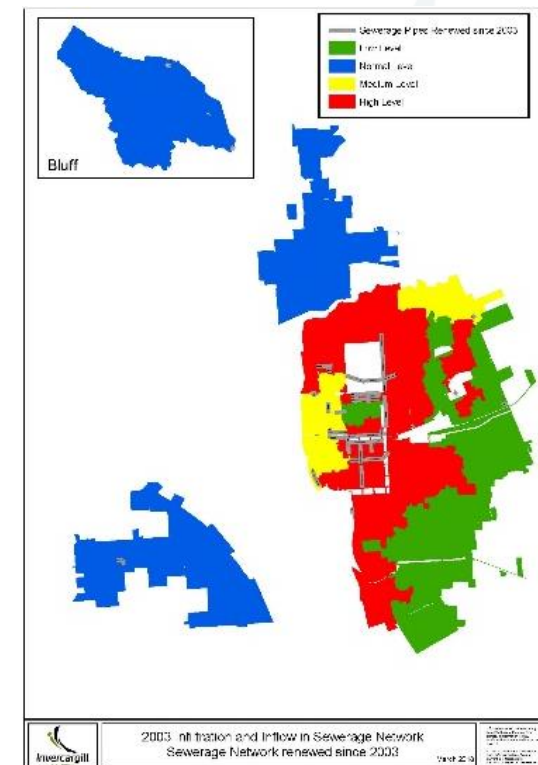
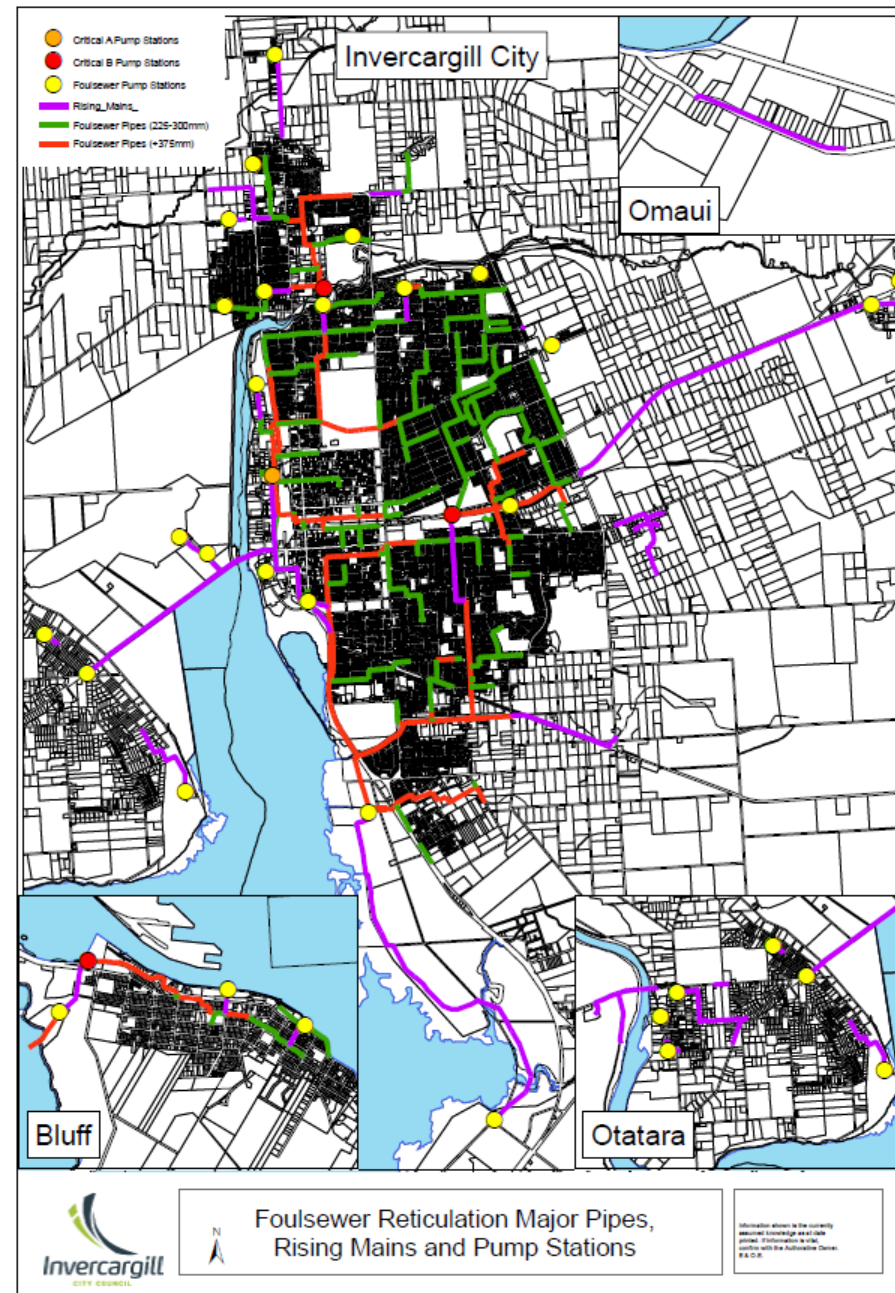
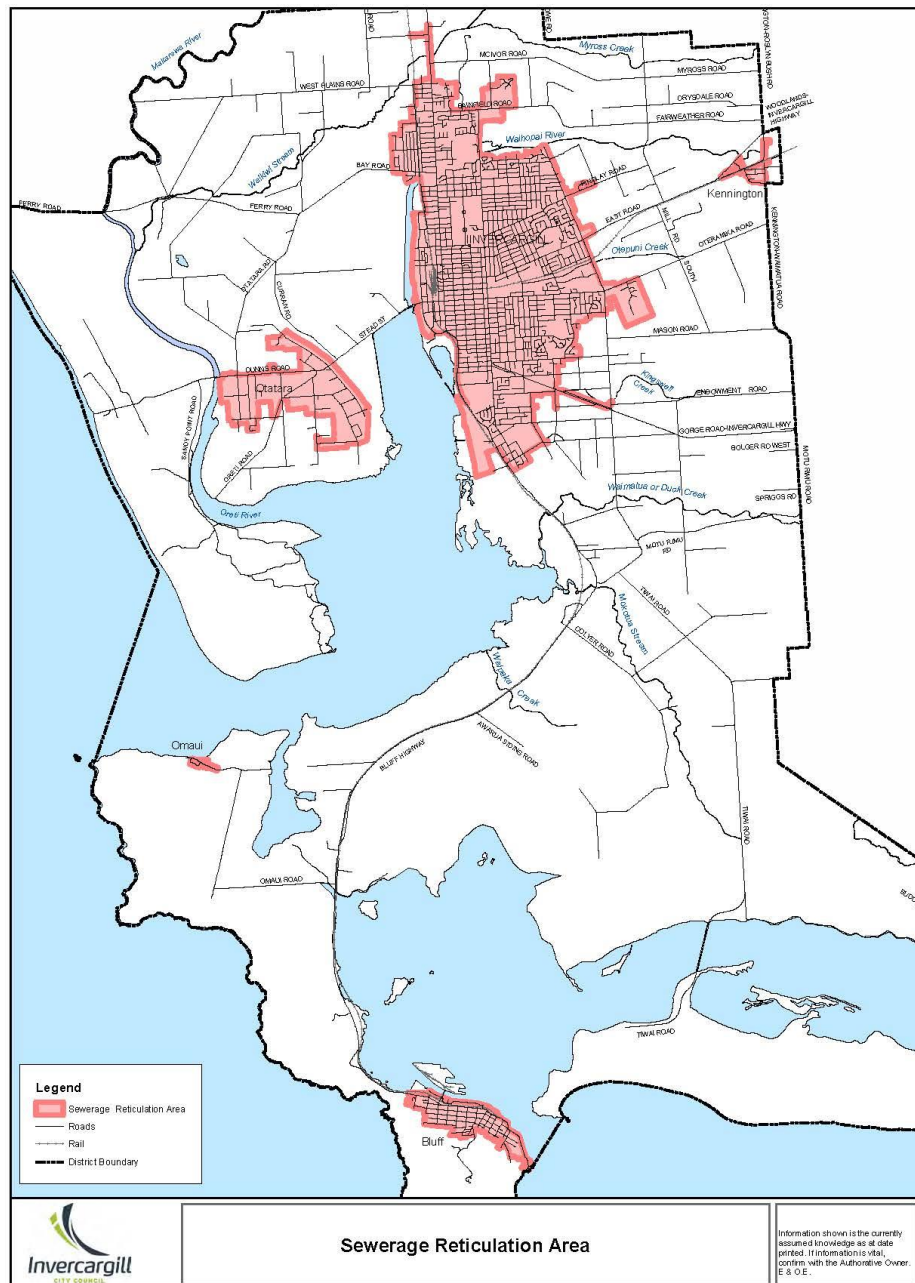
Approach to responding to transition policy

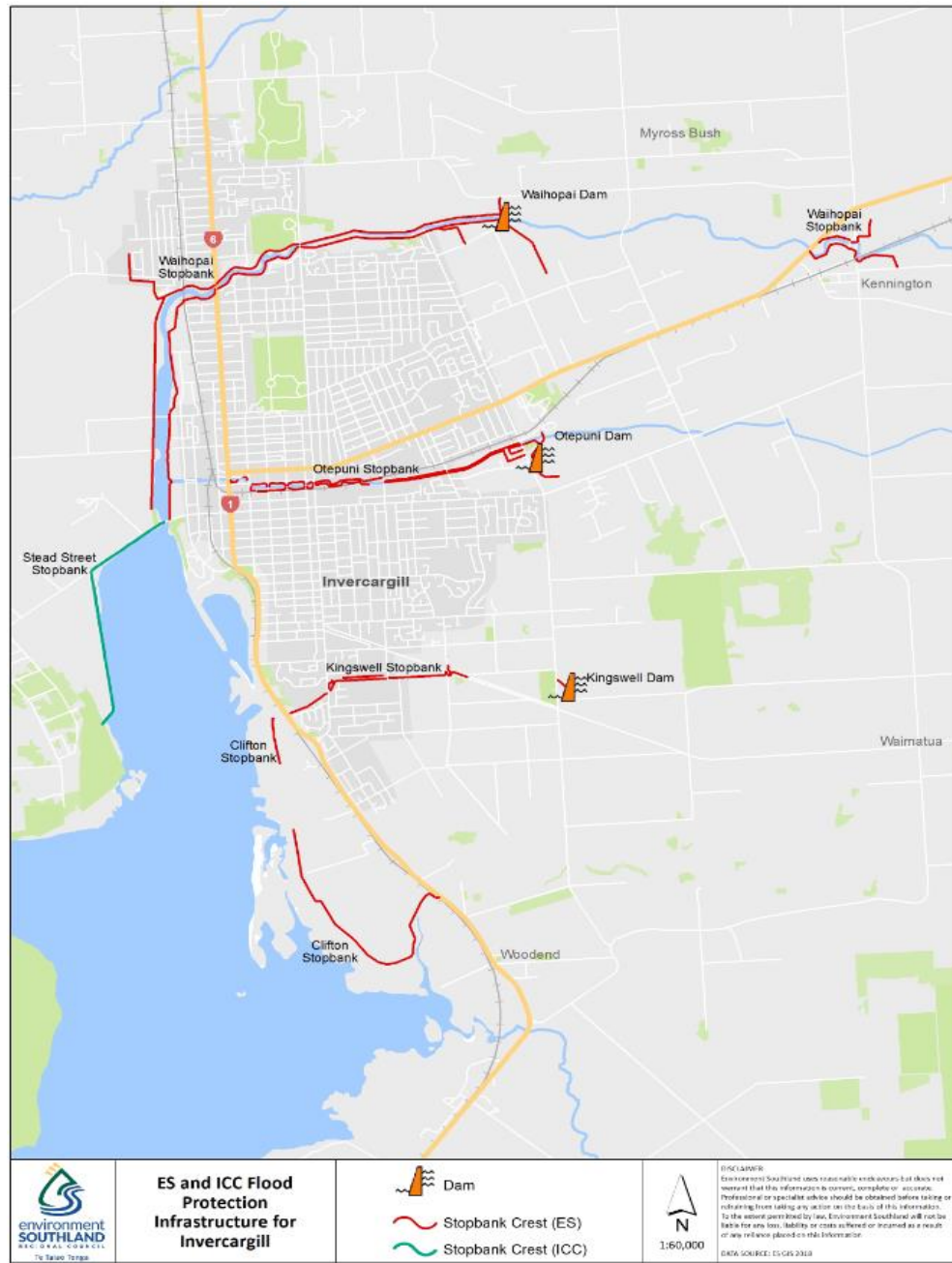
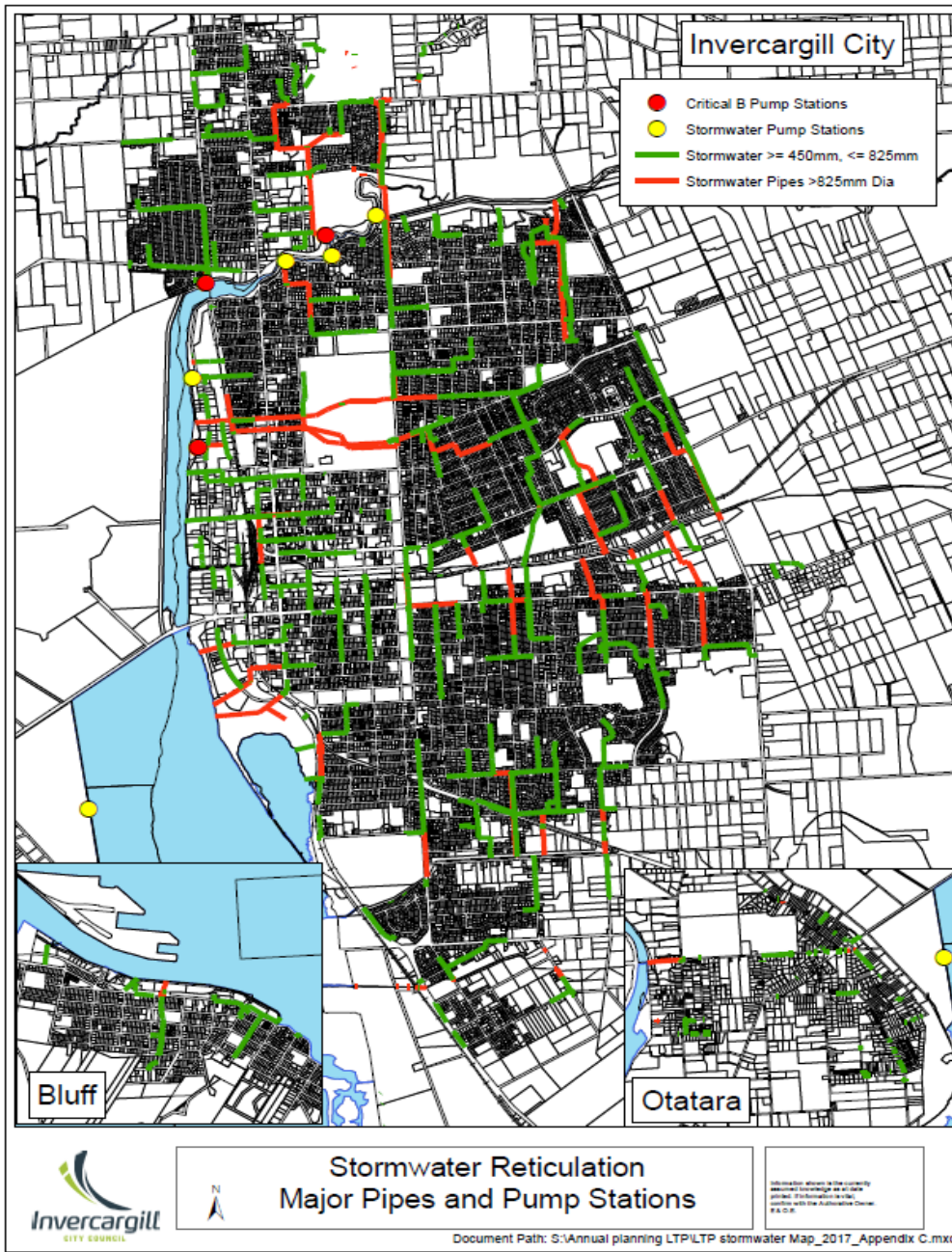
- Affordable Water Reform
 - For this LTP:
 - Assumption that transition will happen in
 - 2 years which is budgeted for in the LTP will be the programme of the new Entity J - Year 3 set by the entity
 - Asset plan will use NTU Approach and be an addendum to the Entity Plan
 - Minister will set the establishment date
- In the circumstance that an election results in a policy change:
 - For this LTP – we continue and add year 3 of the budget where possible – utilising the asset plan
 - Changes will be made as required through an amended LTP

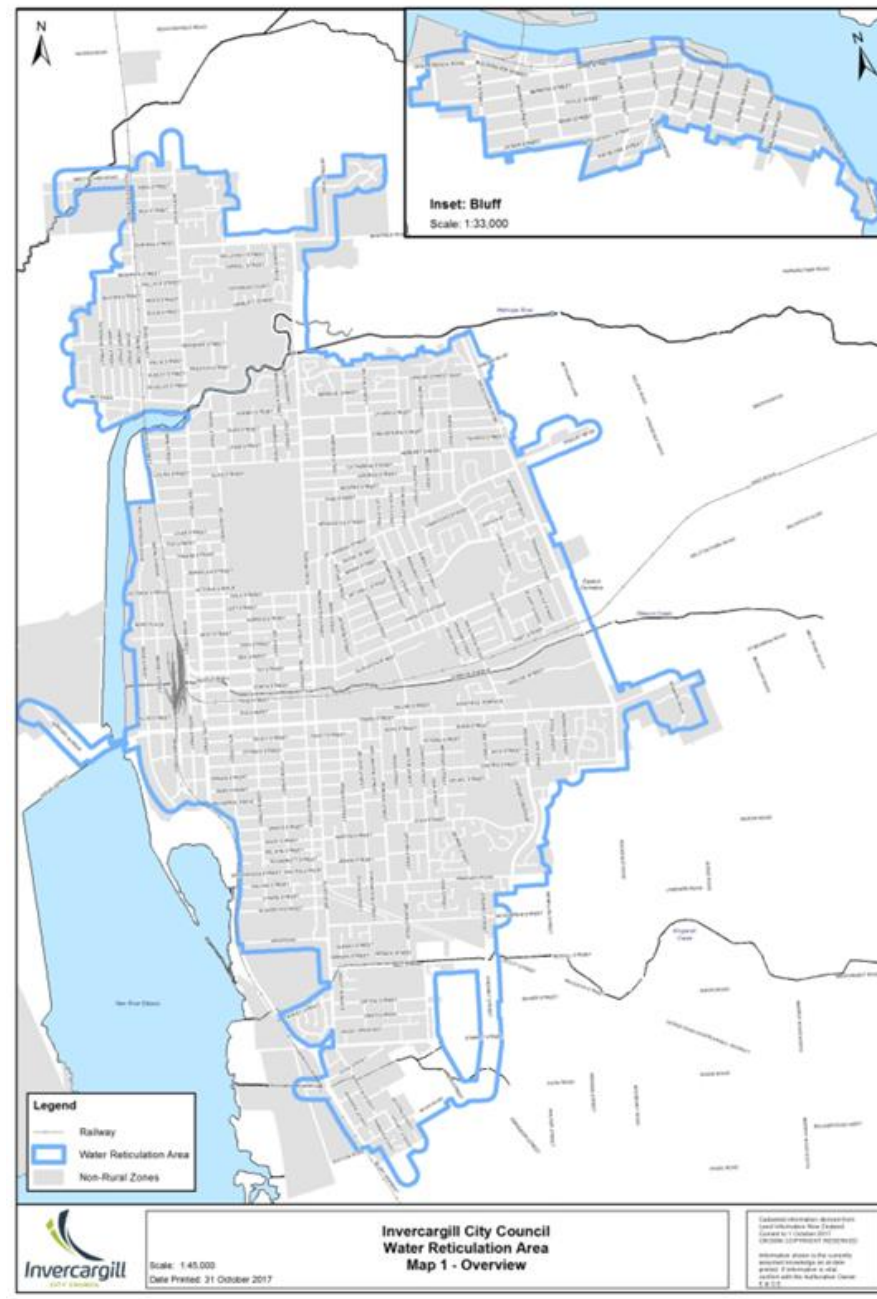
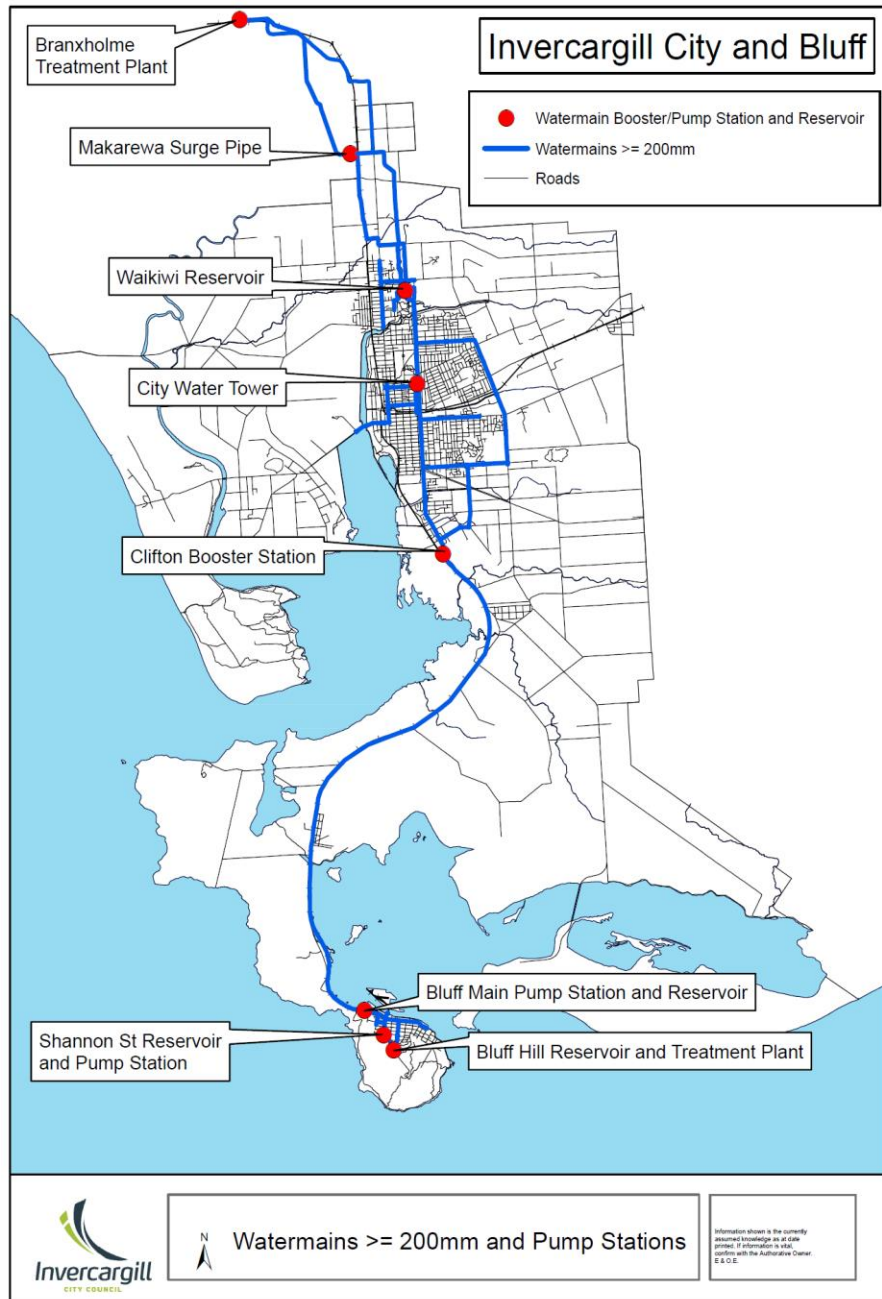
Overview of Activity

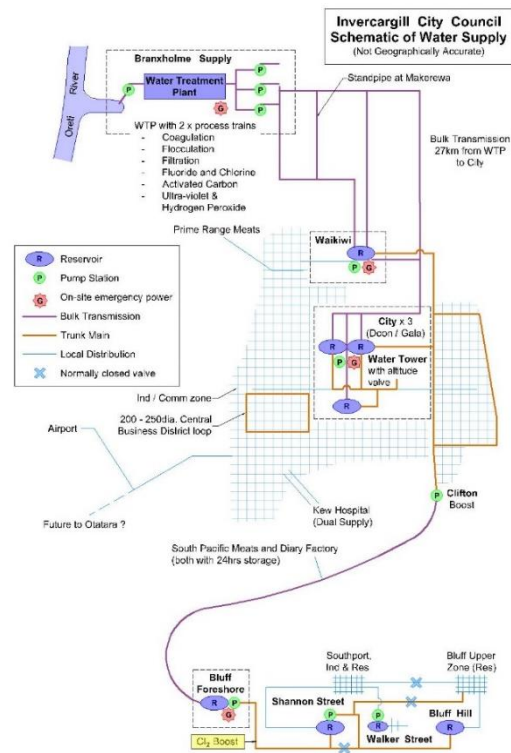
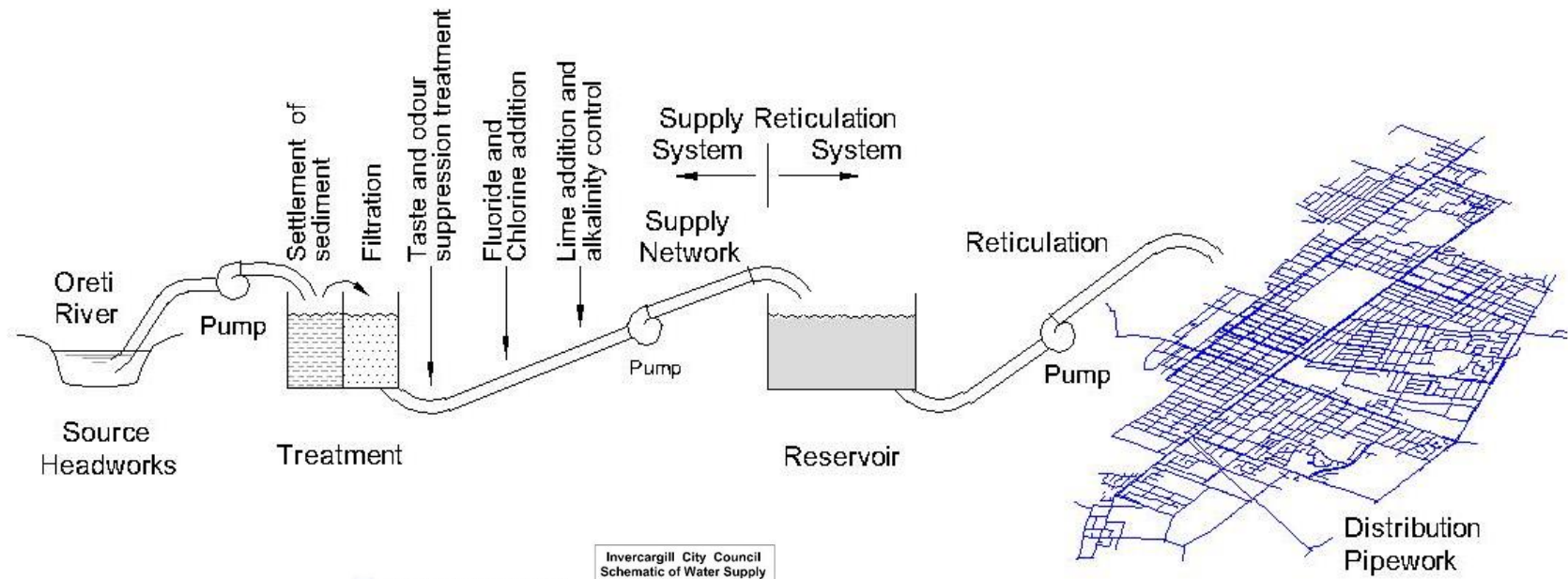
Activity includes

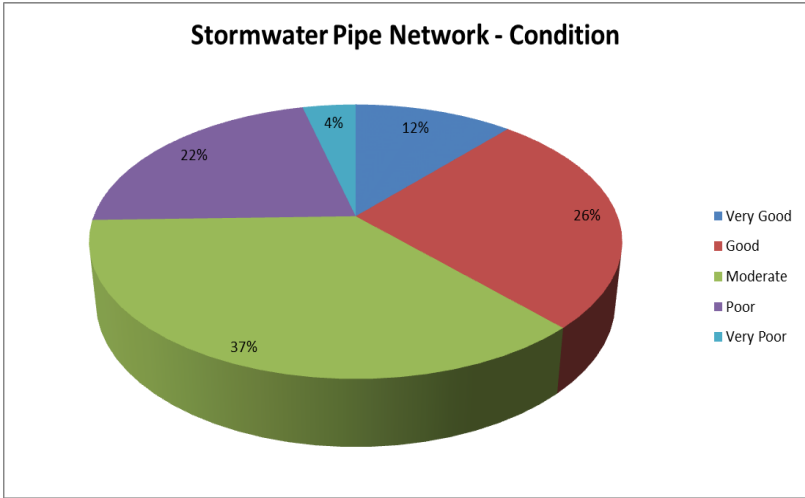
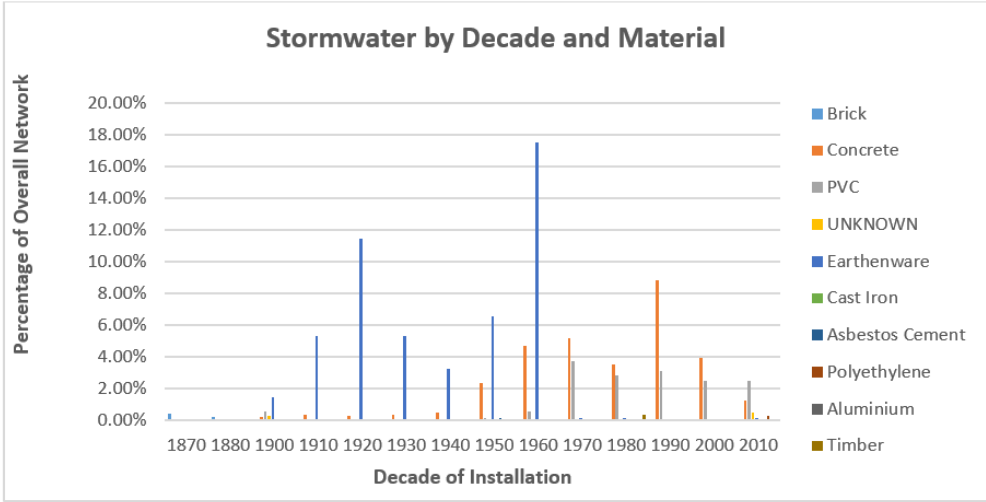
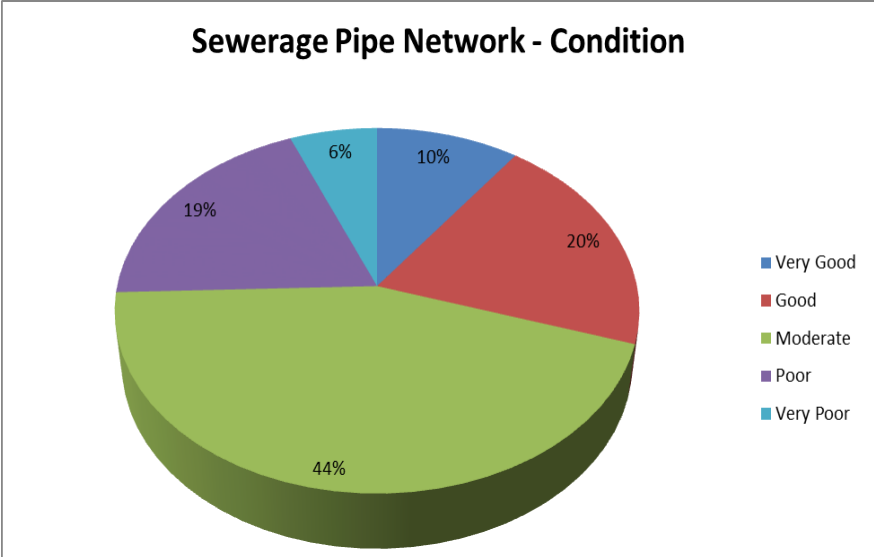
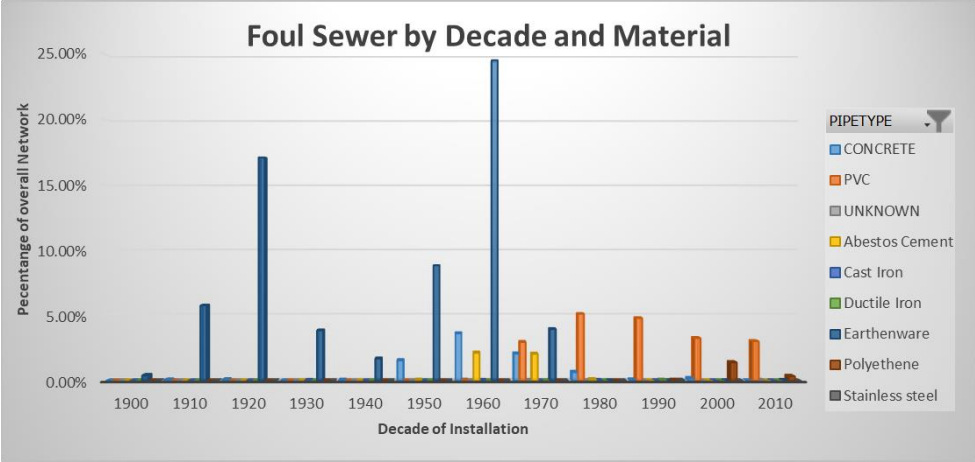
- Water Stormwater Foulsewer
- Pipes and Manholes – include large supply and delivery pipes in all three assets
- Treatment Plants – Branhholme (Water)
 - Clifton (Sewerage)
 - Buff(Sewerage)
 - Omaui (Sewerage)
- Pumps Stations – Water (6)
 - Sewerage (31)
 - Stormwater (8)
- Reservoirs - Water (8)
- Stead Street and Cobbe Road Stopbanks
- Operations of facilities , contracts for maintenance of pipes , in-house capital pipe renewals - design/ management, Roadmap – Branhholme Pipeline (PMO)
- Staff Involved in Activity – No 35 – ranges of skills and knowledge
- Network in generally reasonable to good health
- Good history of investment and demand and capacity have mostly been met



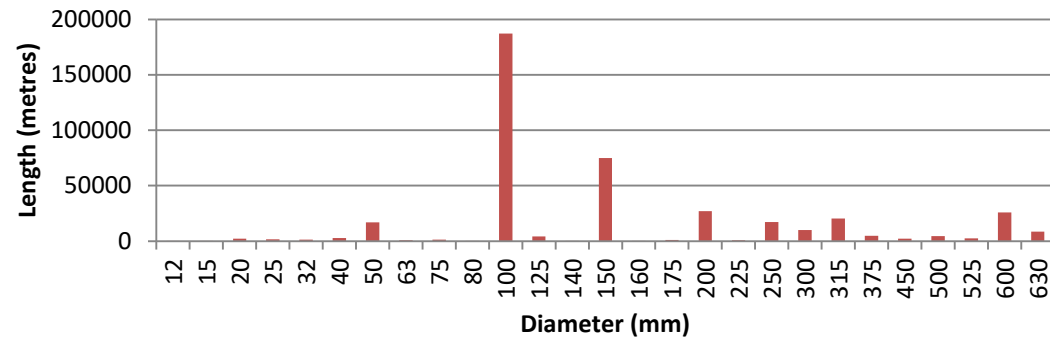




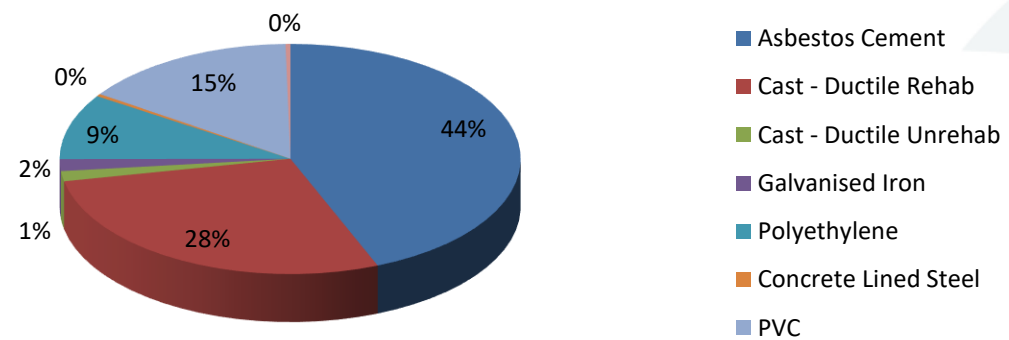




FigPipe Network - Diameters by Length



Pipe Network - Material Type



Overview of Activity

Activity Valuation Include:

TYPE	IPS_TABLE	ORC 2022	ODRC 2022	AFD 2022	ORC
Sewer	`Treatment and PS	78,154,026	38,480,272	3,338,944	
Sewer	Cleaning Eye	961,521	446,824	10,558	25.14%
Sewer	Mains	334,831,048	118,607,960	3,837,549	48.26%
Sewer	Manholes	36,037,091	11,441,455	426,503	59.17%
Sewer	Inlets	16,557	9,678	221	-21.99%
Sewer	Outlets	6,623	3,249	88	-88.65%
Sewer	Valves	2,152,377	1,312,247	41,391	128.70%
		452,159,244	170,301,686	7,655,255	
Storm	Pumping Stations	5,404,213	3,213,031	225,385	
Storm	Cleaning Eye	596,564	337,866	6,599	31.26%
Storm	Mains	349,477,295	156,501,879	3,541,055	8.57%
Storm	Manholes	36,029,430	19,868,596	359,601	51.75%
Storm	Level	16,222,196	6,164,417	161,957	17.66%
Storm	Inlets	2,080,537	1,231,009	28,126	35.94%
Storm	Outlets	1,068,794	494,583	16,307	26.02%
Storm	Valves	28,309	18,483	377	87.23%
		410,907,338	187,829,862	4,339,407	
Water	`Treatment and PS	94,704,363	41,372,336	1,620,075	
Water	Hydrants	11,046,619	2,792,294	174,317	11.01%
Water	Mains	251,116,442	106,102,652	3,422,193	48.85%
Water	Manholes	98,879	79,934	1,648	62.76%
Water	Meters	1,758,354	408,930	97,859	28.49%
Water	ServiceLines	38,866,928	17,267,001	647,679	44.26%
Water	Valves	24,974,869	17,096,404	397,908	161.24%
		422,566,454	185,119,551	6,361,678	
Totals		1,285,633,035	543,251,100	18,356,340	

Annual Depreciation

Sewer	\$	7,655,255
Storm	\$	4,339,407
Water	\$	6,361,678
	\$	18,356,340

Strategic priorities and community outcomes

Council Vision

- three key infrastructure assets delivering core services

Community Outcomes

- well understood but impacts and requirements to meet future discharges needs highlighted (e.g. discharge approvals, risks of networks)



Future KPIs set by Entity – same / different delivery model?

Changes from Previous LTP - Big game changer for Councils

Diminished community connection in future – who sets the priority

Less direct control

- community services direction and integration with key projects (e.g. BAU – Resurfacing and City Centre Works)

Strategic priorities and community outcomes

Key issues

- Ensuring **key** projects happen by ICC and or new entity
- Minimise current and future risks or failures on critical assets
- Maintain a healthy and safe work environment
- Maintaining skilled resources
- Strengthening relationship with Iwi in decision making
- Improve Environmental Performance - Stormwater Quality Improvements
- Having and Managing legislative requirements e.g. Consents
- Planning and achieving Sewerage Disposal Options
- Increase knowledge of network : capability and capacity – being ready
- Setting strategic direction aligned to where City growth is wanted
- Being Resilience and Response Ready
- Stopbank Ownership and timing
- Recognising works required are significant- time and money



Strategic priorities and community outcomes

Key projects -Delivery

- Branhholme Supply Pipelines- Committed
- Mersey Street FS Pumped Main – Critical and strategic
- Alternate Water Supply - Awarua and its connection to networks
- Networks Capability of Otatara – Understanding the community Outcomes
- Discharge Consenting for Bluff and then delivering requirements
- Discharge Consenting for Clifton and then delivering requirements
- Water Take consent for Branhholme
- Water Capability – timing limit development to Bluff area
- Service needs for Spatial Development – 5 – 10 - 30 years
- Health and Safety Improvements



Strategic priorities and community outcomes

Key projects -Planning

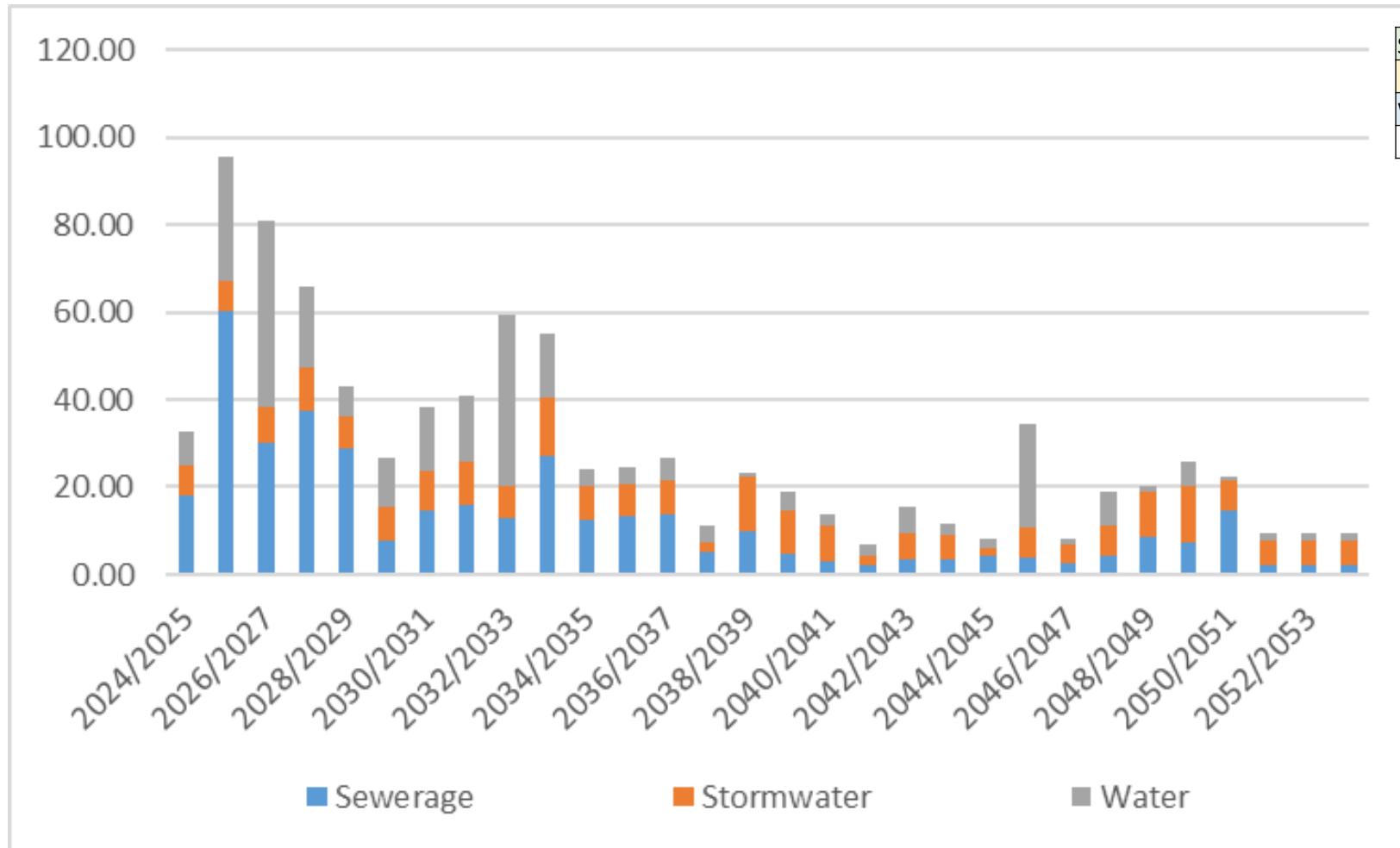
- Financial Contributions - Water Capability to new land developments – subdivisions
- Capability of Design models for Sewer Network to respond
- Improving Stormwater Design and overland modelling
- Aligning District Plan and Asset Plans
- Resourcing and Project delivery



Current Budget

	Water Supply Annual Plan 2023/2024 (\$000)	Sewerage Annual Plan 2023/2024 (\$000)	Stormwater Annual Plan 2023/2024 (\$000)
<u>Operational</u>			
Targeted rates revenue	9,942 78%	7,551 88%	4,818 75%
General rates revenue	0 0%	0 0%	1,606 25%
Other revenue (excluding capital subsidy revenue)	2,757 22%	1,029 12%	37 1%
	12,699	8,580	6,461
Operational expenditure (excluding depreciation)	5,454	4,054	2,451
Depreciation expenditure	6,782	7,852	4,685
	12,236	11,906	7,136
<u>Capital</u>			
Capital subsidy revenue	0	0	0
Capital expenditure			
• to improve the level of service	10,704	0	328
• to replace existing assets	3,296	3,005	2,823
	14,000	3,005	3,151
Staff levels (excludes Casuals and Elected Members):			
FTE	35 across the 3 Waters		
Head Count	35 across the 3 Waters		

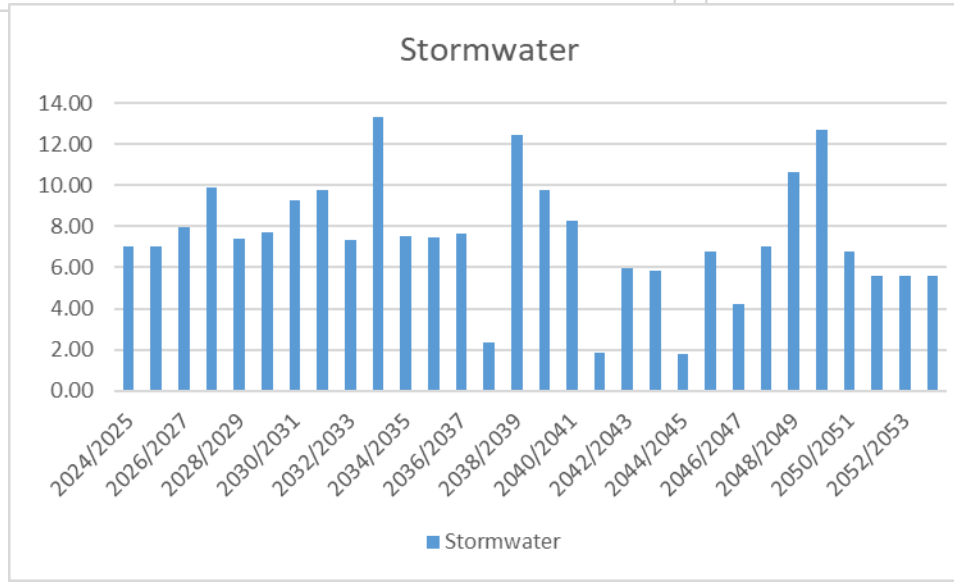
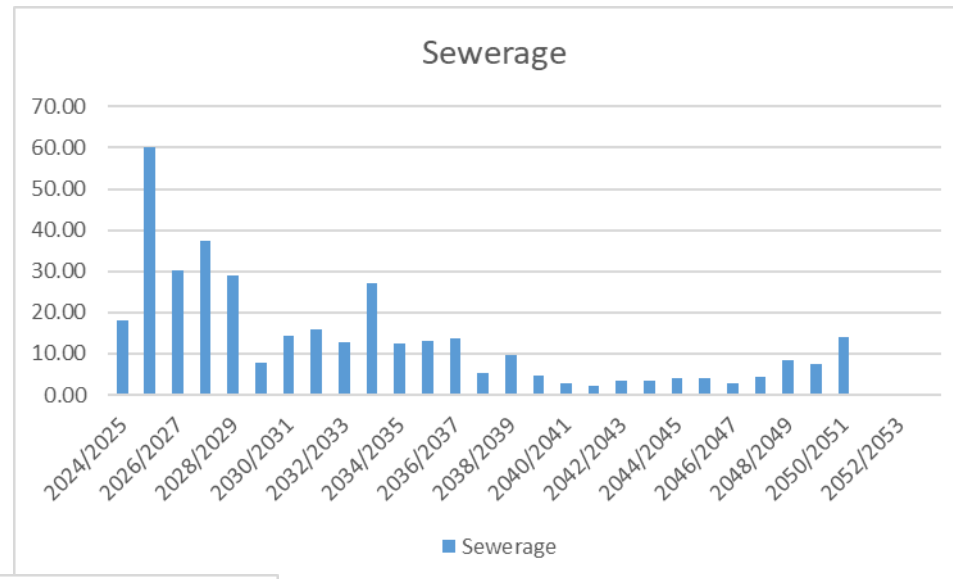
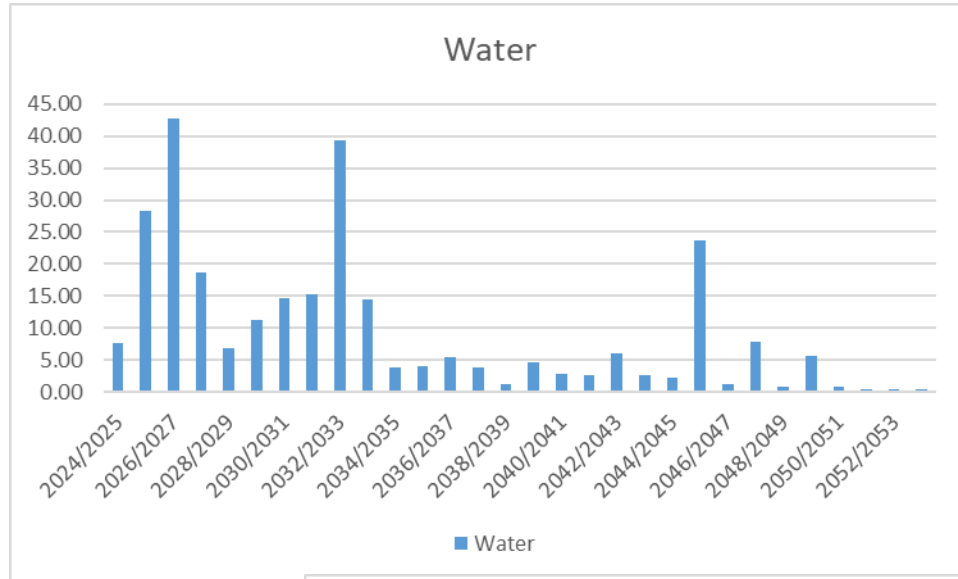
Capital Budget Forecasts



Annual Depreciation

Sewer	\$	7,655,255
Storm	\$	4,339,407
Water	\$	6,361,678
	\$	18,356,340

Capital Budget Forecasts



Capital Budget Forecasts

Activity	Problem / Opportunity	Total	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029
	GRAND TOTAL	331,174,920	-	-	-	-	-
Wastewater	Bluff Discharge Upgrade - Conveyance of Bluff effluent to Clifton WWTP	25,000,000	12,500,000	12,500,000	-	-	-
Wastewater	Clifton Discharge Upgrade - Clifton discharge to land	88,000,000	-	22,000,000	22,000,000	22,000,000	22,000,000
Wastewater	Bluff Discharge Upgrade - Conveyance of Bluff effluent to Clifton WWTP	25,000,000	12,500,000	12,500,000	-	-	-
Wastewater	Pipe renewals - Sewerage Pipe Network renewals	27,495,600	5,108,400	5,108,400	5,776,320	6,910,200	4,592,280
Wastewater	Rising Main Duplication - Mersey Street rising main duplication	19,800,000	-	19,800,000	-	-	-
Wastewater	Rising Main Duplication - Lindisfarne Wastewater duplication	5,000,000	-	-	-	5,000,000	-
Wastewater	BID number - Otatara FS Network improvement - Rising Main -	2,000,000	-	-	1,250,000	750,000	-
Sewerage	Consent renewals Clifton WWTP discharge (AUTH-200749,200750,200752,20136298-01)	450,000	200,000	225,000	25,000		
Sewerage	Consent renewal Omaui oxidation pond discharge (AUTH-202189)	100,000			50,000	50,000	
Sewerage	Consent renewal Discharge biosolids to land at Christies Road (AUTH-302764-01,AUTH-302764-02)	-					
Sewerage	Consent renewal Bluff Sew age Discharge,including outfall structure (AUTH-98236,AUTH-99062)	125,000	125,000				
Stormwater	Pipe renewals - Stormwater Pipe Network Capacity Upgrade	37,358,640	6,677,880	6,677,880	7,550,400	9,451,200	7,001,280
Water	Skye Street Reservoir and pump station - New reservoir/ pump station	5,900,000	-	3,000,000	2,900,000	-	-
Water	Reticulation renewals - Pipe Network - reticulation renewals	30,589,680	5,352,600	5,352,600	6,052,200	7,576,800	6,255,480
Water	Reticulation extension - Extension of reticulation to surrounding communities (Otatara yr 4 ,Makarewa Yr 9 etc)	10,560,000	-	-	-	10,560,000	-
Water	Awarua Industrial Trunk main - Pipe network- Trunkmain to/from Awarua	15,000,000	-	7,500,000	7,500,000	-	-
Water	Supply renewals - Pipe Network - supply renewals	1,500,000	1,500,000				
Water	Earthquake strengthening - Water Tower - earthquake strengthening	4,356,000	-	-	4,356,000	-	-
Water	Supply development - Emergency/alternative water supply development	22,440,000	-	11,220,000	11,220,000	-	-
Water	Supply development - Awarua Treatment	10,000,000	-	-	10,000,000	-	-
Water	BID number - New Tanker fill station at Doon St -	500,000	500,000				

Maintaining levels of service

- Key Assumption - no planned changes to LOS in the first two years occurs
- No requirement to consult on KPIs

Requirements to maintain compliance

- Discharge Consents Projects must be progressed **at pace** to meet current expiry
- Increasing water network security
 - Backflow Prevention
 - Controlled Water Filling Station(s)
 - Ongoing testing and compliance (eg SW testing)
- Listed Key projects are above the BAU Renewal
- Improvement to water quality discharged from Stormwater
- Expectations of no Failures - Failures may resulting in prosecutions
- Community Resilience - expectation of response to high rainfall events (e.g. Auckland/ Storms)

Proposals for new or lifted level of service?

- Key Strategic Projects look to strengthen the delivery of a robust reliant network for Invercargill
- Looks to improve quality of waters discharged
- Seeks to meet all legislative requirements
- Proposes to increase ability to deliver services in Otatara, Bluff etc
- Make Water Supply Network resilient

Opportunities for cost savings

- Contract efficiencies are an ongoing priority – approach, risks and duration
- Ongoing renewal investment reduces responsive works

Options for Council to consider

Optioneering Focus

Drivers for Decisions

1. Strategic Investment - Timing and Priority for City
2. Criticality Failure Risk
3. Aligned to wider Council Goals e.g. Housing , Spatial planning etc.
4. Legislative Requirements – e.g. Consents
5. Health and Safety

Decisions are more about Projects not LOS – projects in/out or retimed

Investment Options (Years 1 to 3)

Consents Development

Alternative Water Supply and Network Connections

High Risk FS Mains

Asset Management Modelling

Resilience Preparedness

Options for Council to consider

Activity	Problem / Opportunity	Option Comments In-Out-retime
	GRAND TOTAL	
Wastewater	Bluff Discharge Upgrade - Conveyance of Bluff effluent to Clifton WWTP	
Wastewater	Clifton Discharge Upgrade - Clifton discharge to land	
Wastewater	Bluff Discharge Upgrade - Conveyance of Bluff effluent to Clifton WWTP	
Wastewater	Pipe renewals - Sewerage Pipe Network renewals	
Wastewater	Rising Main Duplication - Mersey Street rising main duplication	
Wastewater	Rising Main Duplication - Lindisfarne Wastewater duplication	
Wastewater	BID number - Otatara FS Network improvement - Rising Main -	
Sewerage	Consent renewals Clifton WWTP discharge (AUTH:200749,200750,200752,20136298-01)	
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Sewerage	Consent renewal Bluff Sewage Discharge,including outfall structure (AUTH-98236,AUTH-99062)	
Stormwater	Pipe renewals - Stormwater Pipe Network Capacity Upgrade	
Water	Skye Street Reservoir and pump station - New reservoir/ pump station	
Water	Reticulation renewals - Pipe Network - reticulation renewals	
Water	Reticulation extension - Extension of reticulation to surrounding communities (Otatara yr 4 ,Makarewa Yr 9 etc)	
Water	Awarua Industrial Trunk main - Pipe network-Trunkmain to/from Awarua	
Water	Supply renewals - Pipe Network - supply renewals	
Water	Earthquake strengthening - Water Tower - earthquake strengthening	
Water	Supply development - Emergency/alternative water supply development	
Water	Supply development - Awarua Treatment	
Water	BID number - New Tanker fill station at Doon St -	

Measuring Performance - Water

Levels of Service

The Water Activity enhances our city and preserves its character through providing a safe, reliable supply of water, ensuring reticulated properties receive a continuous supply, and providing sufficient water flow and pressure for firefighting purposes.

The Water Activity monitors the average consumption of drinking water per day per resident within the Invercargill City Council territorial district, ensuring that Council's drinking water supply complies with part 4 of the drinking-water standards (Bacteria compliance criteria). It meets community expectations for quality drinking water supply and timely response to any issues - including the median response and resolution times for urgent and non urgent callouts.

KPIs

The extent to which the Council's drinking water supply complies with part 4 of the drinking-water standards. (Bacteria compliance criteria)

The extent to which the local authority's drinking water complies with part 5 of the drinking-water standards (protozoal compliance criteria)

The percentage of real water loss from the Council's networked reticulation system. (Calculated according to the methodology outlined in Water NZ Water Loss Guidelines publication Feb 2010)

The median response time for urgent callouts, (from the time the Council receives notification to the time that service personnel reach the site).

The median time to resolve urgent callouts (from the time the Council receives notification to the time that service personnel confirm resolution of the fault or interruption).

Attendance for non-urgent call-outs: from the time that council receives notification to the time that service personnel reach the site

Resolution of non-urgent call-outs: from the time that the council receives notification to the time that service personnel confirm resolution of the fault or interruption

The total number of complaints received by Council per 1,000 connections about any of the following:

- Drinking water clarity
- Drinking water taste
- Drinking water odour
- Drinking water pressure of flow
- Continuity of supply
- Council's response to any of these issues

The average consumption of drinking water per day per resident within the Invercargill City Council territorial district

Measuring Performance - Stormwater

Levels of Service

The Stormwater Activity preserves the character of our city through the reliable conveyance of stormwater where there is a Council Managed network, and through reducing the risk of adverse effects from flooding events that occur in the Invercargill district.

The Stormwater Activity ensures the quality of receiving water (e.g. estuary, rivers and streams) is not adversely affected by stormwater contamination discharges, and monitors interruption to the stormwater system to ensure a timely response to faults.

The following tables show the performance measures Council use in the stormwater activity. These align, and are taken verbatim, from the Department of Internal Affairs (DIA) mandatory non financial performance measures. The wording and order of the performance measures from previous AMPs differs slightly from the DIA measures, therefore some of the previous measures have been incorporated into the proposed measures, as outlined in Tables 3.2.

Council is required to monitor and record its performance against these measures, but national targets have not been set. The measures align with technical levels of service set by Council for the stormwater activity as indicated.

KPIs

DIA Performance measure 1 (system adequacy) (a) The number of flooding events that occur in the Invercargill City district

DIA Performance measure 1 (system adequacy) (b) For each flooding event, the number of habitable floors affected (expressed per 1,000 properties connected to the Council's stormwater system)

DIA Performance measure 2 (discharge compliance) Compliance with the Council's resource consents for discharge

from its sewerage system, measured by the number of:

- Abatement notices
- Infringement notices
- Enforcement orders
- Convictions

DIA Performance measure 3 (response times) The median response time to attend a flooding event, measured from the time that Council receives notification to the time that service personnel reach the site

DIA Performance Measure 4 (customer satisfaction)

The number of complaints received about the performance of the stormwater system (expressed per 1,000 properties connected to the Council's stormwater system)

Measuring Performance - Sewerage

Levels of Service

The Sewerage Activity preserves the character of our city through the safe collection and treatment of sewerage, and ensuring that receiving waters are not adversely affected by effluent discharge. The Sewerage Activity ensures a low level of interruption to the network and resolves issues in a timely manner. The Sewerage activity enhances our city by receiving and treating trade waste efficiently, and responding to consent applications in a timely manner.

KPIs

Number of dry weather sewerage overflows per 1,000 properties - DIA
Performance Measure 1 (system and adequacy)

Compliance with Council's resource consents for discharge from its sewerage system - DIA Performance measure 2 (discharge compliance)

DIA Performance Measure 3 (fault response times):

(a) The median response time to attend emergency blockages

(b) The median response time to resolve emergency blockages

DIA Performance Measure 4 (customer satisfaction) The number of complaints received about:

1. sewage odour
2. system faults
3. system blockages
4. Council's responsiveness (expressed per 1,000 properties connected to the Council's sewer system)

Asset plans

- Asset plans – An Addendum to the Entity J plan is proposed where the Invercargill Data is contained in a brief summary.

Summary and Questions

- Council has a significant asset in 3 Waters
- Affordable Waters Reform direction will establish the next steps
- Strengthen relationships with Iwi to work together to solutions
- Strategic Opportunity for Council to careful guide investment
- Significant Projects are required and further development is needed
- Investment Options need to be considered and timed
- Manage staff knowledge and resources over any change
- Key Discharge Resource Consents need to be progressed
- Overall health of current systems is seen as good