

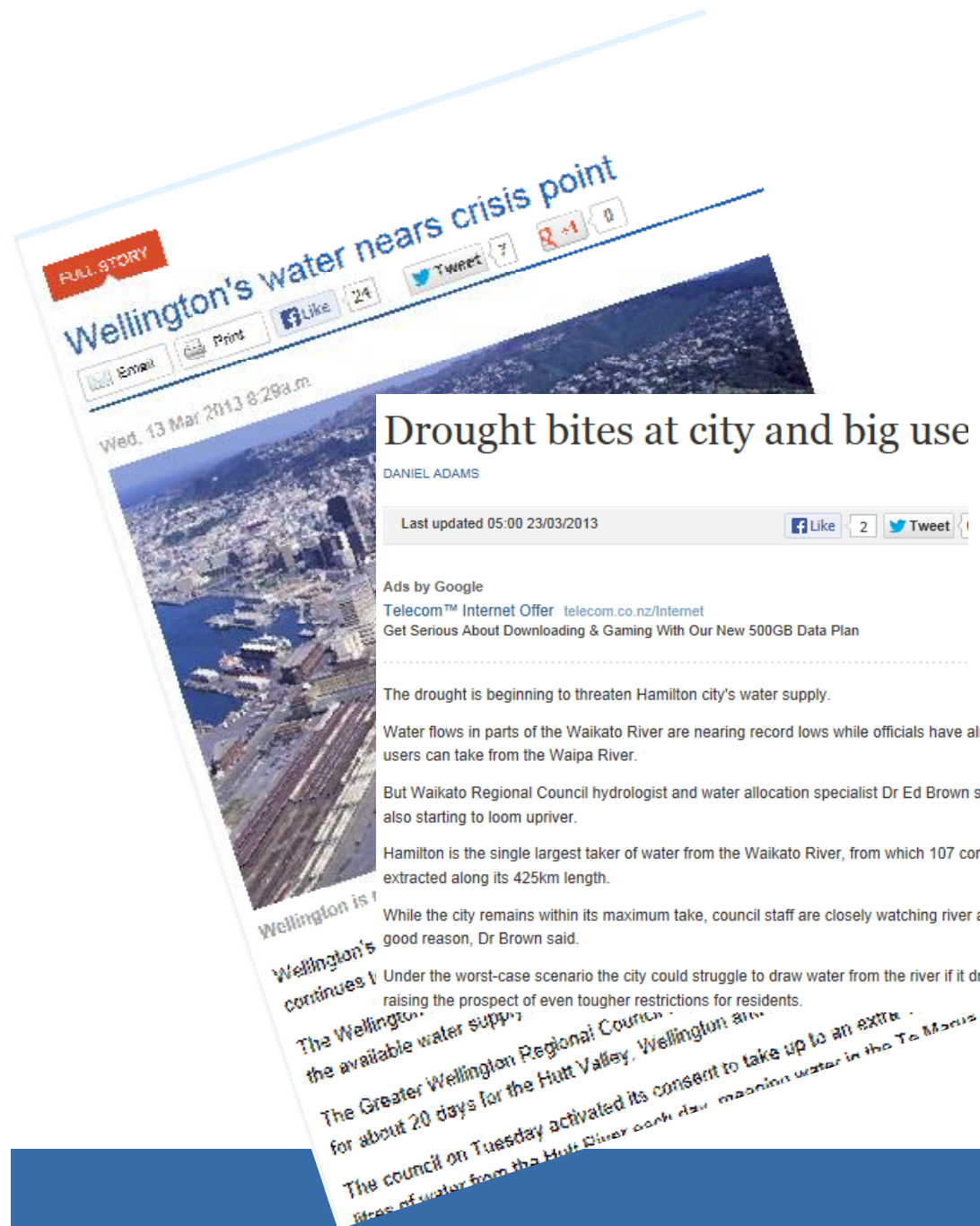
Planning to service Auckland

Chris Watson

Water Planning Manager

Brian Park

Commissioning/Risk Manager



Despite last summer's drought and regional growth pressures, Auckland had unrestricted supply



- [illegible]



Watercare must meet both its statutory and shareholder obligations



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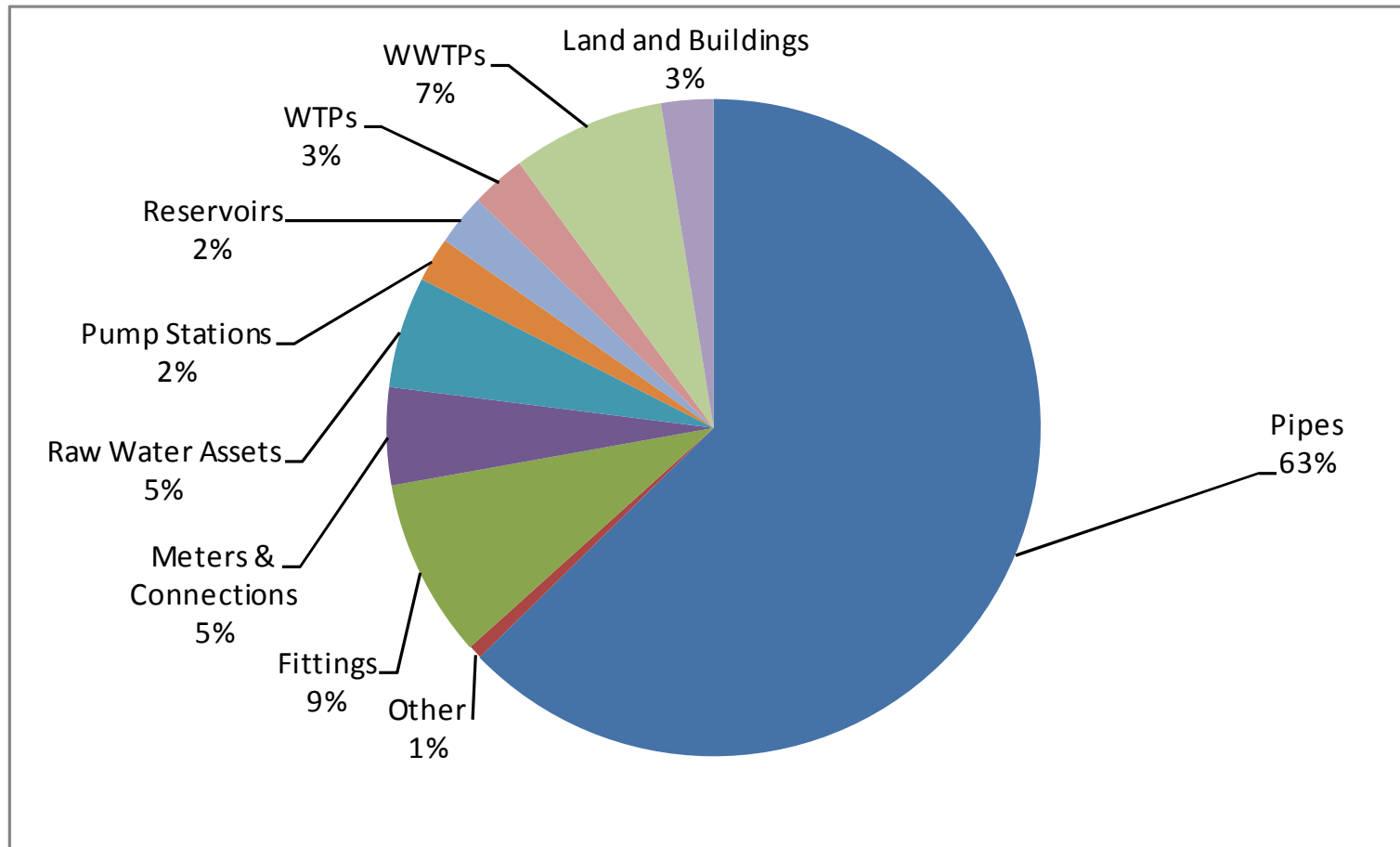
Watercare is legally required to be a least cost service provider

Key Risks

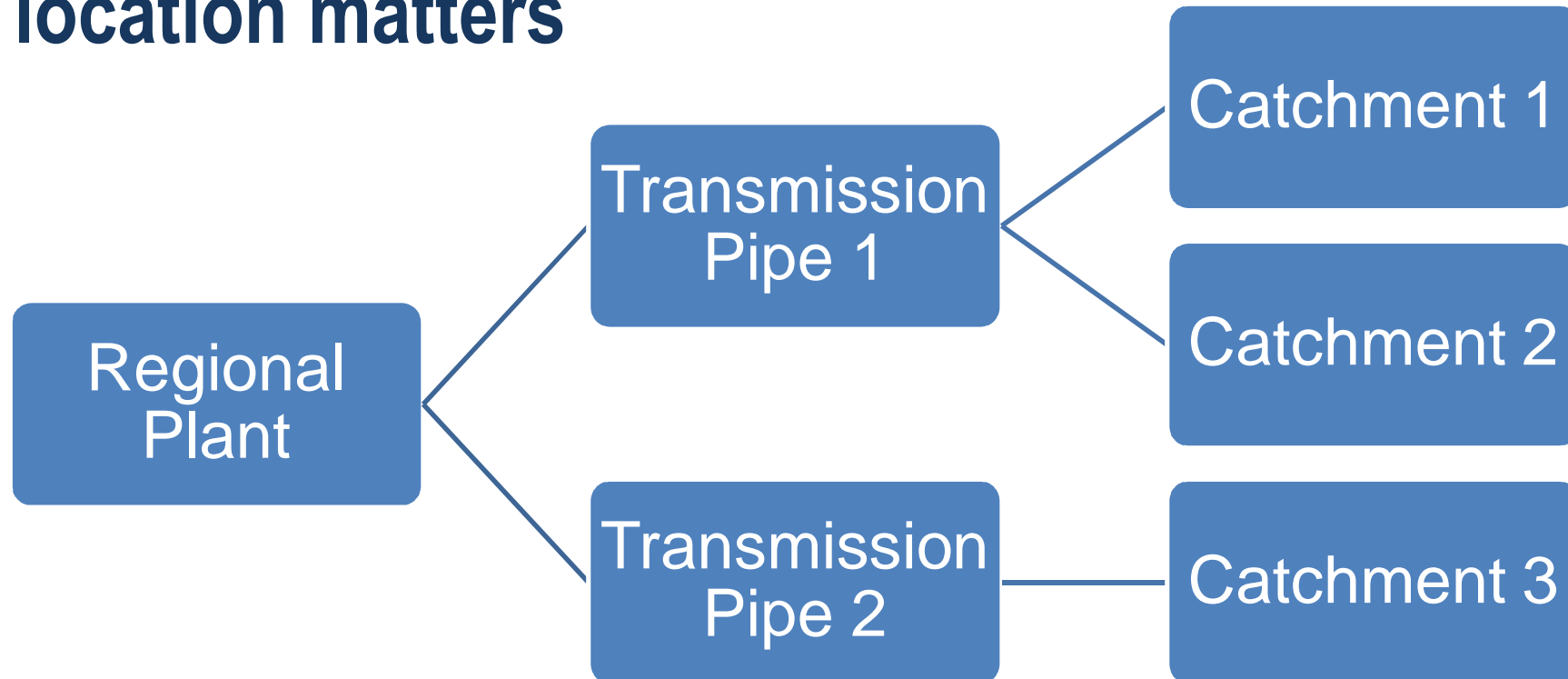
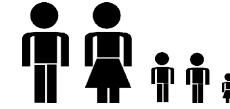
- “ Asset failure
- “ Growth
- “ Level of Service

- “ Natural disaster
- “ Climate change

Asset failure



Planning for growth – size and location matters



Importance of size and location of individual developments to infrastructure planning

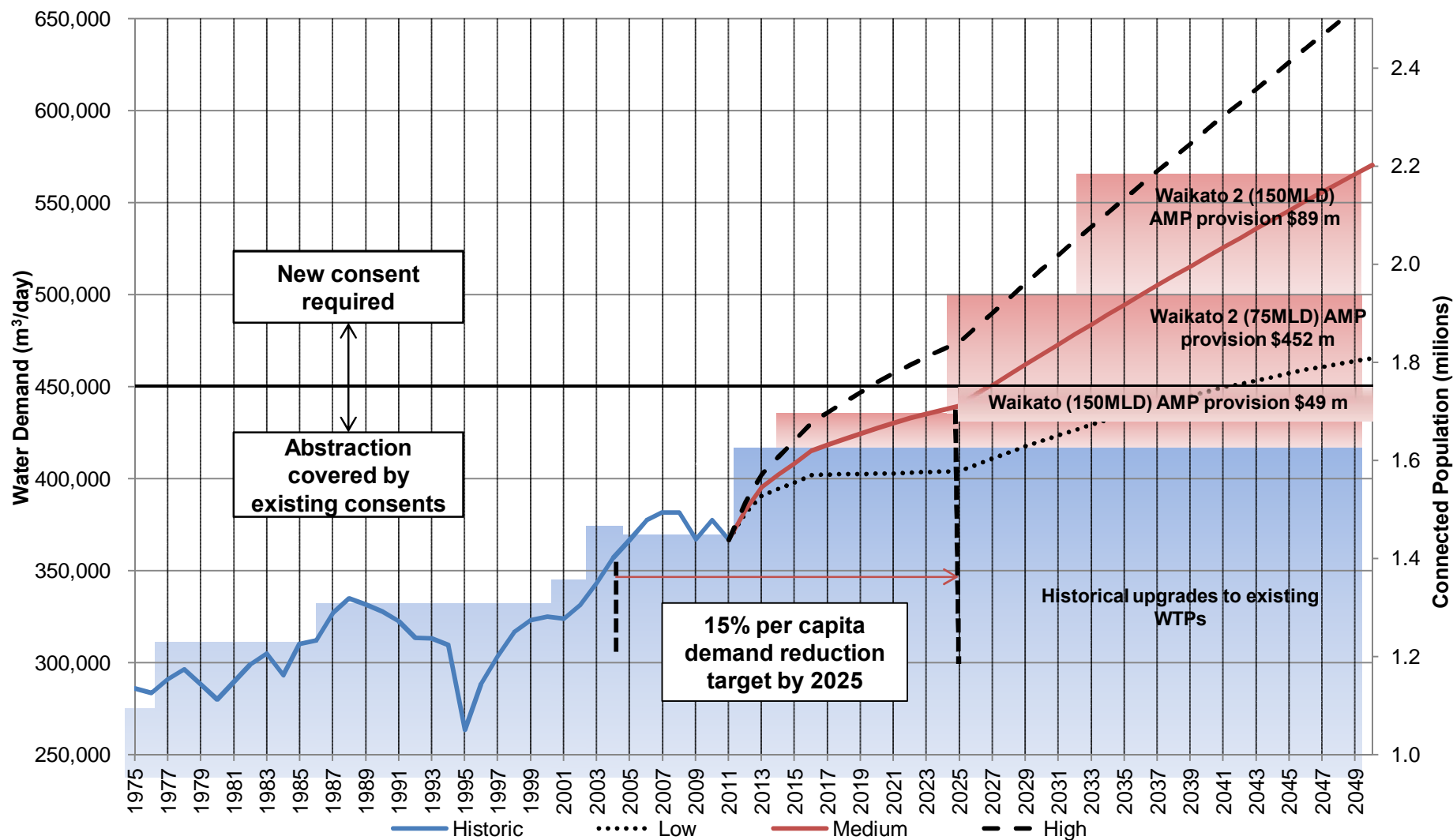
Planning for growth – regional

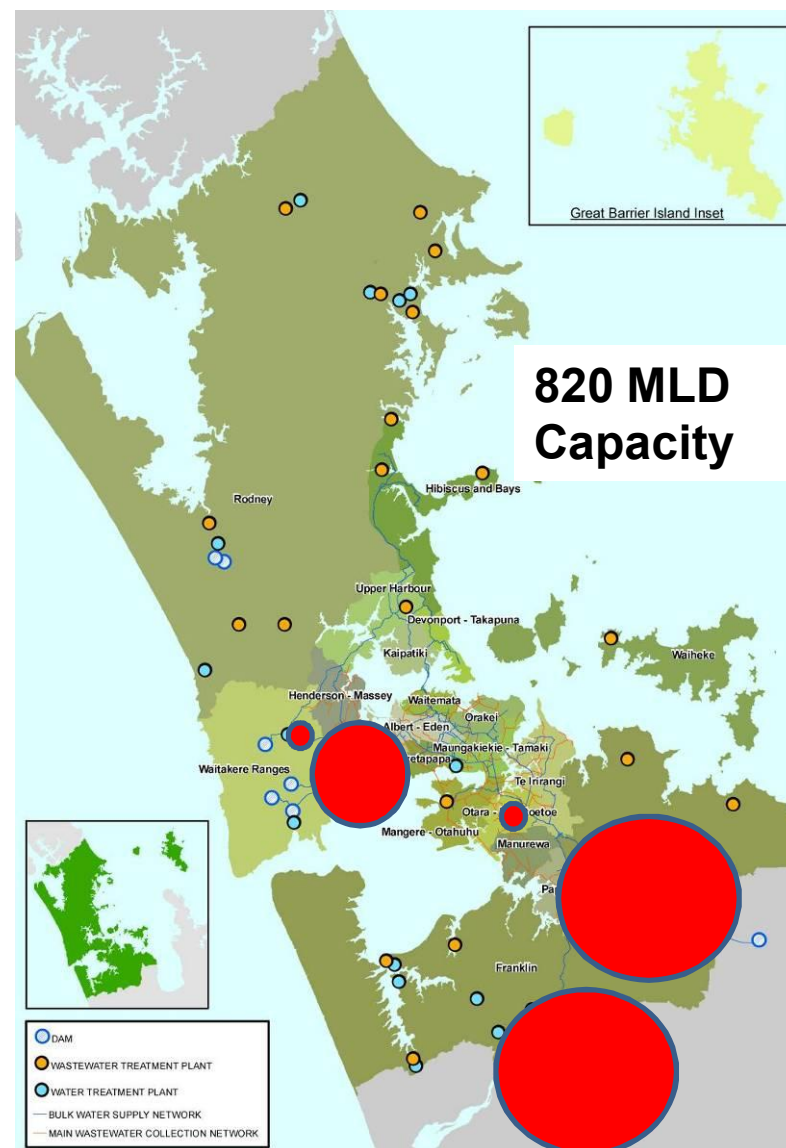
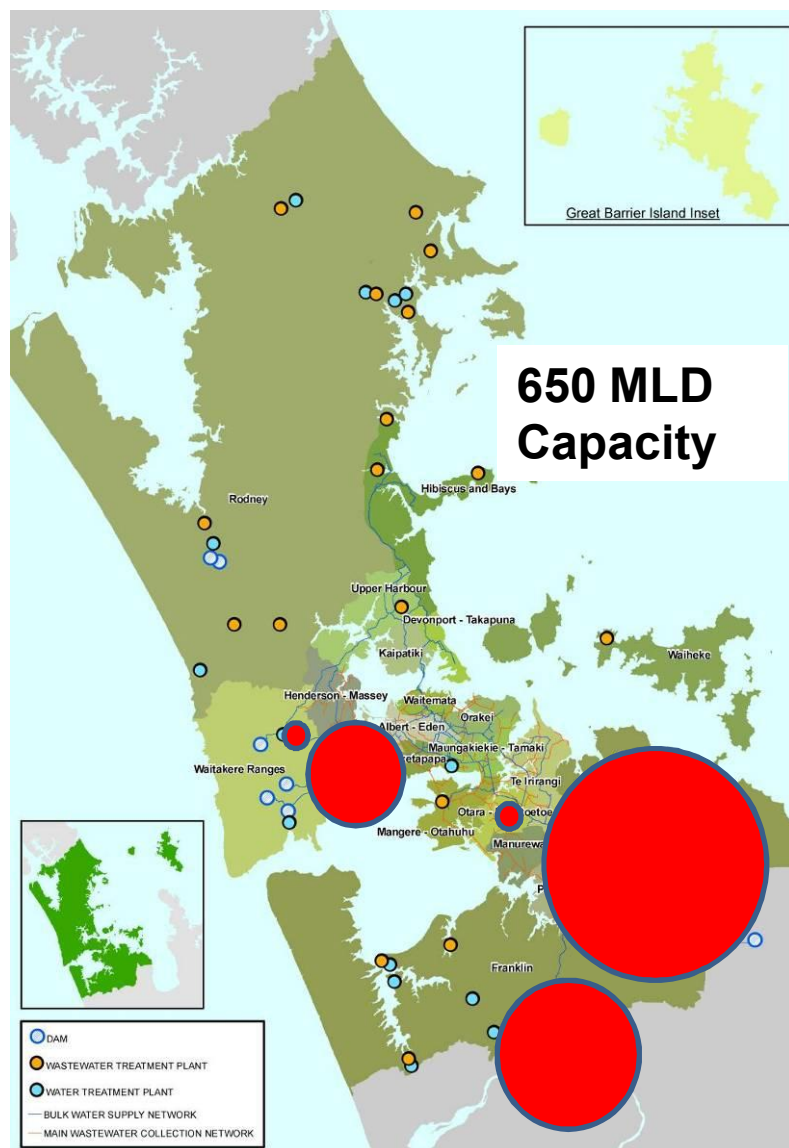
- ” *Medium* population growth projection
- ” Historic demand (adjusted if necessary)
- Forecast demand
 - ❖ Plan and deliver capacity (new / augmented) to meet forecast demand
 - ❖ Build in headroom, redundancy and serviceability

Uncertainties

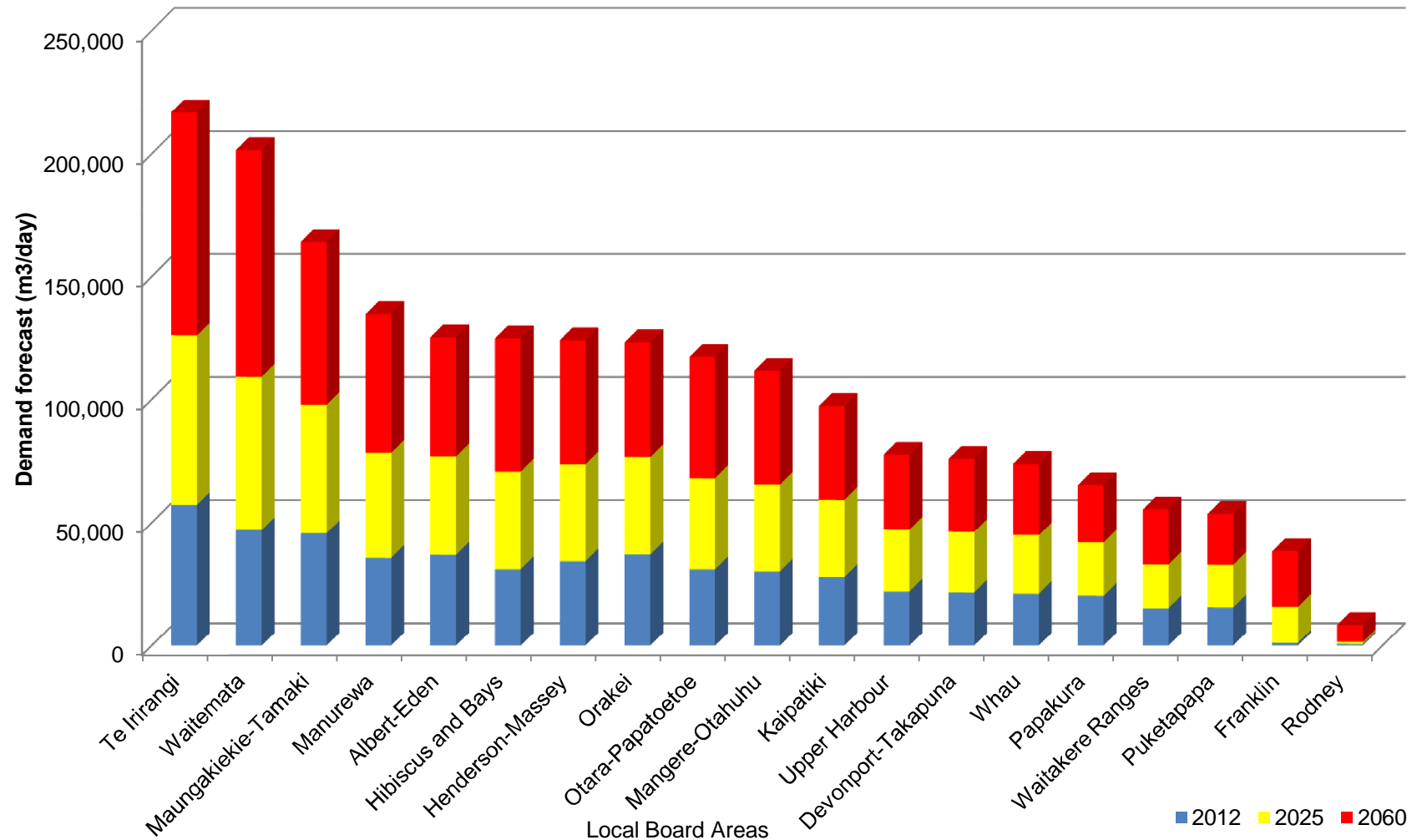
- ” Growth rate
- ” Per capita demand
- ” Time to plan, construct and commission additional capacity

Increasing water demand





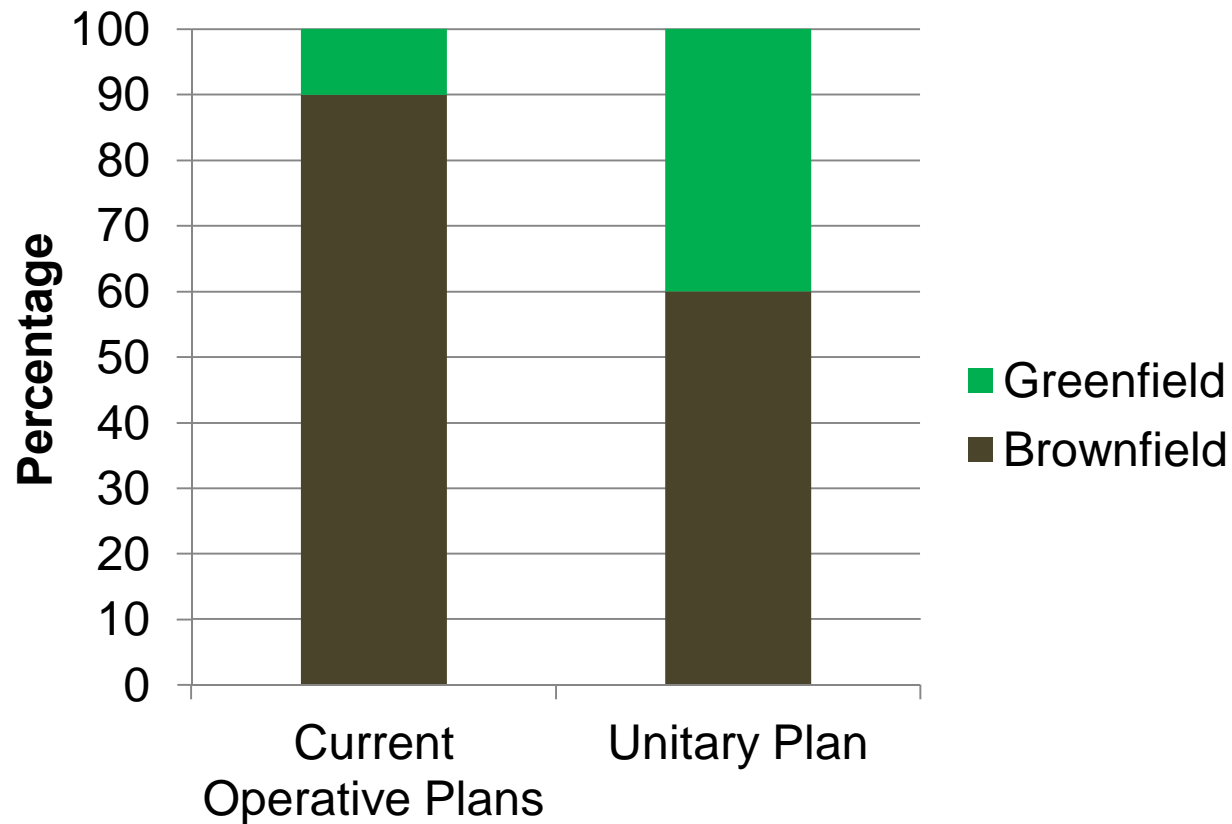
Forecast water demand by local board area



Regional population data source: former councils' plans



Planned Growth Distribution



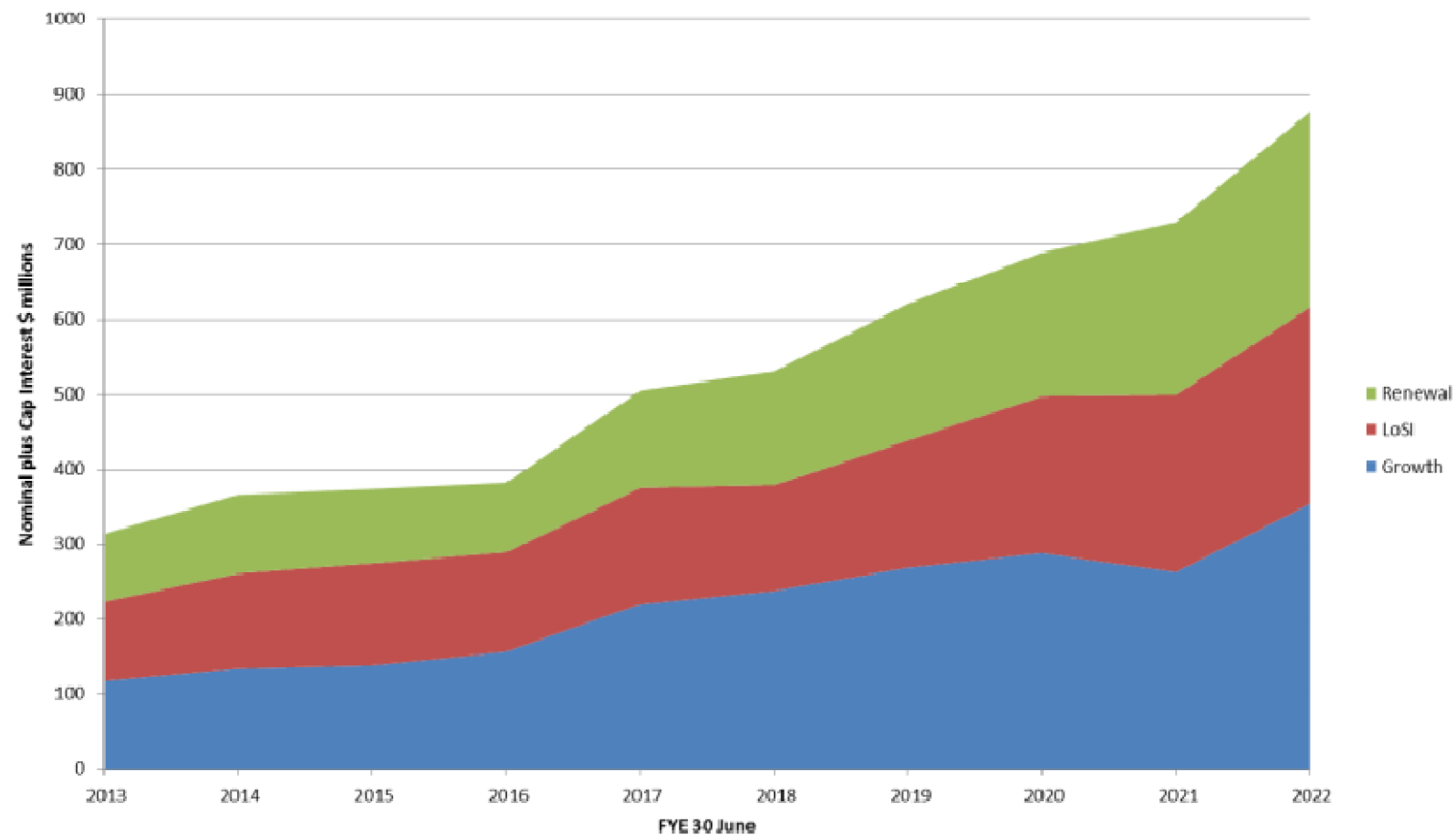
Capital Works Programme

- “ \$1.2 billion active projects
- “ \$5.25 billion of works planned over the next 10 years
- “ An annual capital expenditure of \$300 million growing to over \$800 million
- “ Projects which range from small renewals to major projects of \$100 million to \$1 billion

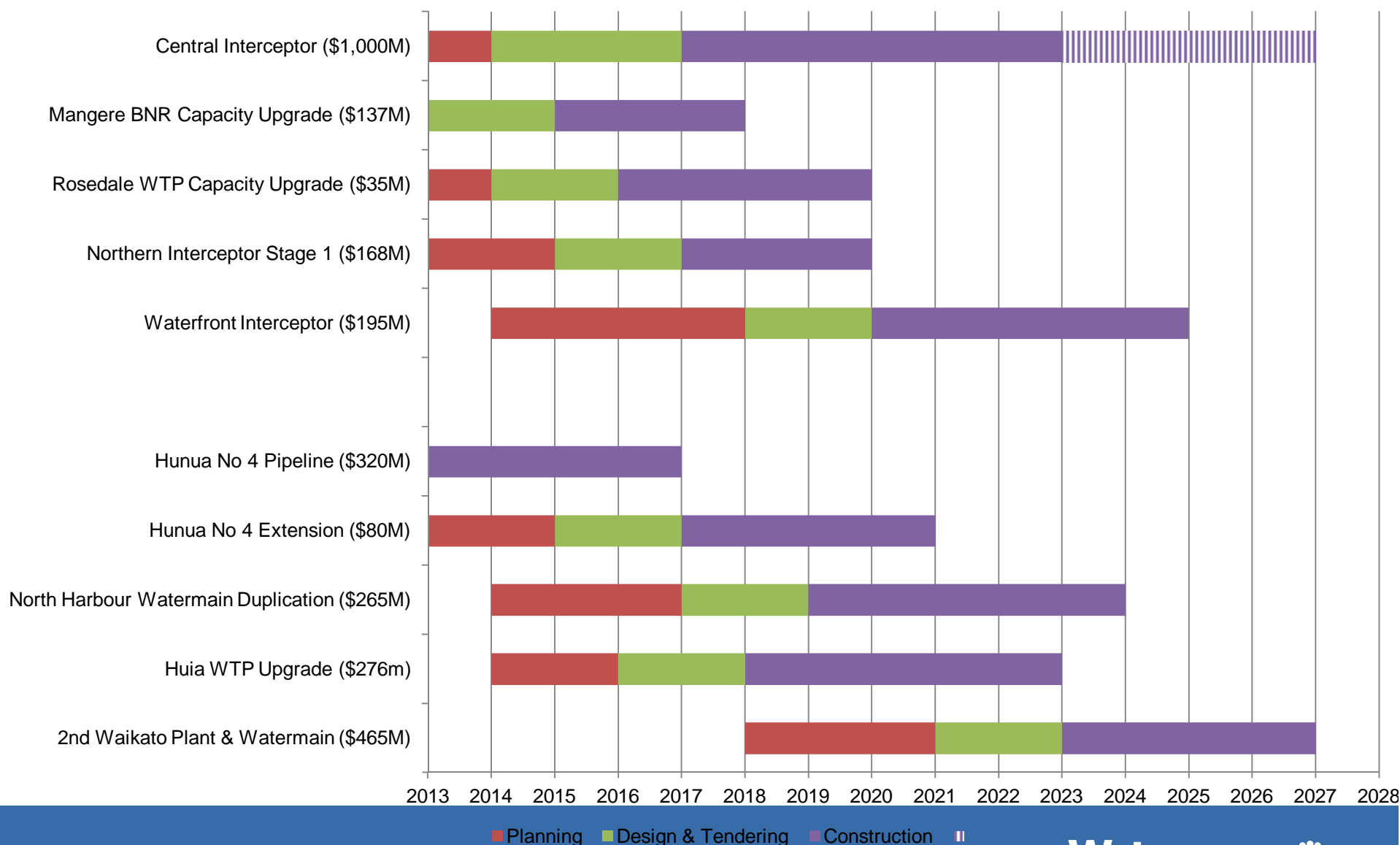


Area

Project Outturn Cost split by Driver



Major Trunk Infrastructure Upgrades - Outline Programme



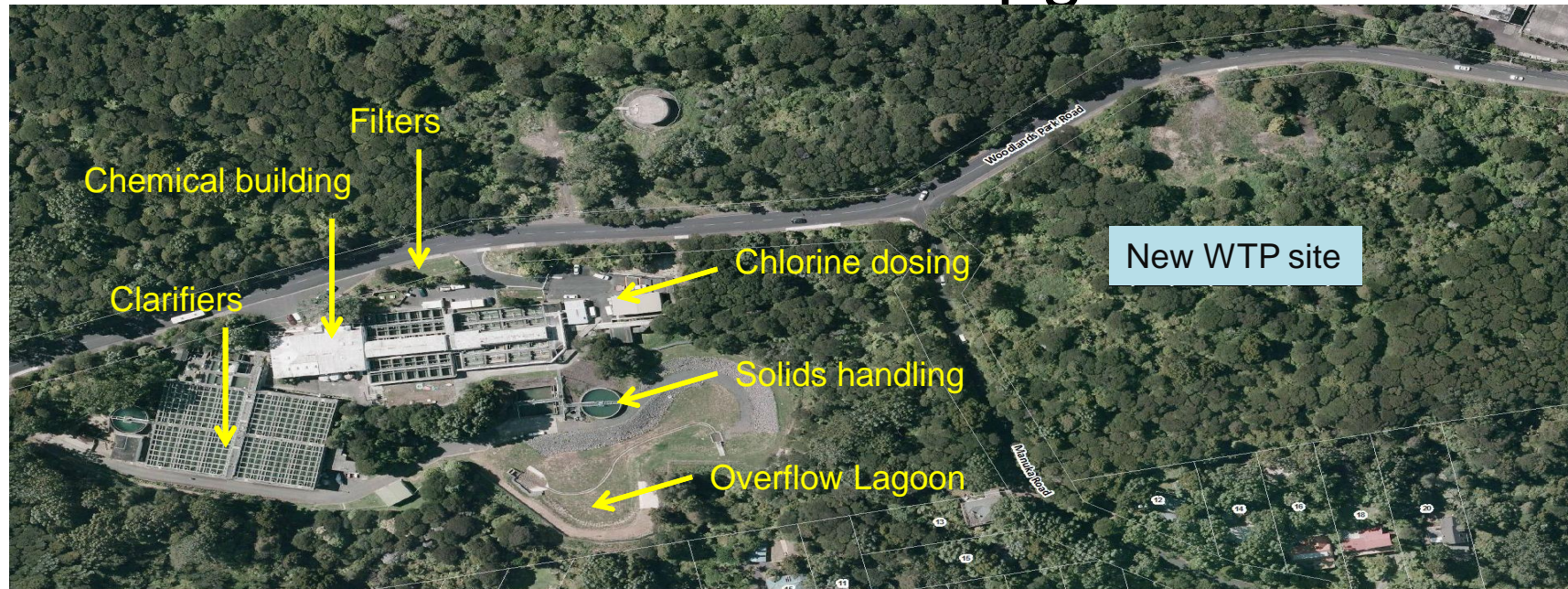
Water Local Area Infrastructure Upgrades - Outline Programme



■ Planning
 ■ Design & Tendering
 ■ Construction

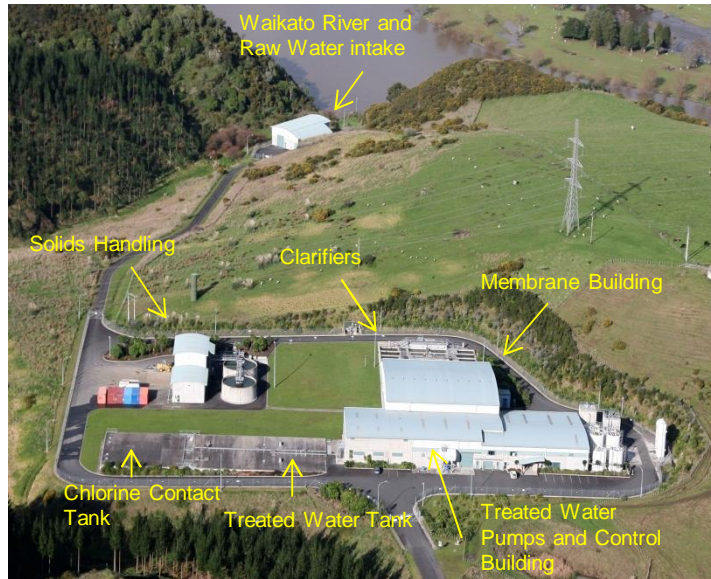


Water: Huia WTP Upgrade



- 140MLD staged upgrade of Huia WTP
- Provision of DAF, Ozone and BAC
- Project completion: December 2023
- Capital Cost: \$276M

2nd Waikato WTP and Water Supply Pipeline Project



Existing Plant prior to recent expansion

- “ New 200MLD treatment plant and transmission pipeline
- “ Project initiation scheduled for 2018 with Stage 1 WTP and pipeline due for completion in 2027
- “ Resource consent for securing future water supply requirements underway



Extension to Membrane Building



New Treated Water Pump and extension to BAC gallery



Inside Extended Membrane Building, lower level

Water: North Harbour Duplication



- Approximately 32km of watermain
- Completion - May 2026
- Total Capital Cost: \$265M

Hunua 4 Watermain Project *(\$400 million)*



New Valve Chamber (Wiri 2 connection)



Installing 1900 dia pipe

New watermain required to replace aged Hunua No. 1 watermain, to allow major maintenance on Hunua No. 3 and meet growth requirements for the next 50 years

28km, 1.5 to 1.9m diameter watermain from Redoubt Road reservoir to Khyber reservoir.

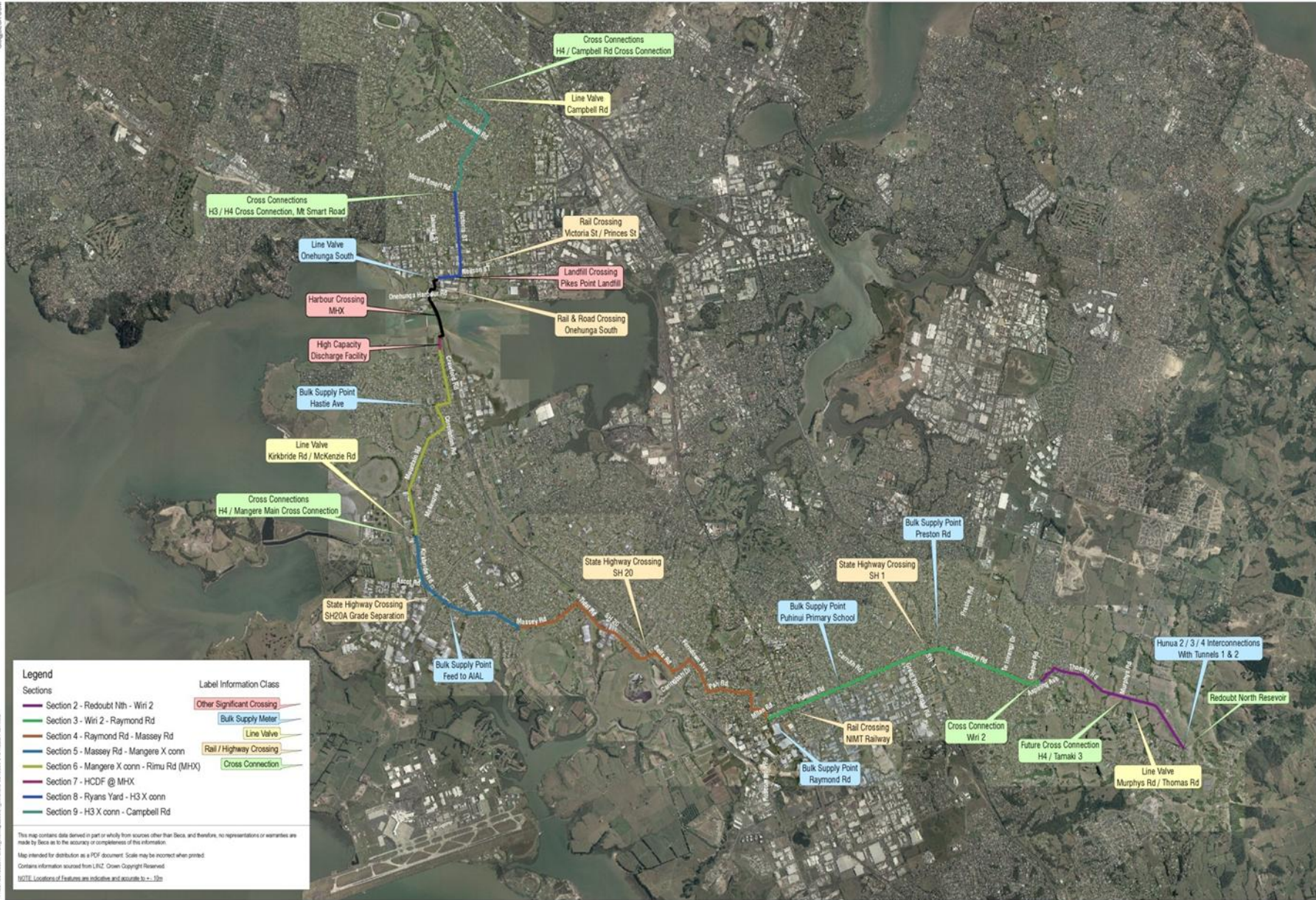
Main construction works in progress in Flat Bush area.

Programme:

Commenced on site: May 2012

Current contract completion: July 2016

Future stages completion: July 2020



Legend

Sections

- Section 2 - Redoubt Nth - Wiri 2
- Section 3 - Wiri 2 - Raymond Rd
- Section 4 - Raymond Rd - Massey Rd
- Section 5 - Massey Rd - Mangere X conn
- Section 6 - Mangere X conn - Rimu Rd (MHX)
- Section 7 - HCDF @ MHX
- Section 8 - Ryans Yard - H3 X conn
- Section 9 - H3 X conn - Campbell Rd

Label Information Class

- Other Significant Crossing
- Bulk Supply Meter
- Line Valve
- Rail / Highway Crossing
- Cross Connection

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NOTE: Locations of features are indicative and accurate to +/- 10m



Revision	Author	Verified	Approved	Date	Title
1	MGR	AND	AND	09/08/2011	
2	MGR	AND	AND	06/04/2011	

Hunua No. 4

Route Plan



Discipline:	GIS
Drawing No:	GIS-6515339-018

HUNUA 4 EXTENSION

Epsom to Khyber Reservoir

Proposed Route

Market Road, Manukau Road, Owen Road, Mountain Road, Clive Road, Mary Street, Normanby Road and Nugent Street.

Pipe Size

1600mm dia

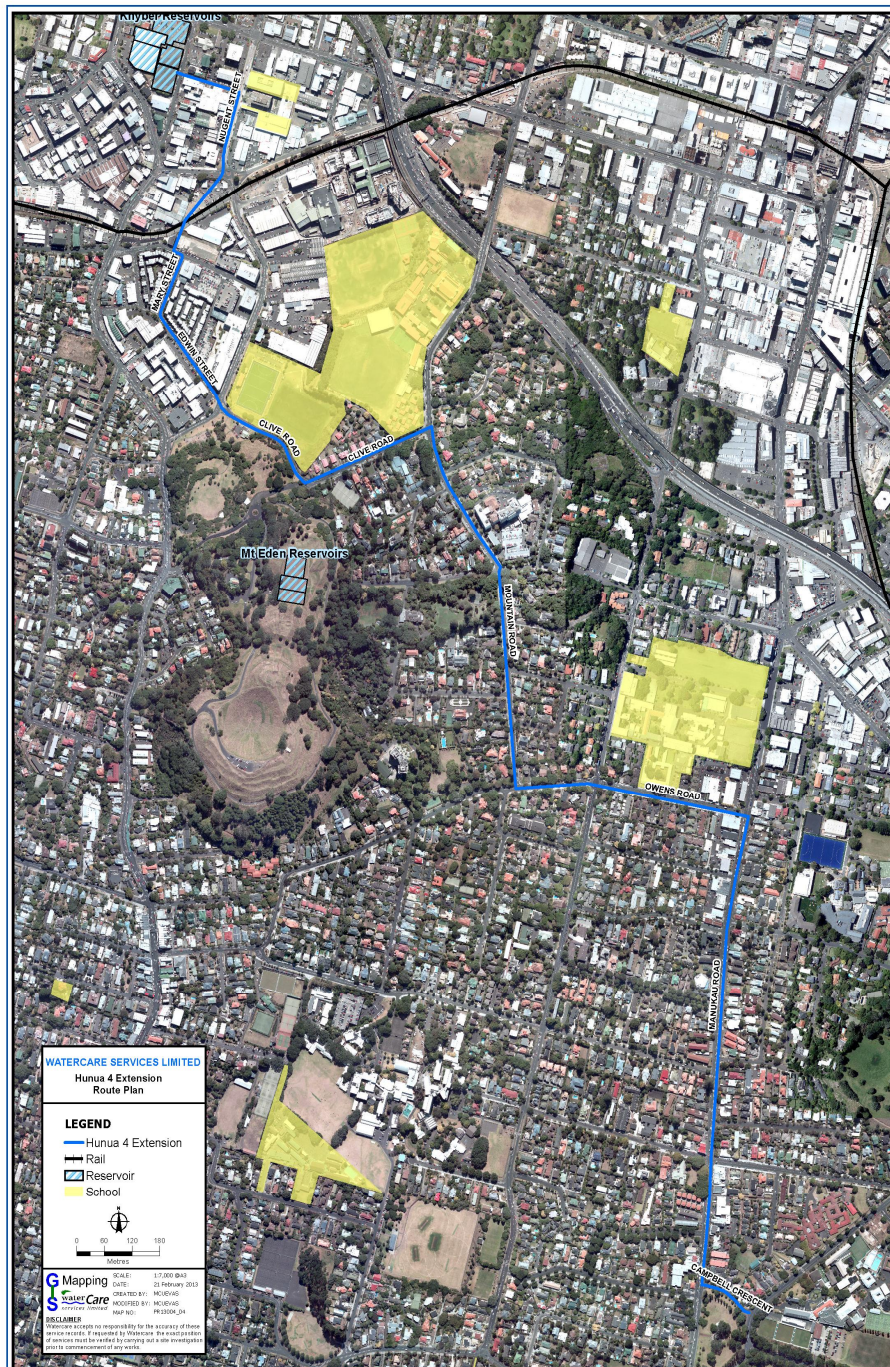
Pipe Length

approx. 4.2km

Prelim Design and Consenting 2013-2014

Detailed Design
2015-2016

Construction
2016-2018



Construction

- “ Trenchless methods used at SH1 motorway crossing
- “ Tunnel section in rock vicinity Mt Eden to maintain hydraulic grade
- “ Geotech considerations in design
 - . Extensive borehole investigations
 - . Areas of potential liquefiable soil/peat
 - . Substantial rock expected Onehunga to Khyber
- “ Fully welded concrete line steel pipe
- “ 12mm to 16mm pipe wall thickness & flowable fill backfill dependent upon geotech
- “ Large scale project with significant disruptive factors

Timeline & Milestones

- “ Advanced works;
 - . MHX, Puhinui NIMT & Onehunga Railway crossings in collaboration with NZTA & Kiwirail;
 - . Mt Smart Rd connection to Hunua 3
- “ Redoubt Reservoir to MHX 2012 to 2016
- “ Onehunga to Campbell Cres expected 2014 to 2016
- “ Campbell Cres to Khyber 2016 - 2018
- “ Commissioned in sections progressively
 - . 1st section in service Redoubt to Wiri Oct/Nov 2013
 - . 2nd section to Wiri early 2014







MHX



[Hunua 4 route](#)

