

# Huia Water Treatment Plant Replacement Stakeholder Engagement Workshop



# History of Auckland's Water Supply



1866 Auckland Domain

1877 Western Springs



1910 - 1971 Western Dams

1927 Waitakere Filter Station



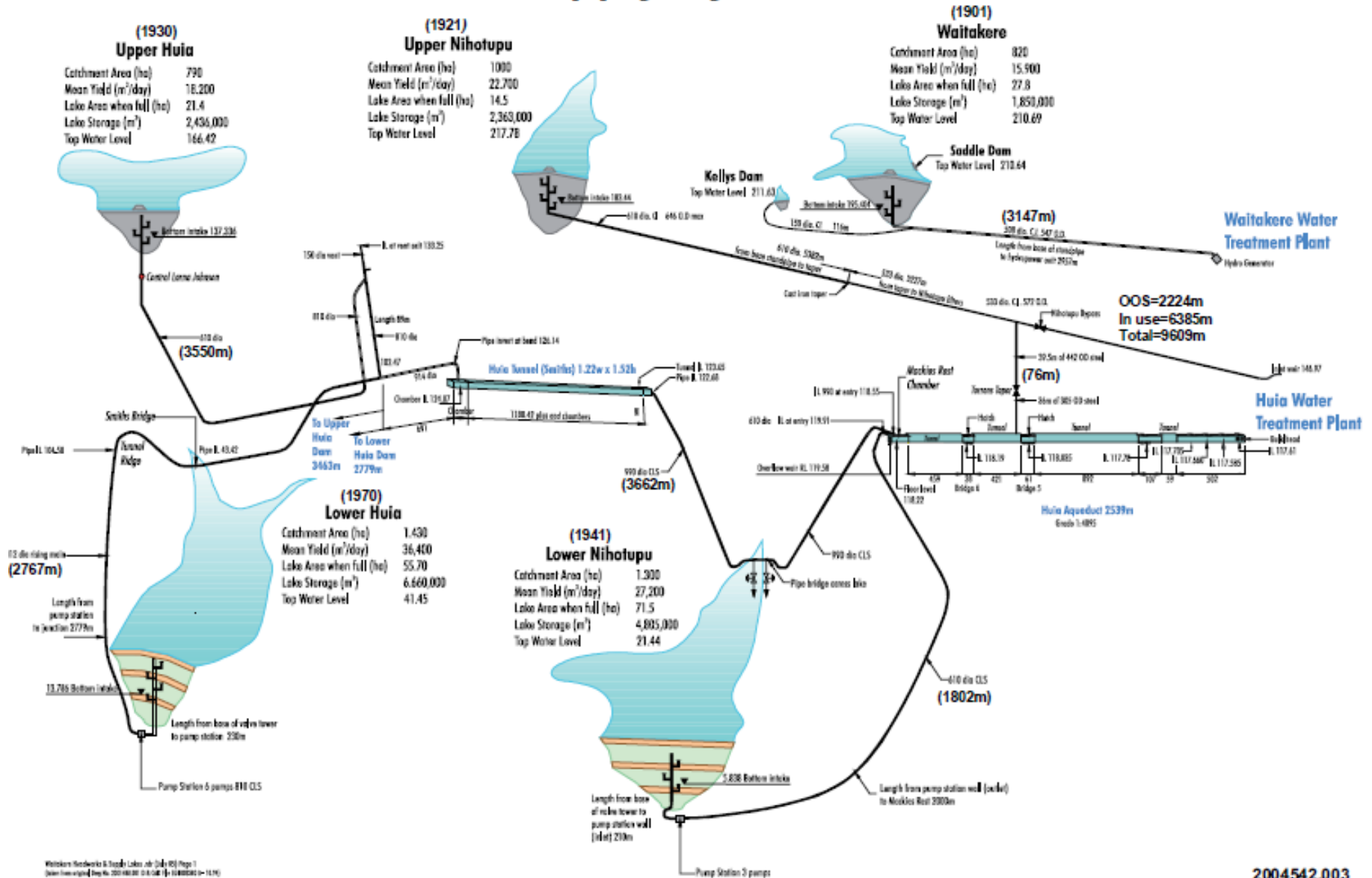
1955- 1977 Southern Dams

1956 Ardmore Filter Station



2002 Waikato Filtration Plant

# Western Headworks Supply System and Lakes



Western Headworks & Supply Lakes - (14-15) Page 1  
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# Why is a replacement plant needed?

- The western dams provide up to 19% of Auckland's daily water needs and continue to represent an important source of water for the future – ongoing treatment and supply of this water is a key driver for a new plant.
- The existing Huia treatment facility has a number of restraints:
  - Hydraulic bottlenecks and restrictions – a number of restrictions limit production to 126 million litres per day and prevent operation at full production for extended periods. \*
  - Aging infrastructure – The existing facility is approaching 100 years old. Some aspects of the plant are in need of replacement.
  - Process risks – There is now more organic material in the source water, which is common for water sources of this nature. Such changes pose additional challenges on the treatment process.

*\* The new treatment plant will be able to supply up to 140 million litres per day*

# Assessing alternatives

- Once in 100 year opportunity to select the right outcome to treat water from the Western dams for Watercare and our customers
- First principals approach to the selection process that follows guidance provided by the Resource Management Act
- Four underlying selection principals are being developed based on:
  - **Elevation** - to ensure a gravity feed in the network
  - **Size** - to ensure that we select a site with sufficient land area
  - **Location** - to ensure the plant is located on a site that is suitable for construction and is accessible
  - **Proximity** - to ensure the raw water and treated water networks operate as intended
- Once the options are selected an assessment process will be undertaken to determine the preferred option.

# Alternatives Assessment Process

- The assessment is being conducted in five stages:



- Site identification will be undertaken using the underlying principals and a fatal flaws analysis
- The long listing and shortlisting stages will undertake Multi Criteria Analysis (MCA) using a quadruple bottom line approach
- Final Selection – Determined by the Watercare Board of Directors

# Multi Criteria Analysis

<b>QUADRUPLE BOTTOM LINE</b> (LGA2002 Sustainable Development Principles s14)	<b>OVERARCHING CRITERIA / VALUE</b>	<b>SUB-CRITERIA TO BE DEVELOPED</b> <b>BASED ON:</b>	<b>DERIVED FROM:</b> (note: will also reference LTP and Auckland Plan)
<b>Environment</b>	<b>Landscape / visual impacts</b>	<b>Effects on existing landscape character and visual amenity: construction and long-term</b>	<b>RMA S5, S6(b) and S7(c)</b>  <b>WSL Strategic Obj 4: Fully sustainable</b>
<b>Environment</b>	Ecology	Effects on terrestrial and aquatic ecology (construction, discharges, etc) particularly in areas of value. Also effects on scheduled and protected trees.	RMA S5, S6(a) and (c), S7(d)  WSL Strategic Obj 4
<b>Environment, cultural, social</b>	Archaeology / Heritage	Effects on known archaeological and heritage sites and features	RMA S5 and S6(f)  WSL Strategic Obj 4
<b>Cultural</b>	Mana Whenua values	Effects on Mana Whenua values including cultural values relating to the natural environment, waahi tapu	RMA S5, S6(e), S7(a) and (aa), S8
<b>Social</b>	Social & community impacts	Construction and operational effects (e.g. noise, traffic). Public land take.	RMA S5 and S7(c)
<b>Environment, cultural, social, economic</b>	Consistency with planning documents / consentability	Zoning, plan objectives and policies, major impediments	RMA S5, S104, S171

# Multi Criteria Analysis – Con't

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<b>Environment, social, economic</b>	Fit with project objectives and principles	Level of service / efficiency and effectiveness (incl. minimise pumping + distance btw WTP and reservoirs, pipes in public roads, accessibility, etc)	RMA S5, S7(b), S171 LGA2009 S57(1) efficient and effective operations, minimum cost WSL Strategic Obj 2: Business excellence (resilience of assets)
<b>Social, economic</b>	Specific land ownership challenges	Number of properties (land acquisition), any particular challenges in terms of property acquisition/degree of difficulty	RMA S5, S171
<b>Environment, economic</b>	Engineering degree of difficulty	Physical constraints such as volume/extent of earthworks, slope, access, constructability, general degree of difficulty, electricity supply	RMA S5 WSL Strategic Obj 2: Business excellence
<b>Economic</b>	Cost	Construction costs and operational costs	RMA S5, S7(b) LGA2009 S57(1) efficient and effective operations, minimum cost WSL Strategic Obj 1 and 3 re minimum cost provider



# We value your feedback

- An informed and transparent process is important to a successful outcome
- We are interested in understanding what you believe will be important drivers in selecting the location of this important regional asset
- Your thoughts about the process?
- Do you have any suggestions or comments?
- Next Steps