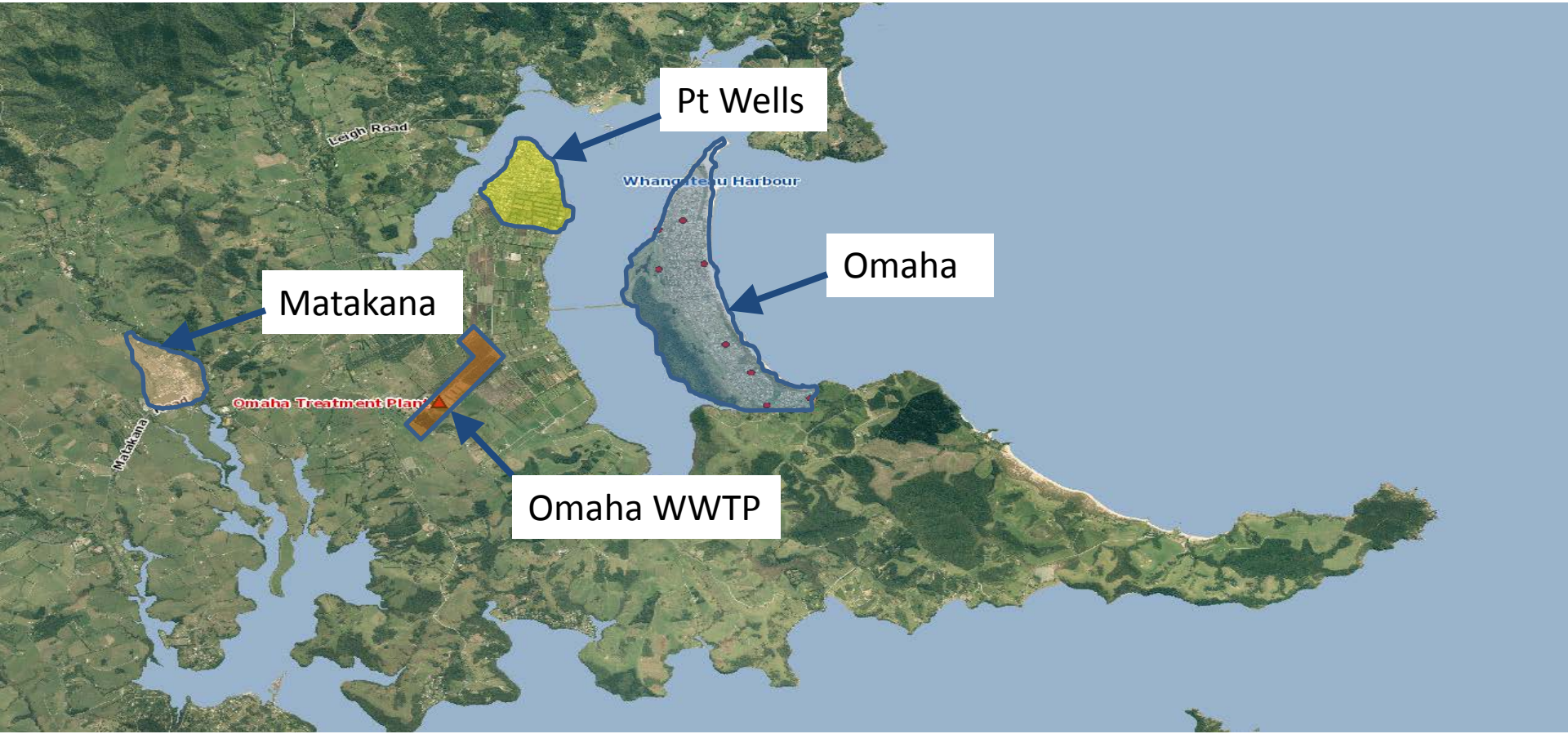
Omaha WWTP
Replacement of Resource Consents

Presentation to Water New Zealand Conference

Introduction

- Description of Omaha WWTP – Andre Stuart, Watercare
- Consultation process – Nicholas Woodley, formerly Mitchell Daysh
- Hydraulic model used to determine consent limitations – Aslan Perwick, PDP

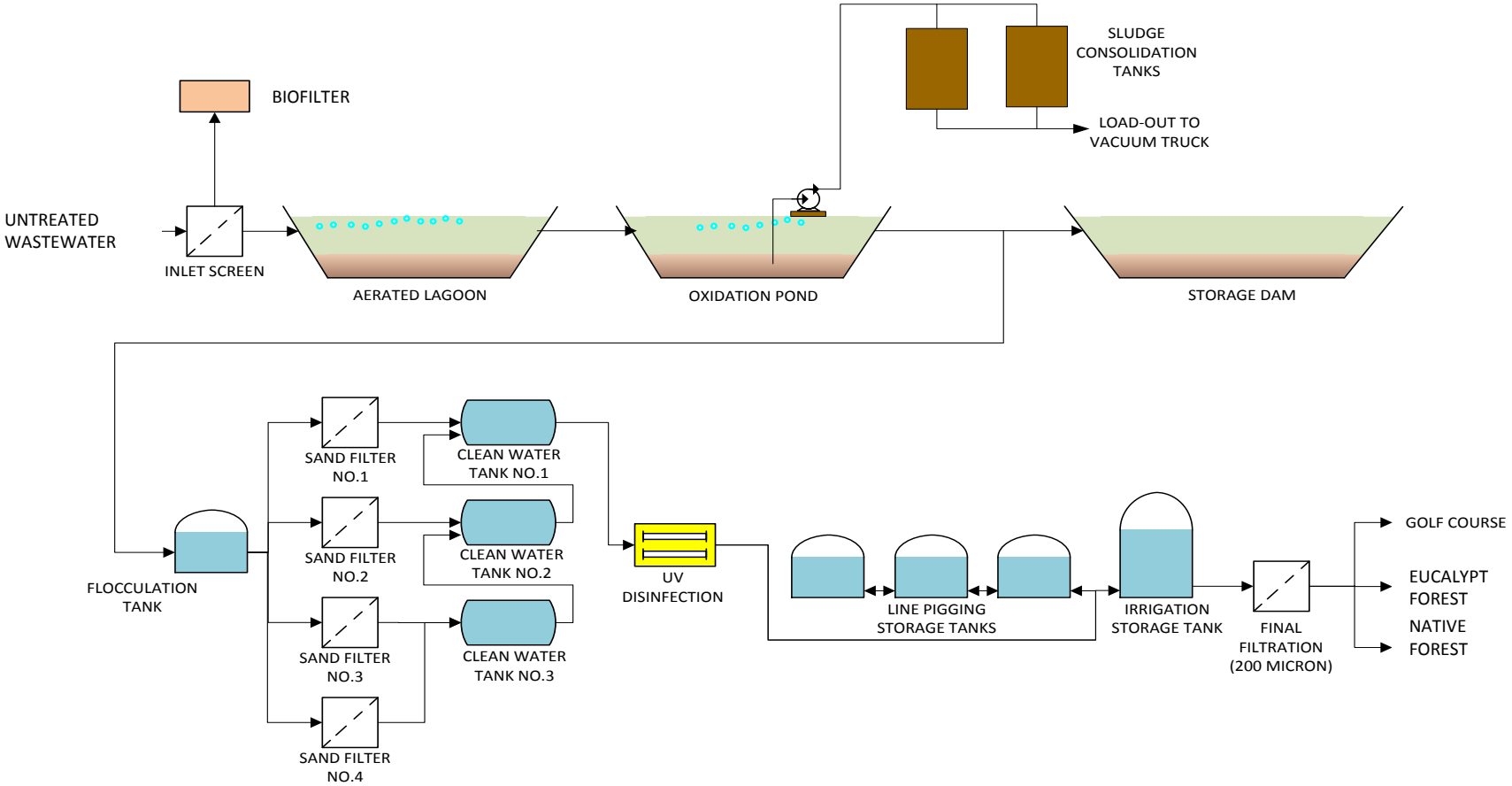
Coastal Settlements North of Auckland


Pt Wells
Leigh Road
Whangateau Harbour
Omaha
Matakana
Omaha Treatment Plant
Matakana
Omaha WWTP

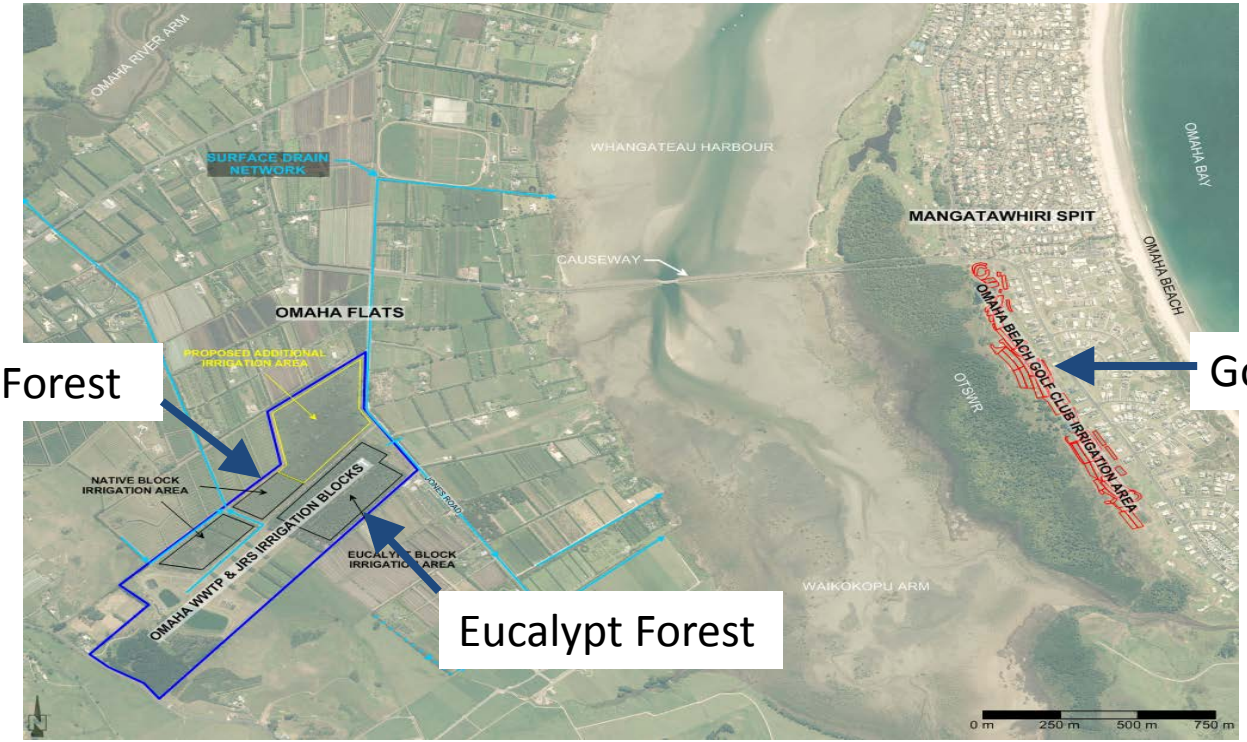
Area of Growth

- Services Omaha, Point Wells and Matakana
- 1,490 connections
- Permanent population 750,
  peak summer 4,000
- 2050 permanent population 4,000,
  peak summer 6,000
- Discharges to land / irrigation

Treatment process



Irrigation sites and physical setting



Native Forest

Golf Course

Eucalypt Forest

Current Irrigation

- Total irrigation is 160,000 m^3/year
  - Winter 325 m^3/day
  - Summer average 530 m^3/ day, peak 800-900 m^3/day
- Typically most to Golf Course in summer and Jones Road in winter.
- Sand dunes at Golf Course allow wet weather discharge.

Consenting approach

- Omaha WWTP had mixed perception amongst community
  - Irrigation benefits to Golf Course
  - Concern about public health risks and effects on Whangateau Harbour
- Discharge permits were expiring in 2015
- High risk of opposition and drawn out hearing + appeals
- Watercare determined to undertake a collaborative consenting approach

Consultative Group Formation

- Open days held mid-2014
- Presented existing information, not a range of options
- Open day feedback confirmed opposition
- Attendees, neighbours and community groups invited to discuss collaborative approach
- Terms of Reference
- Independent Chair

Undertaking investigation with Consultative Group

- Investigation plan developed and agreed with group, including:

Water quality	Hydrogeology	Nutrient transformation	Microbiology
Hydrodynamics	Ecology	Land use	Emerging contaminants

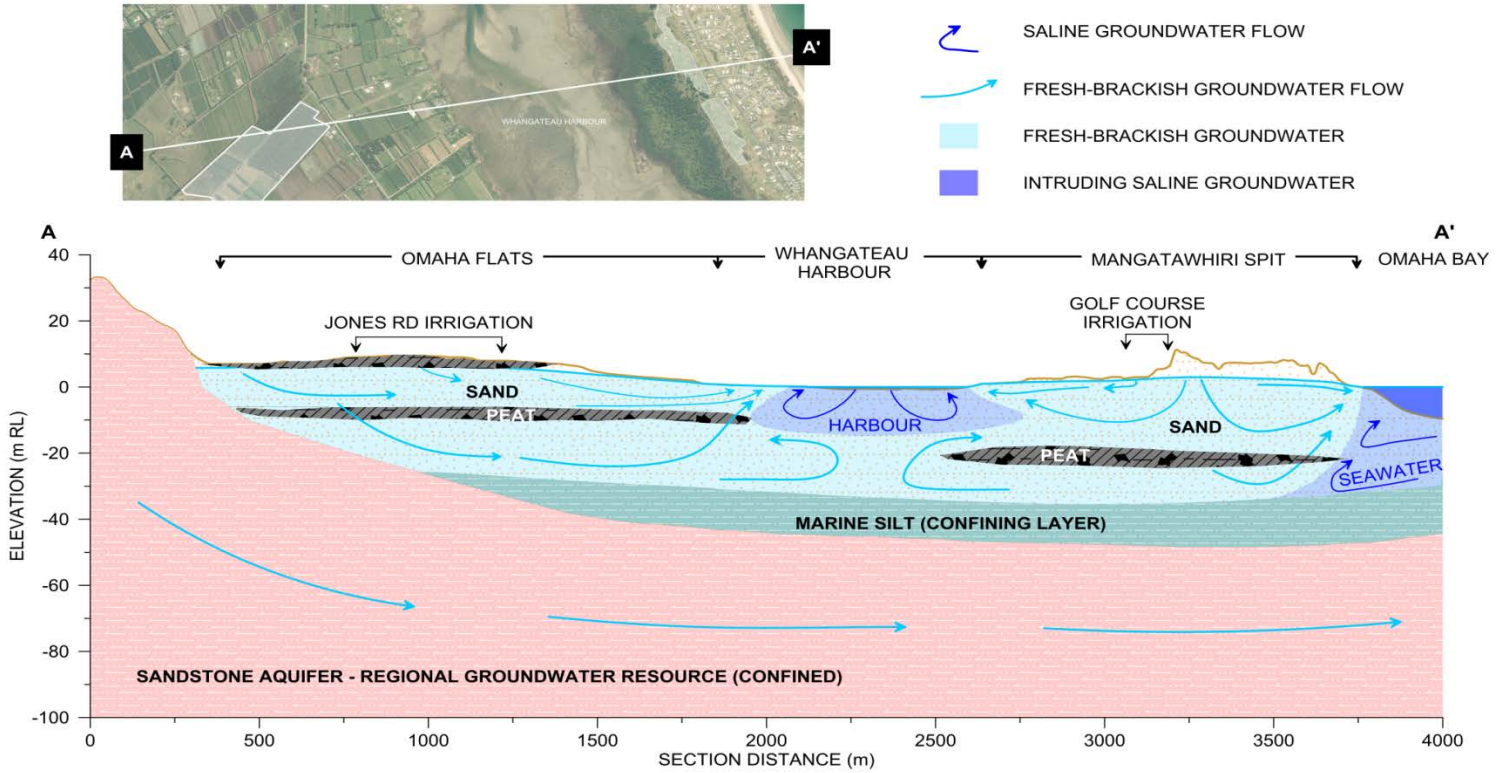
- Experts presented to and interacted with group members at meetings
- Concerns expressed were identified, investigated and discussed
- Feedback shaped subsequent stages of investigation

Outcomes of Consultative Process

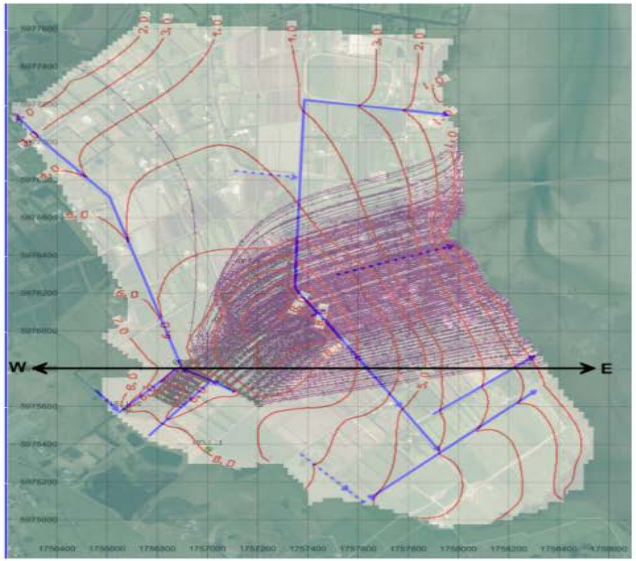
- Group members initially skeptical, however when they saw their concerns being addressed they kept attending
- Towards end of investigations, discussed and agreed proposed consent conditions
- 2.5 years from initial meeting to lodgement
- Group members supported the application
- Discharge limit of 300,000 m^3/year will provide for 15-20 years of growth.

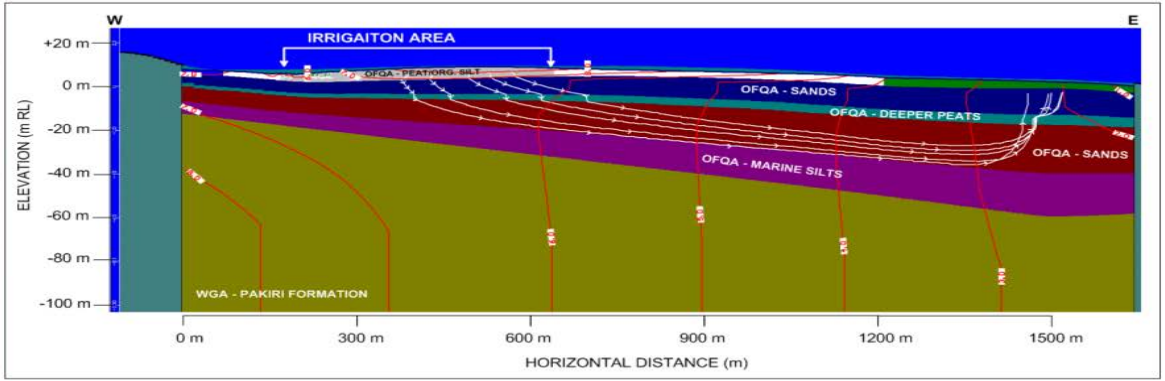
Detailed conceptual groundwater system

Key aquifers + flow paths:

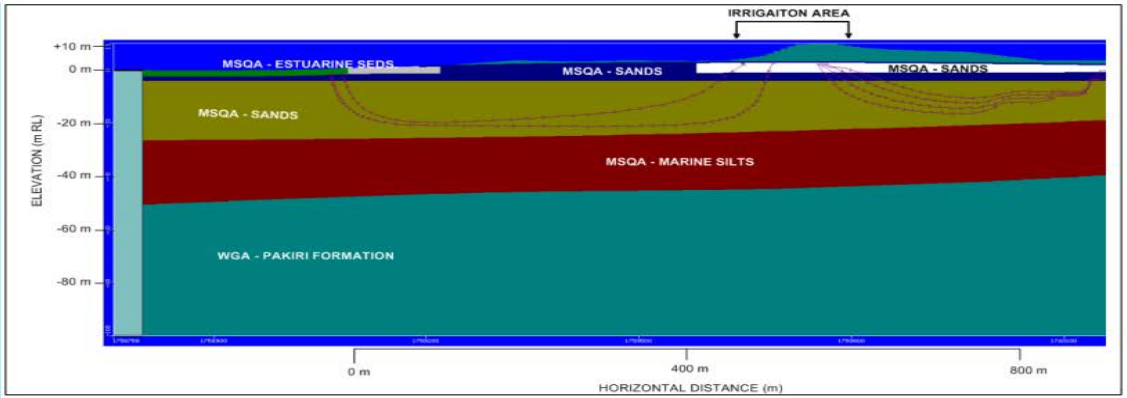


Omaha Flats – Groundwater flow





Mangatawhiri Spit – Groundwater flow



Ultimate Irrigation Volumes + Distribution

Average year

Irrigation Block	Season	Block Irrigation Rate (mm/day)	Proportion of Total
JRS Eucalypt	Summer	3.1	21%
	Winter	1.7	
JRS Natives	Summer	3.7	10%
	Winter	1.2	
JRS Additional	Summer	3.1	26%
	Winter	1.8	
OBGC Fairways	Summer	5.7	16%
	Winter	0.0	
OBGC Dunes	Summer	0.0	27%
	Winter	60.6	
Summer Total		146,800 m^3	49%
Winter Total		153,200 m^3	51%
Annual Total		300,000 m^3	100%

Conclusions

- Extensive engagement with the community due to expected opposition
- Support occurred slowly over a long period, in response to findings of investigation plan
- Replacement consents have much greater monitoring requirements 35 year durations and no capital upgrades.