



**WAIKATO REGIONAL COUNCIL  
SPECIAL CONSULTATIVE PROCEDURE – LANDOWNER MEETING**

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**Proposed Muggeridge's Pump Station  
October 2018**



# Overview

- Project status.
- Detailed design.
- Revised cost.
- Process from here.



# Project status

- Resource consent obtained.
- Current and future flood protection and drainage requirements established.
- Bedford's fish friendly submersible pumps determined and supply arrangements confirmed.
- Completed designs for canal, pump station and culvert.
- Canal and stopbanks earthworks tender received and within budget.
- Cost estimates, funding, economic and rating assessments completed.



# Proposed Muggerridge's scheme

- Pump station to be located at lowest point.
- Pump station capacity 4 cumecs (2 x 2 cumec pumps)
- Canal/drain to feed pump station via HDC land.
- Project involves canal and restoration planting.
- Culvert under Kaihere Road.
- Drains to service low lying areas.
- Drain controls (weirs/floodgates) to manage water levels in drains and flow direction.





**Legend**

- Proposed pump station
- Existing pump station
- Existing flood gate
- Pump station site
- Pouarua catchment
- Maximum probable catchment
- Maximum possible catchment
- Muggeridges sub-catchment extent



**PROJECT**  
MUGGERIDGES DRAINAGE PLAN

**CLIENT**  
WAIKATO REGIONAL COUNCIL

**CONSULTANT**  
AECOM New Zealand Limited  
AECOM HOUSE  
4 MAHUIHU CRESCENT  
AUCKLAND  
+64 9 967 9200 fax +64 9 967 9001 fax  
www.aecom.com

**SPATIAL REFERENCE**  
Scale: 1:50,000 (A3 size)  
1,000 500 0 1,000  
Meters  
Map features depicted in terms of NZTM 2000 projection.  
Data Sources:  
Cadastral Boundaries - LINZ NZ Cadastral Dataset 2016

**PROJECT MANAGEMENT**

Approved	-	Date	-
Checked	-	Date	-
Designed	-	Date	-
Drawn	-	Date	-

**ISSUE/REVISION**

Rev	Date	Description
A	27.01.17	For drainage plan

**KEY PLAN**

**PROJECT NUMBER**  
60518841  
**SHEET TITLE**  
Muggeridges Catchment  
**MAP NUMBER**

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**Bedford's fish-friendly pumps**





## Revised cost

- \$6m, comprising:
  - \$5.5m indicative project cost based on engineer's estimates (includes approx. \$500,000 contingency)
  - ~ \$500,000 additional contingency for market fluctuation through tender process.
- Key area of cost increase is construction of pump station and culvert.
- Due to continued land settlement in the area, ongoing investment will be needed (e.g. drainage or pump stations), possibly within the next 15-25 years.





# Options for consultation

- Option 1 – do nothing
  - No further costs incurred.
  - Recovery of expenditure to date.
- Option 2 – Muggeridge's Pump Station
  - Build new pump station – two 2 cumec pumps.
  - Canal/drain to feed pump station via HDC land.
  - Outlet canal and stopbanks and restoration planting.
  - Culvert.
  - Drains to service low lying areas and drain controls to manage water levels.



# Funding policy

- 50% Piako River Scheme
- **32.5% direct benefit landowners**
- 7.5% wider Waihou-Piako catchment
- 5% Waikato region
- 5% Hauraki District Council



# Funding contributions - \$6m

<b>Funder</b>	<b>Total capital funding (incl. GST)</b>	<b>30 year repayment annual capital rate revenue requirement</b>
Muggeridge's landowners (32.5%)	\$2,242,500	\$121,928
Piako River Scheme (50%)	\$3,450,000	\$187,581
General rate (5%)	\$345,000	\$18,758
Waihou-Piako catchment (7.5%)	\$517,500	\$28,137
Hauraki District Council contribution (5%)	\$345,000	
<b>TOTAL (including GST)</b>	<b>\$6,900,000</b>	<b>\$356,404</b>



## HDC contribution

- The land on which the assets are to be constructed (\$400,000)
- 5% project contribution (\$345,000)
- Drainage connection to the Muggeridge's scheme (\$200,000)
- Reinstatement of water mains (\$26,000)
- Total \$971,000





## Rating basis

- Land below 1.5 metres will receive considerable scheme benefit for 100% of the next 50 years.
- Land above 1.5 metres will receive its maximum scheme benefit after about 25 years, or 50% of the next 50 years.

\$6 million	Rate factor
<b>Annual per hectare (30 year loan)</b> High land Low land	\$66 per hectare per annum \$132 per hectare per annum
<b>Lump sum per hectare</b> High land Low land	\$1,215 per hectare per annum \$2,430 per hectare per annum

## Rating impacts - \$6m

Land Value of Direct Benefit properties - \$74m  
 Capital Value of Direct Benefit properties - \$86m





## Rating impacts – indirect beneficiaries (examples)

	Rural property \$3.4m CV	Urban property \$250,000 CV
Piako catchment	\$534.43 per annum	\$15.20 per annum
Waihou catchment	\$12.79 per annum	\$0.94 per annum

# Rating impacts – recovery estimated \$1.2m

\$1.2m	Rate factor
Annual per hectare for 5 years	
High land	\$54 per hectare per annum
Low land	\$108 per hectare per annum
Annual per hectare for 10 years	
High land	\$29 per hectare per annum
Low land	\$58 per hectare per annum
Lump sum per hectare (one-off payment)	
High land	\$243 per hectare
Low land	\$486 per hectare

## Economic analysis

<b>\$6m project cost, discount rate of 2.25% real</b>	<b>Net Present Value (\$m)</b>	<b>Internal Rate of Return</b>
<b>With dairy conversion ability</b>	\$15.32	5.1%
<b>Without dairy conversion ability</b>	\$8.78	4.3%





## Process from here

- Submissions close – 5 November
- Waihou Piako Catchment Committee – 22 November
- Hearings and deliberations – 27 November
  - Hearings to be held in Ngateā
- Council decision – 12 December 2018



## Process from here (continued)

- If GO:
  - Order pumps from Bedford's UK.
  - Commence construction of canal and stopbanks in early 2019.
  - Tender construction of culvert and pump station.
    - Budget review once tenders received.
  - Pumps in service from early/mid 2020, rating commences July 2020.
- If NO GO:
  - Project closed, status quo remains.
  - Existing expenditure recovered.



## Take home messages

- We are trying to minimise costs the best we can
- This is the best certainty we can provide at this time given the complexities, challenges and unknowns
- Costs will remain indicative until we go to tender
- Rating classification is based on future scenario (risk), not current
- We want your feedback, it's important to us
  - Please get your submissions in on time
- Let us know if you want a copy of the presentation
  - We can email it out to you or post it on the website



*Thank you for your attendance*

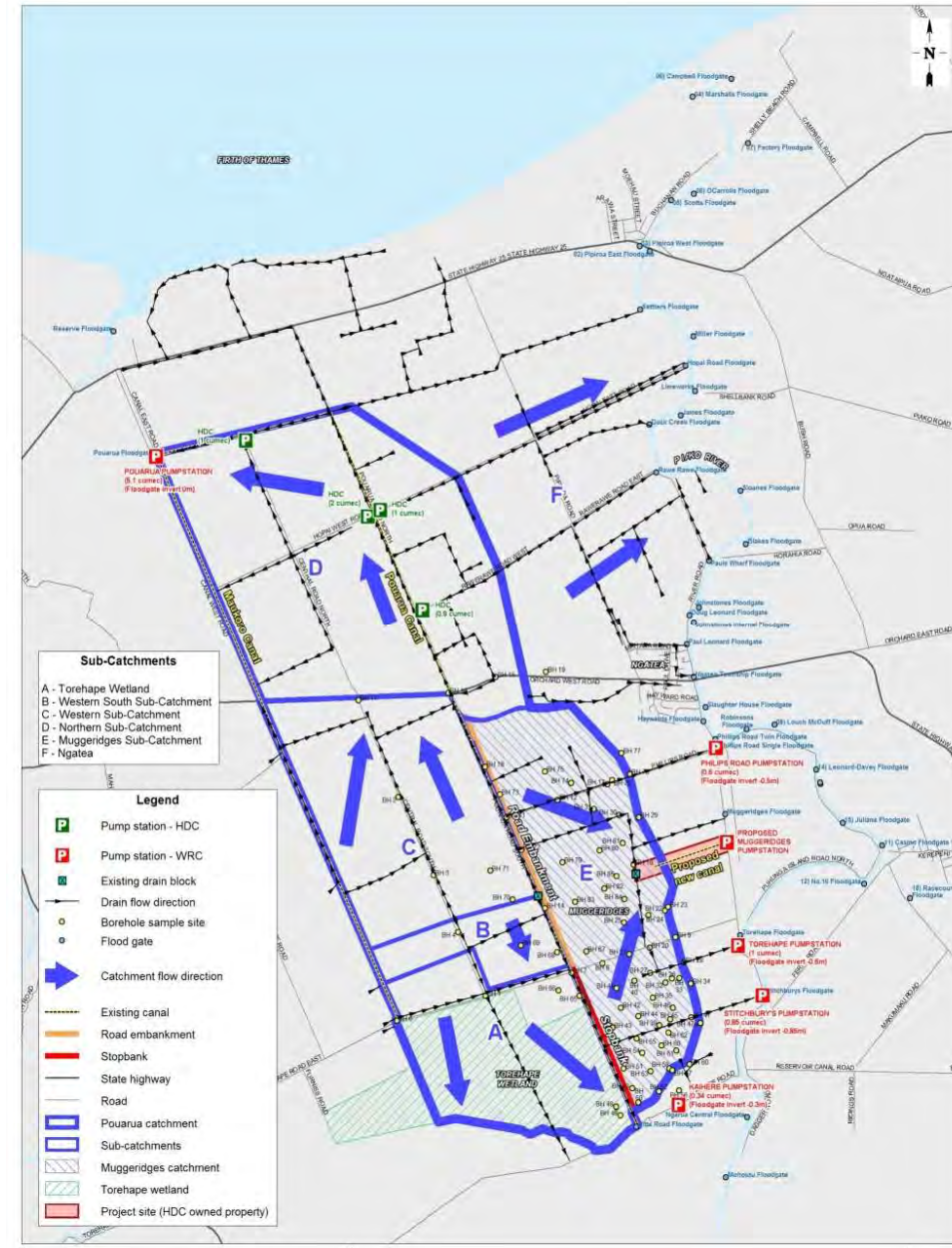
**QUESTION AND DISCUSSION TIME**



**Pouarua  
Catchment-  
Potential  
Implementation**

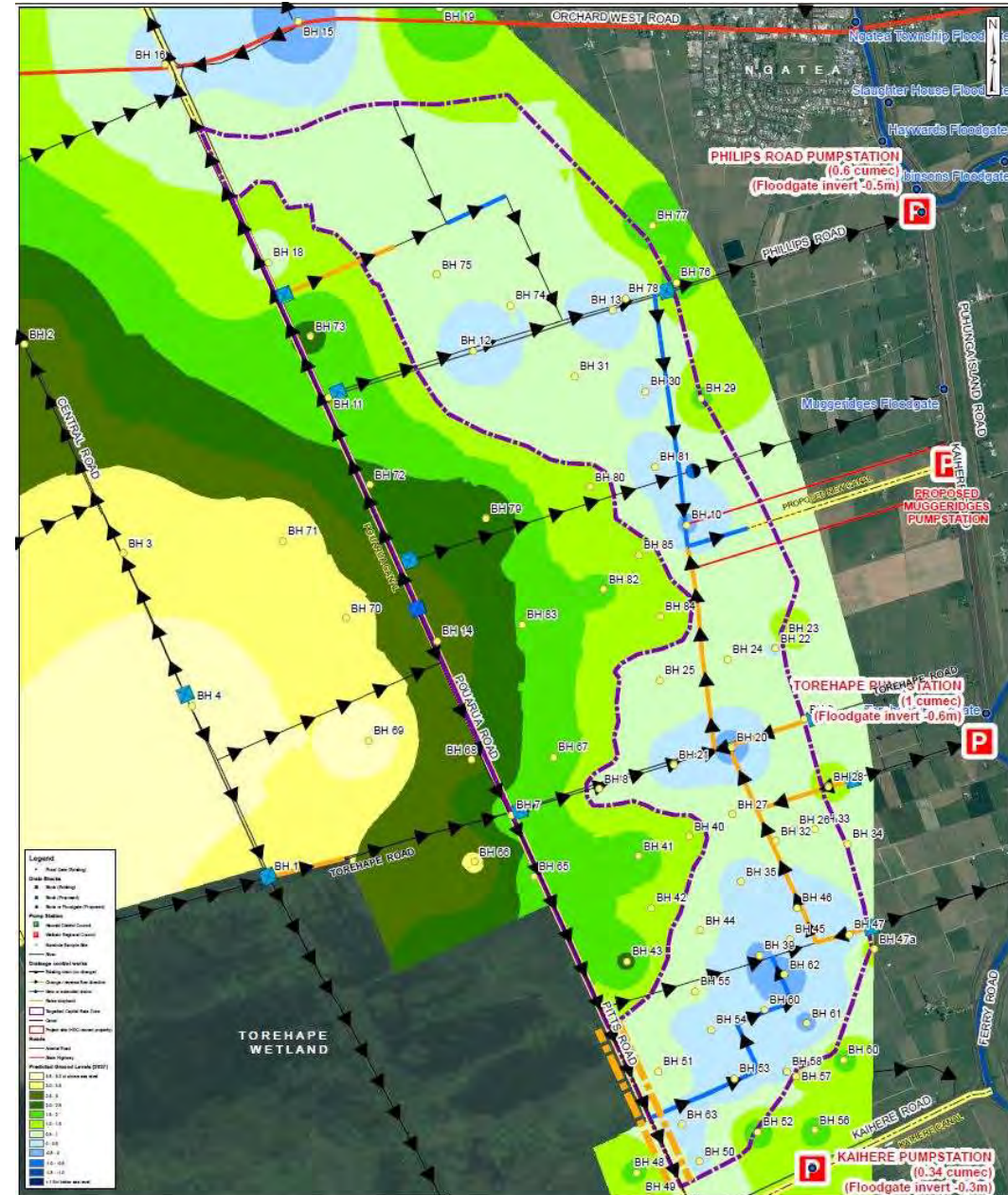
Catchment area	Implementation	Design pump capacity (m <sup>3</sup> /s)	Year service delivered	Area receiving benefit	Map reference (Figure 2 below)	Muggeridge's Sub-catchment extension
Muggeridge's Sub-catchment - Immediate Needs	New 2 bay Pump Station	4	2020	1100ha	Muggeridge's Sub-catchment extent	No
Muggeridge's Sub-catchment - Future Needs and part of remaining Pouarua Catchment (area A)	Drainage effectiveness and needs for the Pouarua catchment including Muggeridge's sub-catchment should be reviewed and assessed together. Where additional needs are established, options for drainage diversions should be investigated along with any additional pumping to achieve an optimum solution for the long term.	8	2037-2062	Up to 1685ha	Muggeridge's Sub-catchment extent AND Maximum probable catchment	Yes - extension to include area to west of Pouarua Canal and small strip to east of Muggeridge's boundary
Remainder of Pouarua Catchment (area B)	The exact timing and drainage directions are yet to be determined as land settles and effects of climate change/sea level rise are recognised.	12.5	2062-2112	2660ha	Maximum possible catchment	Yes - extension to include all western land area up to Maukoro Canal and north to SH2.

# Surface water flows

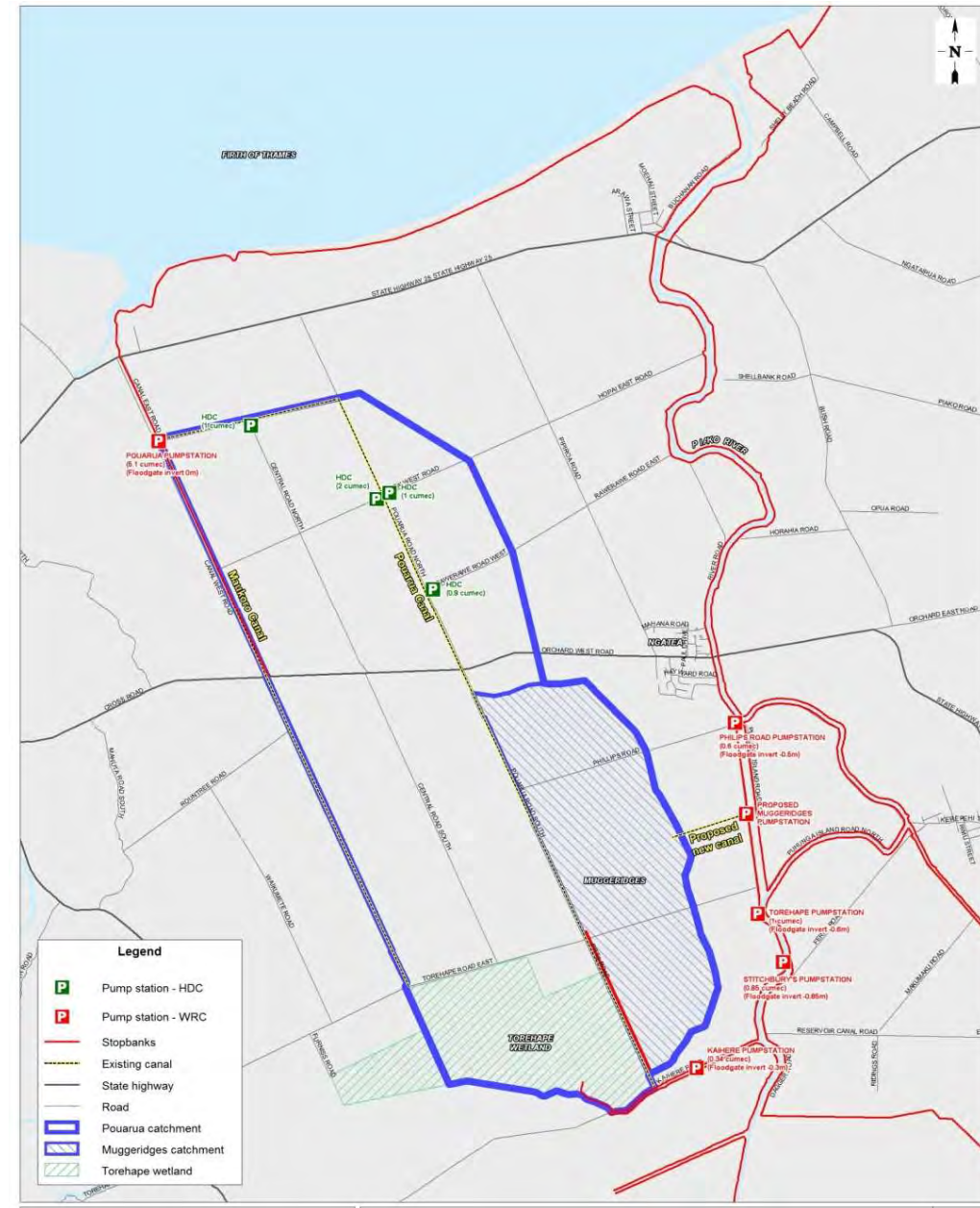




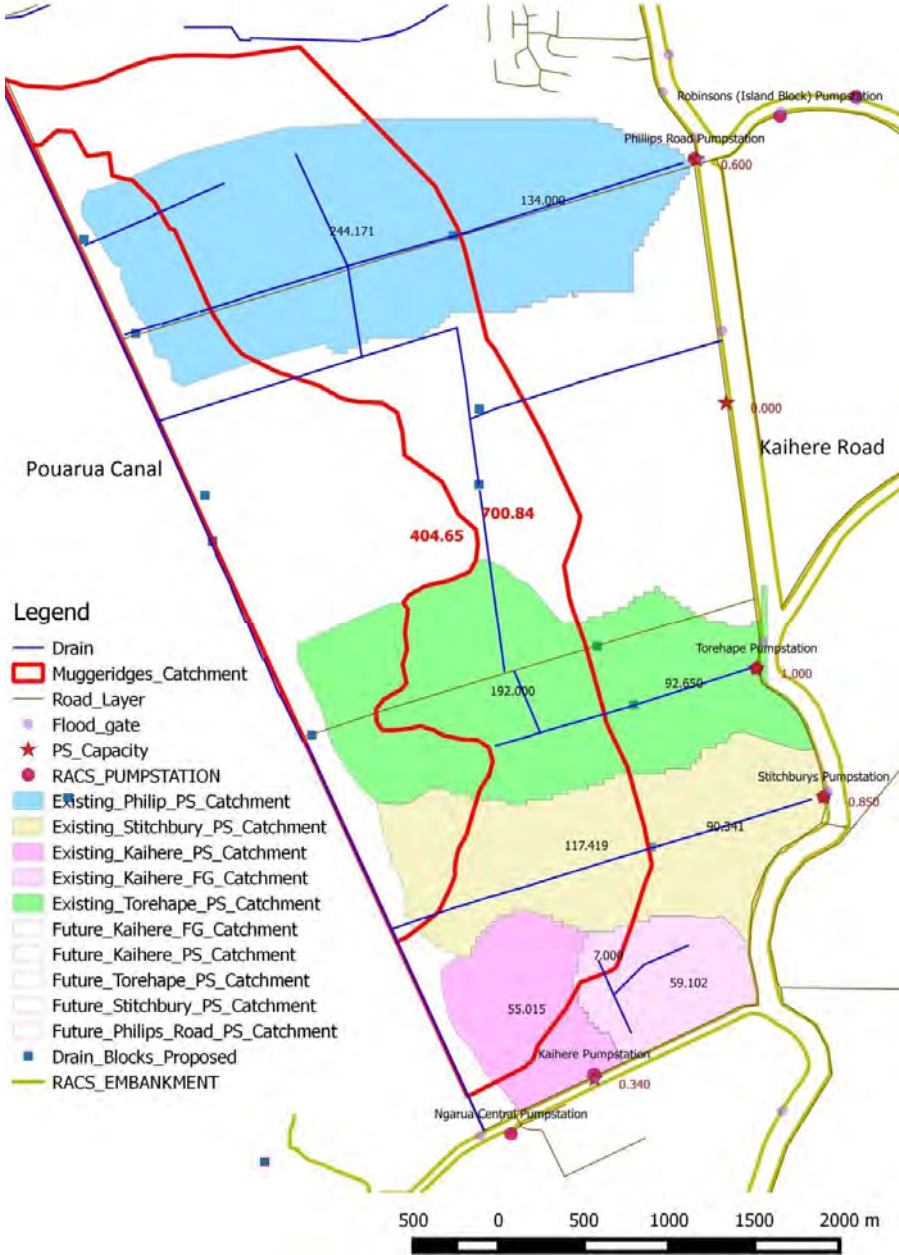
# Proposed internal drainage



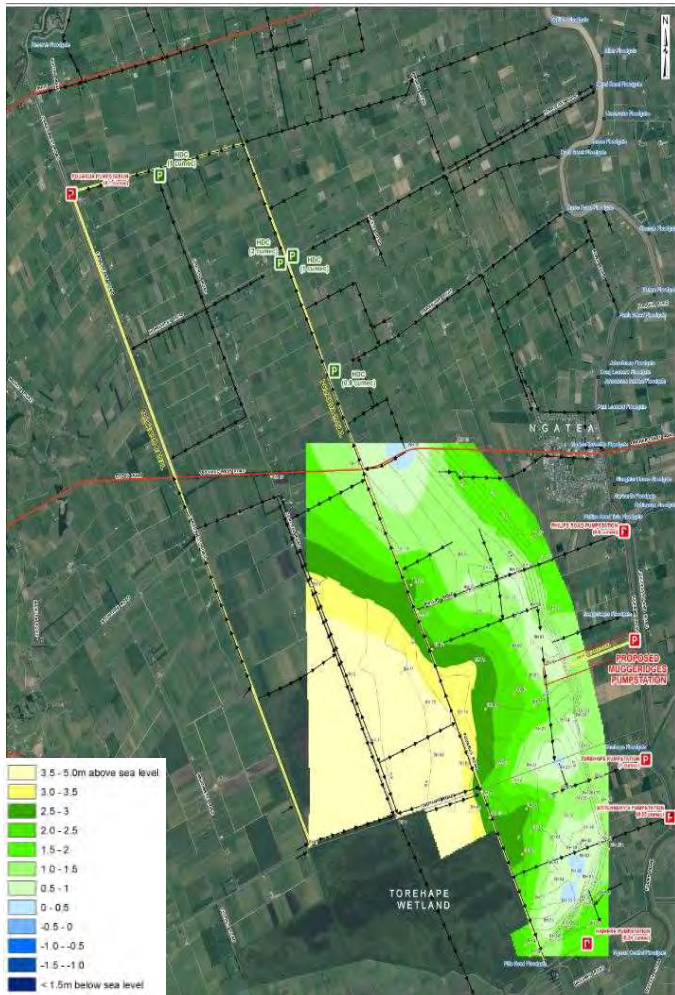
# Pouarua drainage area



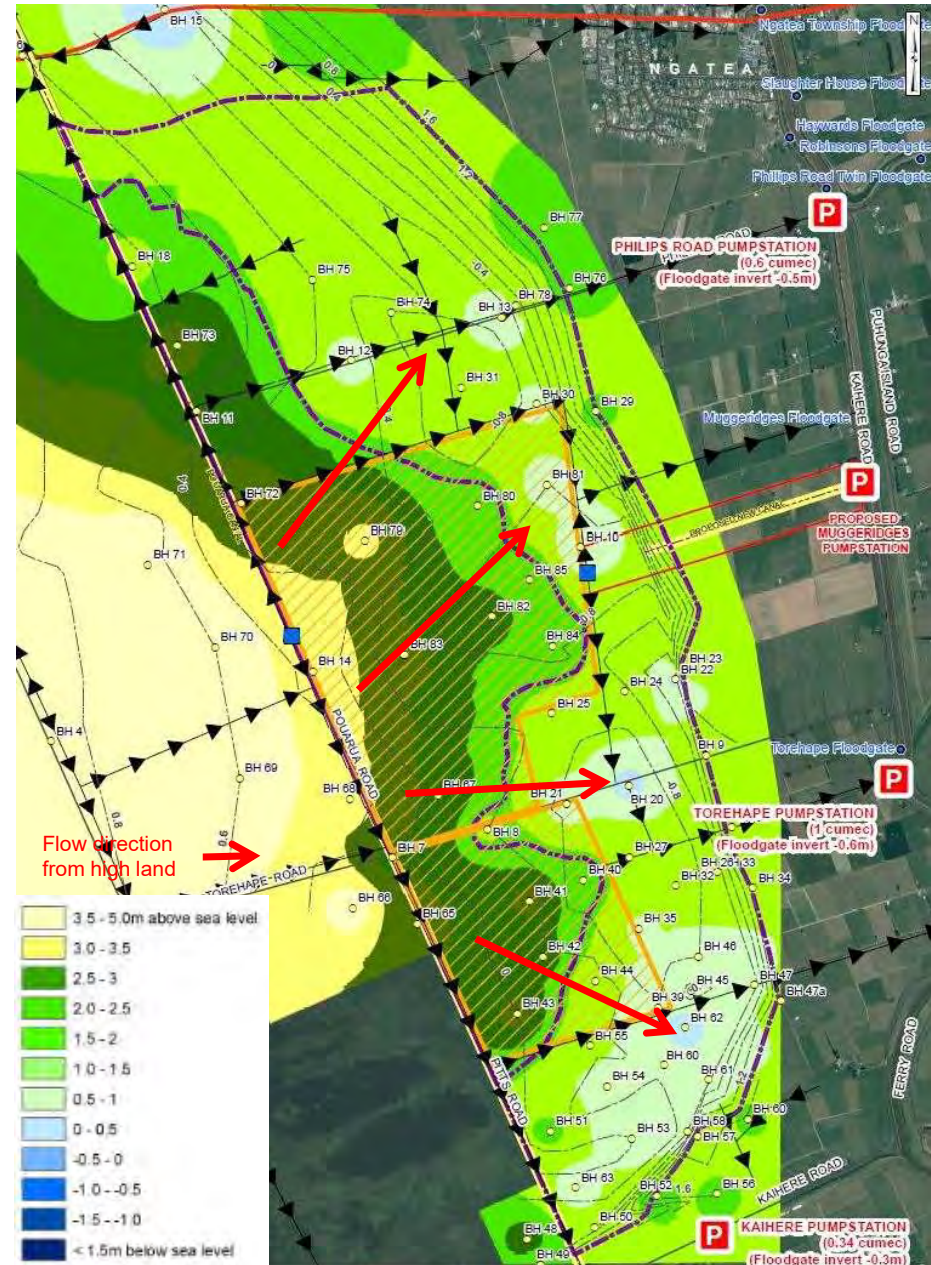
# Existing pump station catchments



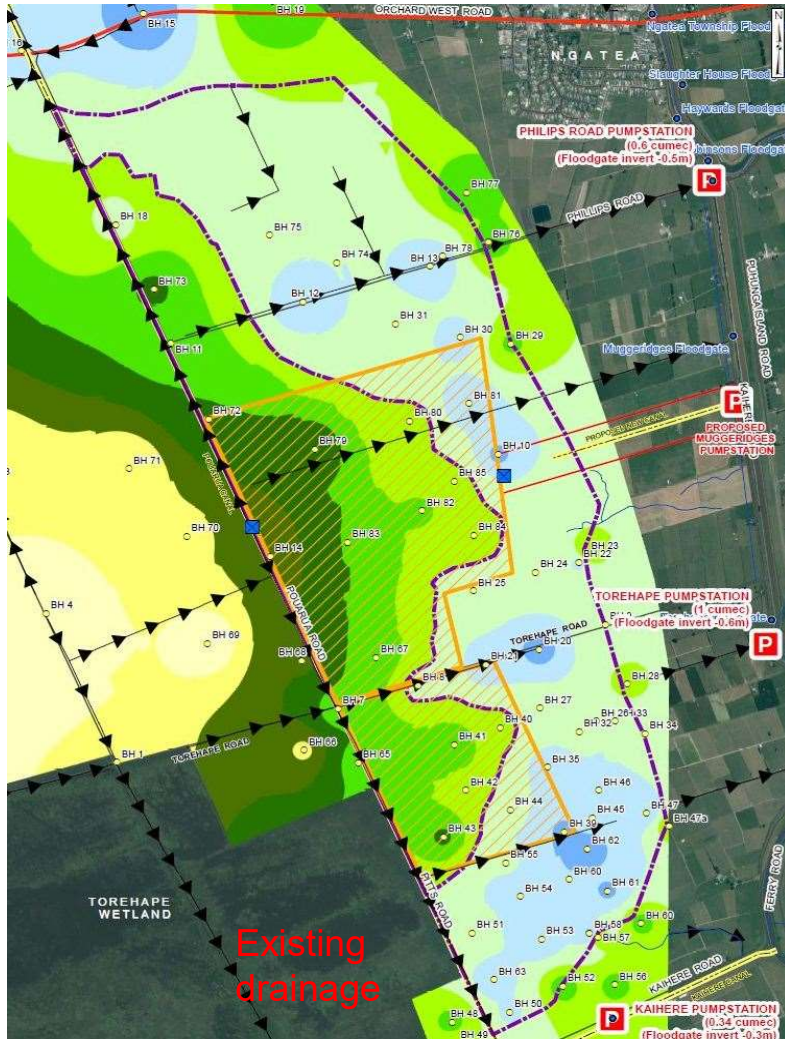




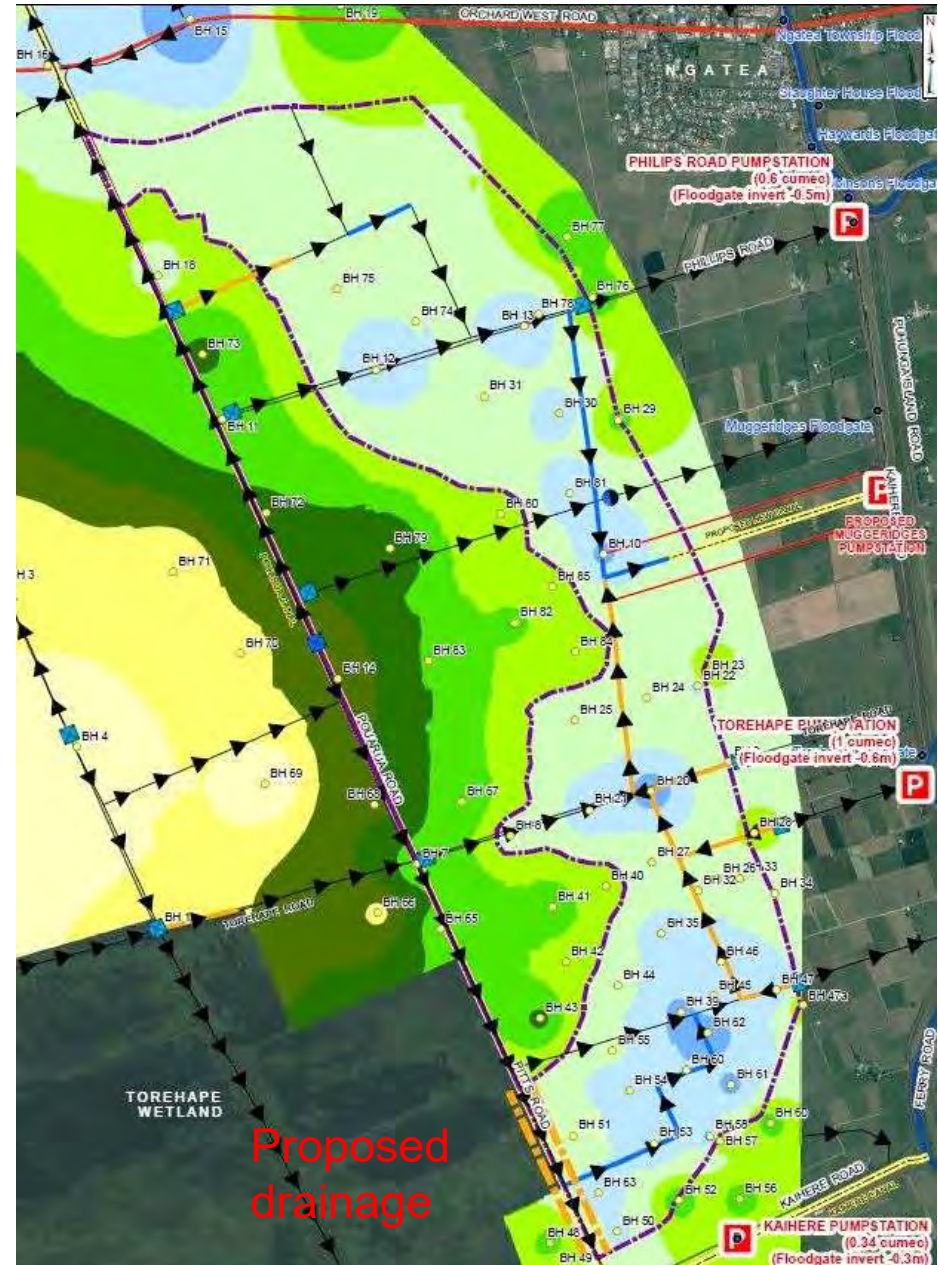
Existing ground profile 2012







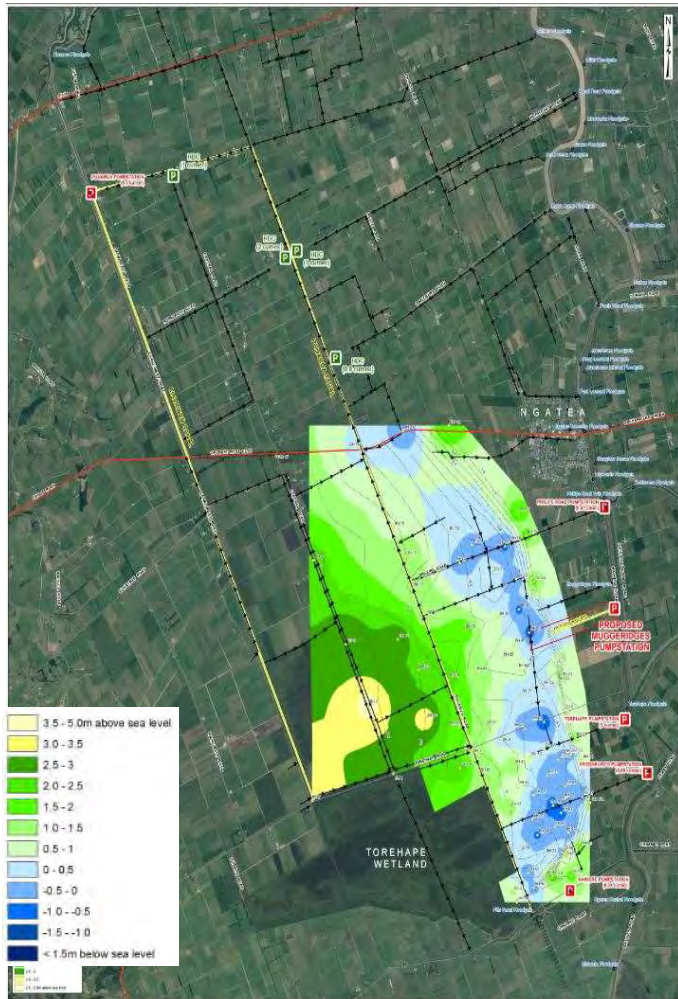
Existing drainage



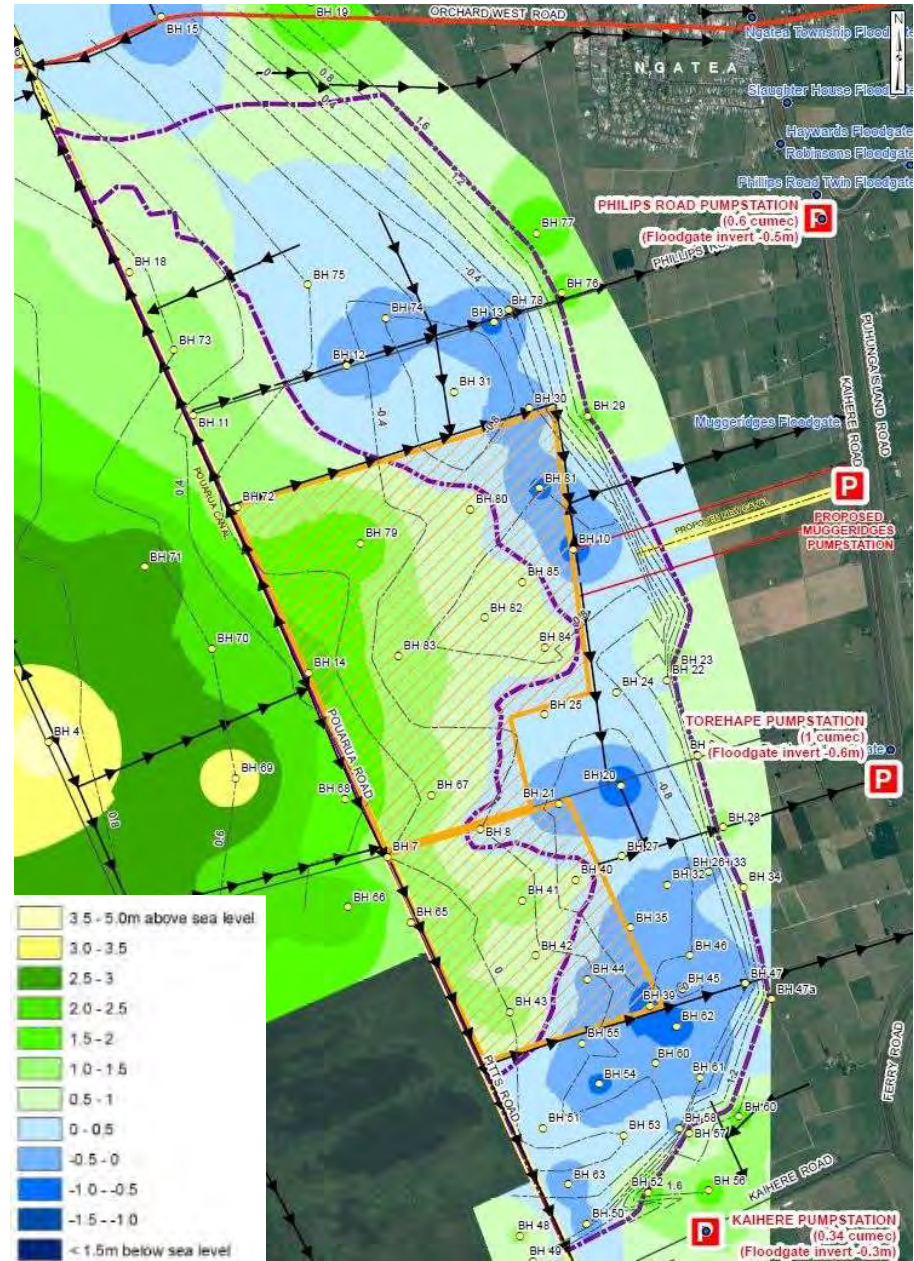
Proposed drainage

Forecast ground profile after 25 years, and changes in drainage network

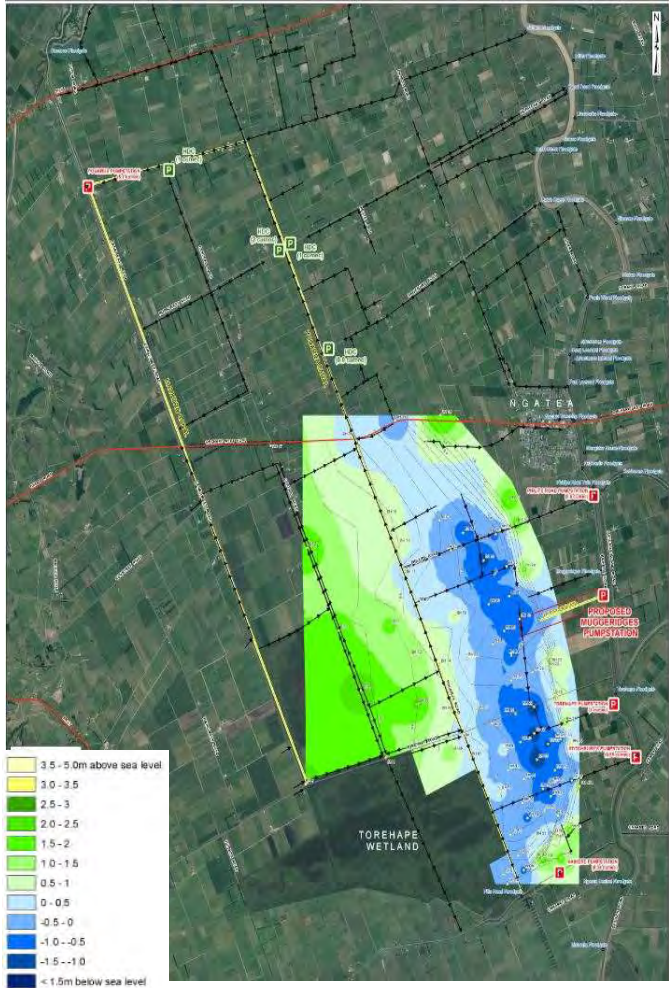




Forecast ground profile after 50 years.







Forecast ground profile after 100 years

