Matamata-Piako and Patetonga Flooded Landowners Meeting

23 November 2017

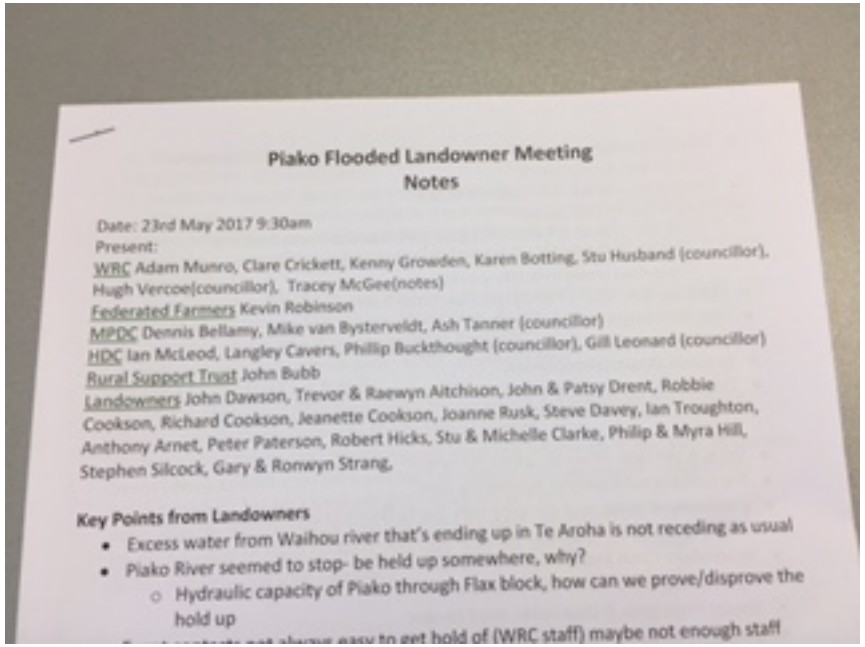
Waikato
REGIONAL COUNCIL
Te Kaunihera ā Rohe o Waikato

Agenda

- Welcome
- Purpose of the day
- Update from previous meeting
- Flood event remediation project update
- Piako Scheme Review Update
- Open floor – questions and answer
- Next Steps

- *Light lunch*

Update from previous meeting



Piako Flooded Landowner Meeting
Notes

Date: 23rd May 2017 9:30am
Present:
WRC Adam Munro, Clare Crickett, Kenny Growden, Karen Botting, Stu Husband (councillor), Hugh Vercoe(councillor), Tracey McGee(notes)
Federated Farmers Kevin Robinson
MPDC Dennis Bellamy, Mike van Bysterveldt, Ash Tanner (councillor)
HDC Ian McLeod, Langley Cavers, Philip Buckthought (councillor), Gill Leonard (councillor)
Rural Support Trust John Bubb
Landowners John Dawson, Trevor & Raewyn Aitchison, John & Patsy Drent, Robbie Cookson, Richard Cookson, Jeanette Cookson, Joanne Rusk, Steve Davey, Ian Troughton, Anthony Arnet, Peter Paterson, Robert Hicks, Stu & Michelle Clarke, Philip & Myra Hill, Stephen Silcock, Gary & Ronwyn Strang.

Key Points from Landowners
- Excess water from Waihou river that's ending up in Te Aroha is not receding as usual
- Piako River seemed to stop- be held up somewhere, why?
  - Hydraulic capacity of Piako through Flax block, how can we prove/disprove the hold up

- Held on 23rd of May in Morrinsville
- Notes taken, Summarised into themes
  - Distributed to all
- Focus of remediation outputs to answer these themes
- Themes -
  - Kerepehi extension Block Stopbank
  - Telemetry sites and gauging
  - Waitoa river silt maintenance
  - Landowners wish for WRC to keep management of ABCD Flaxblock

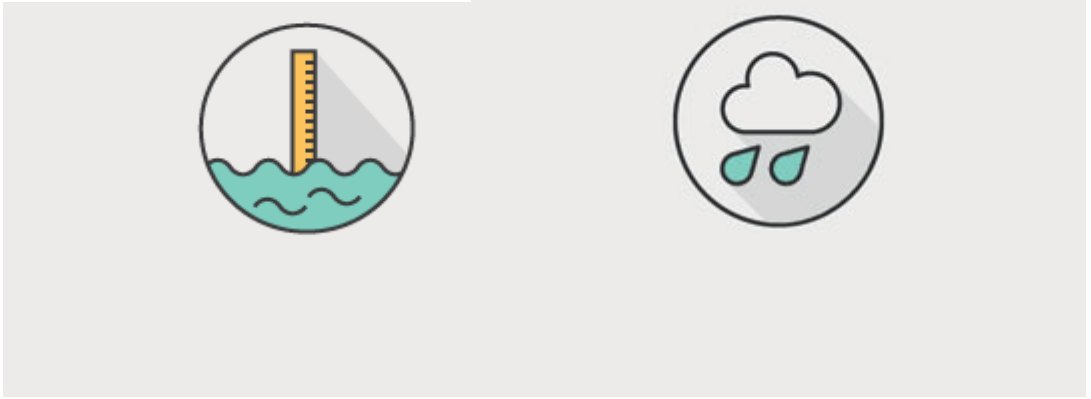
Update from previous meeting

- Themes -
  - Upper land use/catchment changing but outflow/lower catchment not (bathtub analogy)
  - Review of what caused Wakahoro canal stopbank to overtop
  - Bancrofts Drain and Elstow Canal maintenance
  - Flaxmill block did not flood first
  - Meeting between all locals, DoC and Regional Council
  - Piako River Scheme, performance to design and service level paid for
  - Kopuatai, water levels and weirs
  - Mangawhero area assets (Takos, Central Drain)

Kerepehi extension stopbank remediation

Drain reinstated under emergency works, Design flood level (50yr) RL2.1, freeboard additional yet to be approved. Upgrade construction early 2018.
Challenges – Material, Peat foundations

Telemetry sites and Gauging



- See the map on the wall

- WRC is undertaking a review of telemetry sites
- Hauraki staff have requested additional sites –
  - between Mellon Road and Maukoro Landing
  - Water level recorder on each ponding zone
  - Water level at Ngatea
  - Rainfall and flow recorders Upper Waitoa and Western Catchments

Waitoa River Silt maintenance

- These locations were removed from the previous scheme review

- Hydraulic modelling reflects actual levels, morphological changes nullify the benefit (gain) of any traps in these locations
  - These will be reviewed at each Scheme review
- Silt removal
  - Lower reaches via main channel digs and silt traps
  - 2016/17 removed 84,000 m3
  - 2017/18 planned to remove 112,000 m3

Landowners wish WRC to manage ABCD Flaxblock

- Land owned by DoC
- Agreement reached for a management agreement to be developed between WRC, Doc & IWI
  - WRC role would be to manage flood protection assets including castellation drains, moat, water levels, stopbanks and culverts
- ABCD Weir agreement has been reached with Upper Piako Wetland Society for WRC to manage Weir levels to agreed levels
- Challenges –
  - Working on resource consent for moat, Waikaka track and remaining castellation drains
- Work completed –
  - ABCD weir set to correct height, some castellation drains reinstated to correct level, DoC have sprayed the moat.

Castellation Drains – ABCD Flaxblock

Upper land use / Catchment changing (bathtub analogy)

- Raised this concern with District Councils
- We acknowledge the issue and it adds weight to our evidence gathering requirement through additional rainfall and flow meters.

Whakahoro canal stopbank overtop

- WRC stopbank on private land, overtopped along a length where maize was cultivated. Review of Councils process on informing landowners of their responsibility is underway – not isolated to Hauraki.
- Service level is 20yr ARI. Programmed for upgrade this year

Bancrofts Drain and Elstow Canal maintenance

- Cross section Survey undertaken on drain and land levels of the area
- Currently being plotted against original design
- Process from here will be to review data then meet with landowners to discuss options

Flaxmill block – EPZ 1 didn’t fill first

Refer to Ponding Zone map on the wall

- EPZ1 area has a 10 year ponding zone bank service level
- This reflects the modelling result of a Piako River and tidal flood event
- The April floods were driven by a Waitoa River flood (>160 yr) which forced the ponding zones within EPZ2 to operate first.

Meeting between locals DoC and Council

Drop in days undertaken, Flood protection education proposed 2018

Kopuatai, Water levels and weirs

WRC RUD undertaking investigation.

Draft report received

Final report due soon

Piako River Scheme, performance to design and service level paid for

Scheme met its performance standard through all events

All assets met performance criteria compared to design.

Piako River Scheme LOS =

100yr tidal, 50yr River flood excluding ponding zones which are 10 and 20yr ARI

Mangawhero area assets

Central Drain –

Desilting in progress, Resource consent condition meant start date > 1 November

Takos stopbank –

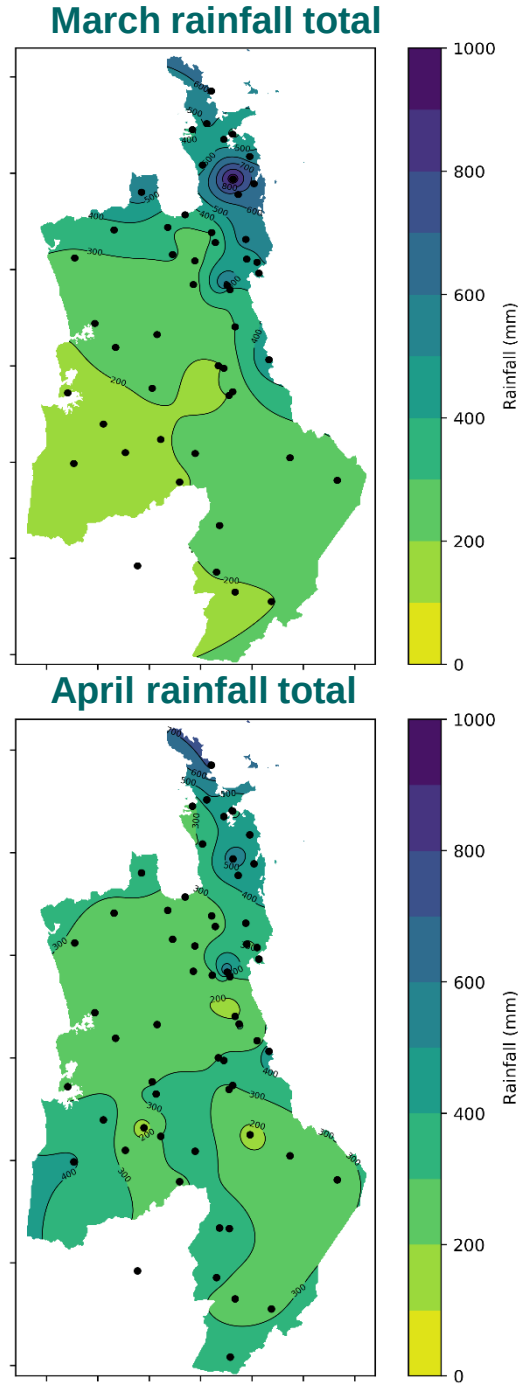
Planned for completion 2018

Kaihere Stream –

Desilting completed post event

Flood event re-cap

- 4 severe weather systems in quick succession
  - Back to back cyclones (Debbie and Cook)
- 50 year event on the Piako River
- >160 year event on the Waitoa River
- Widespread/intense rainfall and inundation over a long duration
- Long pumping hours – surface and drain water
- High rainfall throughout winter and spring
- Poor ground conditions



Piako River Scheme Review update

Hydrological and hydraulic modelling of design floods in the Piako River Scheme. A new hydraulic model was built which has substantially improved on earlier versions by the inclusion of accurate representations of the ponding zone ground levels, derived from Lidar survey data. More detailed representation of the river system than previous, as it includes the full inventory of pump stations and floodgates. This version also includes catchments representing the areas draining to the Scheme pump stations or floodgates, and a more detailed representation of the catchments in the upper rivers. The new hydrological model has approximately 80 catchments, where as the previous model had 40. This improvement includes the addition of the Ohine Stream previously not included.

Piako River Scheme Review update

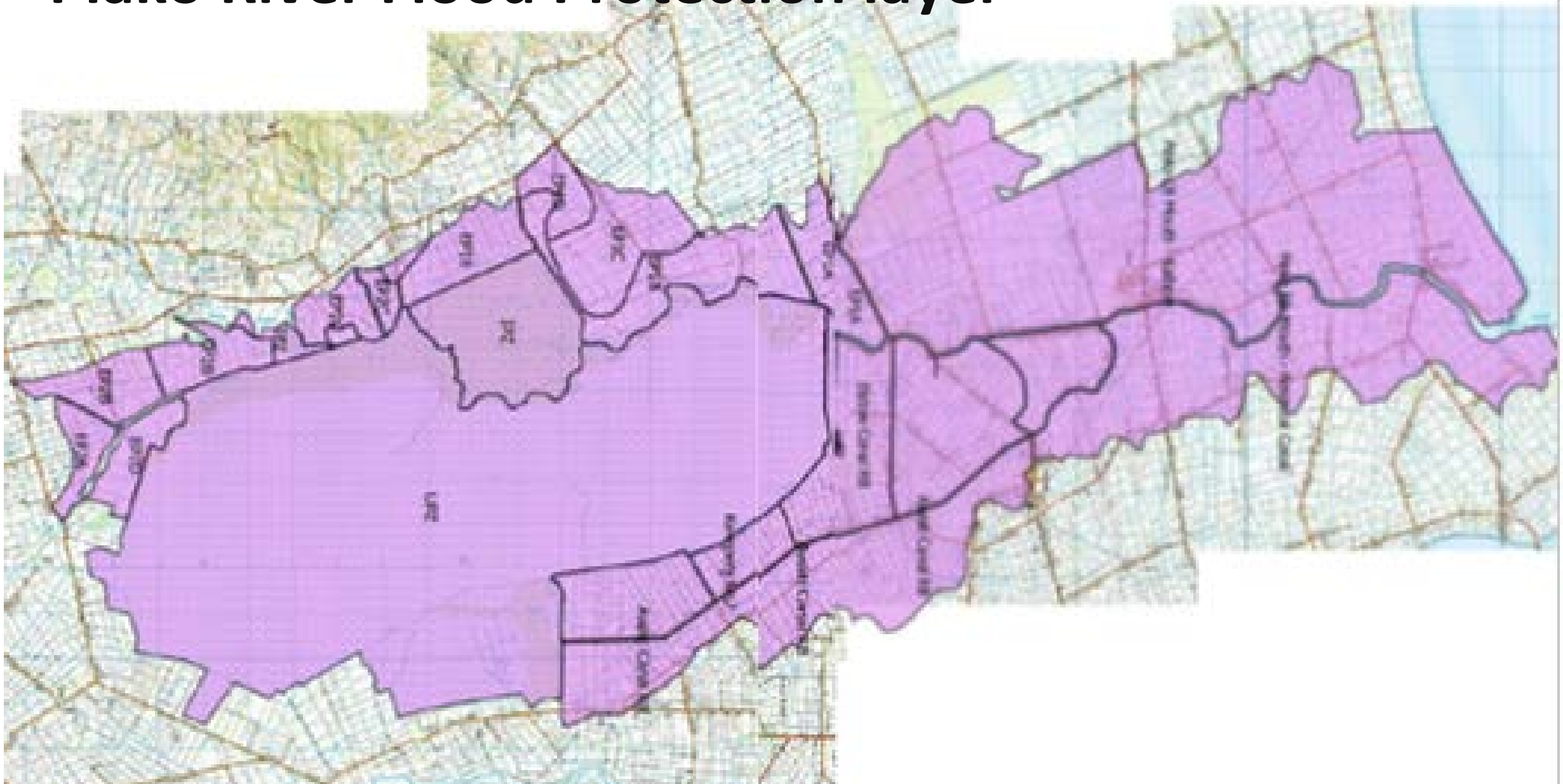
Process

- A full review involves river and tributary cross section surveys.
- Model development, Technical report
- Calibration of model to March and April flood events (several iterations)
- Analysis of data, Service level report
- Where to from here:
  - Workshop with Waihou Piako Catchment Committee
  - Approval by Waihou Piako Catchment Committee
  - Approval by Council

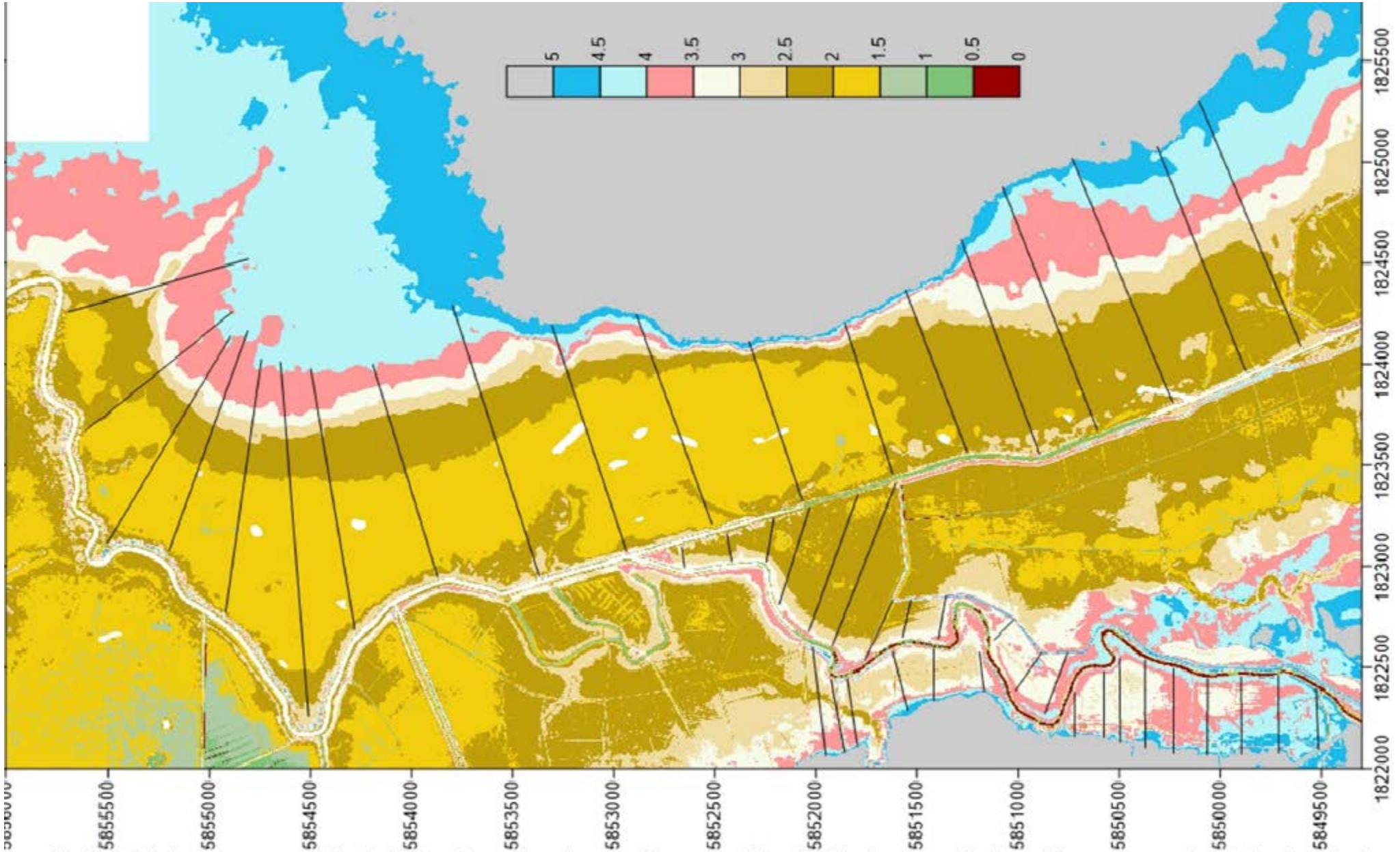
Piako River Scheme Review update

- Where to from here:
  - Implementation by WRC ICM Hauraki Zone
  - ABCD Flaxblock 2D model creation
    - Assess options for floodway flow path
    - Feed into next Scheme review
    - Assist resource consent application of assets in this area
  - Undertake hazard mapping for land use and emergency management purposes, which will inform District and Regional Plans

Piako River Flood Protection layer



New Kopuatai Catchments added – Southern Dome



igure 14: Floodplain branches upstream of the flax blocks, with positions of cross sections extracted from the Lidar data shown. Background is a contour map derived from the Lidar data.

Extract from Draft Piako River Scheme review technical report

Northern Dome Kopuatai

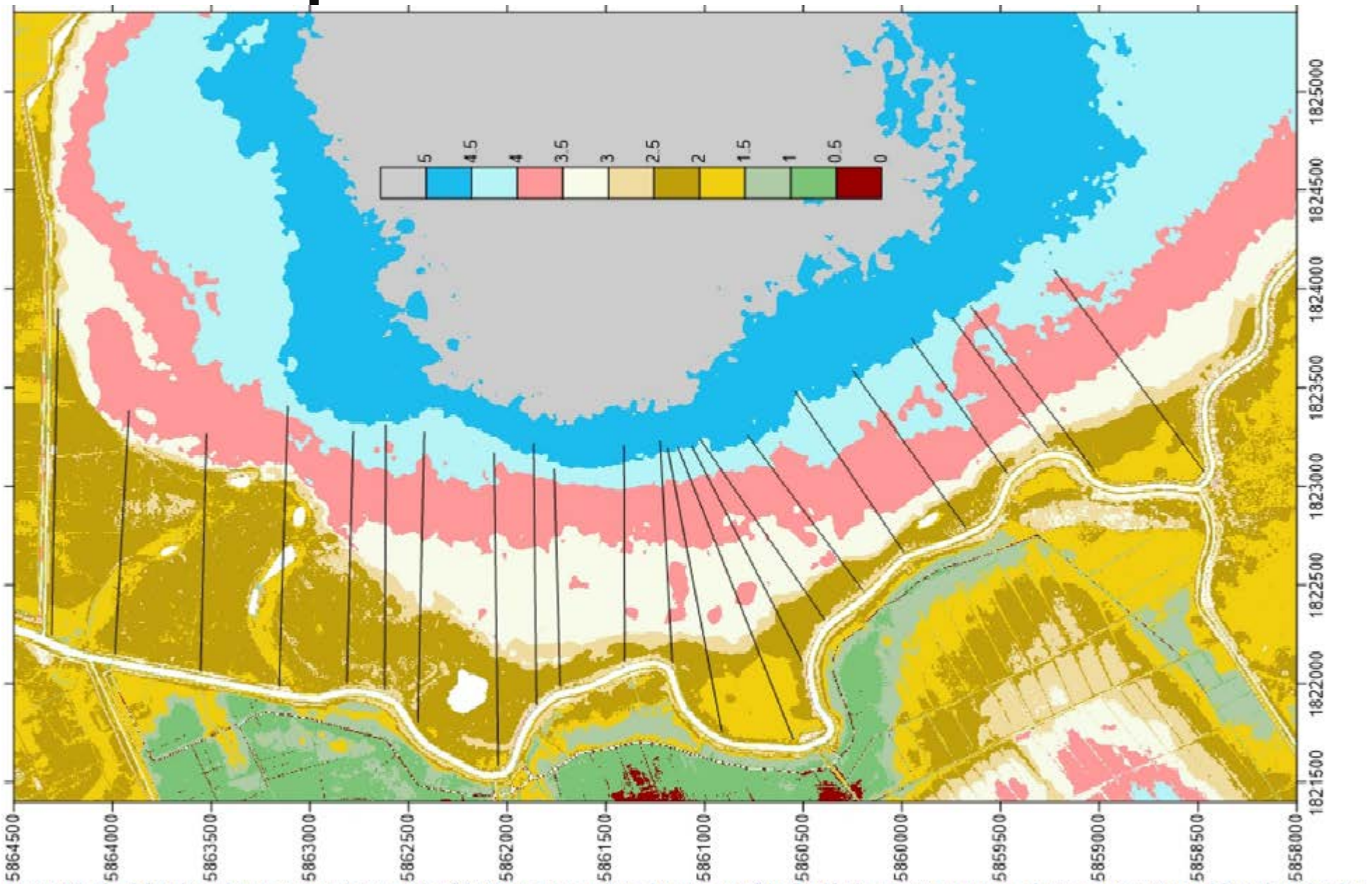
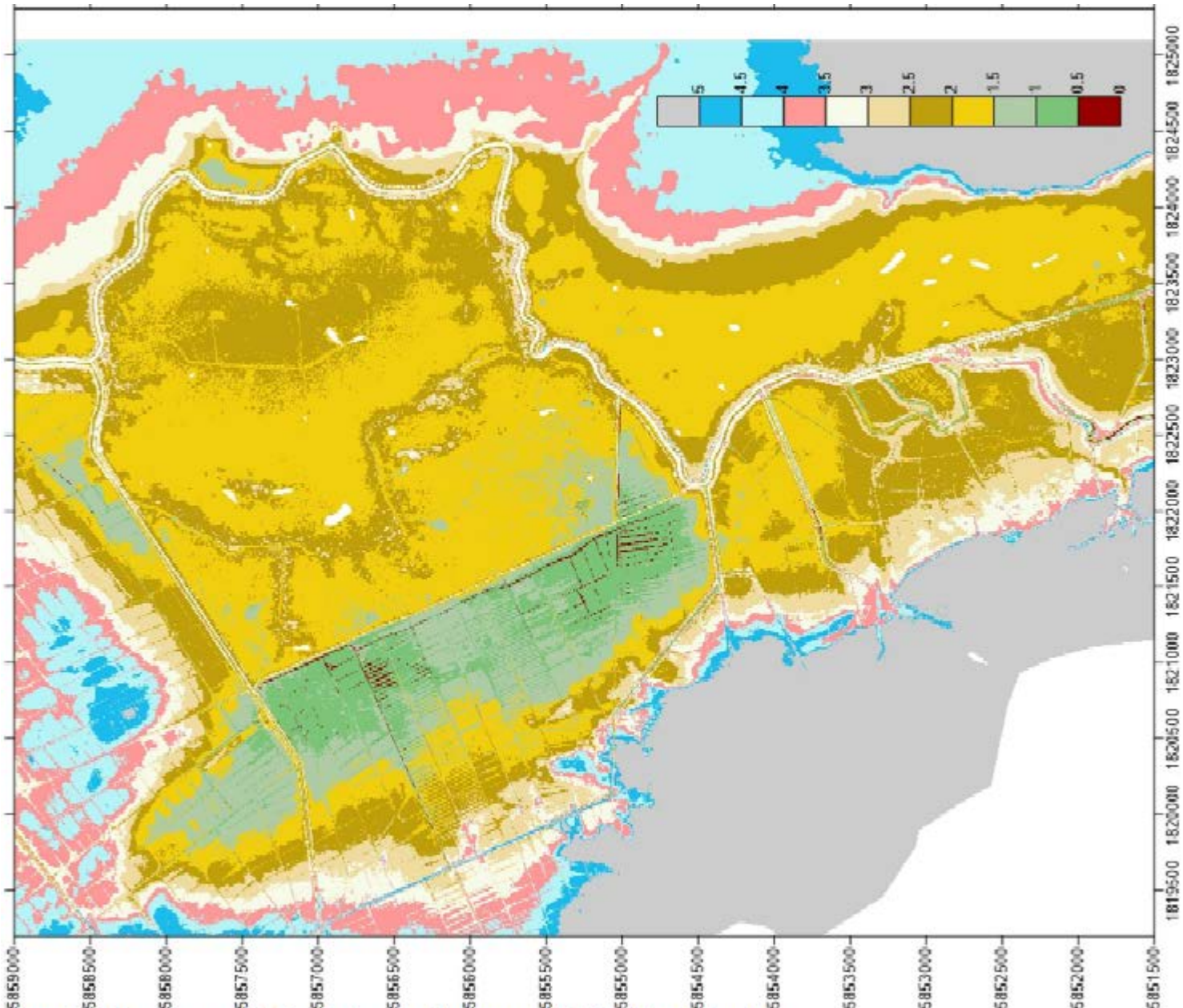


Figure 16: Floodplain branch representing the west side of the Kopuatai peat dome downstream of the flax blocks, showing positions of cross section extracted from the Lidar data

Extract from Draft Piako River Scheme review technical report

ABCD Flaxblock Lidar



Extract from Draft Piako River Scheme review technical report

50yr ARI - Waitoa

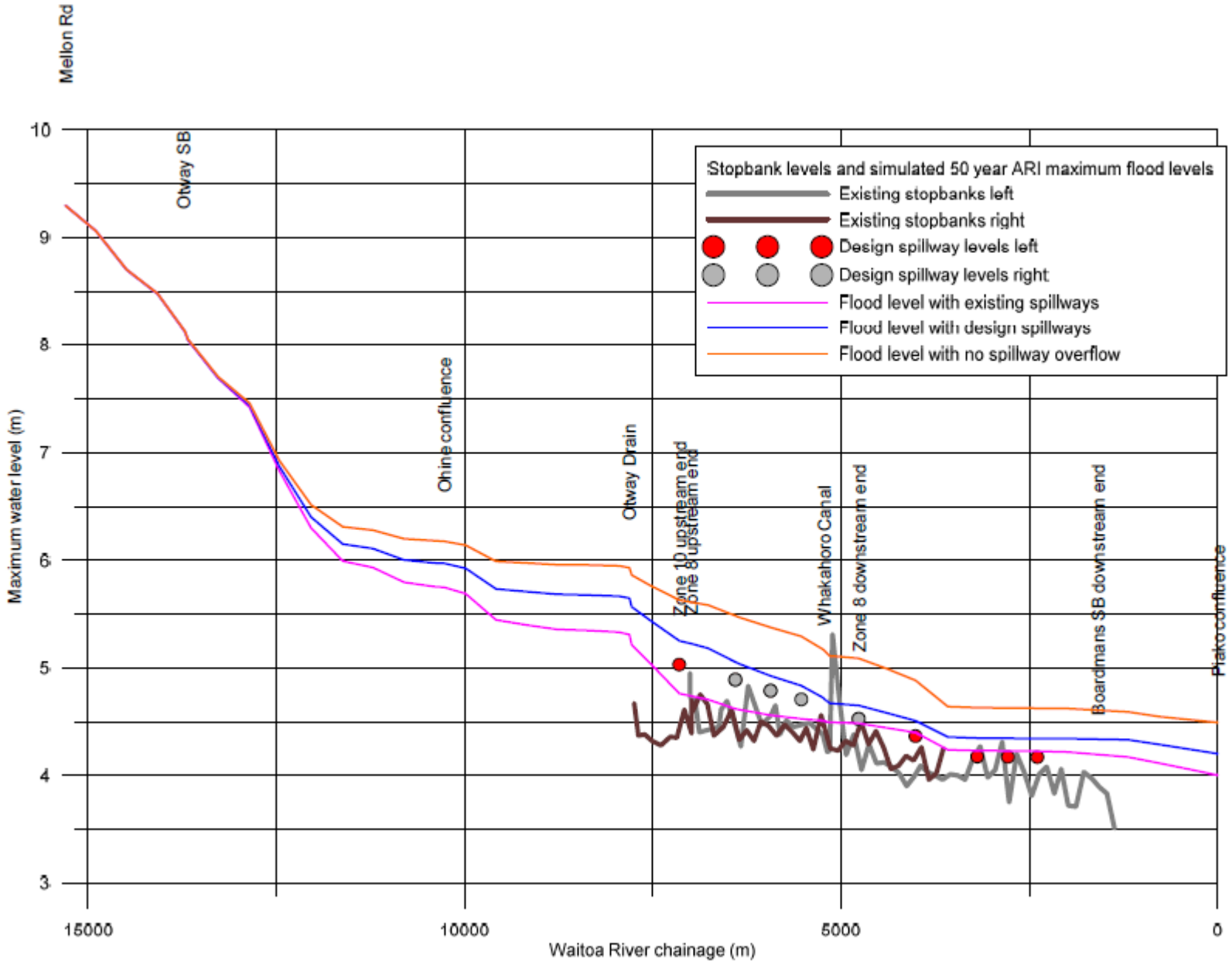


Figure 50: Maximum water levels on the Waitoa River between Mellon Rd and the Piako confluence with existing and design spillway levels, in the 50 year ARI event

Graph extract from Draft Piako River Scheme review technical report

50yr ARI – Piako River

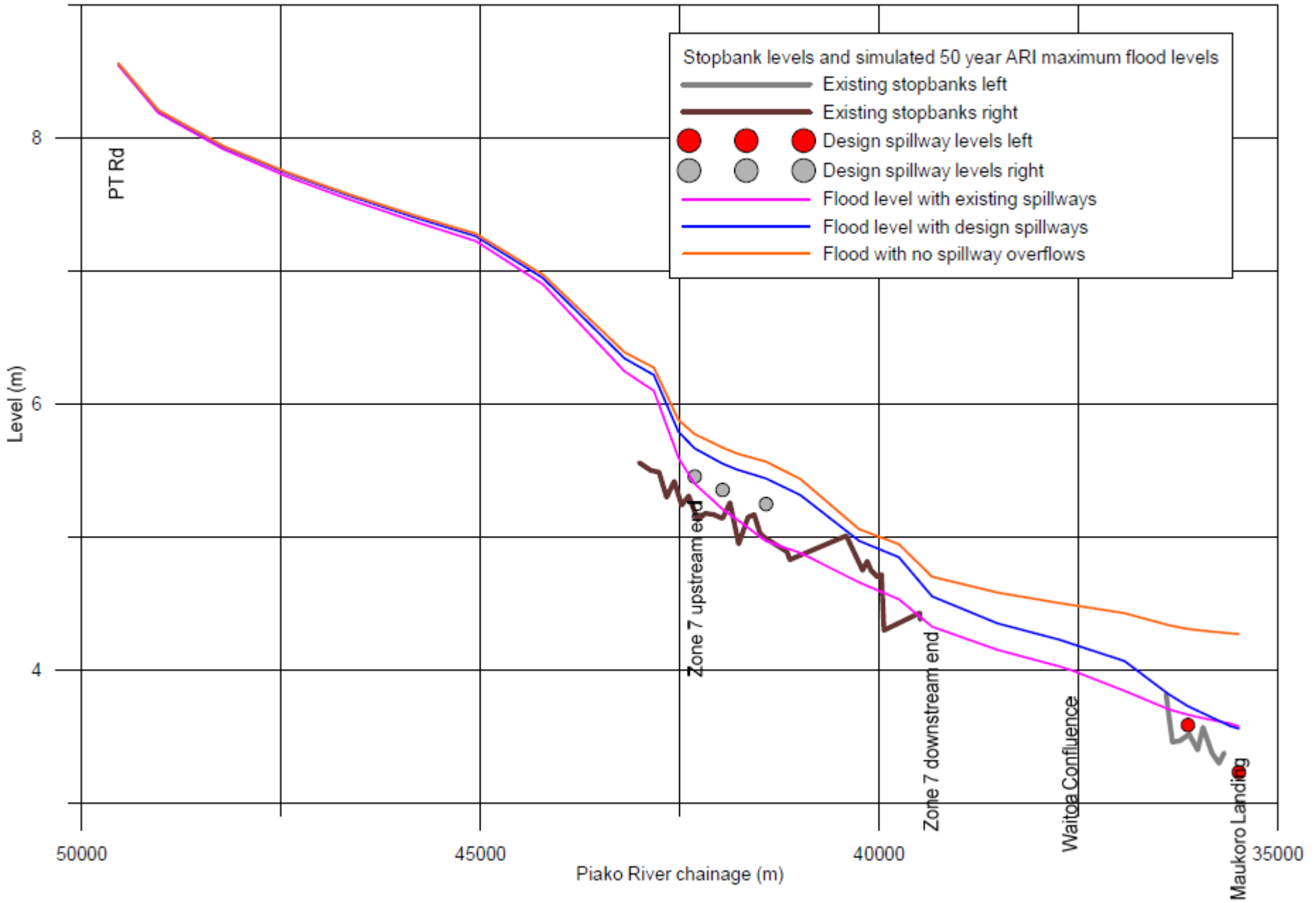


Figure 51: Maximum water levels on the Piako River between Paeroa Tahuna Road and Maukoro Landing with existing and design spillway levels, in the 50 year ARI event

Graph extract from Draft Piako River Scheme review technical report

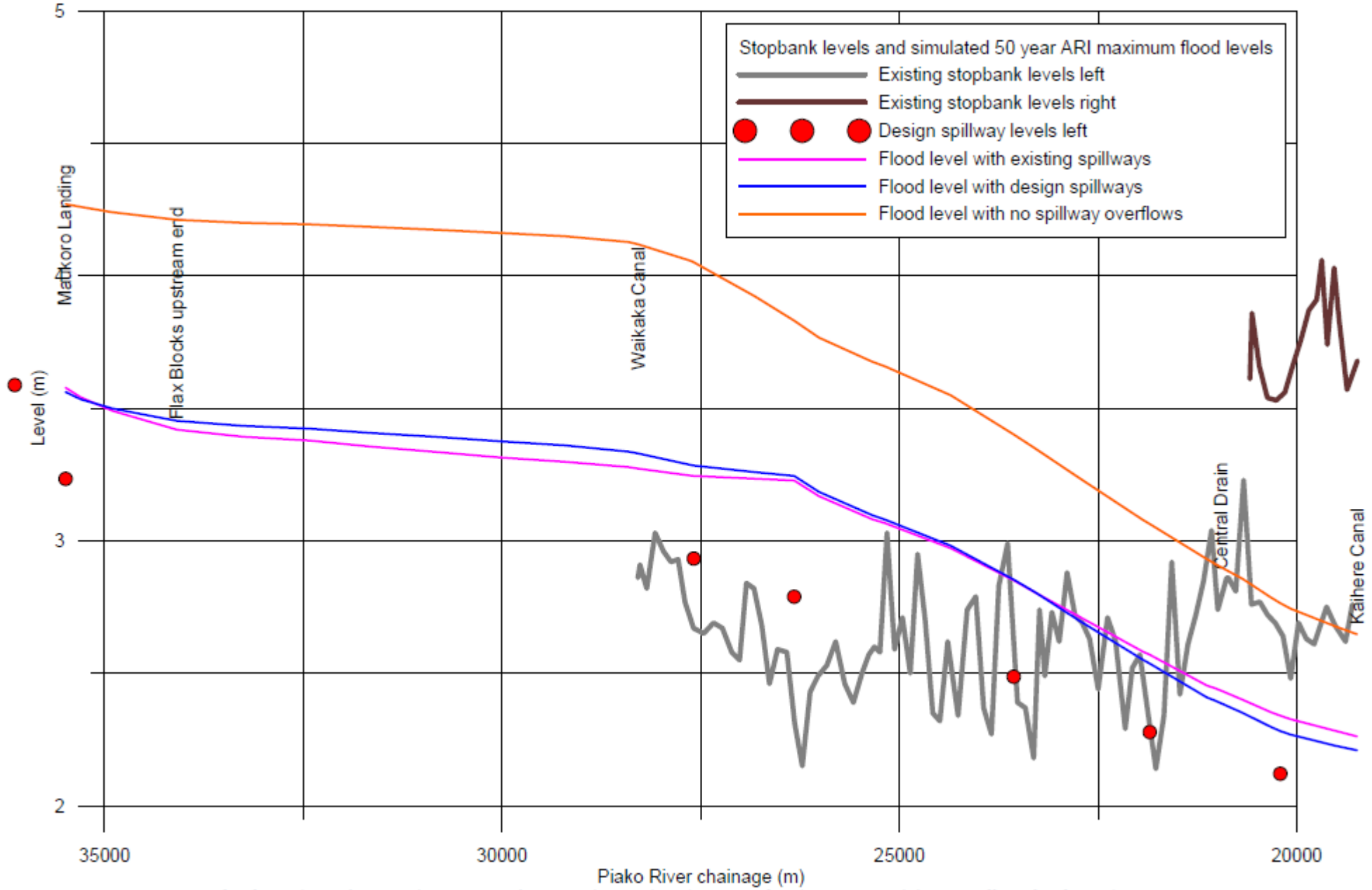


Figure 52: Maximum water levels on the Piako River between Maukoro Landing and Kaihere Canal with existing and design spillway levels, in the 50 year ARI event

Graph extract from Draft Piako River Scheme review technical report

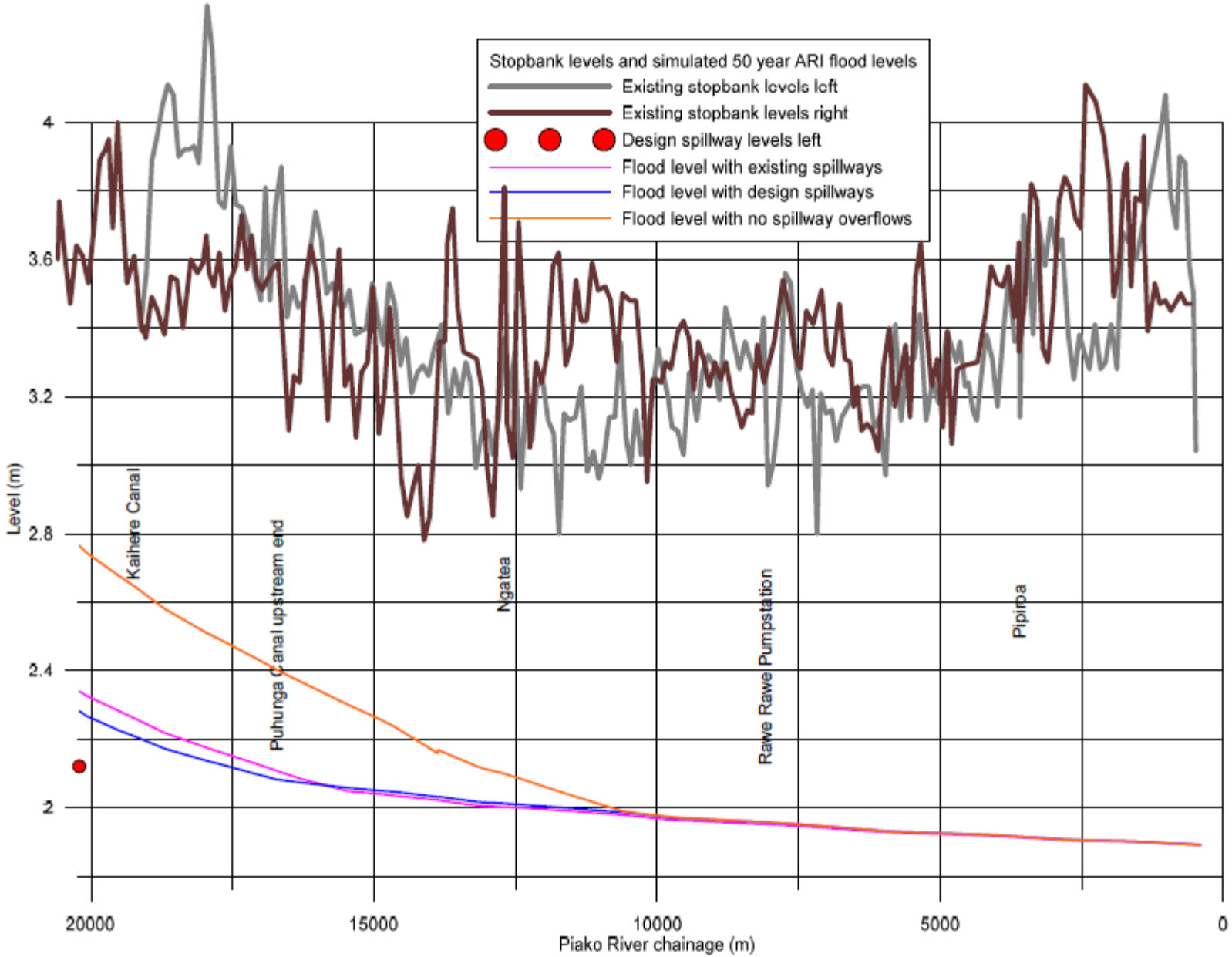


Figure 53: Maximum water levels on the Piako River between Kaihere Canal and the mouth with existing and design spillway levels, in the 50 year ARI event

Graph extract from Draft Piako River Scheme review technical report

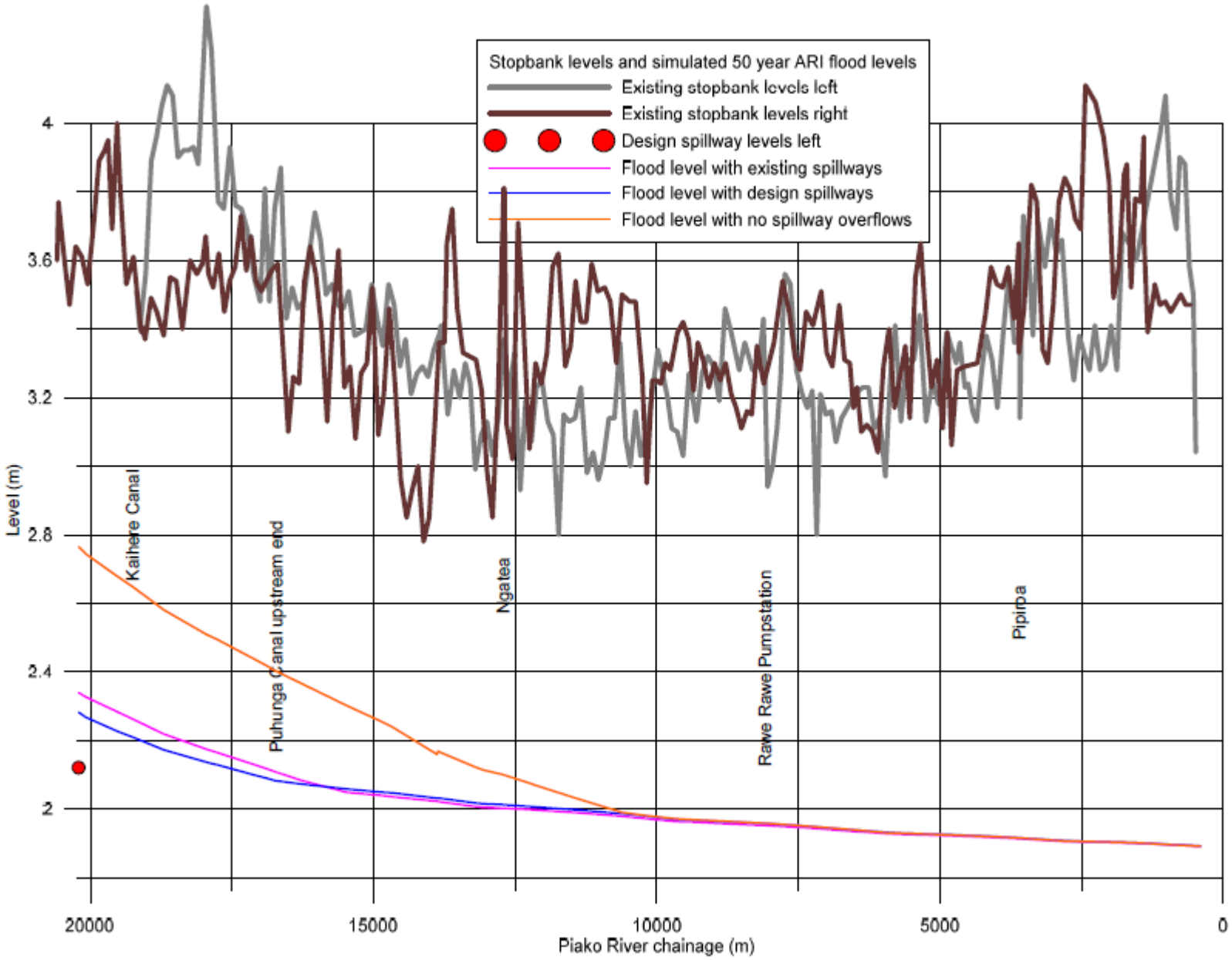


Figure 53: Maximum water levels on the Piako River between Kaihere Canal and the mouth with existing and design spillway levels, in the 50 year ARI event

Graph extract from Draft Piako River Scheme review technical report

Interesting fact

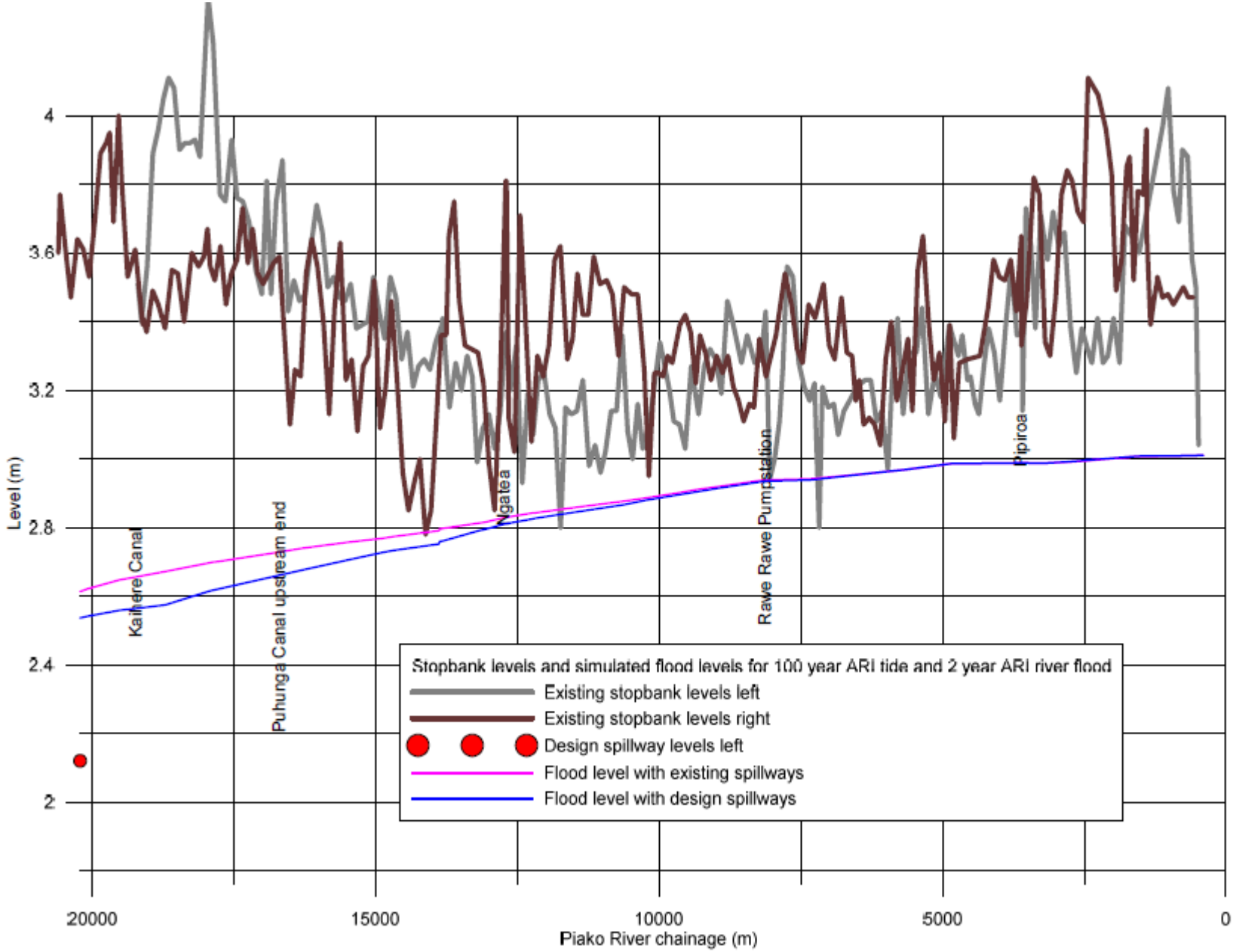


Figure 59: Maximum water levels on the Piako River between Kaihere Canal and the mouth with existing and design spillway levels, in the 2 year ARI event with 100 y

Graph extract from Draft Piako River Scheme review technical report

Interesting fact

- Lightning strike on Kopuatai peat dome, fire extinguished by helicopter

Piako River Scheme Review - What did we learn?

- Confirms the April 2017 peak flow was a >160 year event
- Model aligns with actual surveyed flood levels from 2017 event
- The Waitoa River reaches were overwhelmed
- Last major events in 1961 & 1962 there was no river flow information to support a scheme review.
- Kopuatai Peat Dome acts as a contributor when full, this incorporated into the model by reflecting additional catchment areas
- Stopbanks without design heights have been included in model (eg; Kerepehi extension, Carters ..)
- Advances in modelling technology and captured data, have allowed for these improvements

Open floor - questions and answers

Next steps

- ABCD Flaxblock meeting with affected landowners
- Bancroft, Elstow meeting with affected landowners
- Continue BAU

Lunch and networking time

- Staff will be available to meet and greet and answer any remaining questions you may have