



Woolgoolga to Ballina Upgrading the Pacific Highway

Clarence flood focus group

Wednesday, 26 March 2014

Agenda

Welcome and introduction

Jodi Austin

Project update (includes S/PIR)

Garry McPherson

Pre-construction and soft soils

Greg Nash

Section 4 (**Tyndale to Maclean**)

Detail design and early works

Roy Marsh

Changes to flood models

Julia Beck

Section 5 (**Maclean to Iluka Road**)

Lindsay Nash

Proposed alternatives at Yamba Rd, Watts Lane

Discussion / Questions

All

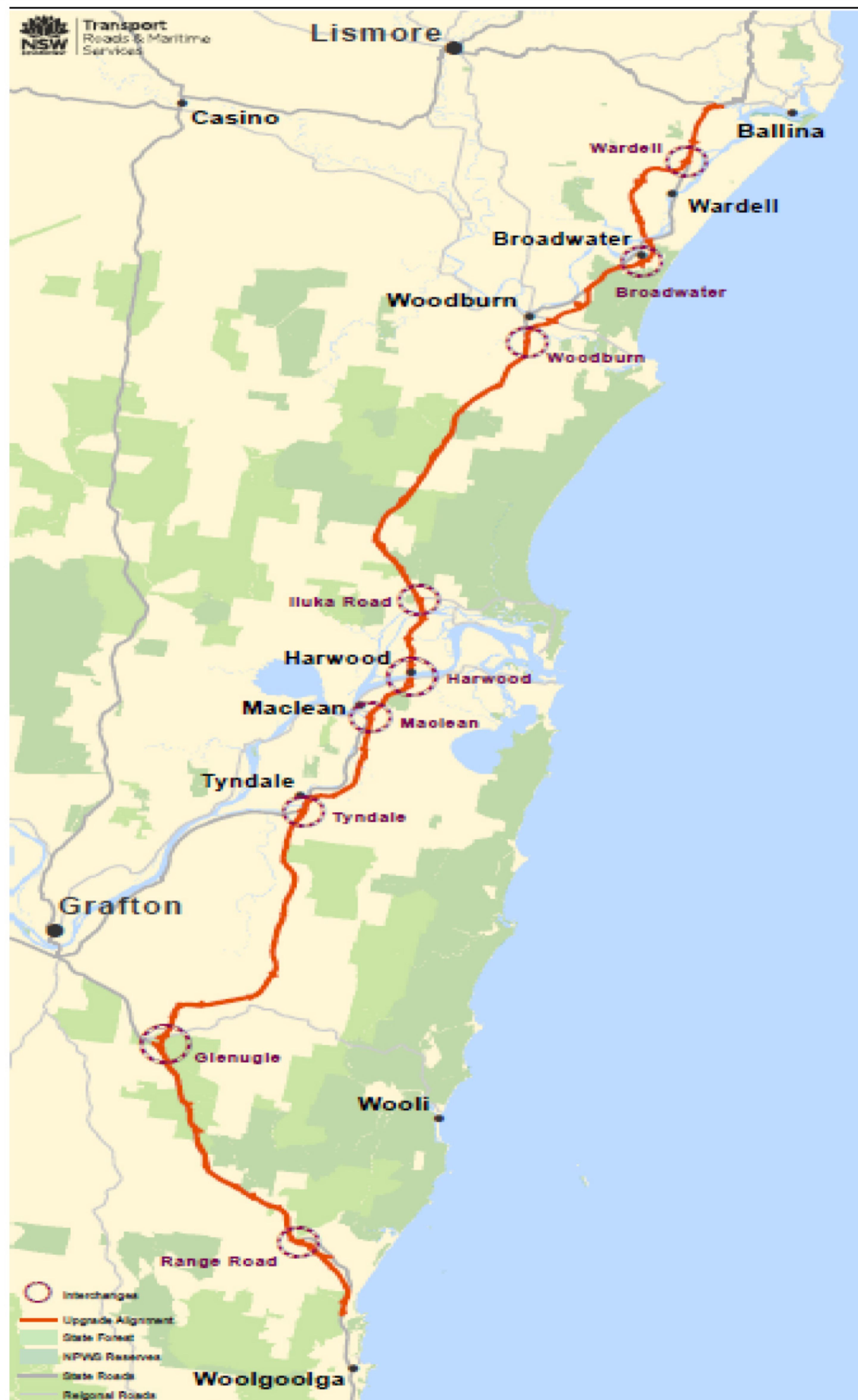
Next steps

Greg Nash

Further information and discussion

Jodi Austin

Current Status of Priority 3: Woolgoolga to Ballina



- **21 km open to traffic**
- **2.5 km under construction:**
Stage 2 Pimlico to Teven (2.5 km)
- **155 km to go..... being readied for construction**
 - Route and concept design..... *finalised*
 - Project approval..... *awaiting approval*
 - Acquisitions..... *well advanced*
 - Baseline technical studies..... *well advanced*
 - Detailed design *well advanced in sections (soft soils, Woolgoolga to Glenugie)*

- **Roads and Maritime development team (W2B)**
 - Garry McPherson, Senior Project Manager
 - Simon Wilson, Project officer / Environment officer
 - Jodi Austin, Communications
 - Alliance (SKM, Aurecon, RMS)
- **Roads and Maritime project delivery team (Section 4)**
 - Greg Nash (Senior Project Manager – W2B delivery)
 - Roy Marsh (Project Manager –section 4, Tyndale to Maclean)
 - Lindsay Nash (Project Manager – section 5, Maclean to Harwood)
 - Amanda Leonard (Project Officer - Section 4)
 - Peter Felsch (Project Manager, Utility adjustments)
 - Kurt Boekeman (Project Officer, property adjustments)
 - Jodi Austin and Prudence Burke, Communications
- **Roads and Maritime has engaged Aecom to undertake:**
 - Develop detail design at each soft soil site
 - Develop detail design of section 4 (Tyndale-Maclean)
 - Further develop the section 5 (Maclean to Iluka Road) concept design

Pre-construction activities

- Geotechnical investigation
- Surface and groundwater monitoring
- Detail ground survey

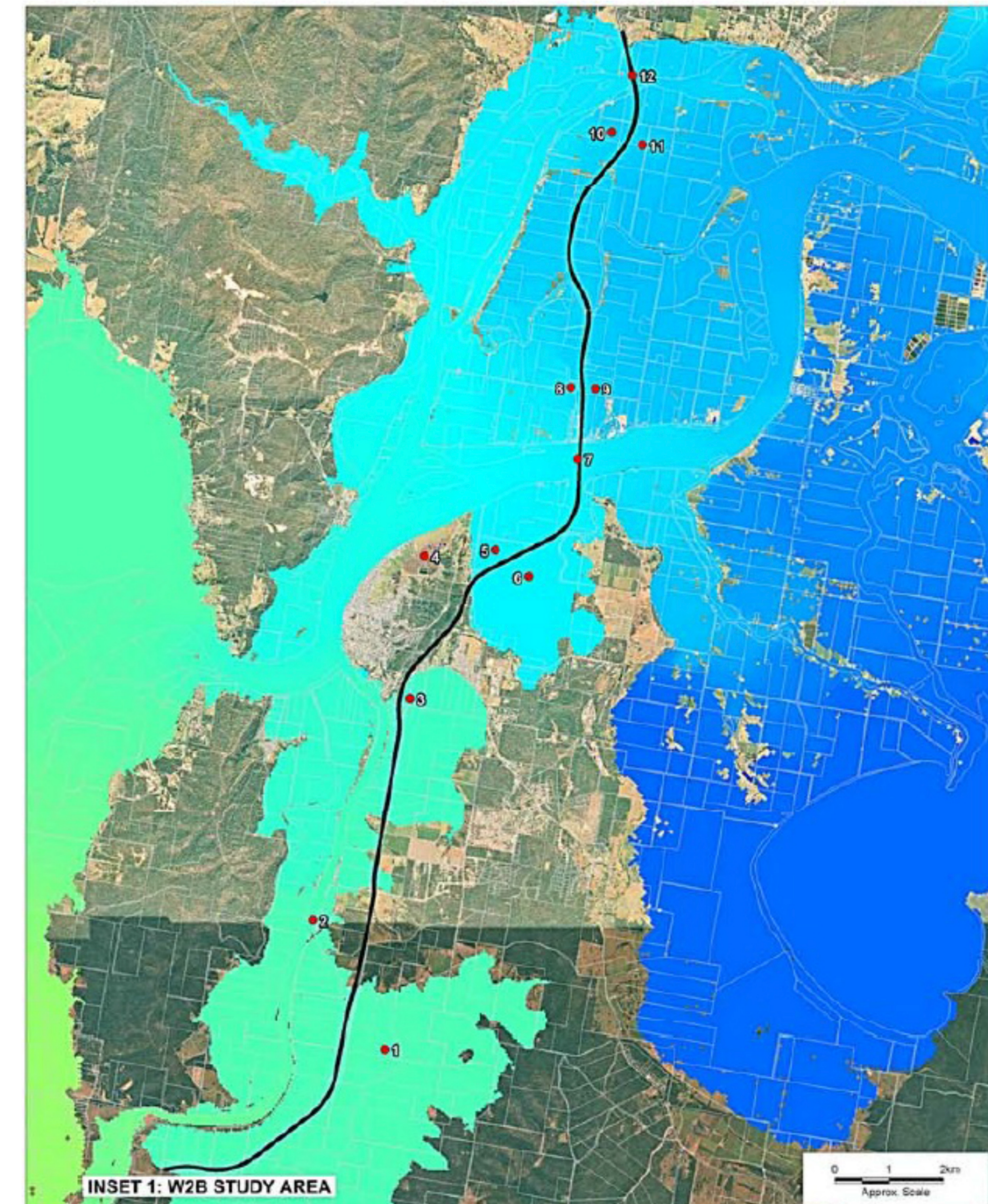
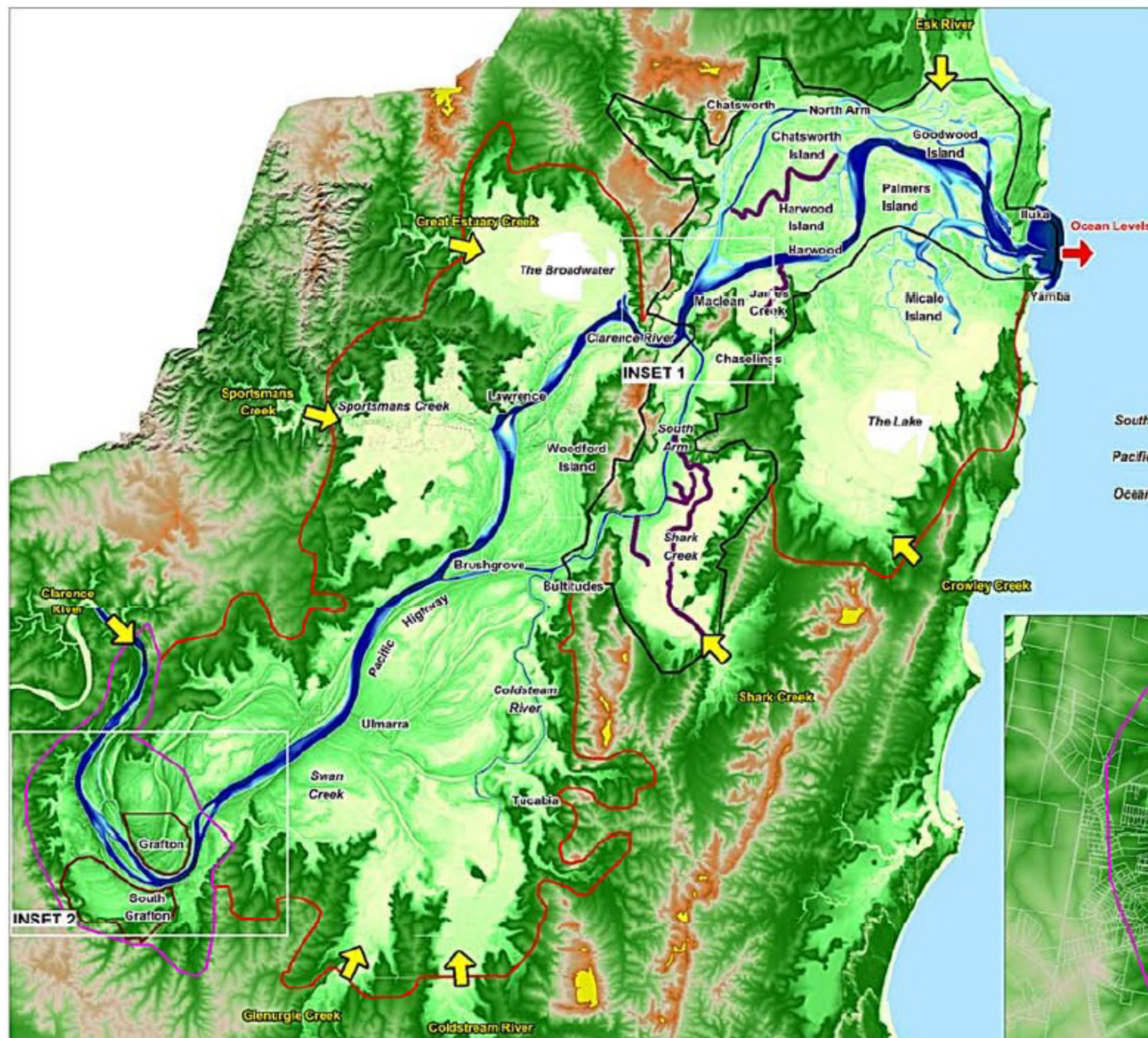


Pre-construction activities

Flood modelling



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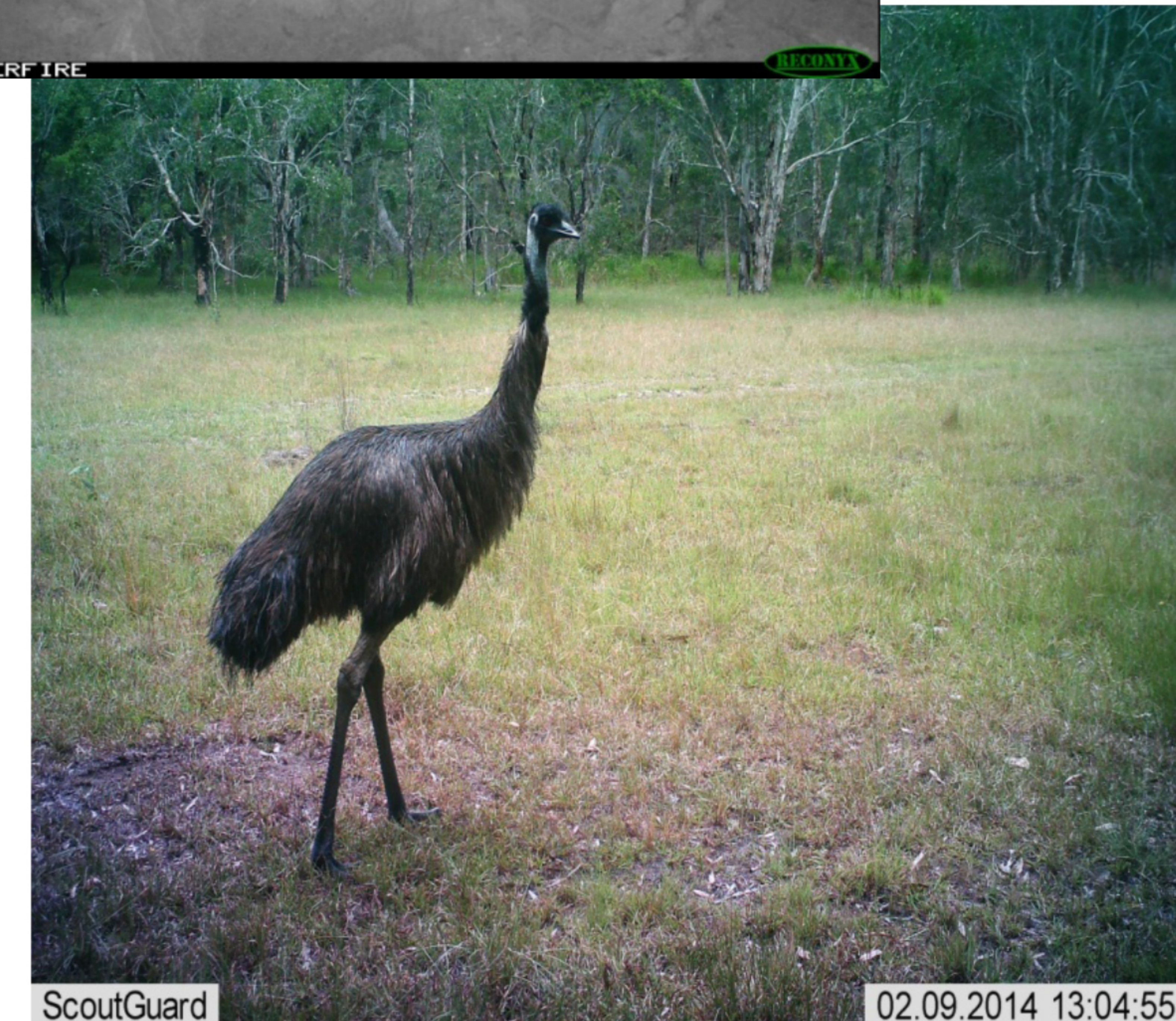
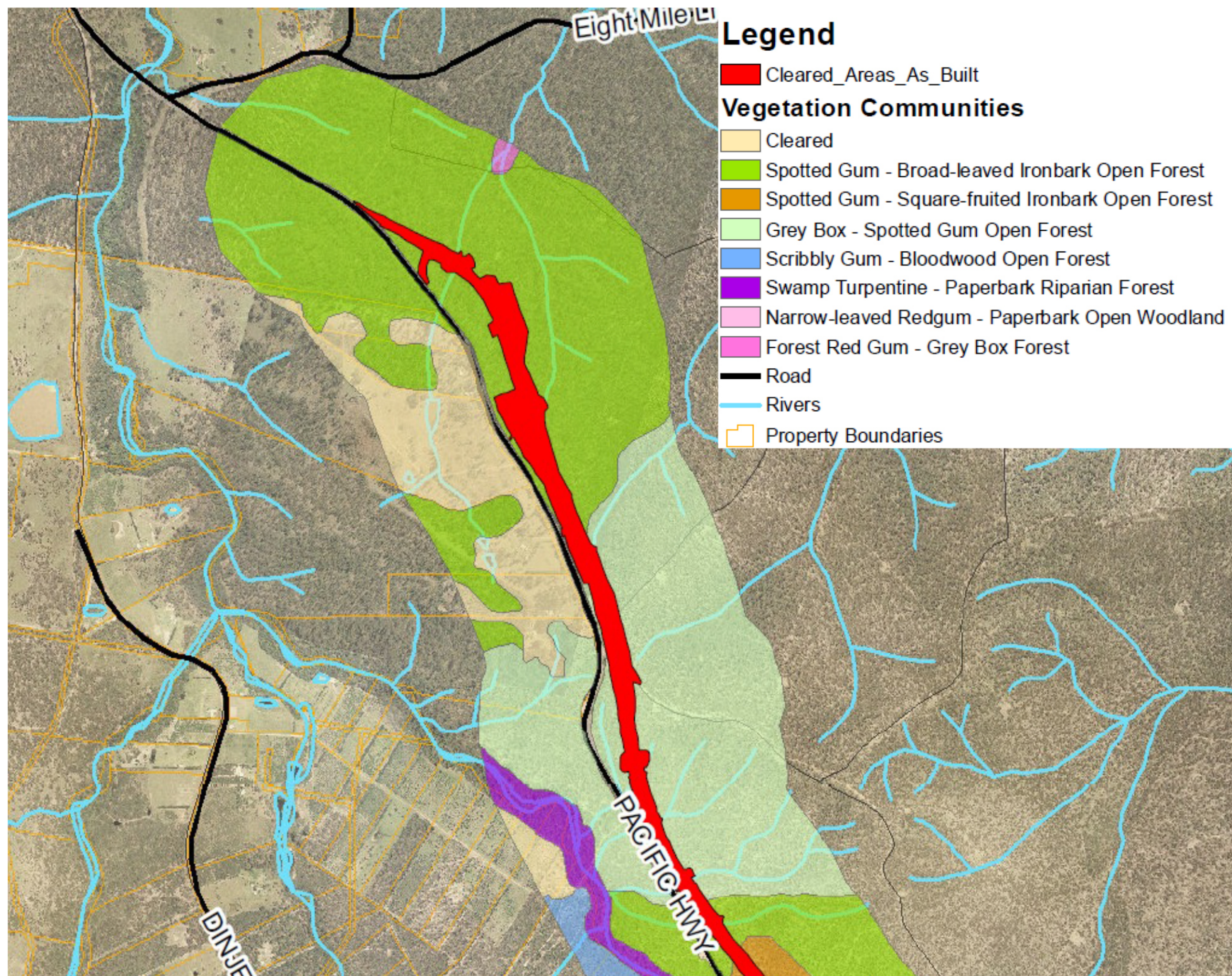


Pre-construction activities

Ecology and threatened species surveys



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Pre-construction Aboriginal heritage & non aboriginal heritage survey and salvage



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Aboriginal Heritage

- Consultation
- Aboriginal Focus Group meetings
- Salvage operations
- Reporting

Non Aboriginal Heritage

- Archival recording
- Salvage (if required)

Telecommunications

- Focus has been on design for relocation of services for early works
- Physical relocations to start after project approval

Essential Energy

- Detail design of power utilities
- Relocations to commence following project approval

Rous Water and Clarence Valley Council

- Detail design of water and sewer
 - Water and sewer adjustments to be undertaken with early works
-

Pre-construction activities

Property acquisition

Roads and Maritime Services is very grateful to the community for enabling us to start negotiations early in the project.

- 384 properties including:
 - 247 properties with agreement reached/exchanged/settled
 - 117 properties in negotiation/awaiting valuation/requested commencement
 - Remaining properties not started
- 2 National Park / Nature Reserve
- 7 State Forests
- 13 Crown Lands

“Early works” - treatment of soft soil sites

- Soft soils
- Developing an Early Works program
- Based around four target areas with deep soft soils
 - Tyndale and Maclean
 - Chatsworth Island at Harwood
 - to the south of Woodburn
 - And north of Broadwater



Design overview – section 4

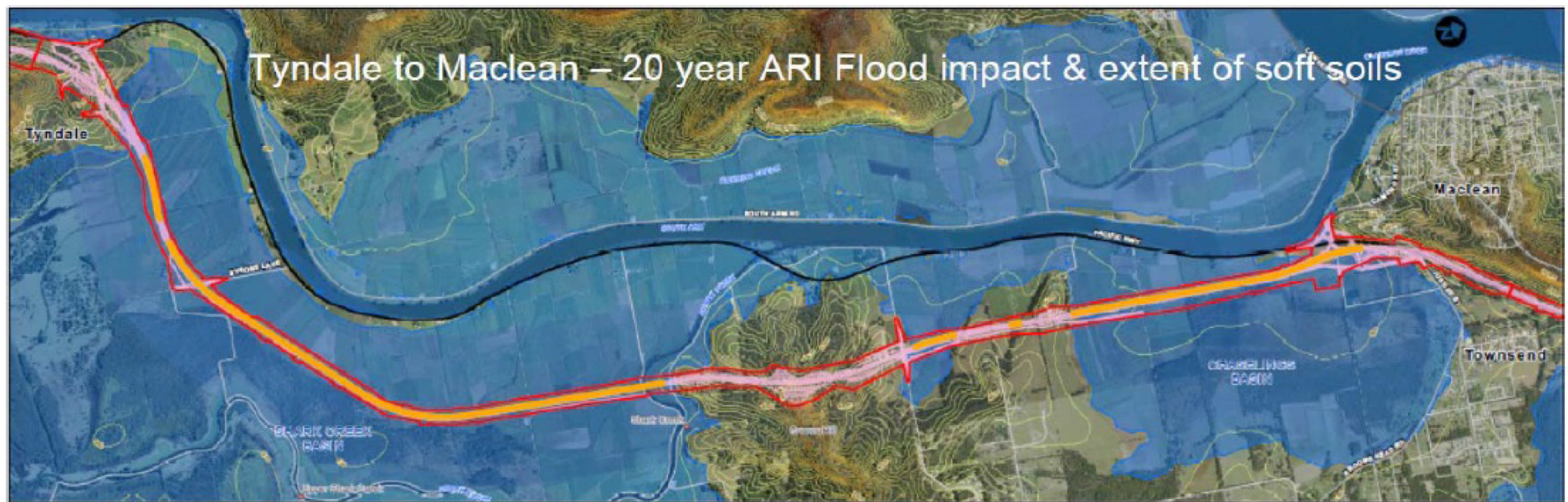


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- **Tyndale to Maclean (section 4)**

Purpose of project team

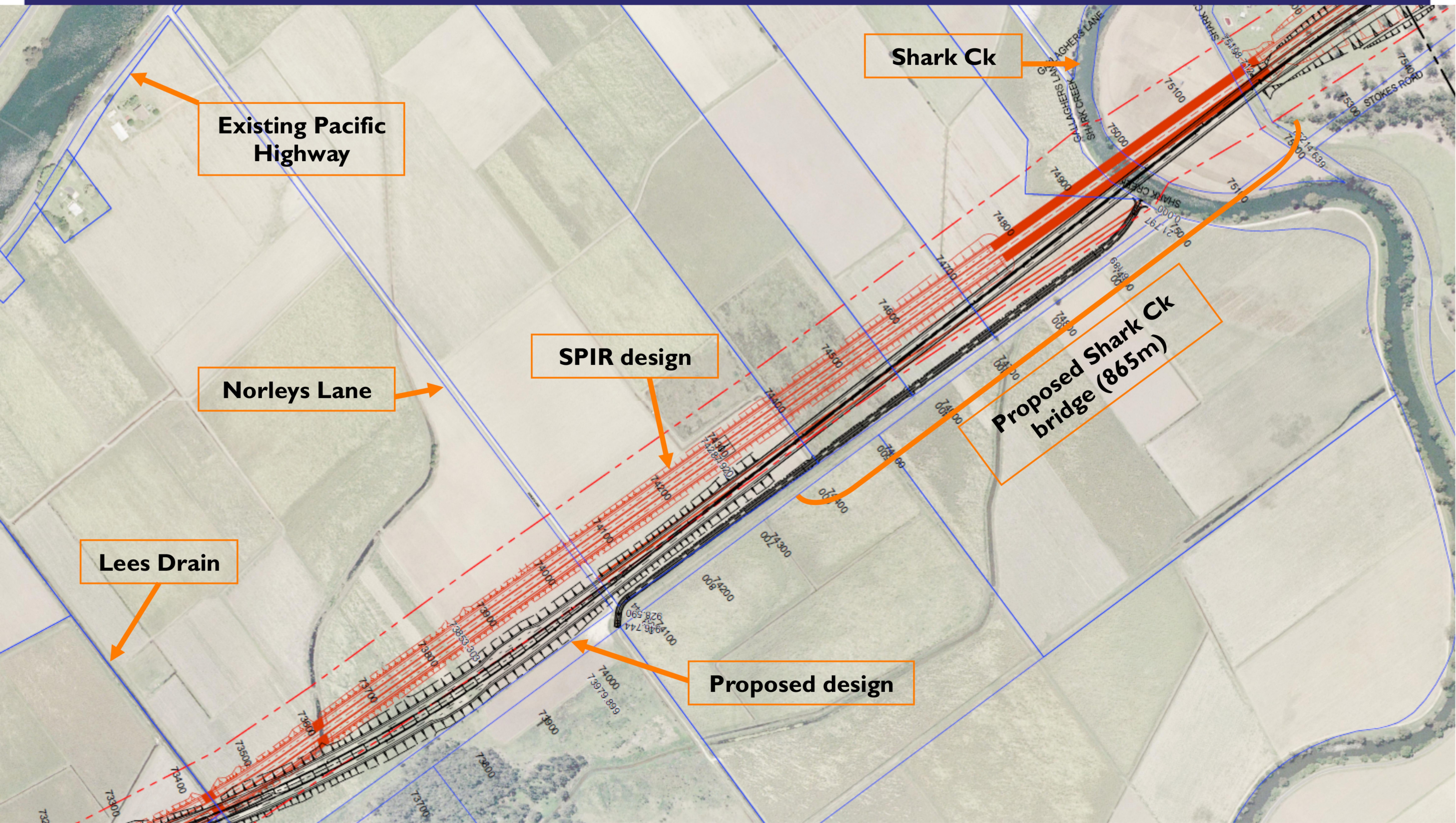
- To provide update on the development of the design
- To explore possible improvements as part of the detail design phase



Proposed design changes – section 4 (Shark Crk)



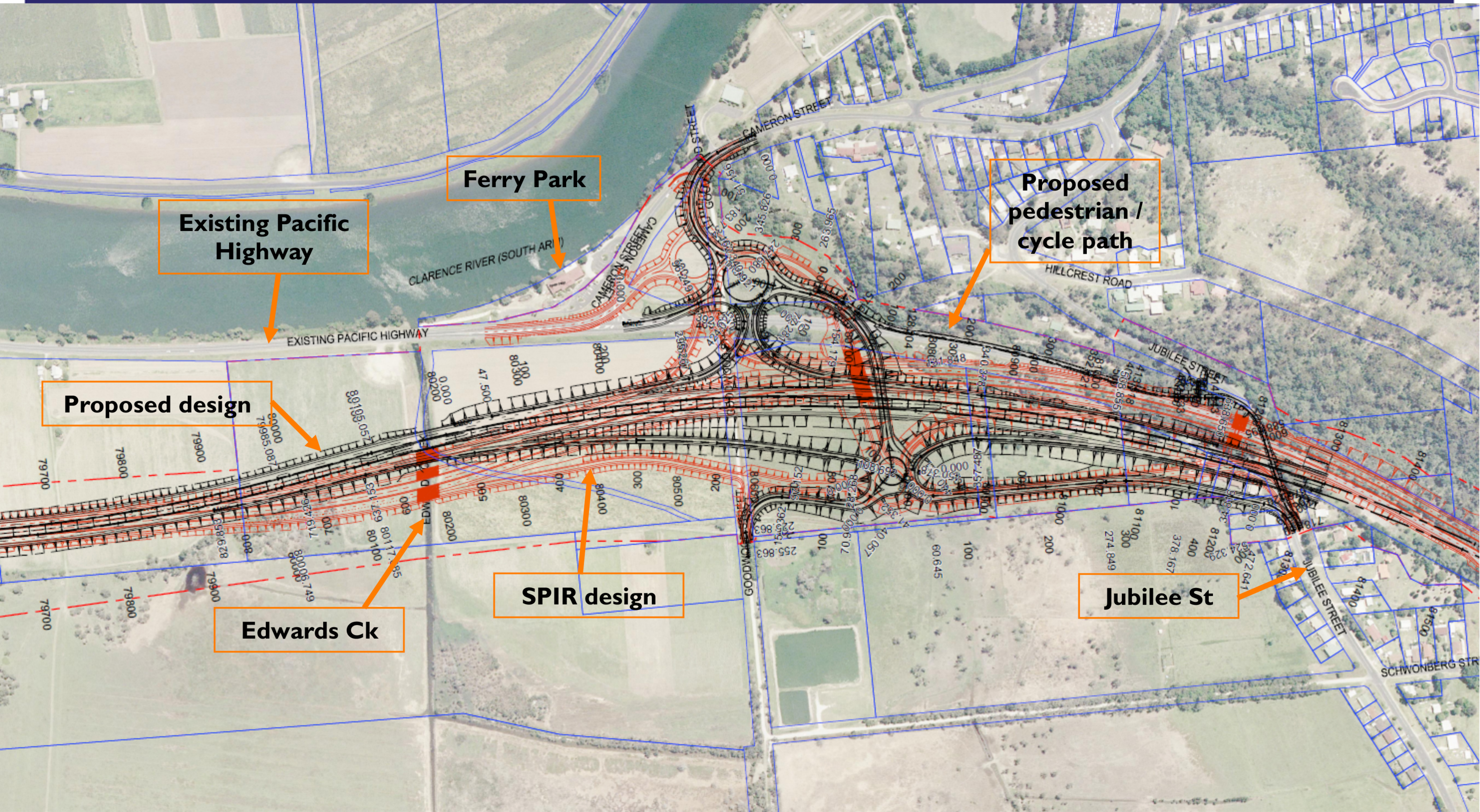
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Proposed design changes – section 4 (Maclean)



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Section 4 – Tyndale to Maclean

Waterway Structures: EIS to S/PIR to possible revised design

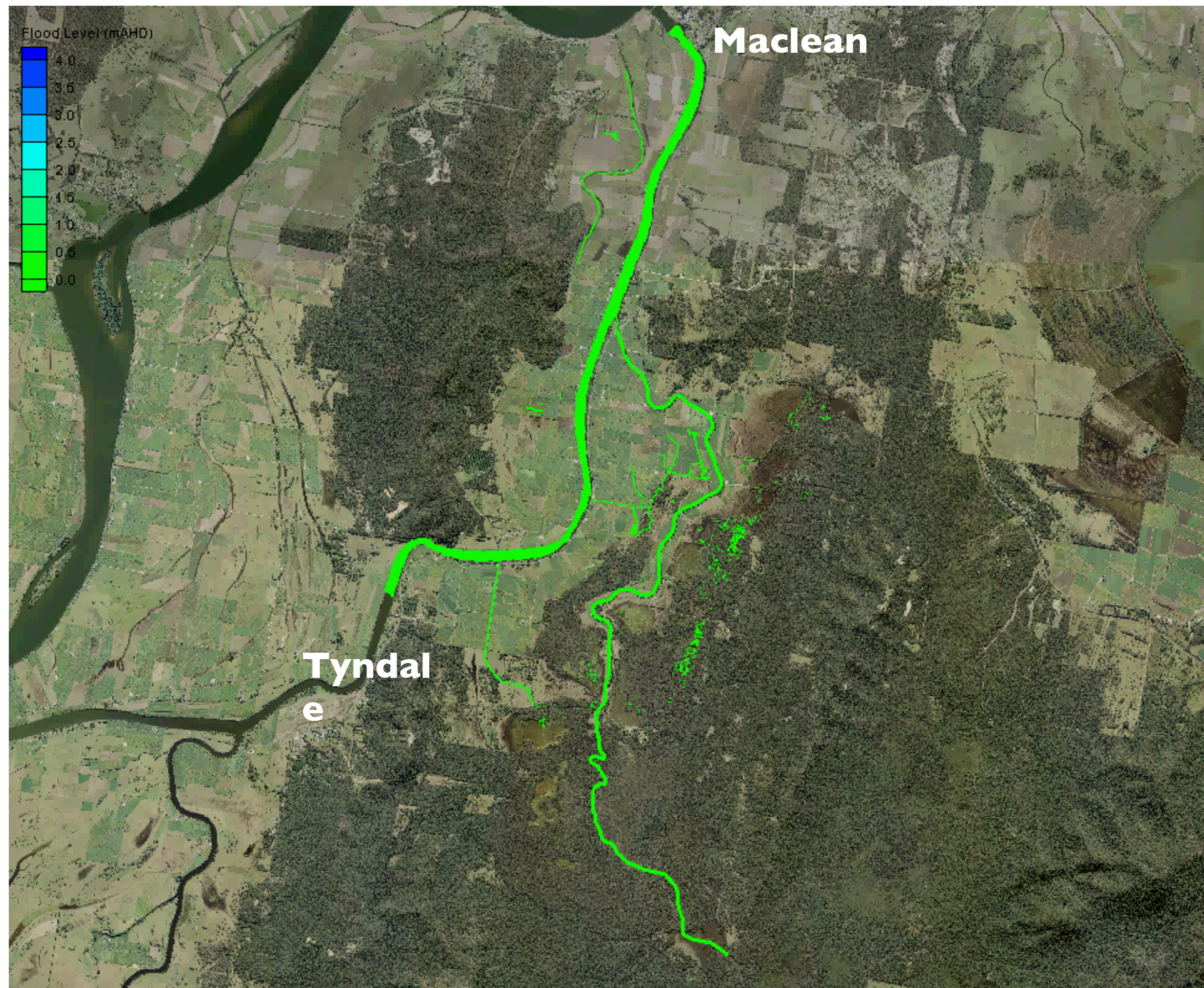
	EIS	S/PIR	Possible revised design
Crackers Drain	9 m bridge	15 m bridge	42 m bridge
Lees Drain	Culvert	15 m bridge	15 m bridge
Lees Drain North	Culvert	15 m bridge	Culvert (drain re-instated)
Shark Creek	400 m bridge	365 m bridge and culverts separated by embankment	865 m bridge
Edwards Creek	15 m bridge	15 m bridge	32 m bridge

- Due consideration given to flood impact design objectives – flood level, duration, velocity and direction of flood flow.
- Investigate the need for smaller culverts to link farm drains along the whole of Section 4.
- Flood free access (1 in 20 year) provided between Maclean and Townsend in all designs.

Section 4: 20 Year ARI design flood animation

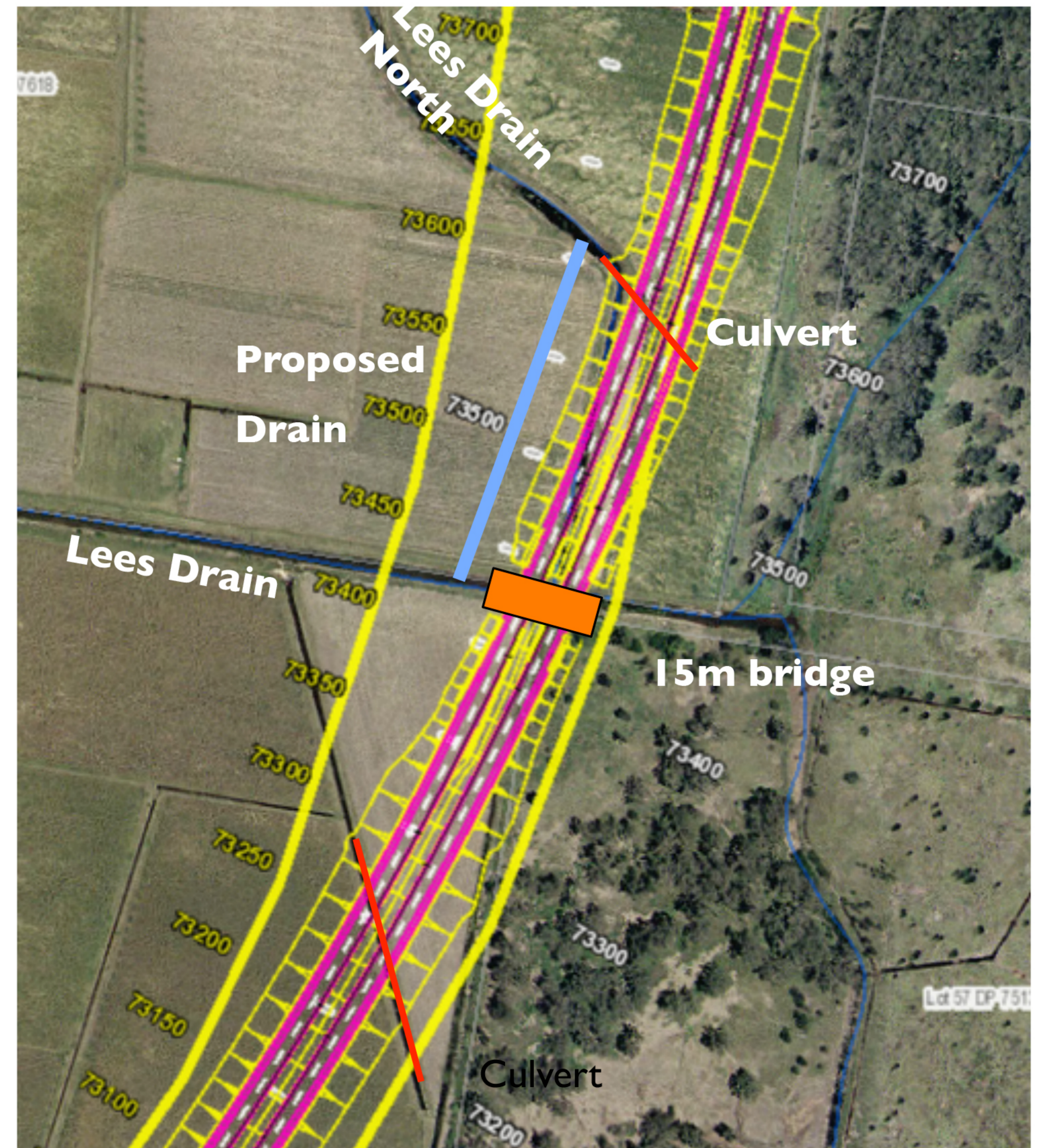


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Lees Drain

- Proposed road alignment to be moved to the east
- Proposed bridge over northern Lees Drain to be replaced with a culvert
- Proposed drain to be re-instated to the west of the alignment

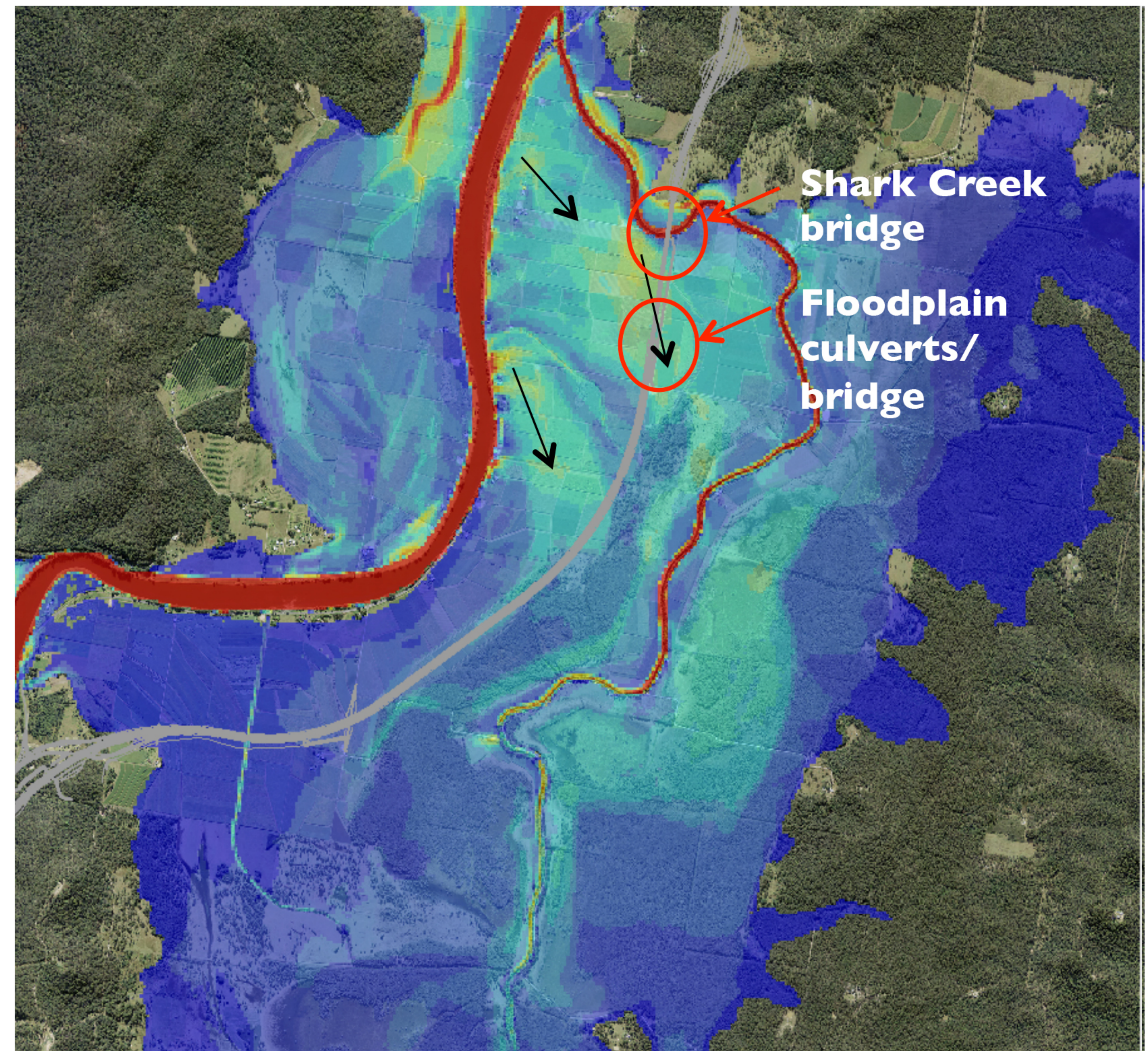


Shark Creek basin



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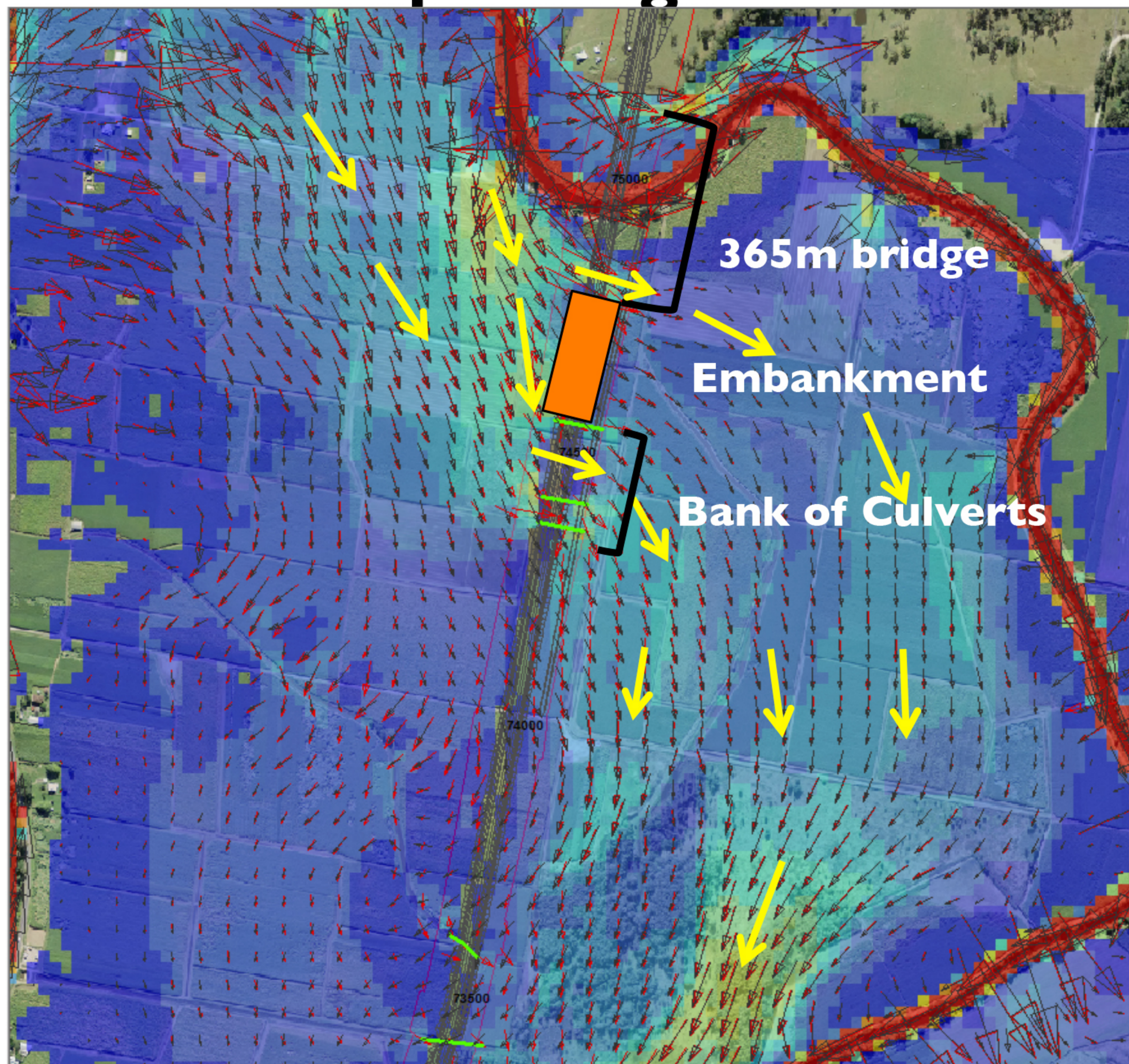
- Main area of interest is the bridge over Shark Creek
- Design process considered different combinations of main bridge over Shark Creek and floodplain culverts or flood relief bridge
- 365 m main bridge and 200 m flood relief bridge (with 300 m intermediate embankment) was a reasonable hydraulic option that generally satisfied the flood impact criteria
- Revised to a 865 m bridge based on other factors, such as soft soils and constructability



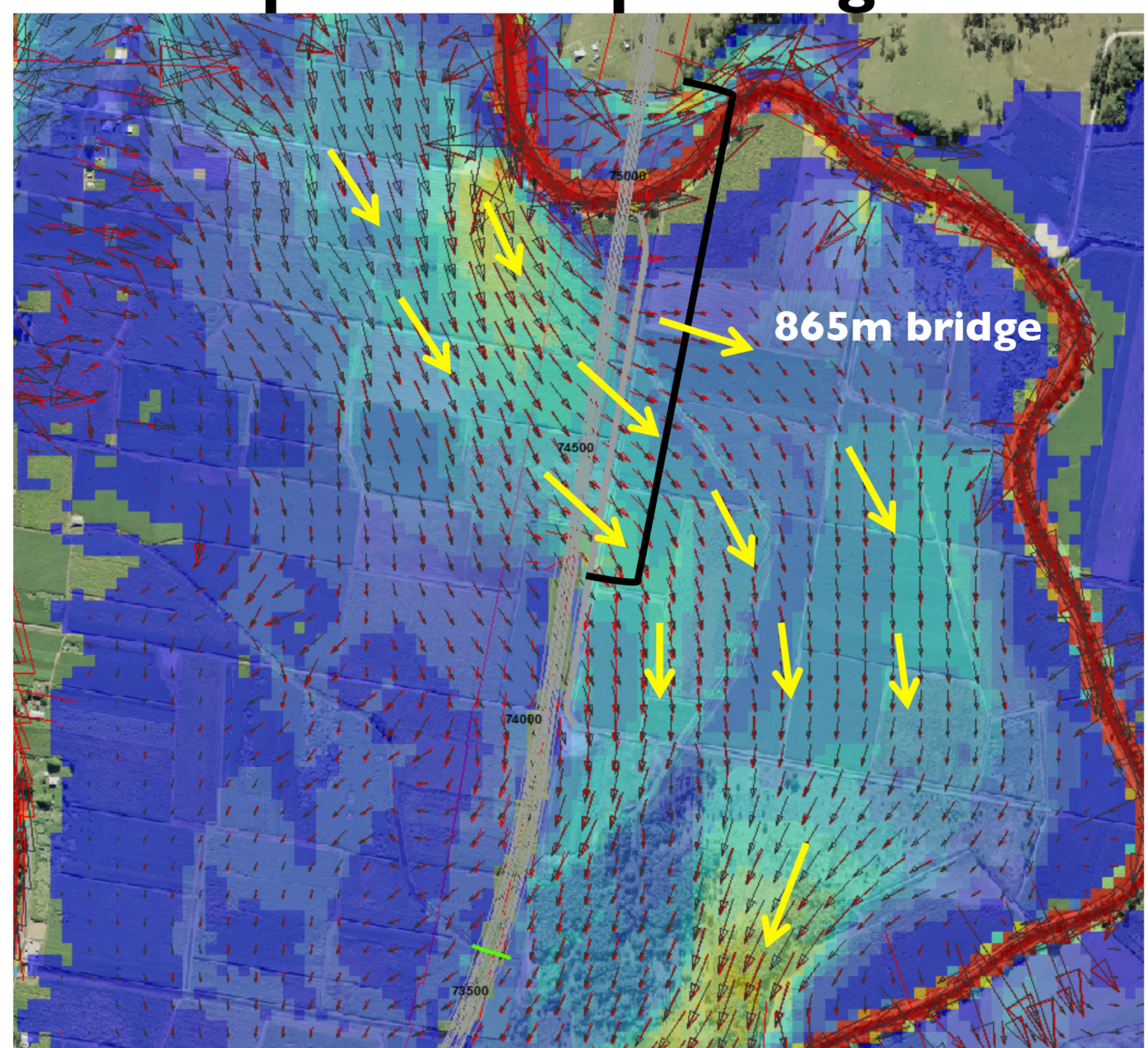
Shark Creek basin

Rising stage of flood (20 year ARI)

S/PIR concept design



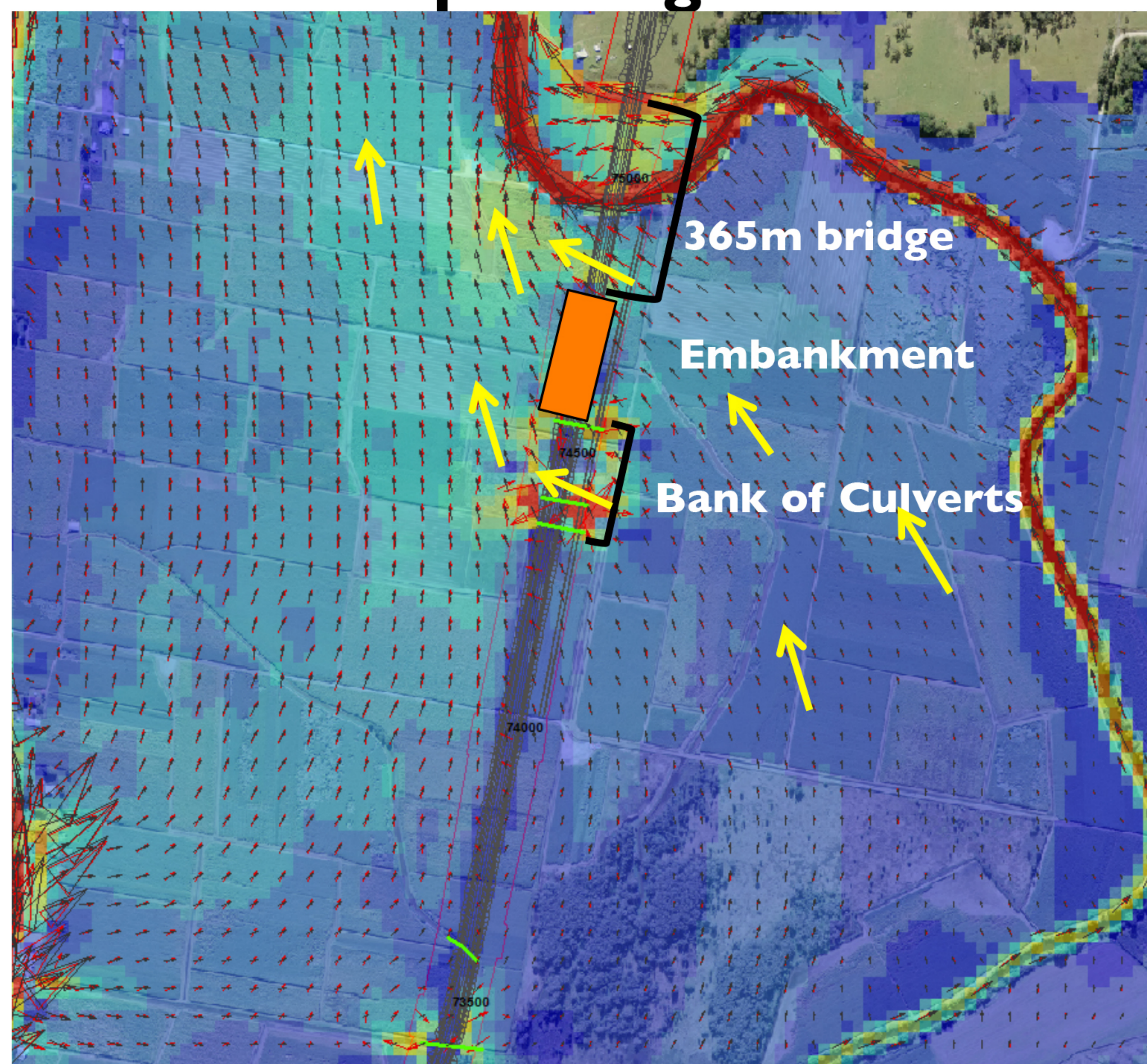
Developed concept design



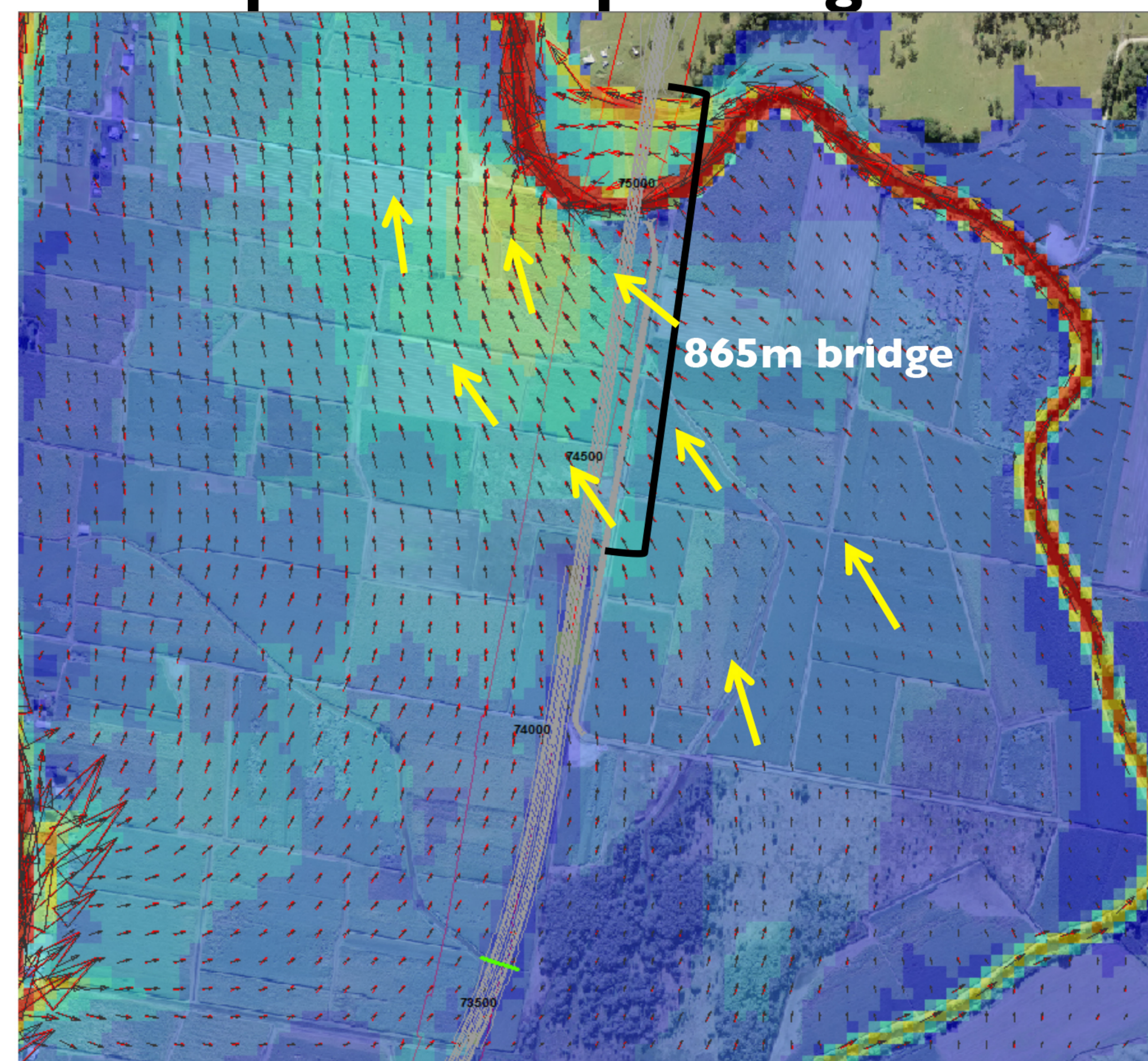
Shark Creek basin

Falling stage of flood (20 year ARI)

S/PIR concept design



Developed concept design

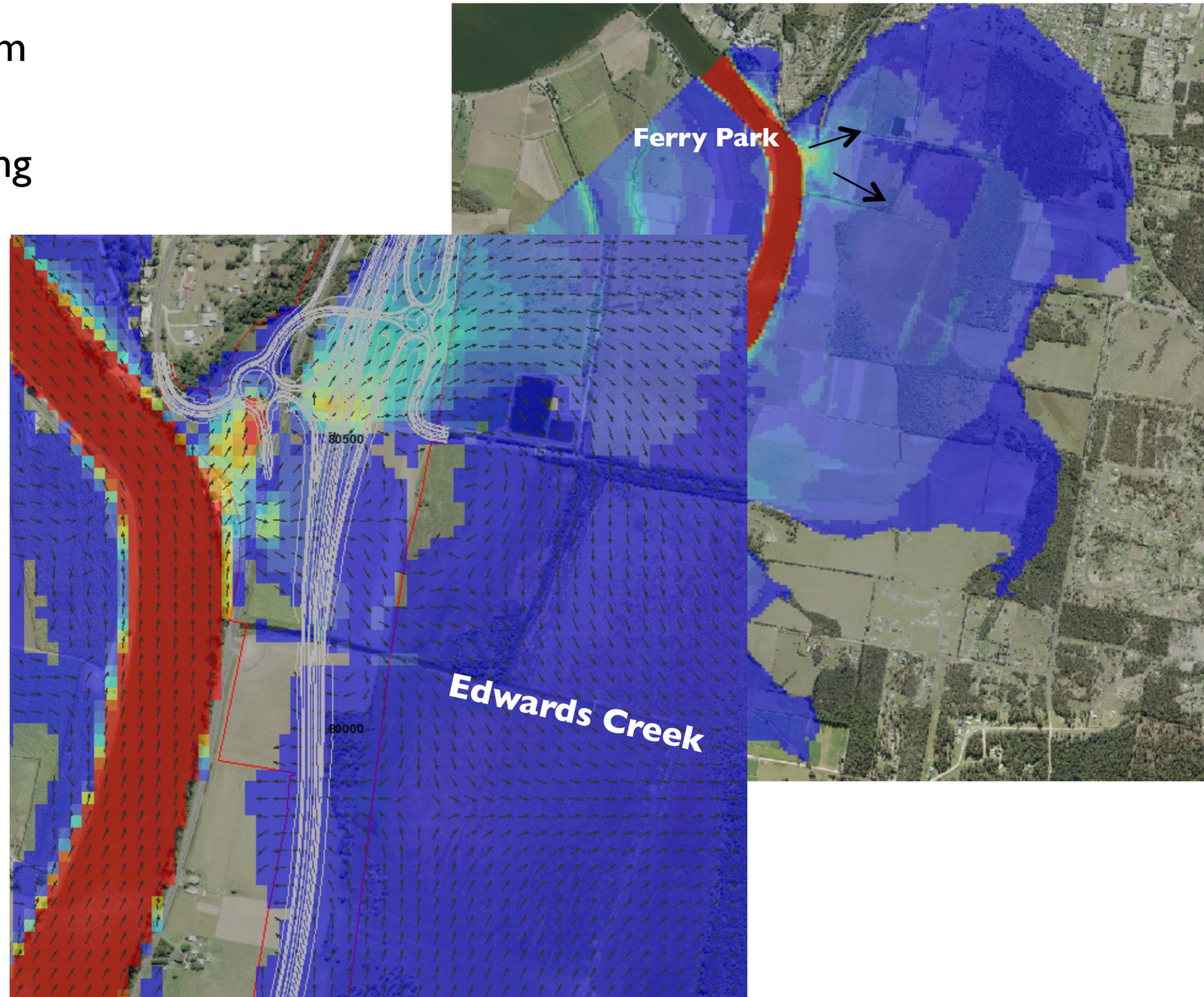


Chaselings basin



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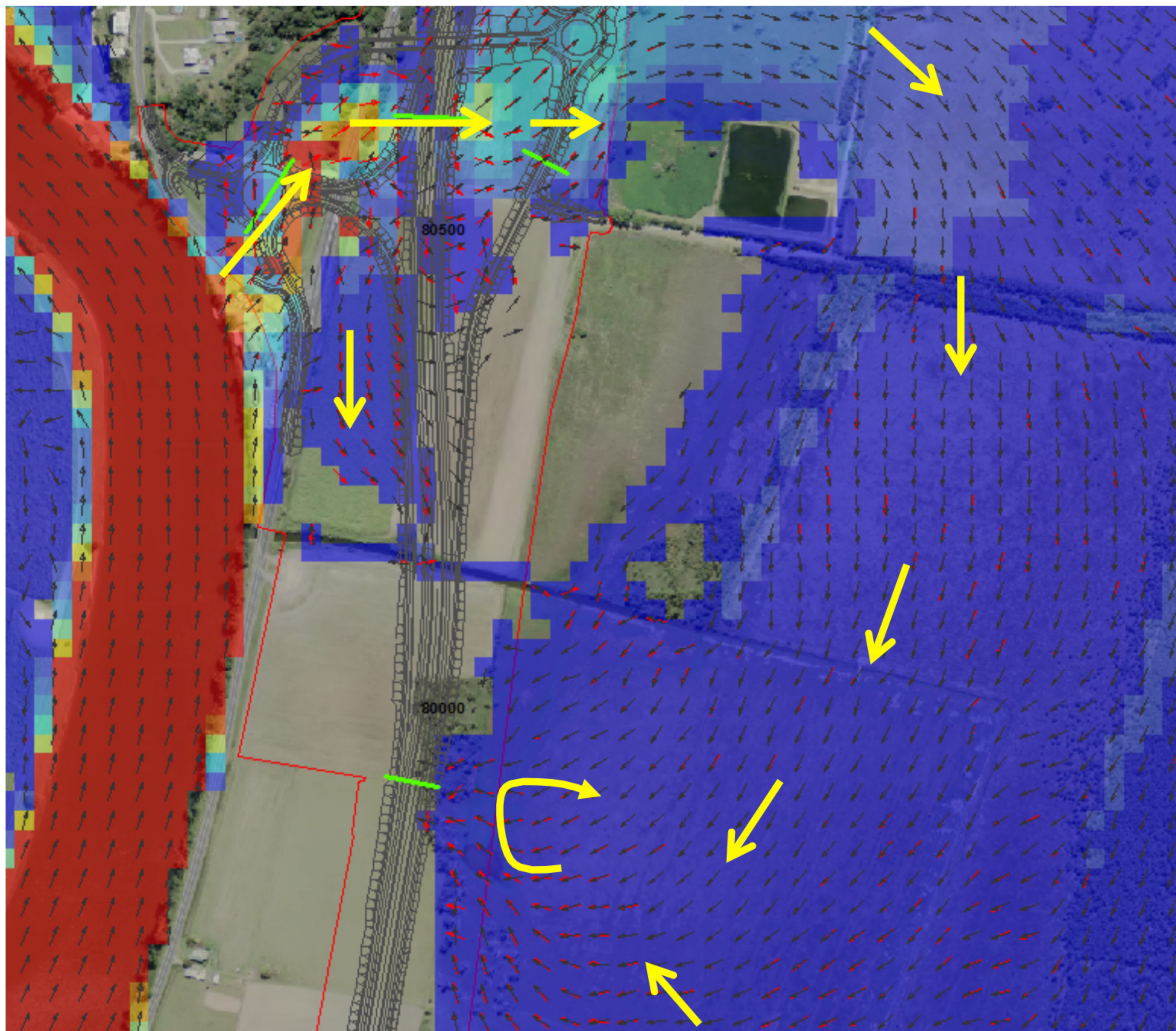
- The major break out from the south arm of the Clarence River at Ferry Park.
- Most floodwaters tend to drain out along Edwards Creek.
- The proposed Maclean interchange is located right in the path of the major break out
- The drainage design has been revised to:
 - Allow Edwards Creek to take more flows in early stages of flood
 - Similar overtopping level to maintain similar flow behaviour overall



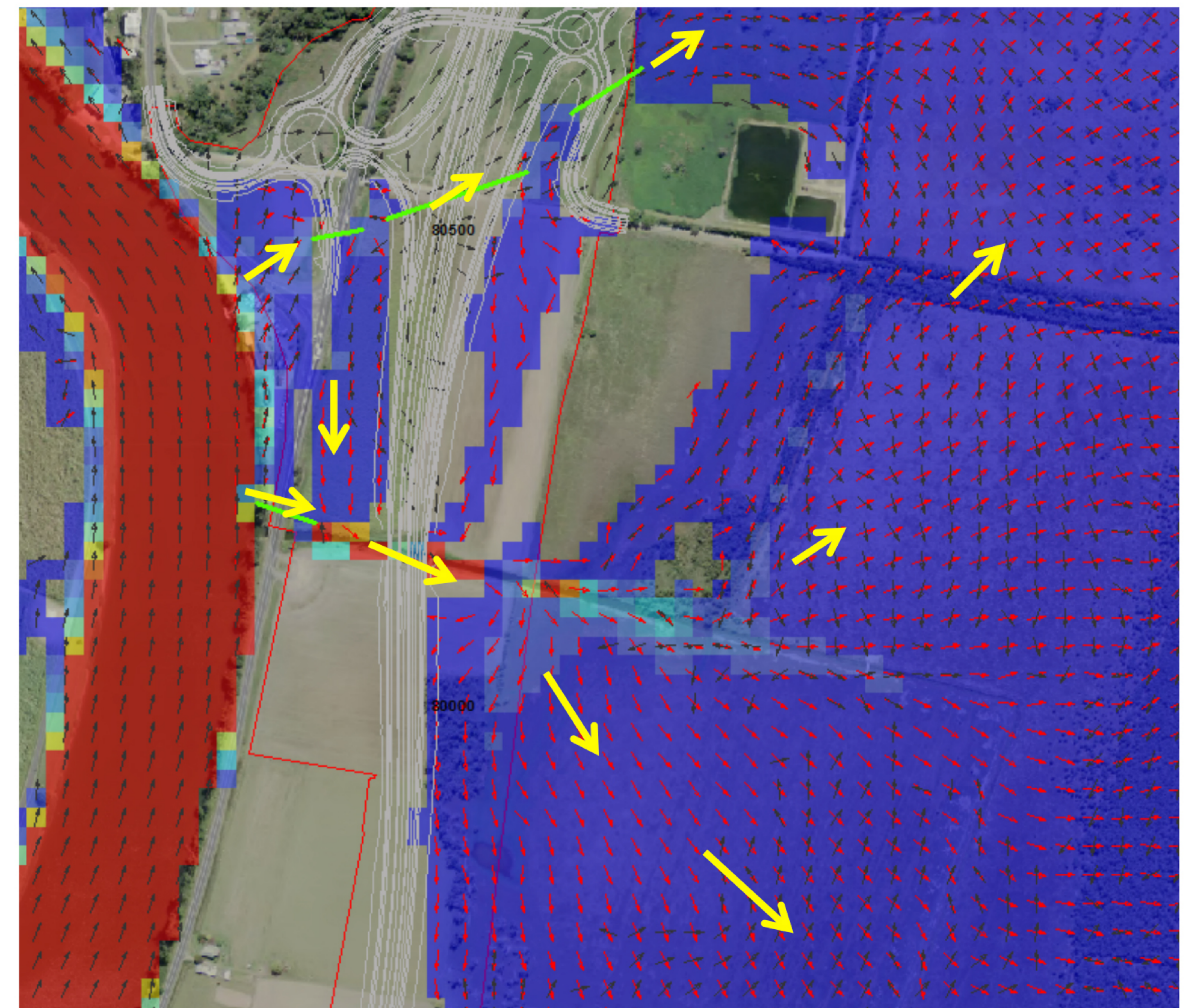
Chaselings basin – Maclean interchange

Rising stage of flood (20 year ARI)

S/PIR concept design

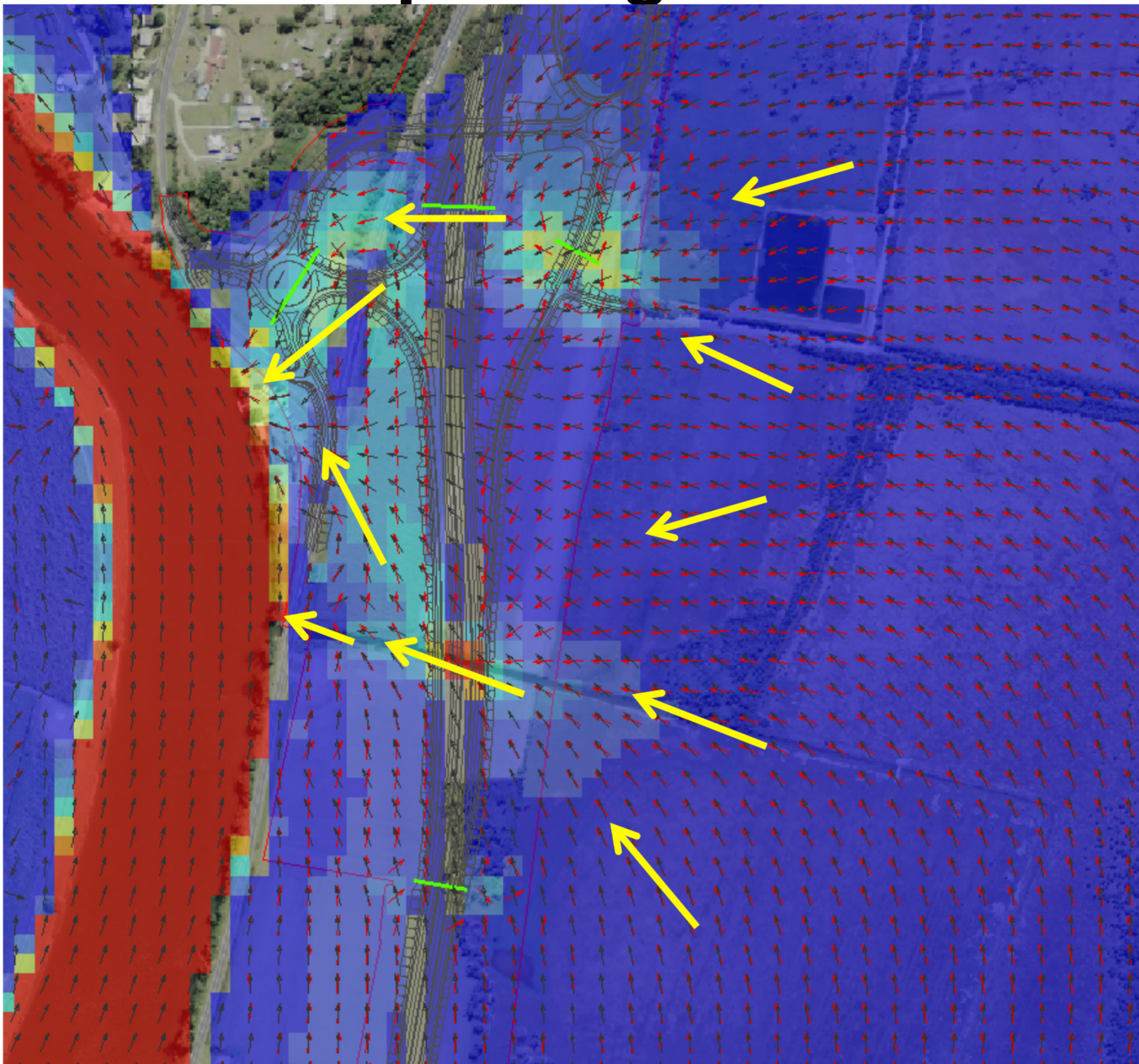


Developed concept design

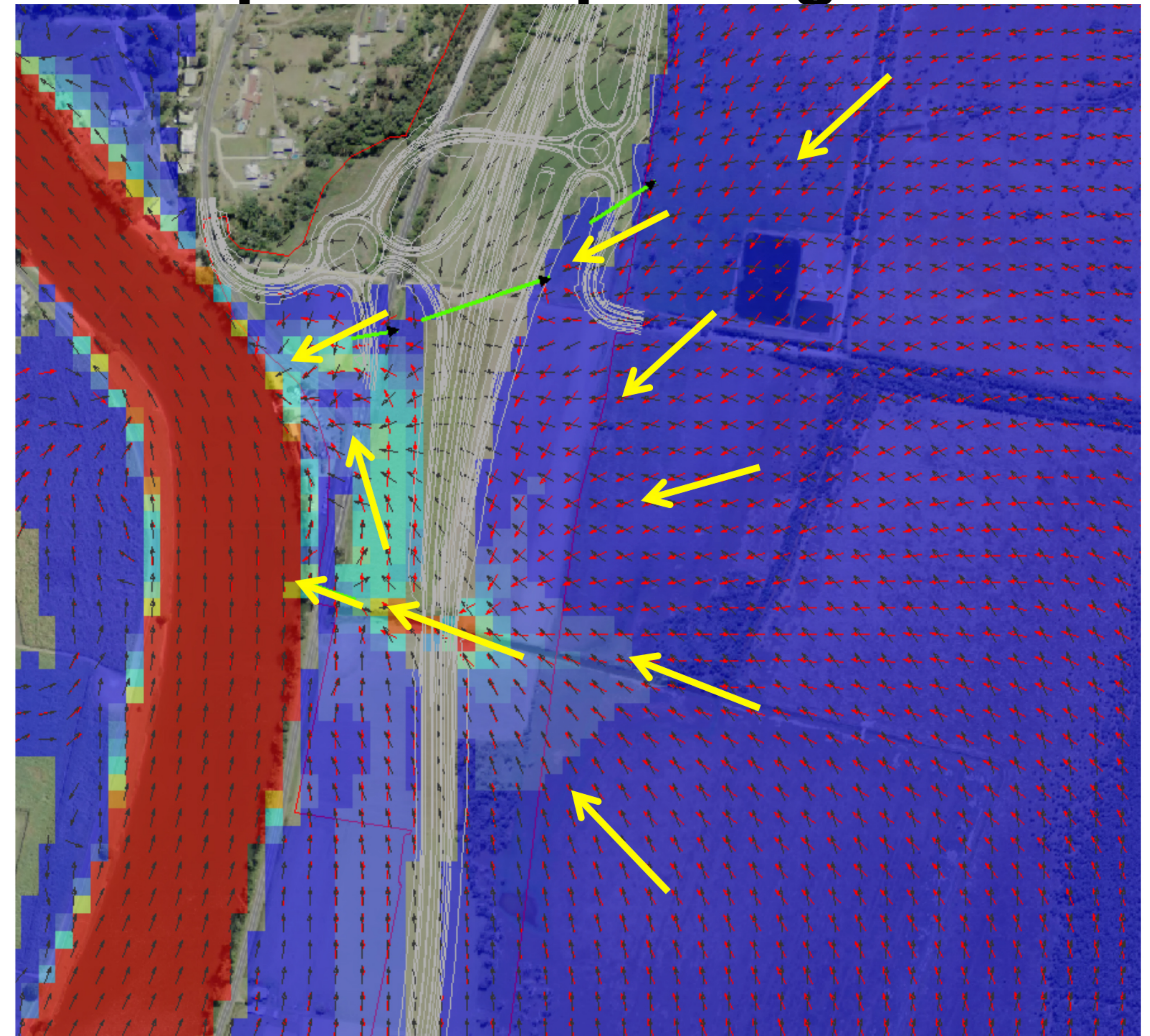


Chaselings basin – Maclean interchange Falling stage of flood (20 year ARI)

S/PIR concept design



Developed concept design



Section 4 – flooding assessment

- Changes to the waterway structures as part of design development
- Based on flood impact design objectives – flood level, duration, velocity and direction of flood flow – across a number of design flood events
 - Minimal flood level impacts
 - Minimal changes to peak flow velocities
 - Minimal changes to inundation times
 - Minimal changes in flow distribution
 - Minimal changes in flow direction, mostly localised around structures and within project corridor
 - Some changes in flow direction in around Edwards Creek during the rising flood stages, but very similar flow direction during falling stages

Independent review – proposed changes at Shark Creek – WMA water

Independent peer review – Mark Babister

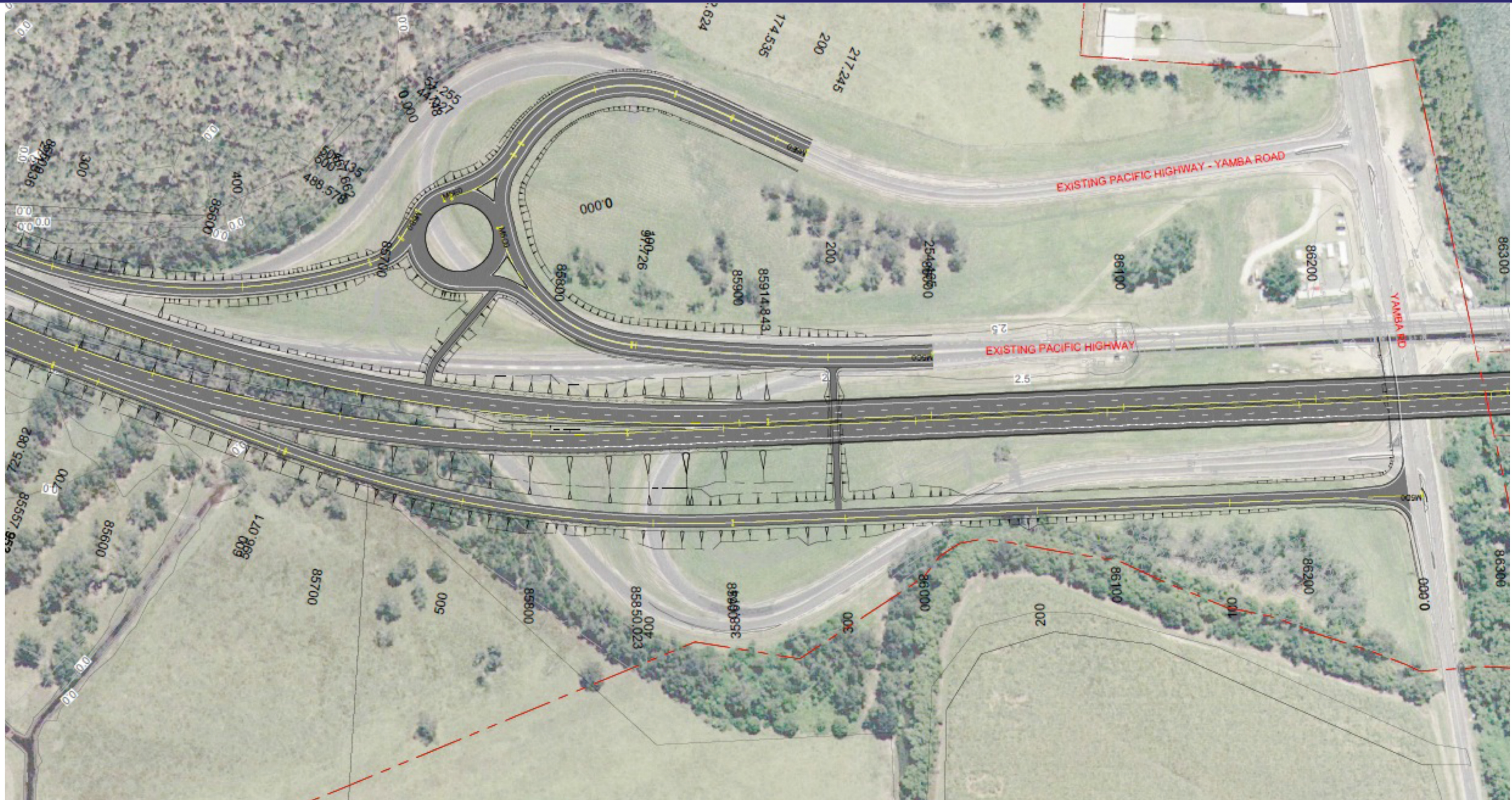
- Option provides extra bridging and better replicates existing flow paths
- The impacts of the proposed design are acceptable under the approved impacts

Section 5 – Yamba Road Interchange (concept EIS)



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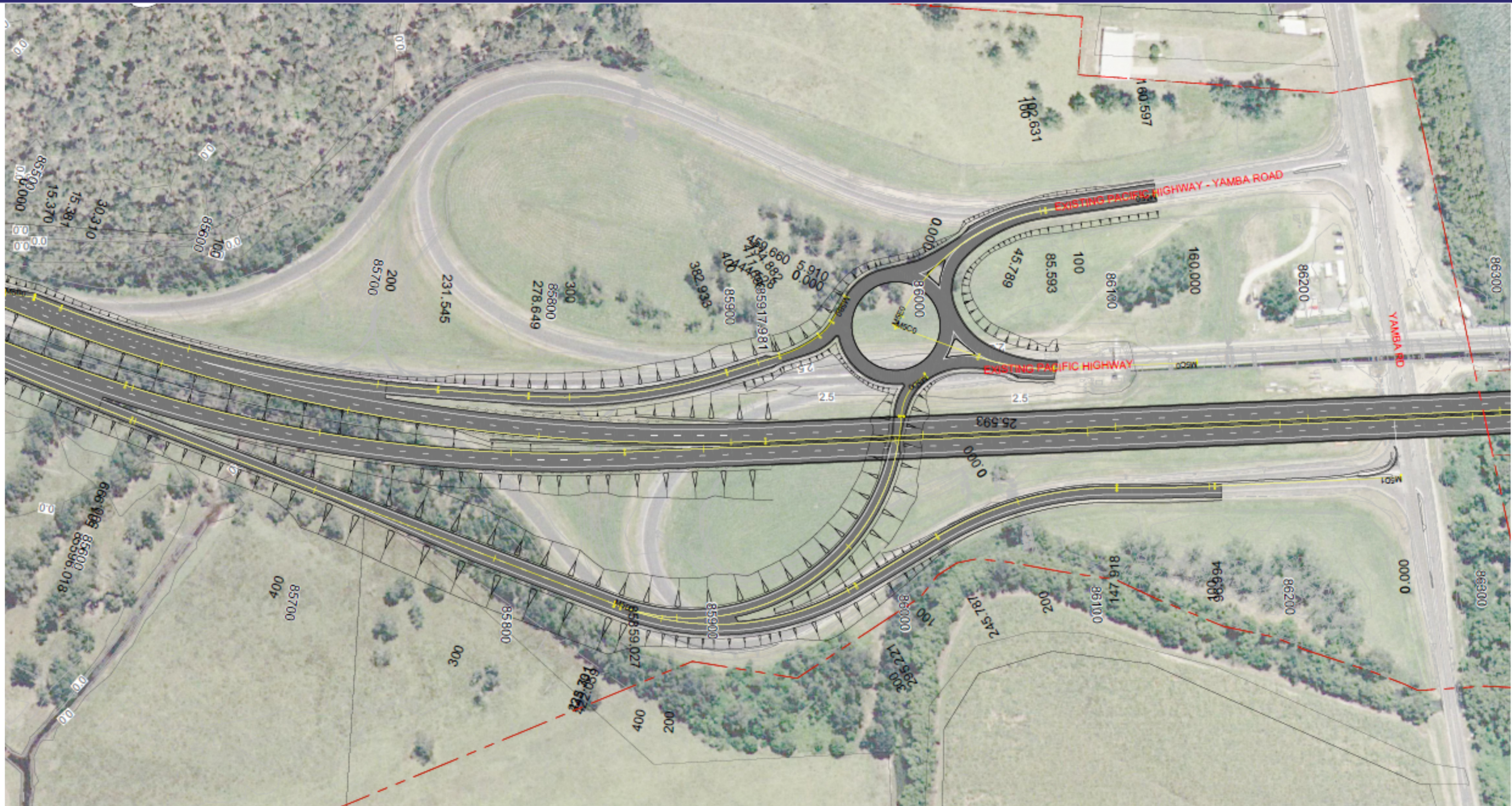
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Section 5 – Yamba Road Interchange (alternative)



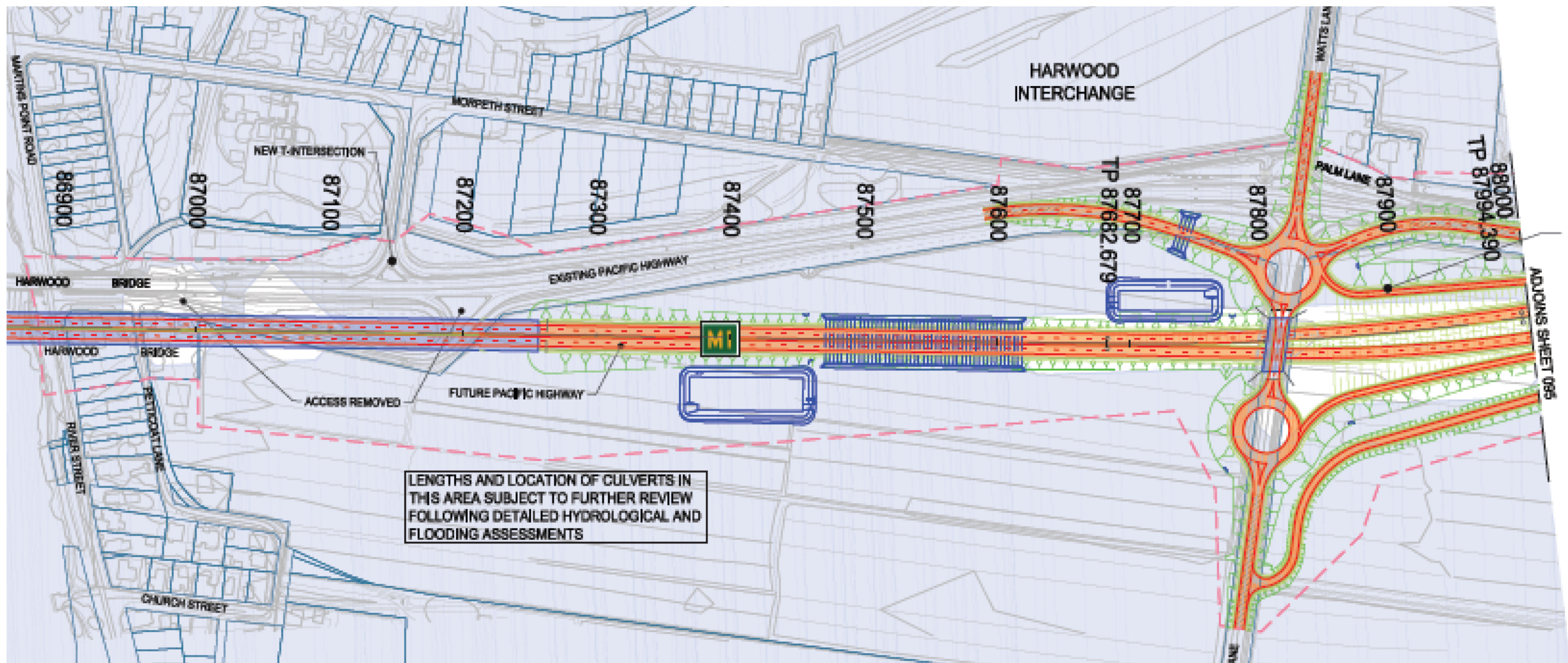
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Harwood interchange – Watts Lane (concept EIS)



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PLAN

Harwood interchange – Watts Lane (option A)



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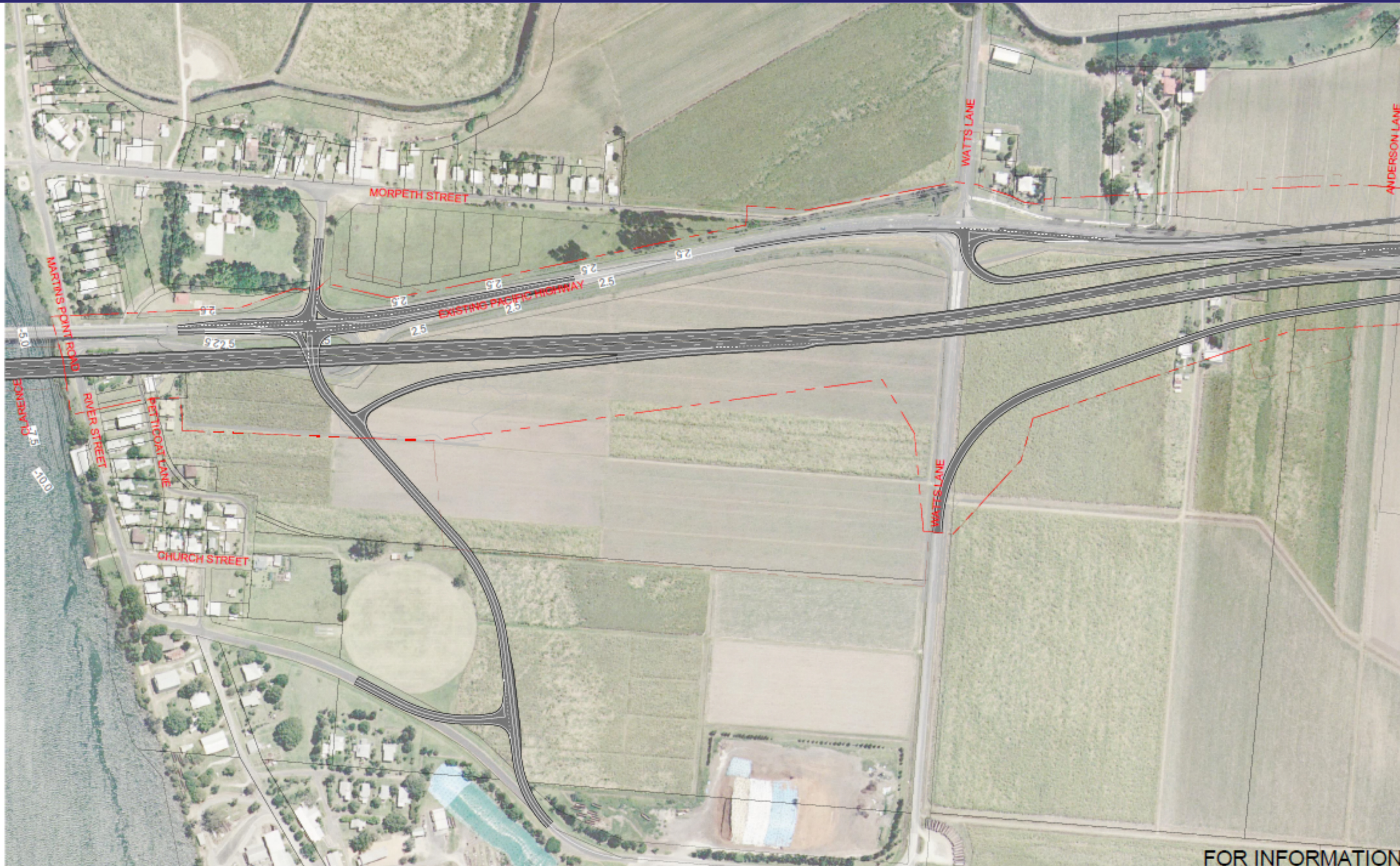


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Harwood interchange –Watts Lane (option B)



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Discussion and questions?

- Planning approval
- Section 4 (Tyndale to Maclean)
 - Further refine Developed Concept design to the preliminary detail design phase
 - Further consultation with impacted residents
 - Further develop detail property adjustment plans
- Section 5 (Maclean to Iluka Road)
 - Further refine Developed Concept design
 - Further consultation with impacted residents and businesses
- Soft soils
 - Finish design of embankments for soft soils
 - Further consult with community on predicted impacts of early works
 - Subject to Project Approval – preparing contract documentation to commence tendering for the early works in July 2014
 - Expectation to award Construction contract for early works by November 2014

Further information

Pacific Highway upgrade

Monthly achievement report

DECEMBER 2011



Woolgoolga to Ballina upgrade

Toll free line **1800 778 900**

Email: **W2B@rms.nsw.gov.au**

Website: **www.rms.nsw.gov.au/pacific**

- Project updates
- Monthly achievement report
- Six monthly “report card”

