

# Mullet Creek Flood Model Update

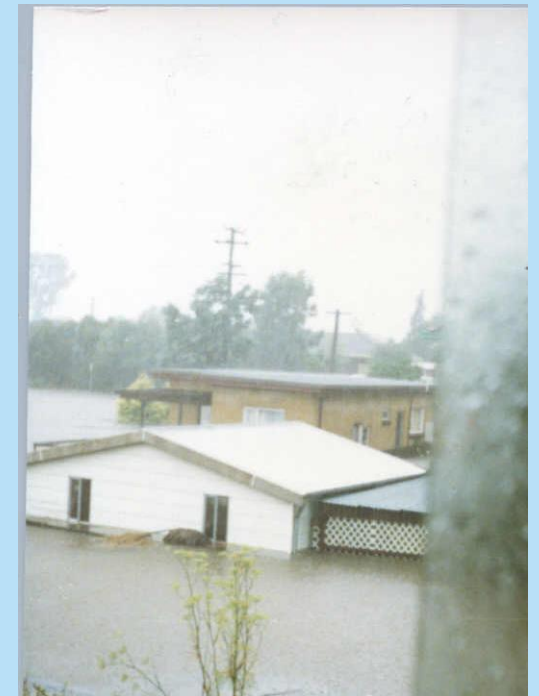
Southern Floodplain Risk Management Committee Presentation

29 March 2018



# Outline of Presentation

- Overview of Draft Mullet Creek Flood Model Update
- Consultation of the Draft Flood Model Update Report
- Updates to Draft Flood Model Update Following Consultation
- Summary of Flood Model Update Key Outcomes



# Overview of Draft Flood Model Update

## Summary:

- Mullet Creek Flood Model Update has built on previous studies:
  - Mullet & Brooks Creeks Flood Study (BMT WBM Bewsher, 2010)
  - Mullet & Brooks Creeks Floodplain Risk Management Study & Plan (BMT WBM Bewsher, 2010)
  - Mullet Creek, West Dapto Extension of Flood Model (Bewsher, 2011)
- Model Updates include:
  - Conversion to single model domain;
  - New LiDAR (topography data);
  - 2016 Conduit Blockage Policy; and
  - Recent approved catchment developments (subdivisions, road and bridge upgrades)

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AR&R 1987 Methodology

# Overview of Draft Flood Model Update

Phase 1

Calibration and Validation

Phase 2

Baseline Model build

Phase 3

Draft Report

Phase 4

Public Exhibition of Draft Report

Phase 5

Final Draft Report

# Consultation of the Draft Flood Model Update Report

## Community Consultation

- Public exhibition from Monday the 16th October to Friday the 10th November 2017
- Notification of consultation via advertisements and mail out [2715]
- Hard copies and electronic copies of the report made available
- A single community information sessions held at Dapto Ribbonwood Centre on Tuesday the 31<sup>st</sup> of October.

## Stakeholders

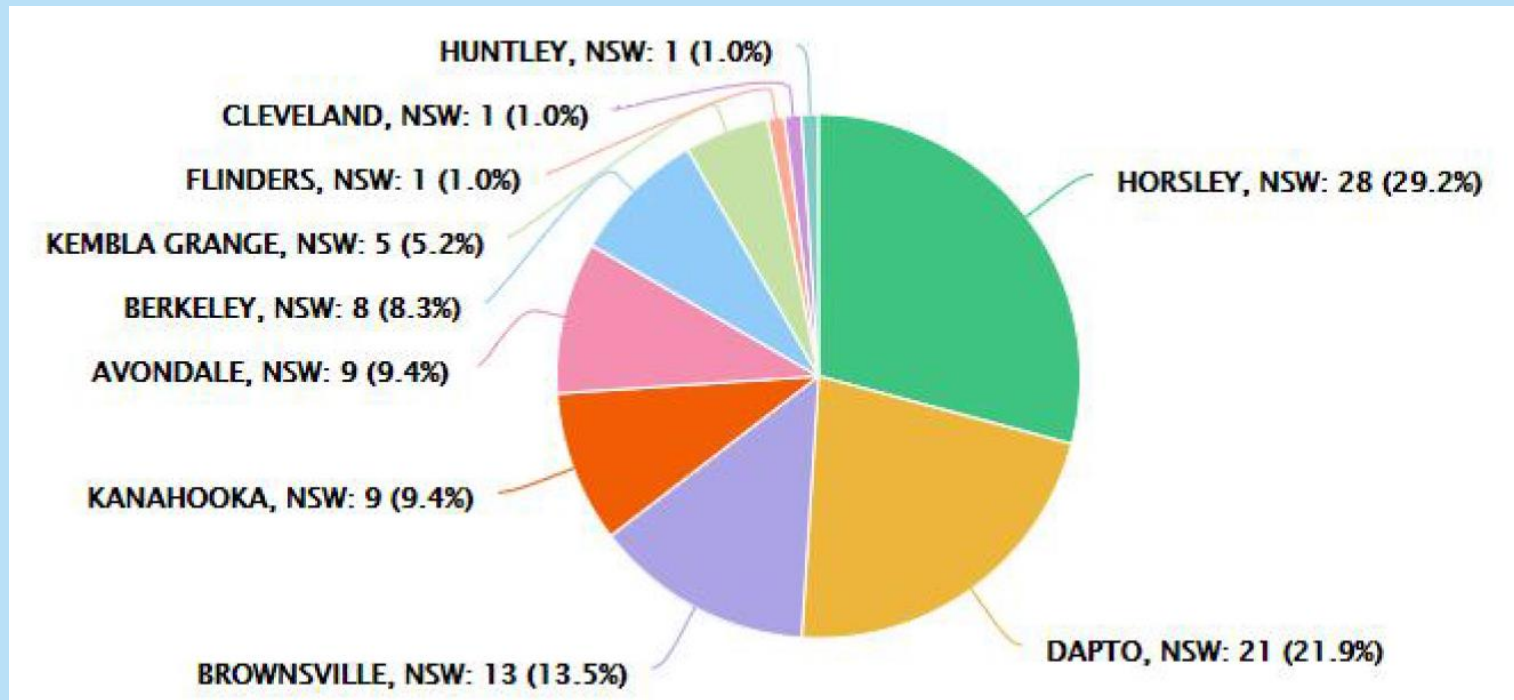
- Key project stakeholders were notified through the Southern Floodplain Risk Management Committee Meeting held on the 29<sup>th</sup> August 2017

## Responses Received

- A total of 106 submissions were received by post, email, online and during kiosk session.

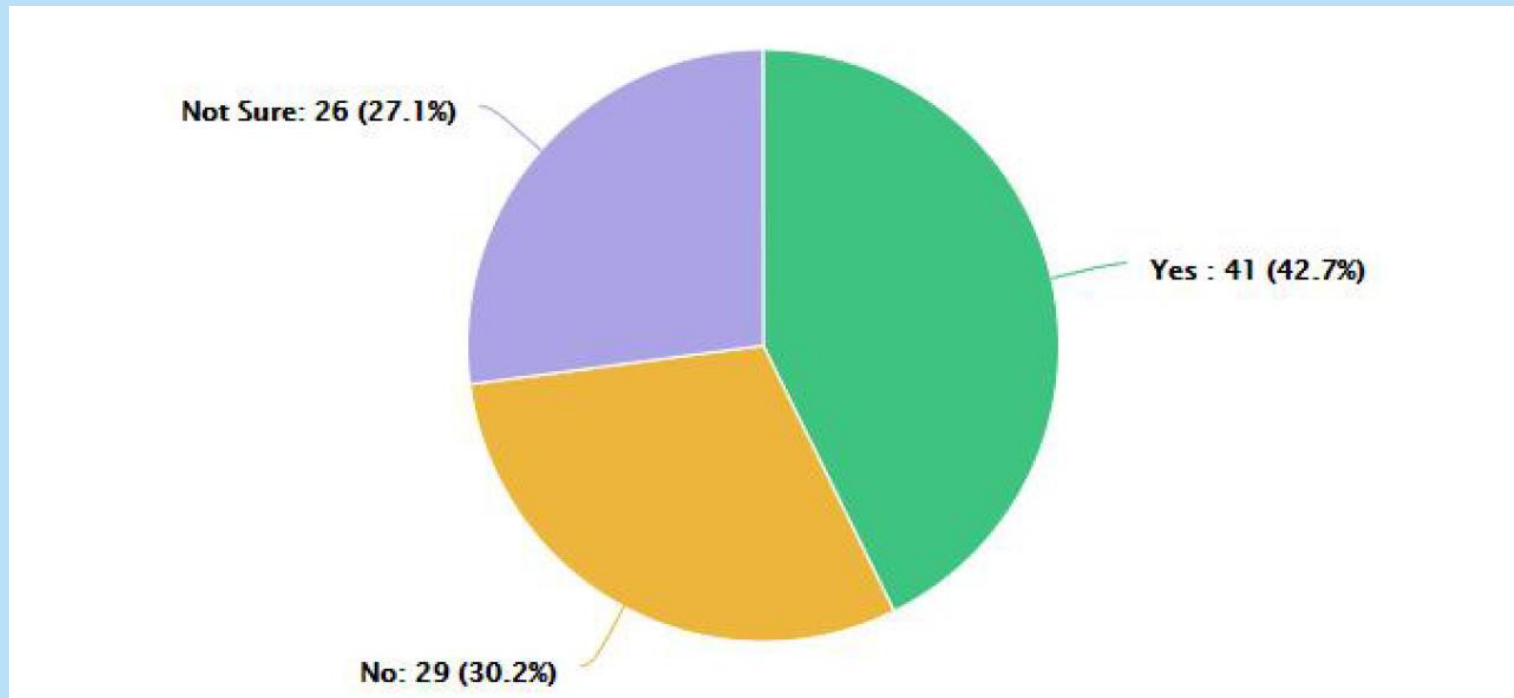
# Consultation of the Draft Flood Model Update Report

**Question 1:** In which Suburb do you live?



# Consultation of the Draft Flood Model Update Report

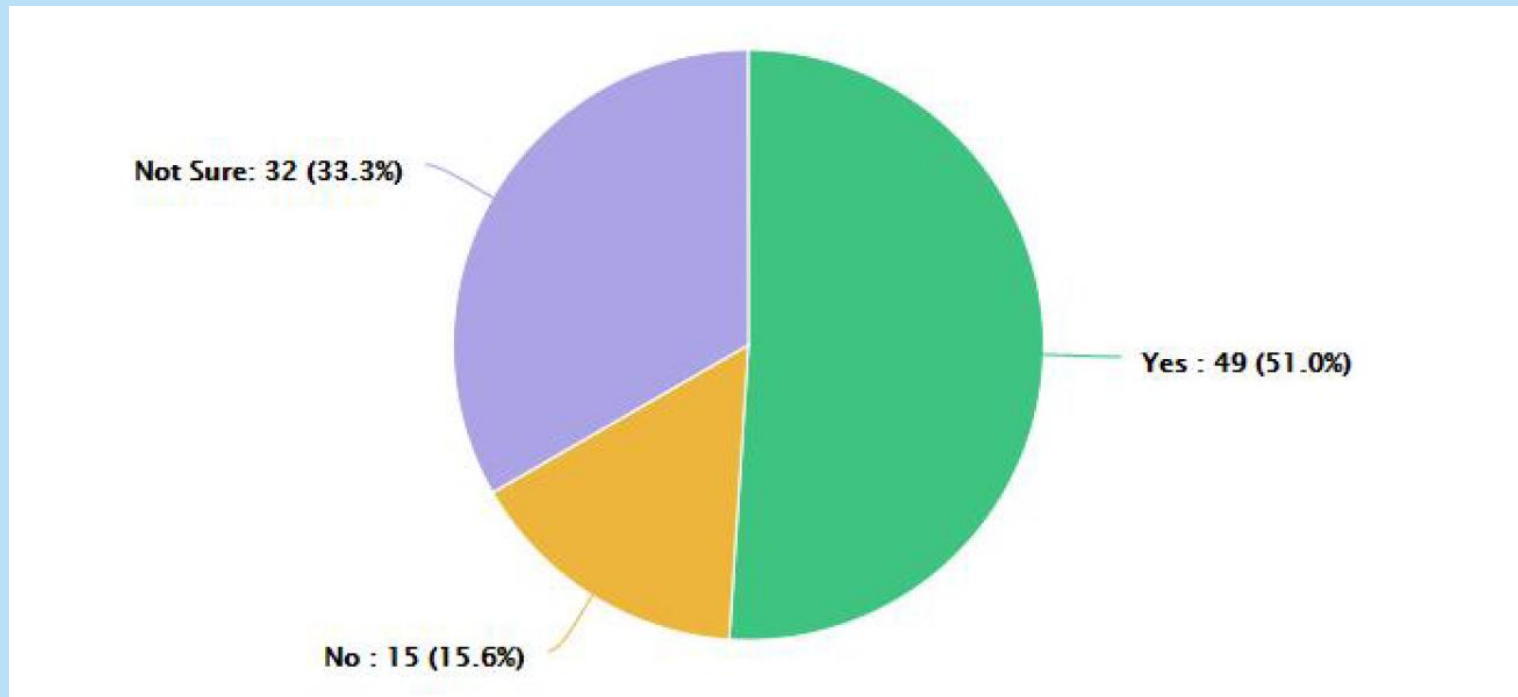
**Question 2:** Do you have any comments on the flood mapping shown in the draft Mullet Creek Flood Model Update Report?





# Consultation of the Draft Flood Model Update Report

**Question 3:** Do you support the Mullet Creek Flood Model Update Report?



# Consultation of the Draft Flood Model Update Report

## Responses on the Draft Flood Model Update Report

- Of the 106 submissions, these were broken down into 93 hardcopy submissions, 3 online submissions and 10 submissions collated from the kiosk session.

Measure and Explanation	Usage
Hard Copy Submissions (entered on online and administration access)	93
Online Submissions	3
Kiosk Submissions (n=15 attendees)	10
<b>Total Number of Submissions</b>	<b>106</b>

# Consultation of the Draft Flood Model Update Report

## Responses on the Draft Flood Model Update Report

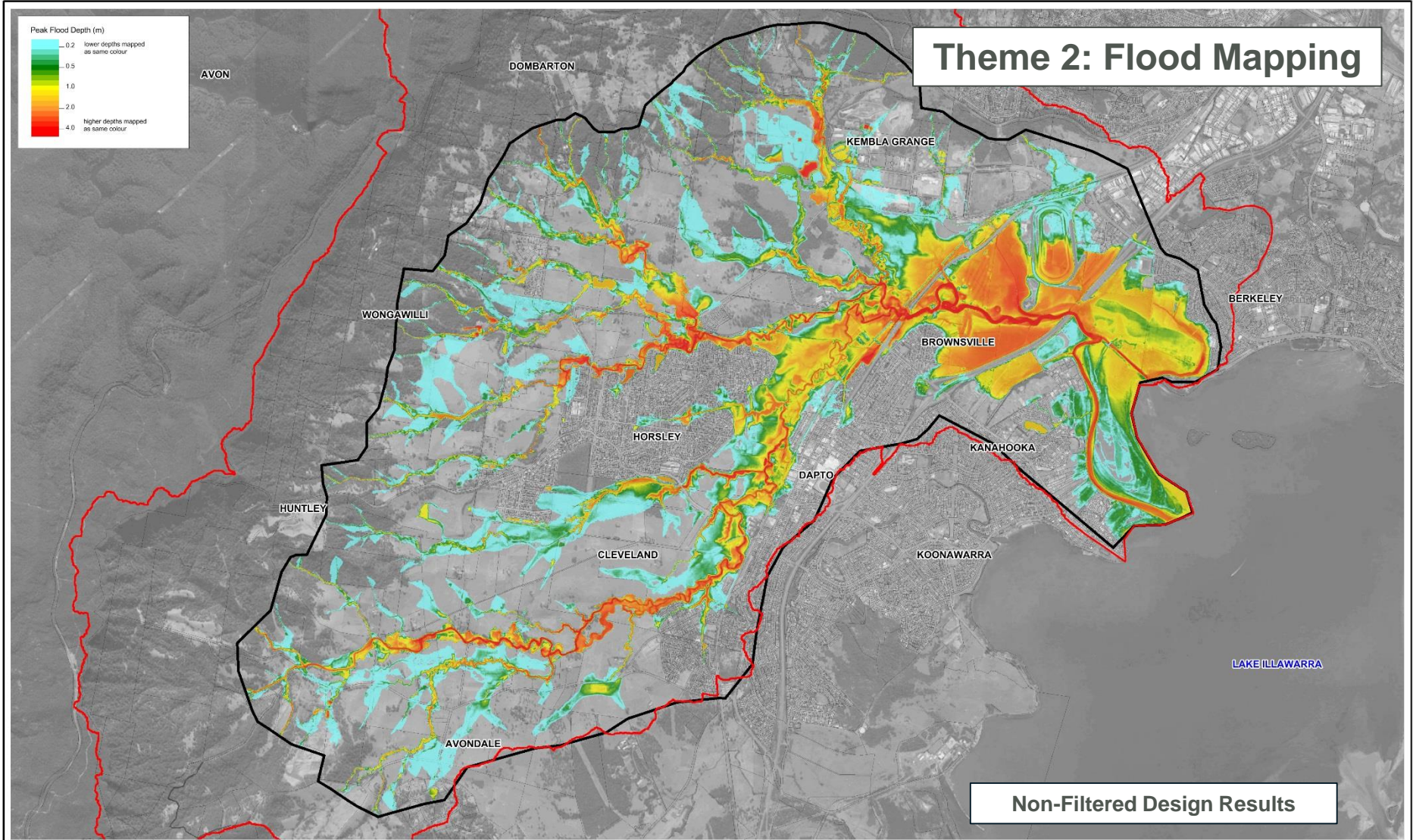
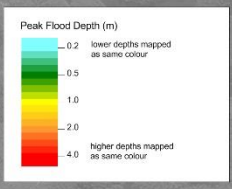
- Summary of responses:
  - **Theme 1 General Feedback:** A number of concerns regarding new housing developments, home insurance and property value and access routes were noted from the community.
  - **Theme 2 Flood Mapping:** The community raised some general concerns regarding the provided flood extents
  - **Theme 3 Feedback relating to a Specific Location:** Comments were made in relation to specific locations within the catchment.
  - **Theme 4 Flood Maintenance Feedback:** Comments in relation to creek and channel maintenance were raised by the community

# Updates to Draft Flood Model Update Following Consultation

## Responses on the Draft Flood Model Update Report

- Summary of Actions:
  - **Theme 1 General Feedback:** The community's concerns have been noted
  - **Theme 2 Flood Mapping:**
    - i. Flood Mapping was updated to include the Suburb of Brownsville, and remove the Suburb of Penrose.
    - ii. Flood extents have been 'filtered' to remove sheet flow.
  - **Theme 3 Feedback relating to a Specific Location:** Changes were made to hydrologic inputs in specific locations within the hydraulic model. Of note, inflows were revised at North Terrace, West Dapto Road and Felix Avenue.
  - **Theme 4 Flood Maintenance Feedback:** Comments in relation to creek and channel maintenance have been noted

# Theme 2: Flood Mapping



**Non-Filtered Design Results**



- Legend**
- Catchment Boundary
  - Cadastre
  - 2D Model Domain

Title:  
**Baseline - 2016 Blockage Criteria [Design]**  
**Peak Flood Depth - 1% AEP (100 yr ARI)**

BMT WBM endeavours to ensure that the information provided in this map is correct at the time of publication. BMT WBM does not warrant, guarantee or make representations regarding the currency and accuracy of information contained in this map.

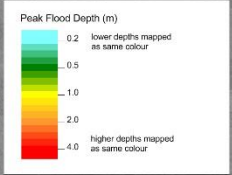
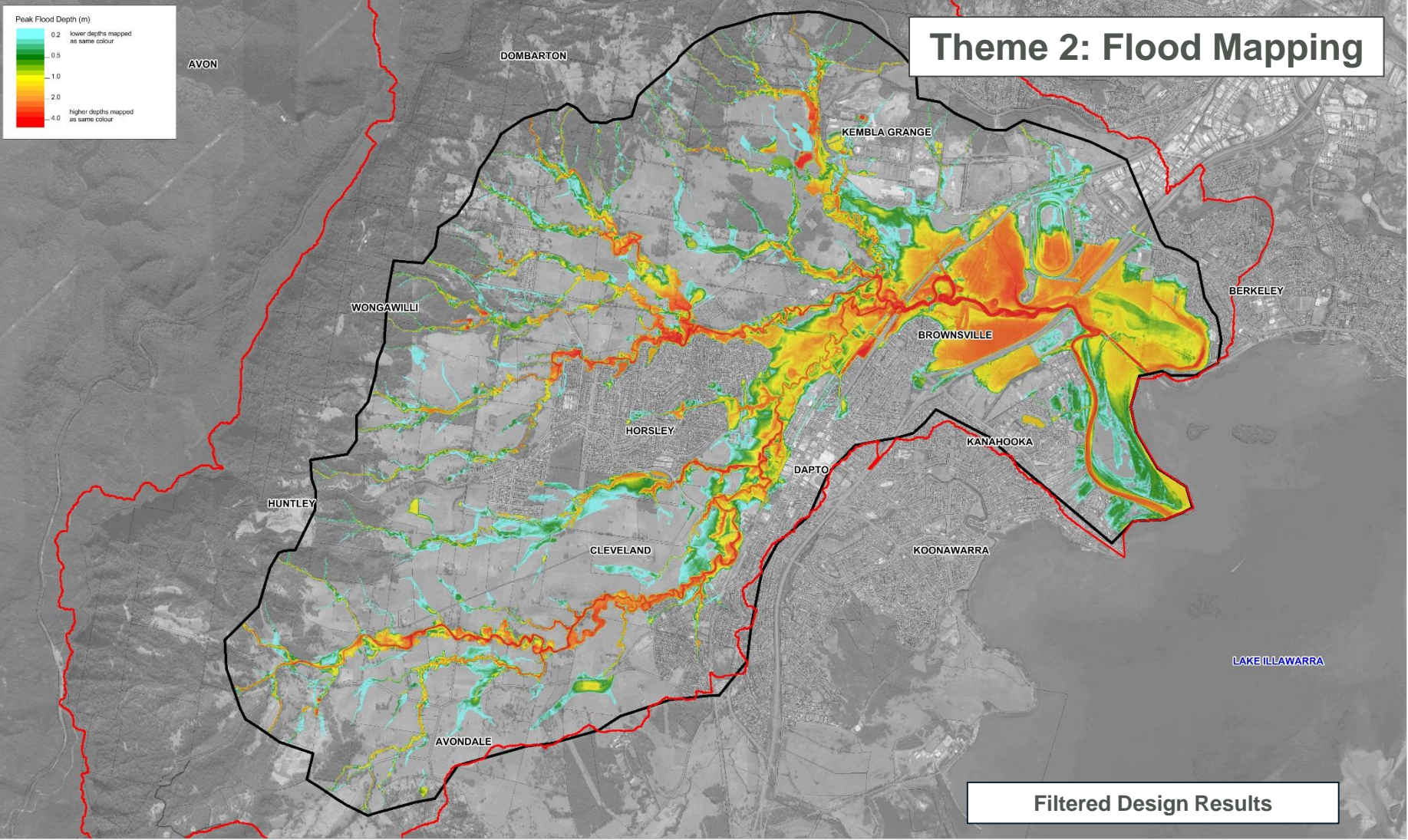


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**Filtered Design Results**



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Figure:  
**B-7**

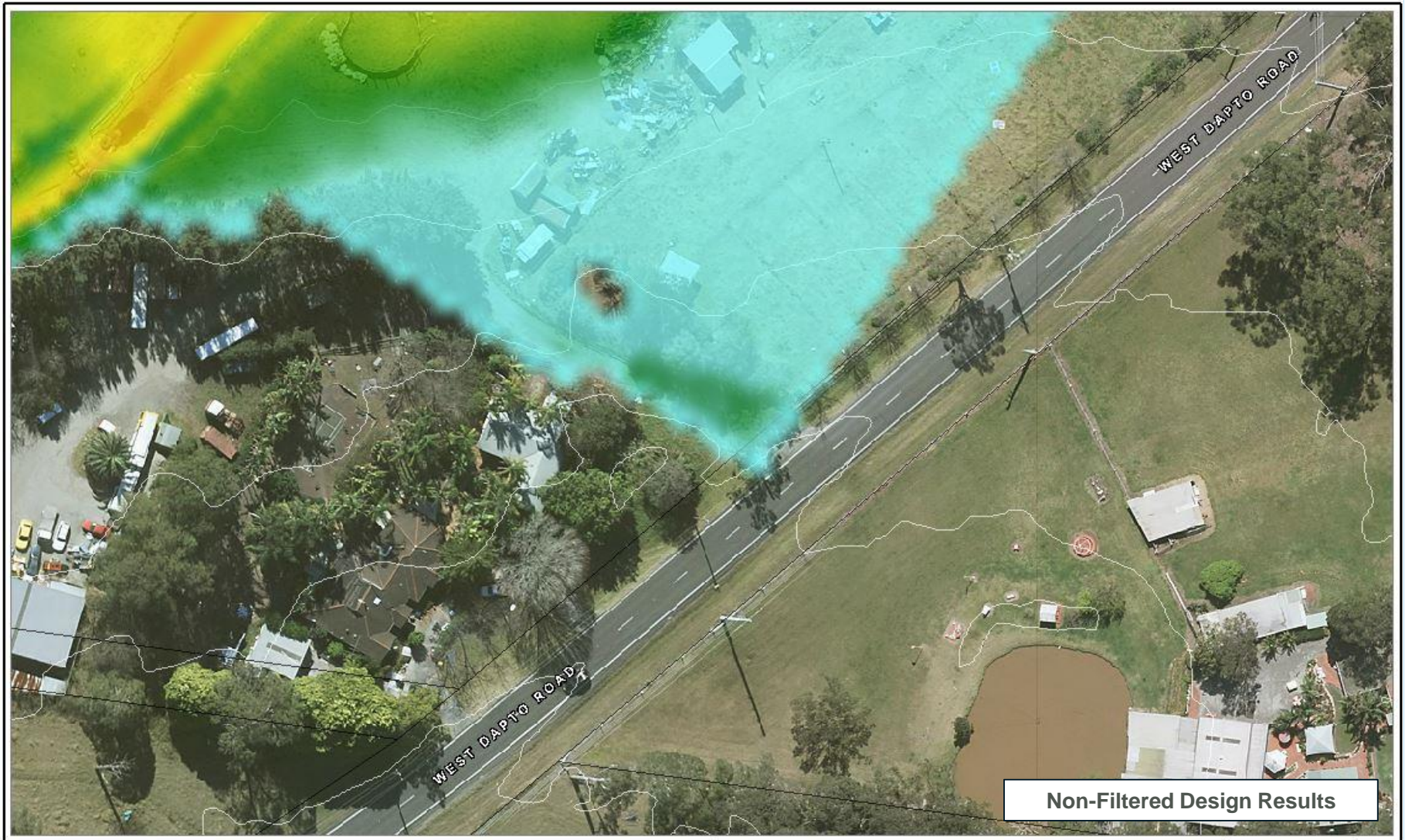
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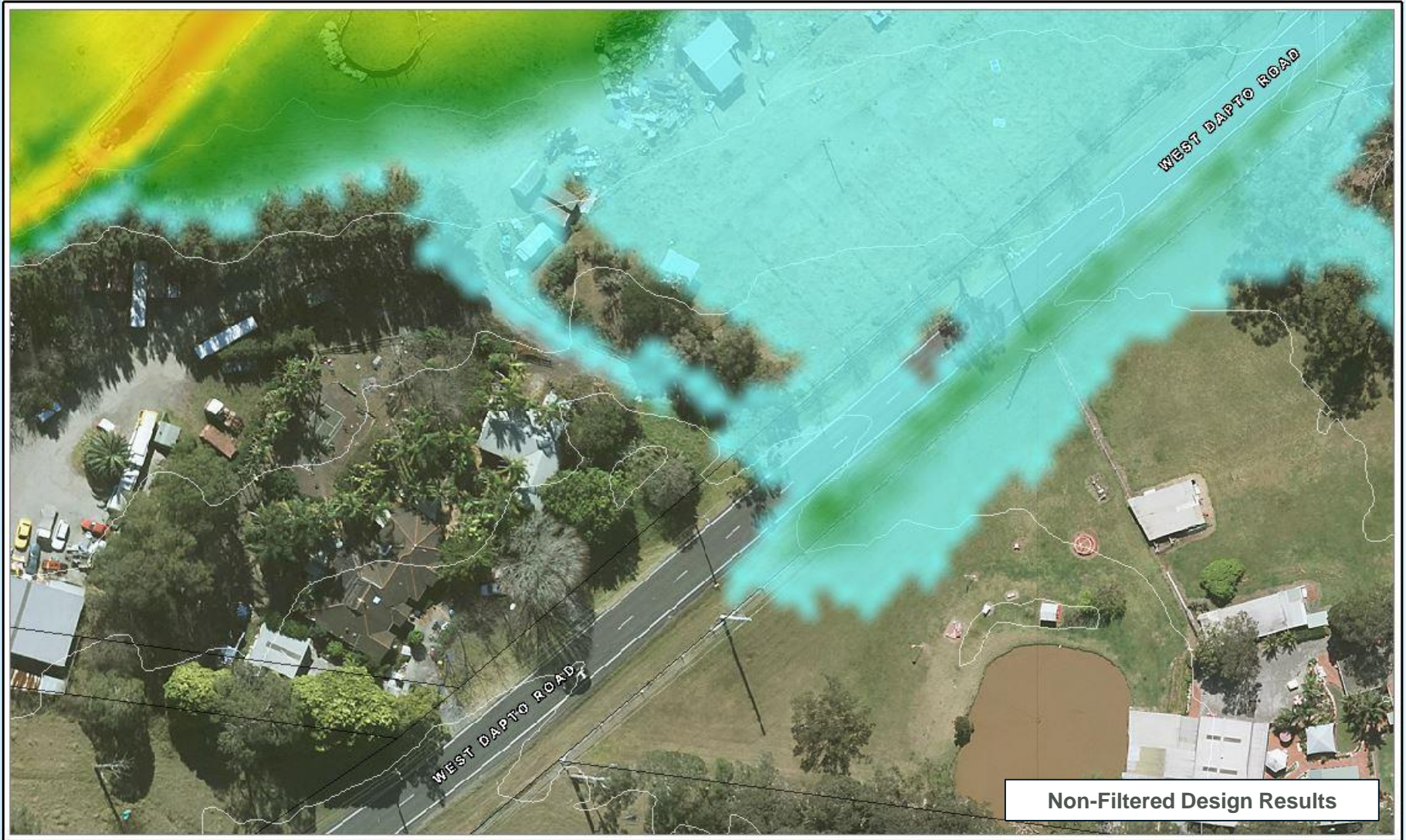


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### Theme 3: Feedback relating to a specific location



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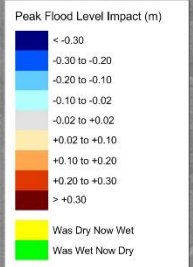
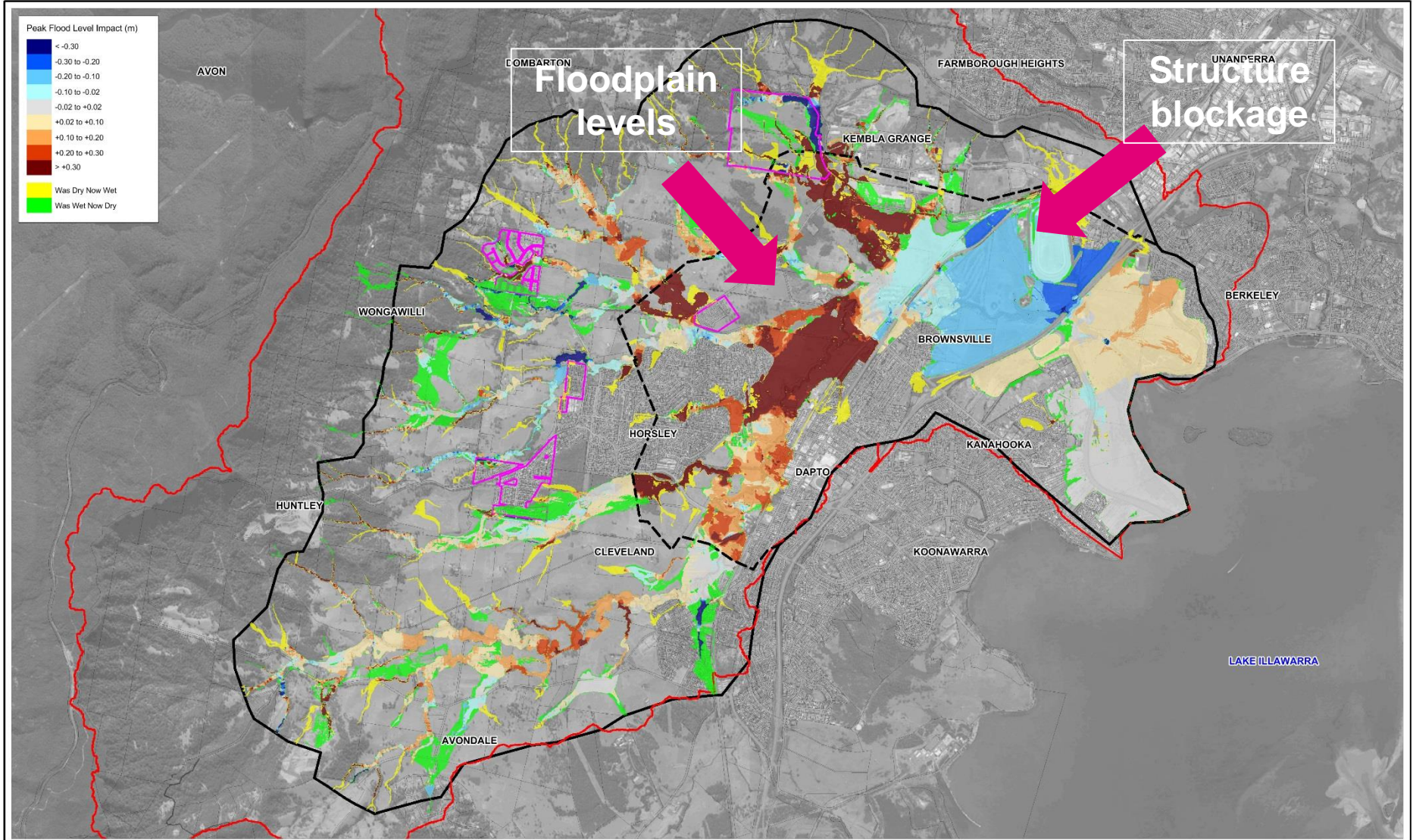
# Updates to Draft Flood Model Update Following Consultation

- Summary of updates:
  - Flood model updated;
  - Design results filtered;
  - Report updated to include community consultation; and
  - Flood mapping compendium updated.

# Summary of Flood Model Update Key Outcomes

## Summary:

- Calibrated hydraulic and hydrological models of the catchment;
- Estimation of design flood behaviour including levels, flows and velocities across the Study Area
- Revised flood mapping representing baseline condition
- Tool for future flood planning, development assessment and mitigation options
- Tool for assessing economic risk and flood mitigation measures as part of the following FRMS&P



- Legend**
- Catchment Boundary
  - Cadastre
  - 2D Model Domain
  - Approved Developments

**Title:**  
**Change in Design Flood Level**  
**1% AEP (100yr ARI)**

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# Thank you



“Where will our knowledge take you?”

