



Dams Safety NSW



Local government forum

Fairfield's high risk dams

- Dams Safety NSW



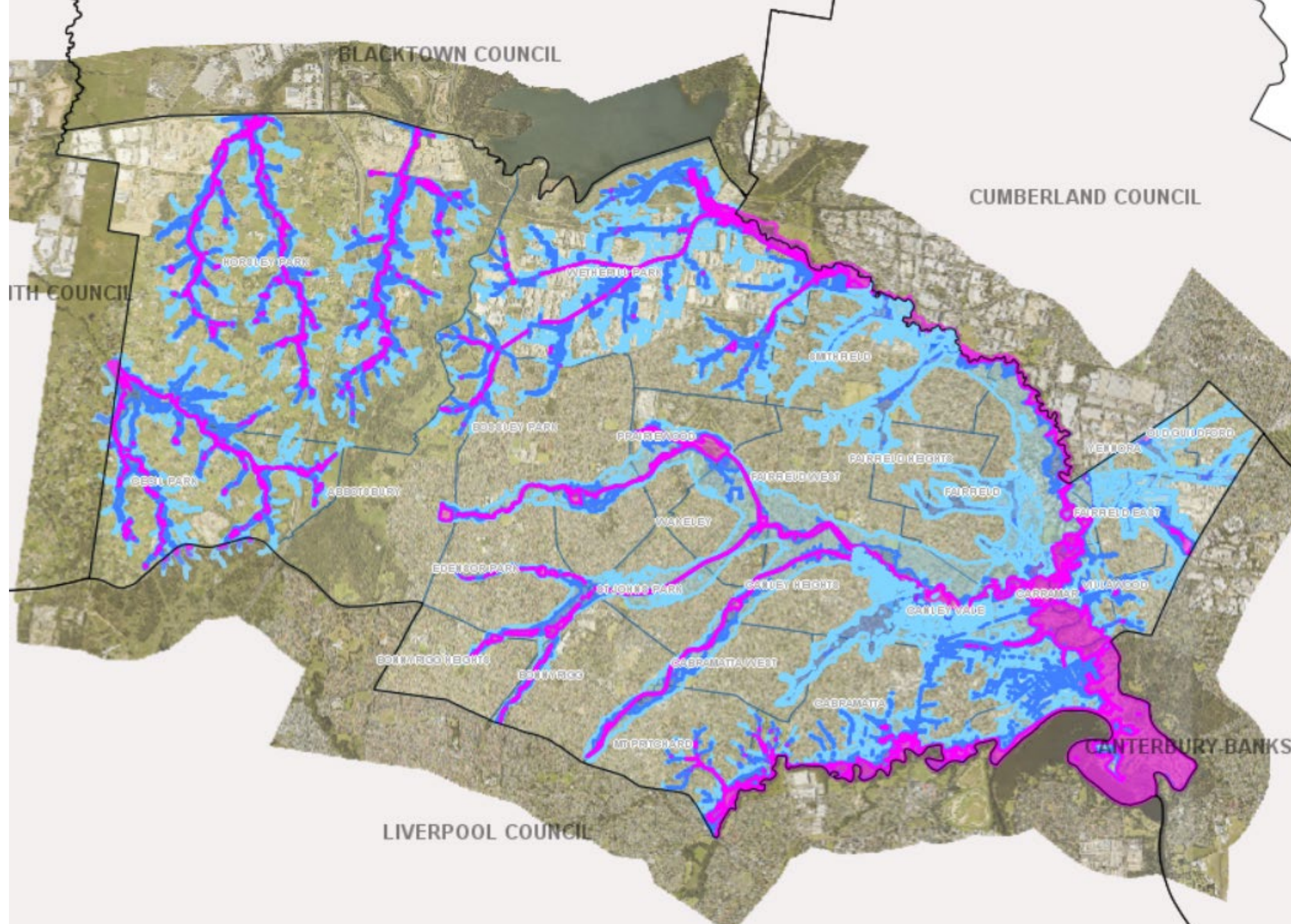
Leonie Gray

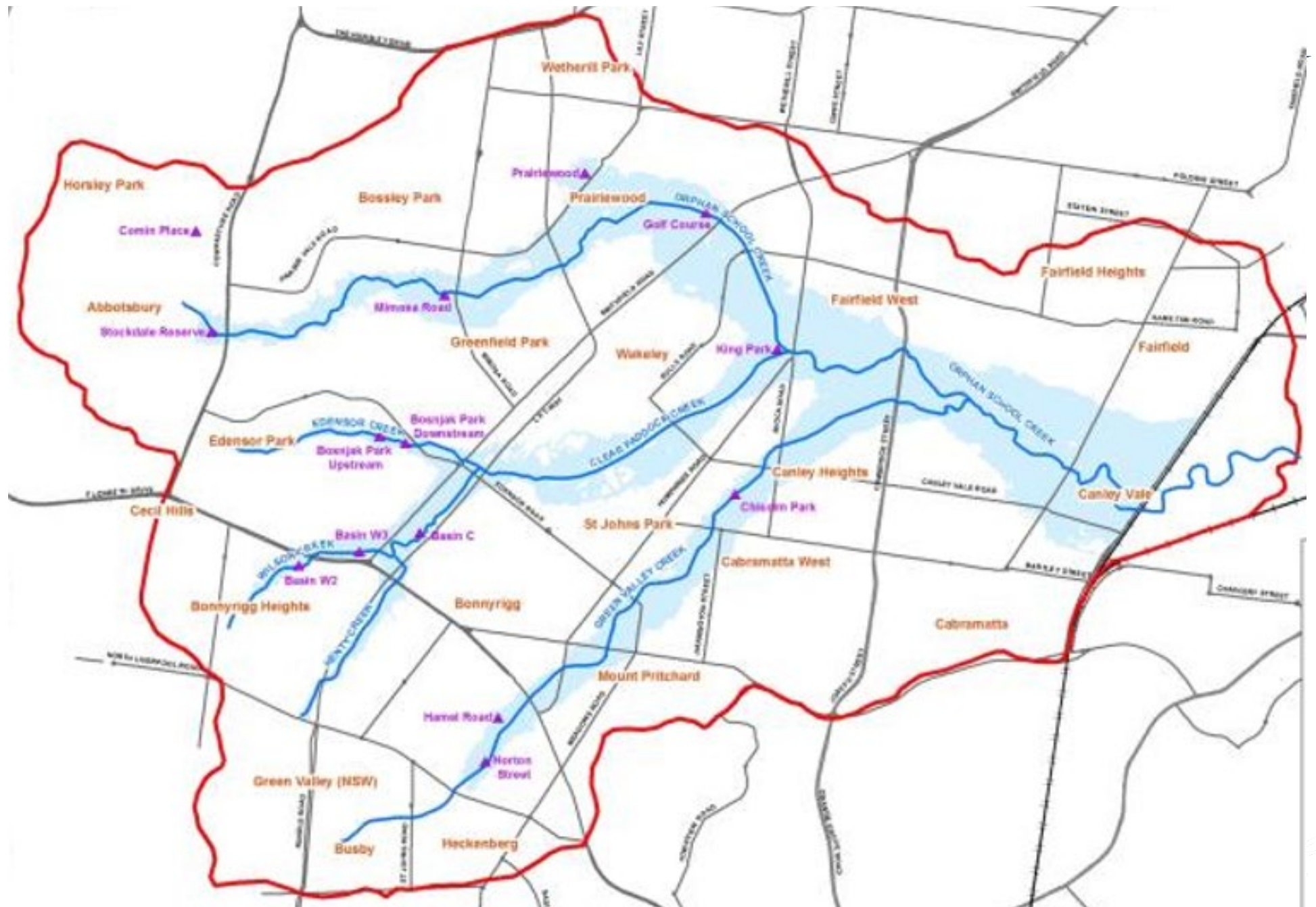
- Catchment Planning Manager
- Fairfield City Council

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Fairfield's high risk dams

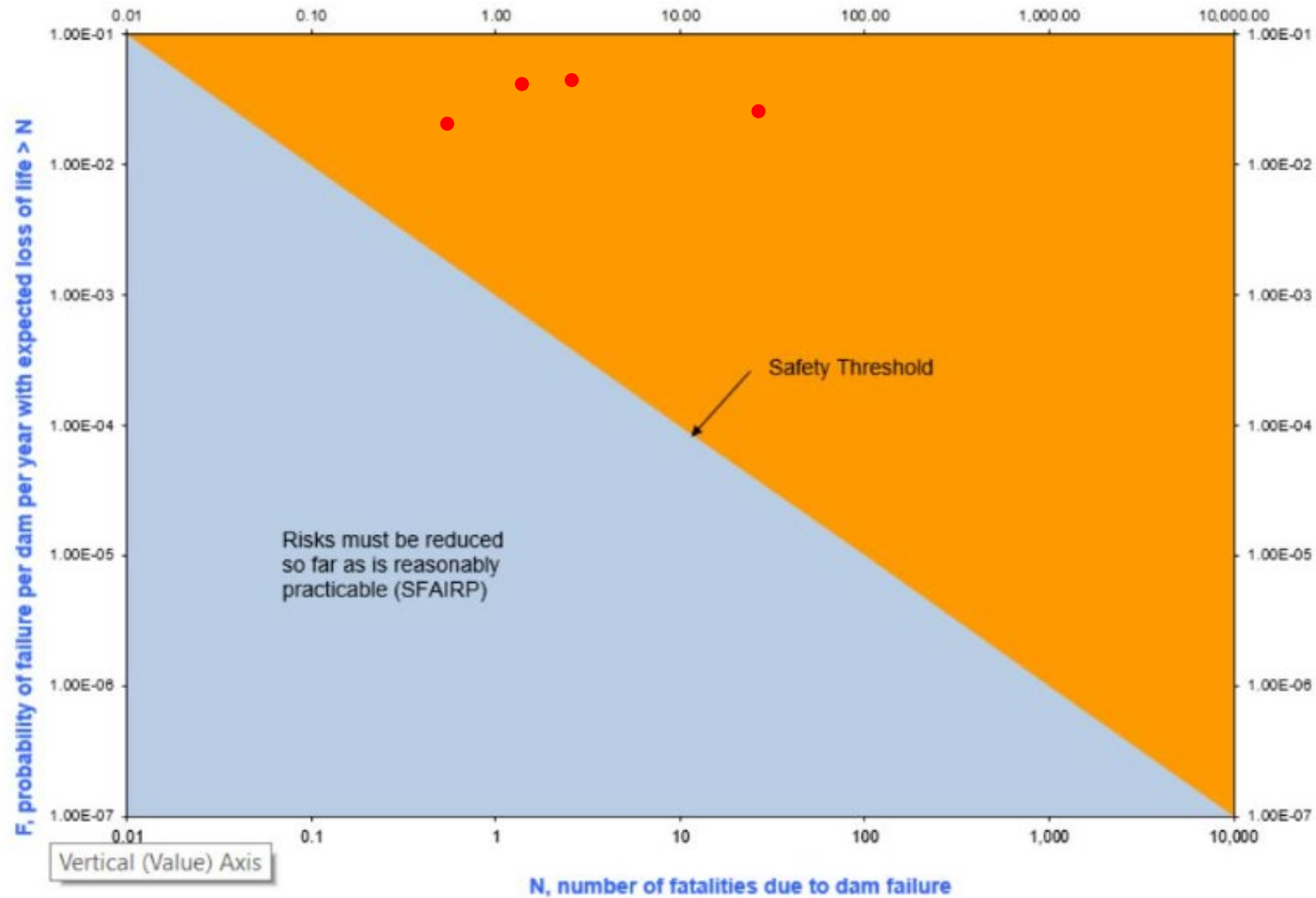
Flood Detention Basins



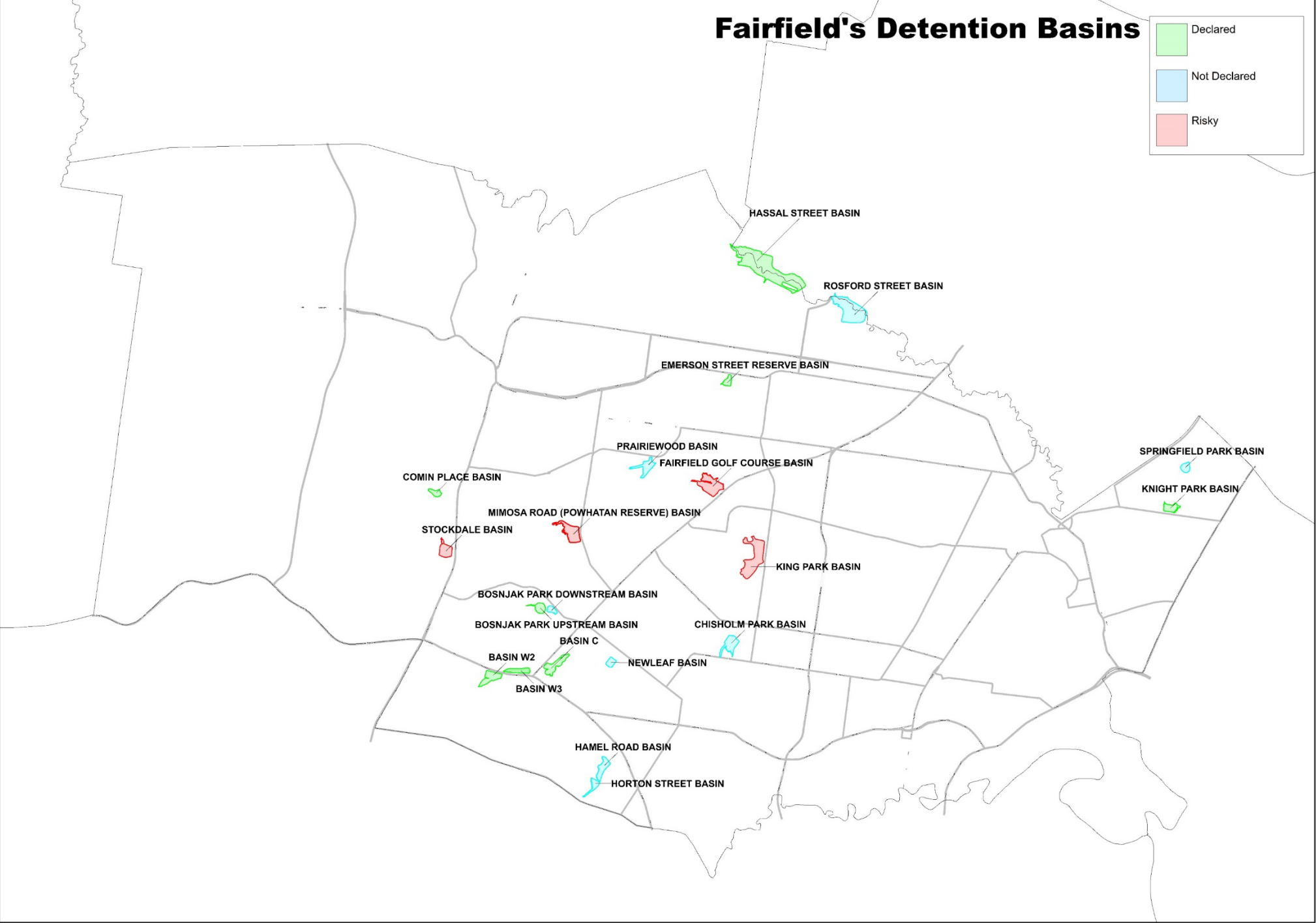
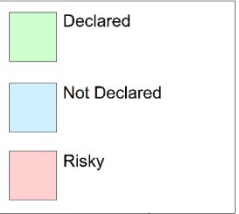


Three tributaries FRMS&P

- Mostly grassed embankments, no dedicated spillways
- Geotechnical report: basin overtop = likely failure
- Dambreak assessments
- Half of all flood modification measures were related to detention basins, such as:
 - Increase capacity
 - Upgrade for basin safety
 - Remove trees from embankments
 - Include basins in Asset Management Strategy



Fairfield's Detention Basins



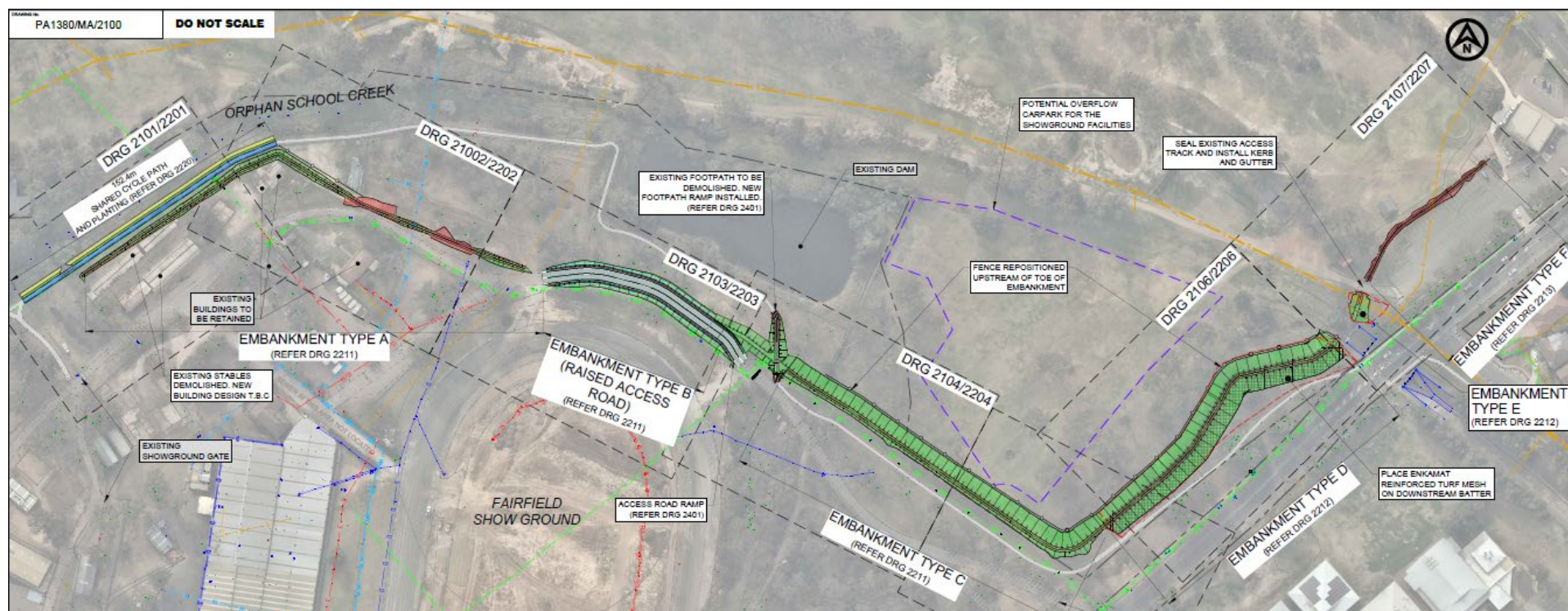
1. Fairfield Golf Course Detention Basin

- High A Consequence Category
- Capacity 208ML
- Spills over embankment in 1% AEP event



1. Fairfield Golf Course Detention Basin

- Remove 100 trees from embankment
- Raise embankment to contain 1% AEP
- High A – need to pass PMF
- BSC – Pass 1 in 1000 year
- 290m reinforced turf spillway
- Debris control structure

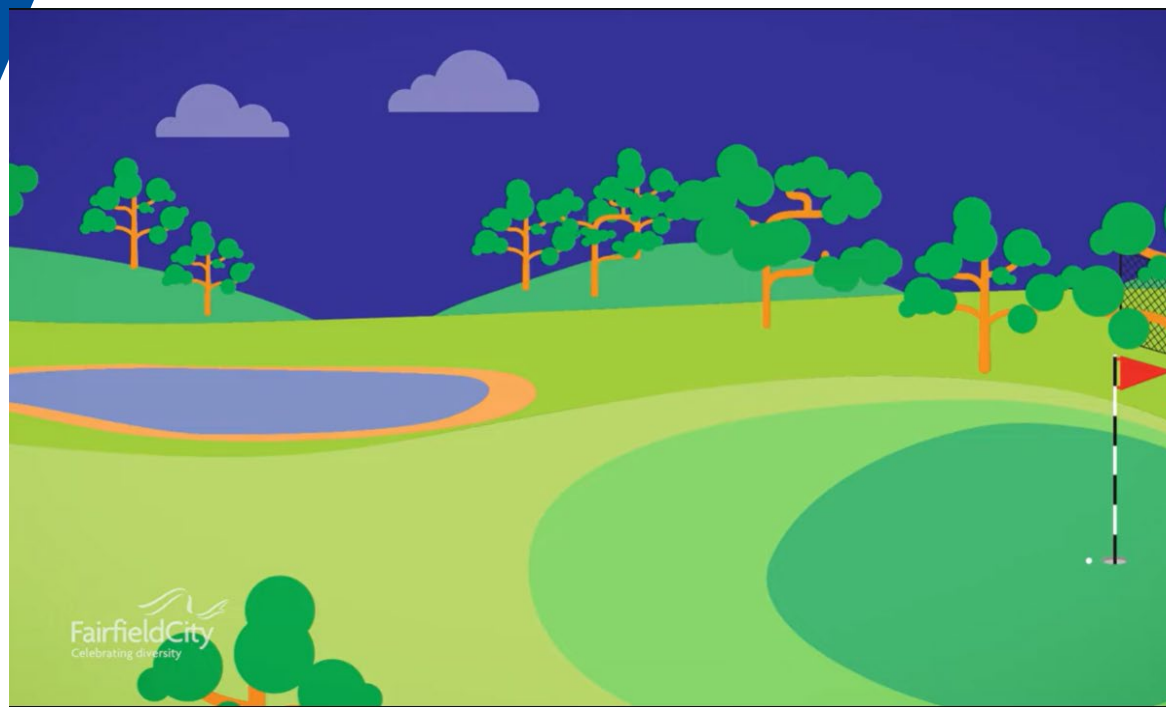
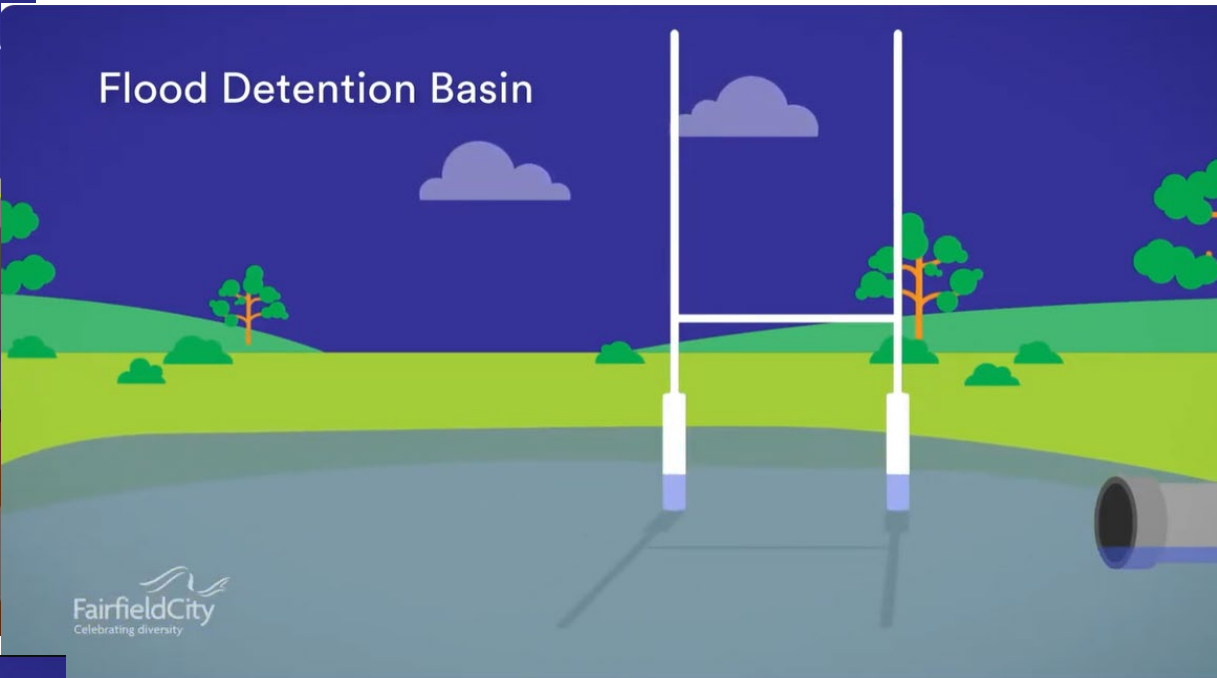


1. Fairfield Golf Course Detention Basin

Issues:

- Removal of trees – *Biodiversity Conservation Act*
- Aboriginal Heritage
- Contamination
- Lime stabilisation
- Chain for debris control structure
- Stakeholders





1. Fairfield Golf Course Detention Basin

Completed works



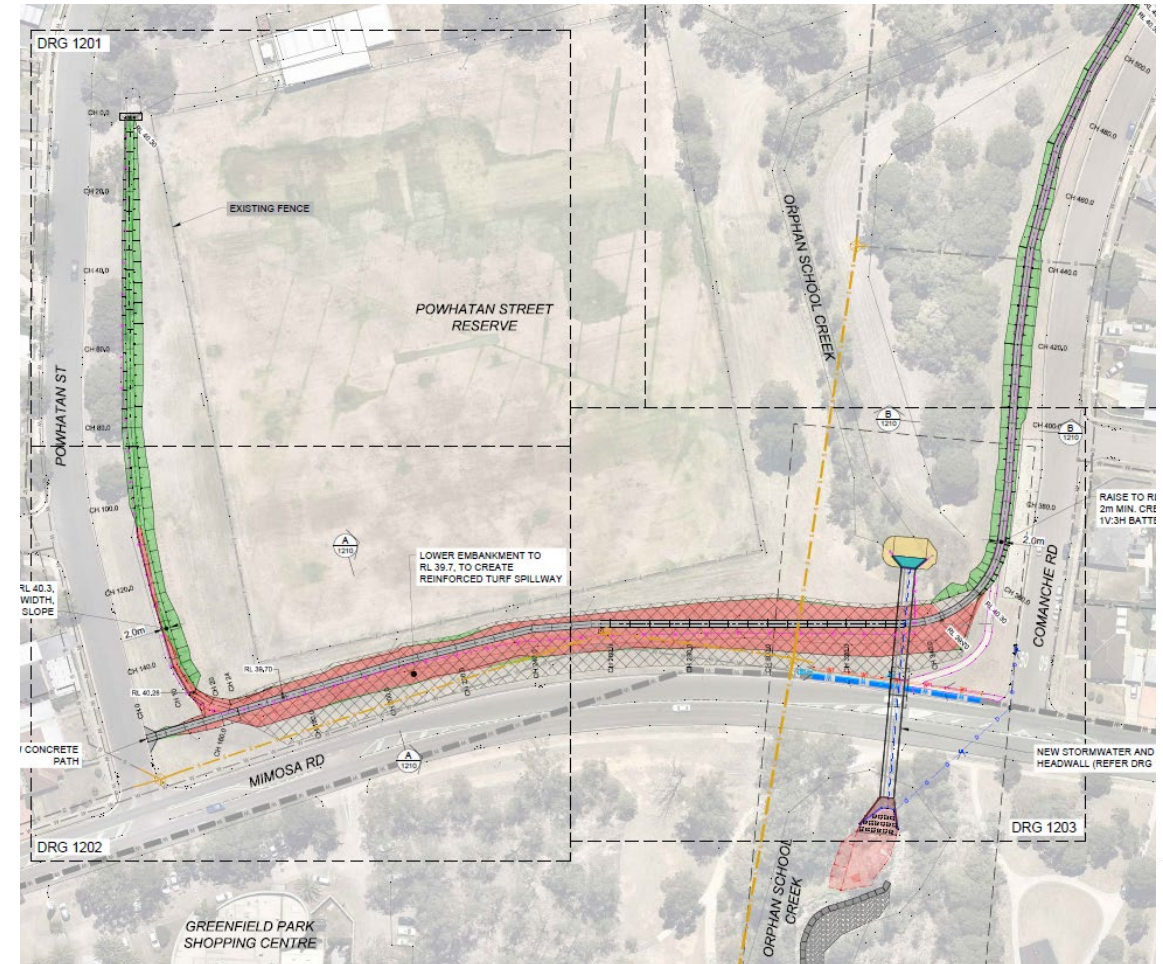
2. Mimosa Road Detention Basin

- High C consequence category
- Capacity 45ML
- Spills over embankment in 5% AEP event



2. Mimosa Road Detention Basin

- Raise embankment to contain 1% AEP
- High C – need to pass 1 in 100,000
- BSC – pass 1 in 500 year
- 196m reinforced turf spillway
- Replace existing Ø2450mm pipe under road with a 2400(H) x 3000(W) box culvert
- Energy dissipation downstream baffle blocks
- Sydney Water Ø1350mm main – bridging slab



2. Mimosa Road Detention Basin

Issues:

- Contamination
- Sydney Water Ø1350mm main
- Endeavor Energy
- Rainfall events – delays and rework
- Variations – cost and time
- Managing expectations – traffic, sporting clubs, pedestrians

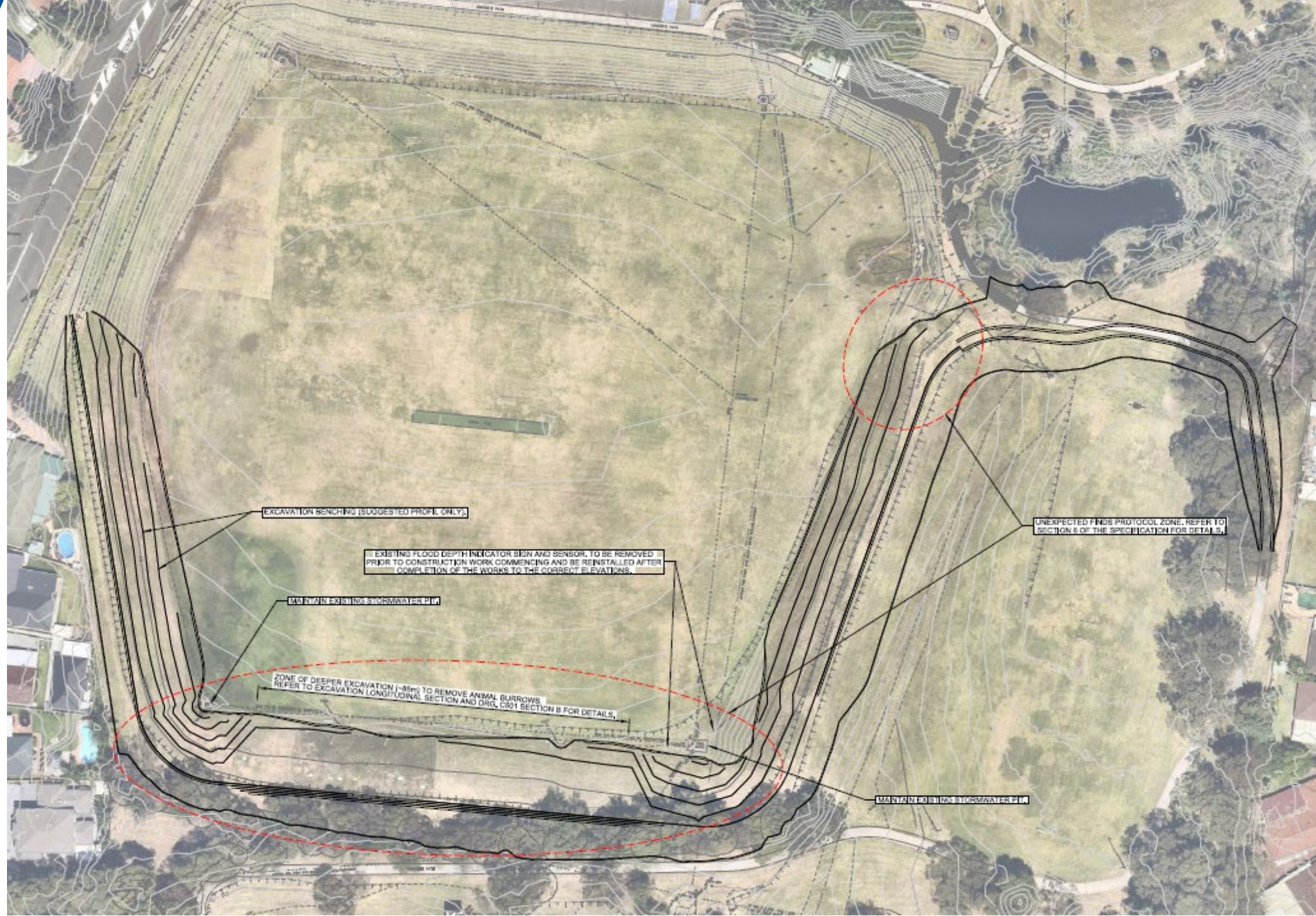
Works scheduled to finish in May 2026



3. Stockdale Reserve Detention Basin



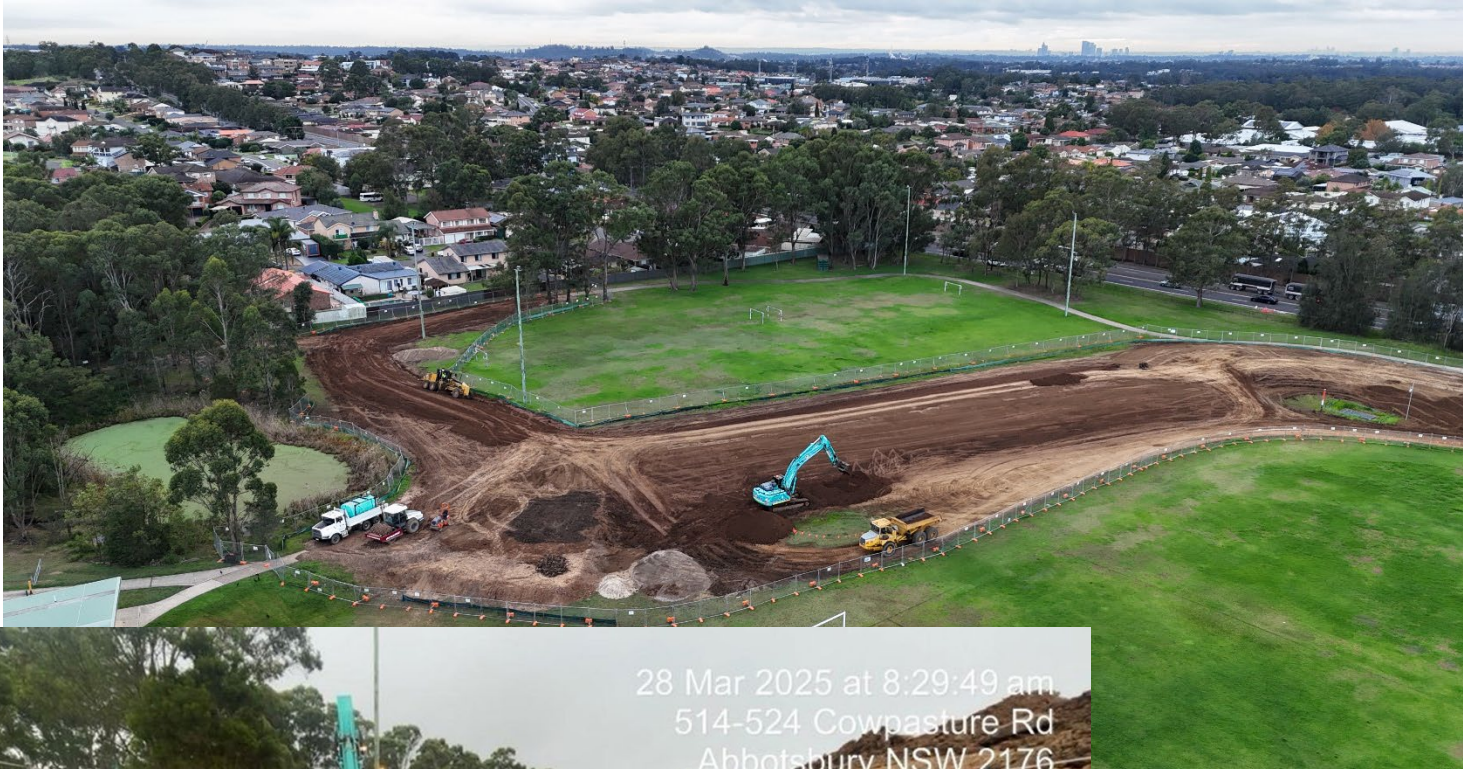
- Raise embankment to contain 1% AEP
- High C – need to pass 1 in 100,000
- 50m concrete and reinforced turf spillway
- Cut off wall to stop pond seepage
- Privacy screening



3. Stockdale Reserve Detention Basin



Completed ahead of
time and under budget



4. King Park Detention Basin

- Significant CC – need to pass 1 in 10,000
- 120m reinforced turf spillway
- Tree removal
- Concrete footpath on crest





Other dam safety measures

- Monthly dam inspections
- O&M Plans
- Emergency Plans
- Emergency exercises
- Dam break and CC assessments
- Risk Reports – SFAIRP
- Basin maintenance
- DSMS – continual improvement
- Annual reporting



Declared Dams - Flood Detention Basins

Leonie Gray

lgray@fairfieldcity.nsw.gov.au

(02) 9725 0222