



CRC for
Water Sensitive Cities



4th water sensitive cities conference



Australian Government
Department of Industry and Science

Business
Cooperative Research
Centres Programme

The Brabham development as a Waterwise blueprint for challenging groundwater situations

Sue Martins and Greg Cash
[Department of Communities]

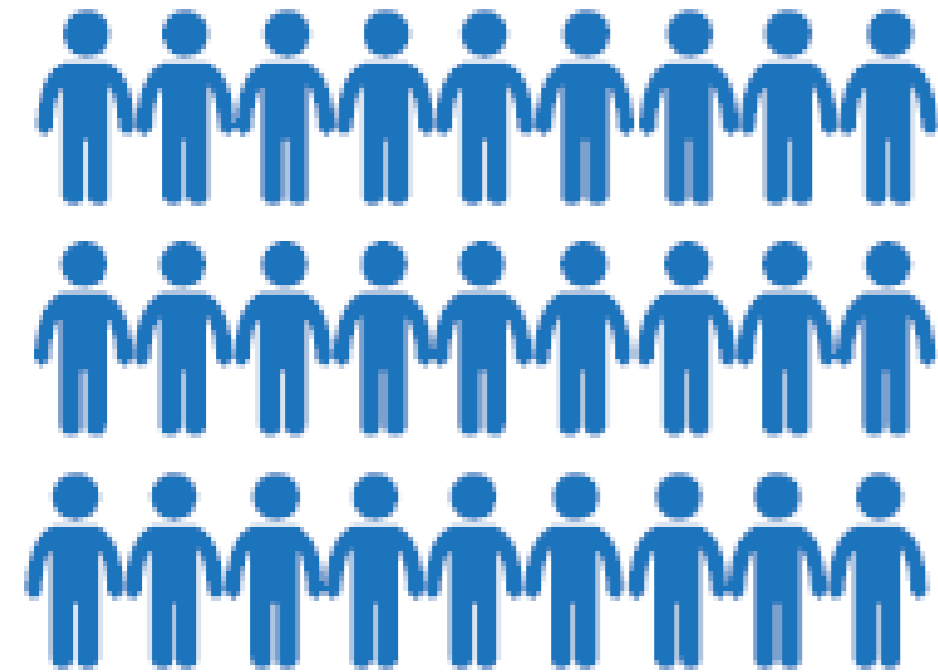
26-28 March 2019



Government of **Western Australia**
Department of **Communities**

2050 Outlook

Assumptions of Greater and Peel @ 3.5m



Population growth to 3.5 million

Planned
67% increase



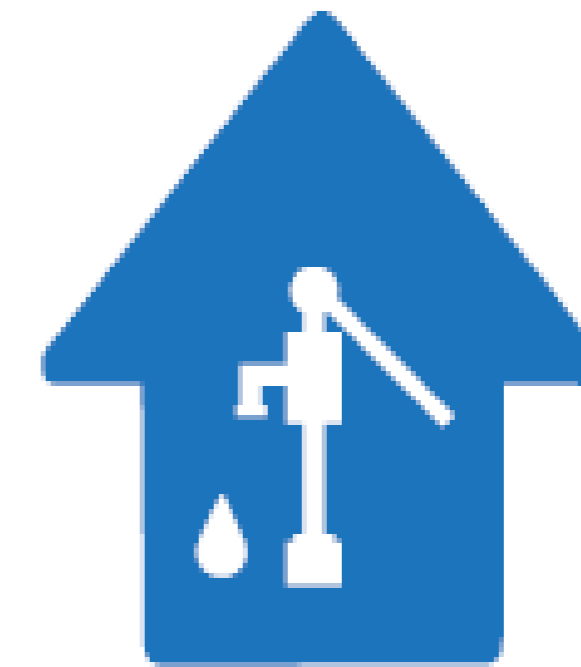
Future urban development

Planned
67%
increase



Reduced rainfall and
groundwater recharge

Estimated
20% decrease



Unconstrained water
demand

Possible
53% increase

Picture Credit : Water Corporation



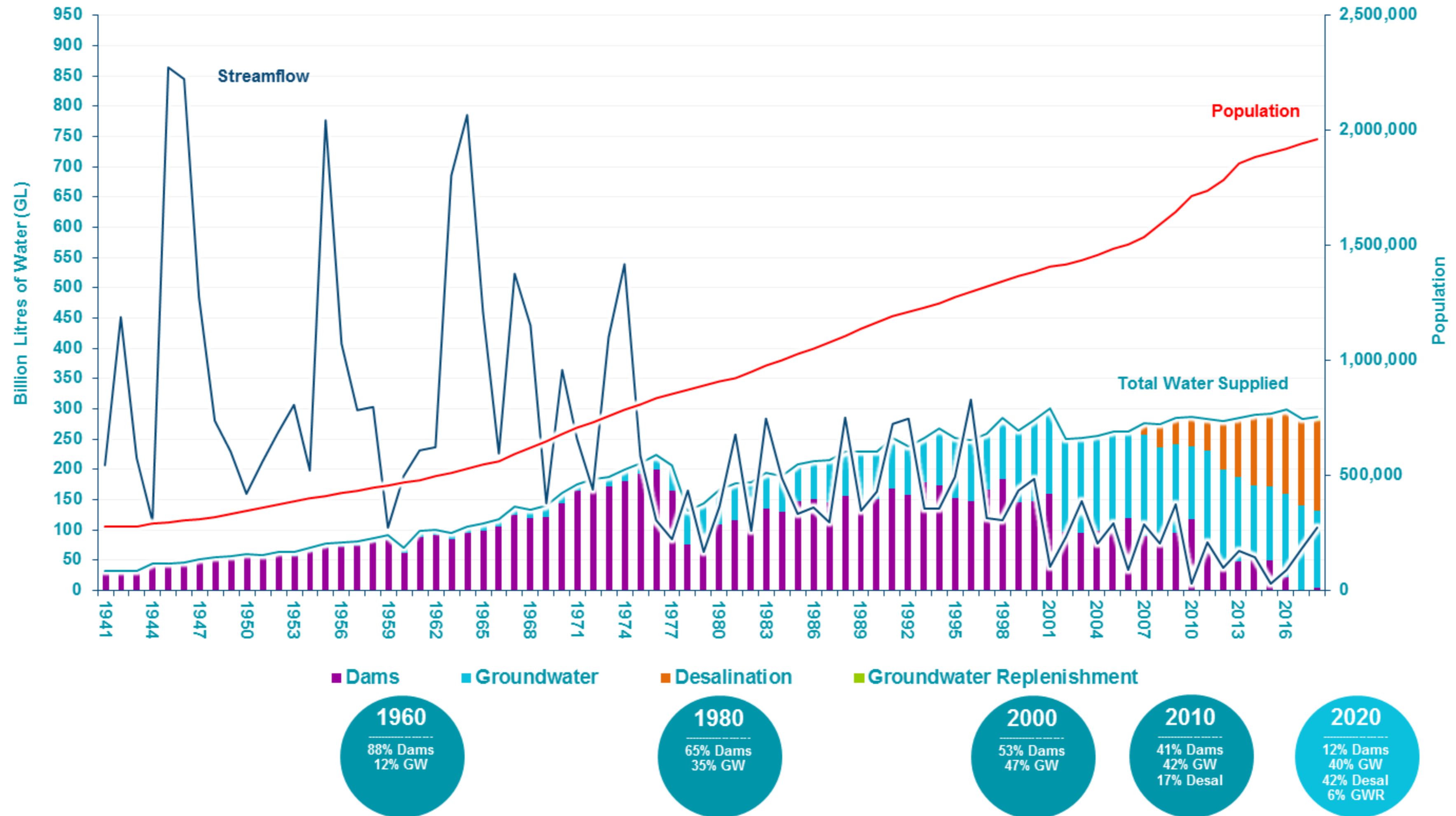
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Historical Outlook



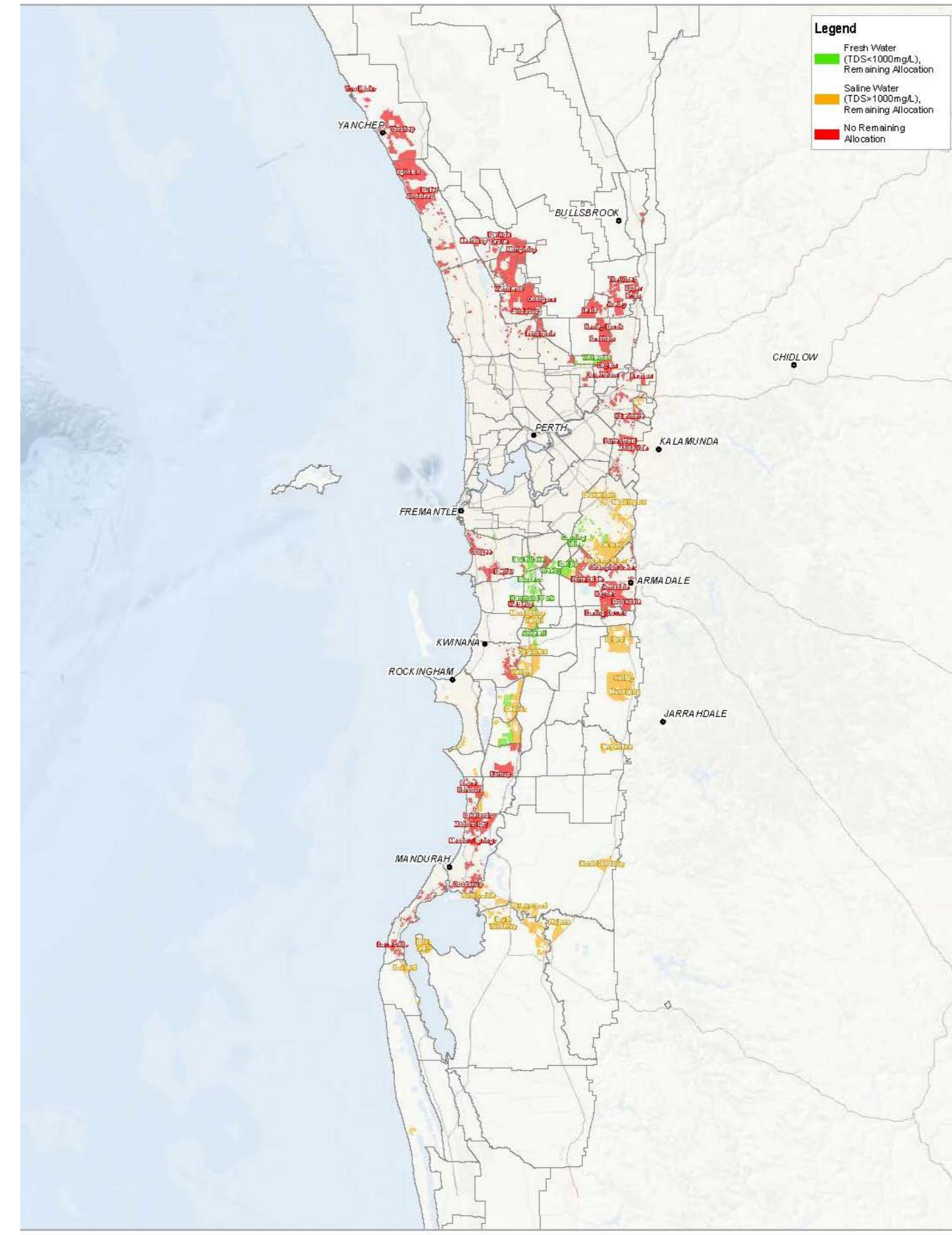
Picture Credit : Water Corporation

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Key Challenges for WA

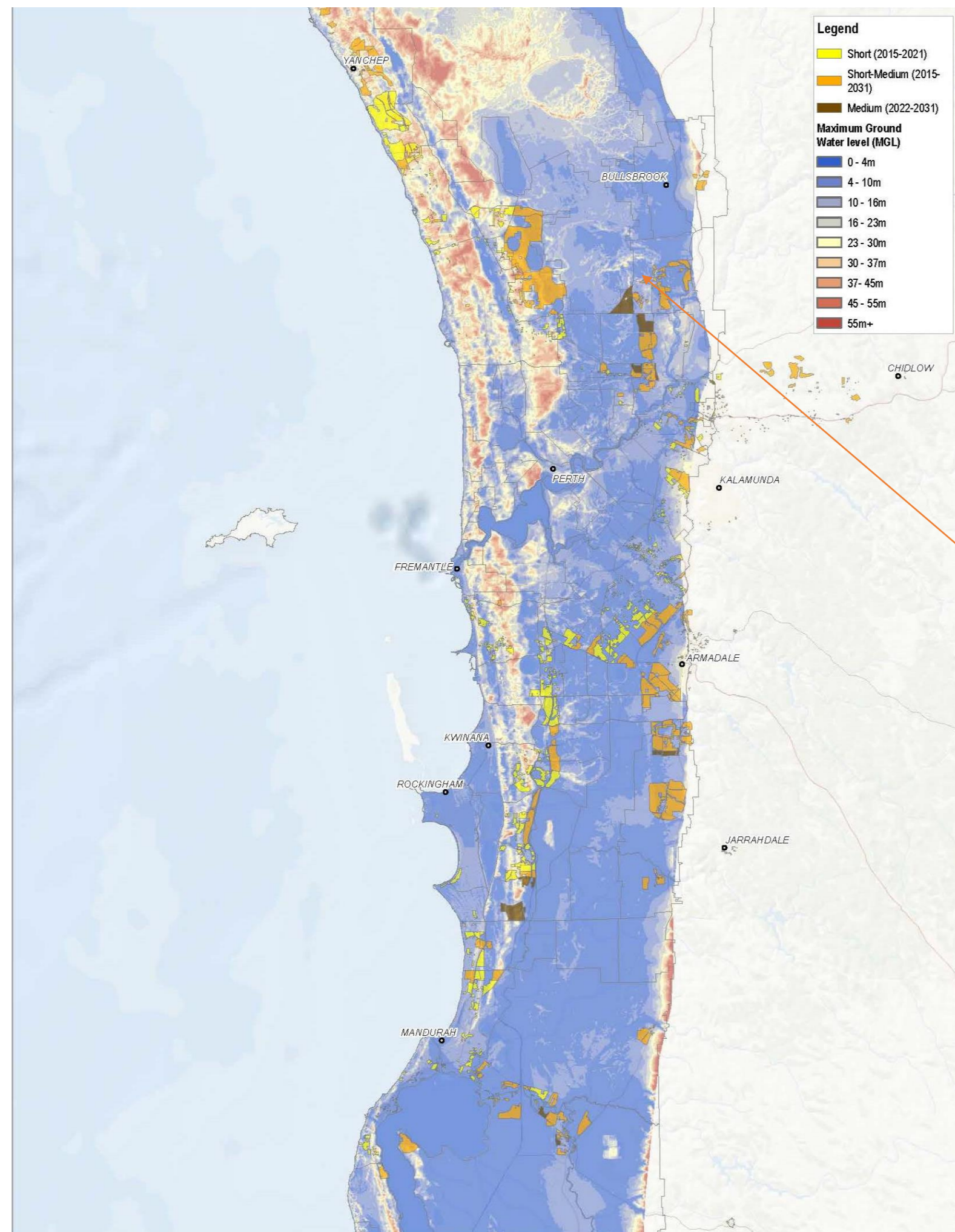
- More than 80% of planned urban development will have no access to cheap groundwater
- 10% reserve for Public Open Space
- 15% of future land use has high water tables in winter



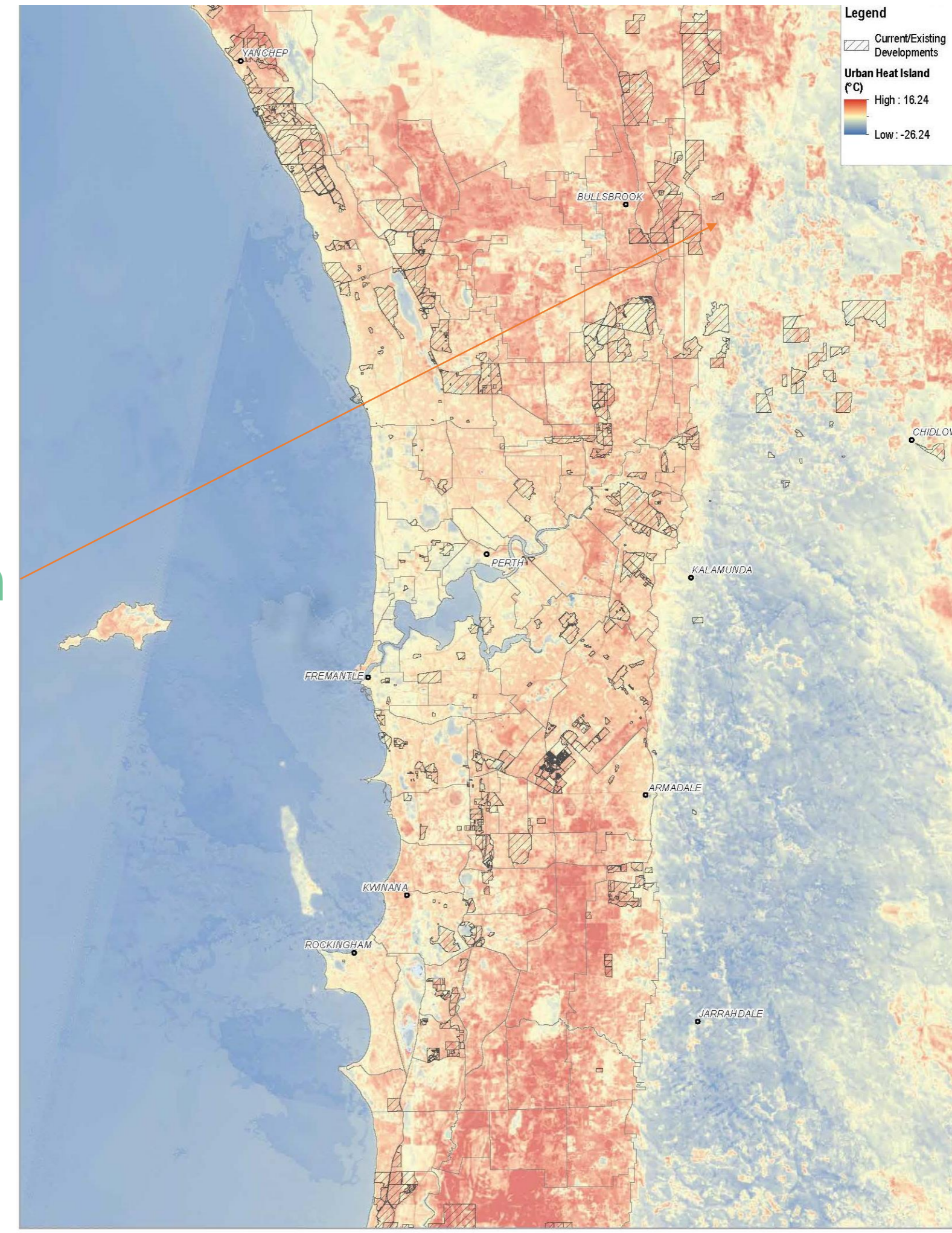
Picture Credit : Department of Water and Environmental Regulation



High Water Tables and Urban Heat



Brabham



Picture Credit : Department of Water and Environmental Regulation



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SCIENCE/INDUSTRY NEXUS

Working together with the CRCWSC

The Department of Communities is working together with the CRCWSC Board and Executive in multiple ways that include:

RAP, EPRG,
WSTN

Influencing
research
(IRPs)

Learning-
by-doing

Expert
facilitation

WSC
Transition
Strategies

Access to
guides, tools
and
products



A Liveable Environment

“I want all of Western Australia to share in our State’s prosperity, but we cannot achieve that with a business as usual approach”
WA Premier Mark McGowan

WA Government Priority

- Build METRONET and increase homes to public transport
- Increase conservation for future generations
- Make a cleaner more sustainable environment



Brabham

Brabham must deliver specific outcomes through collaborative partnerships to meet whole of government priorities that will deliver thriving, liveable, sustainable communities where people have a place to call home.

Greg Cash, Assistant Director General, Department of Communities

Context

- North East Corridor
- 15 km NE Perth in City of Swan
- 220 hectares
- Over 15 years
- 3,000 dwellings
- 8,000 population



Picture Credit : Department of Communities

Site Visit 13 June 2018

CRCWSC Research Synthesis



Picture Credit : CRCWSC



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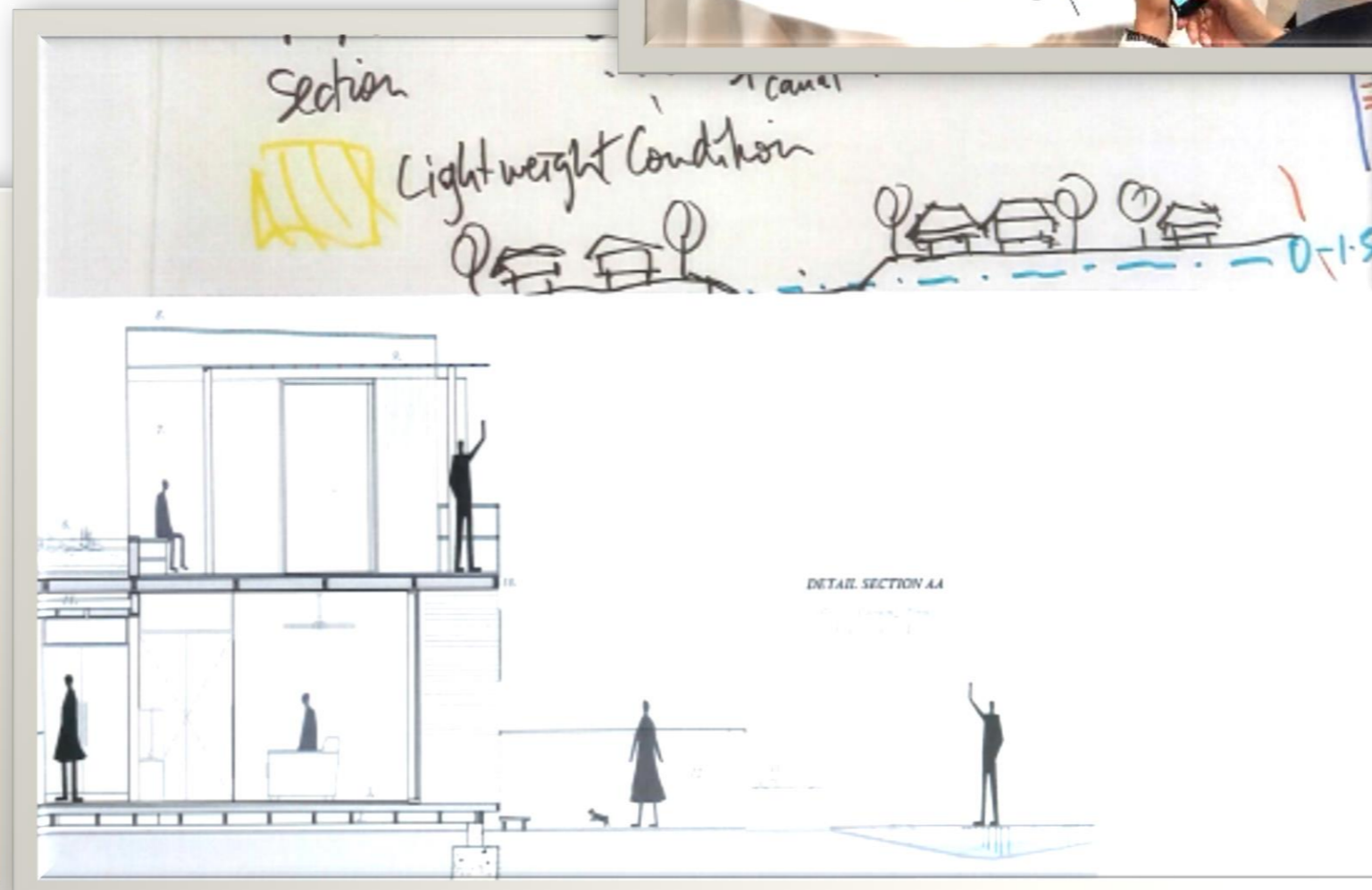
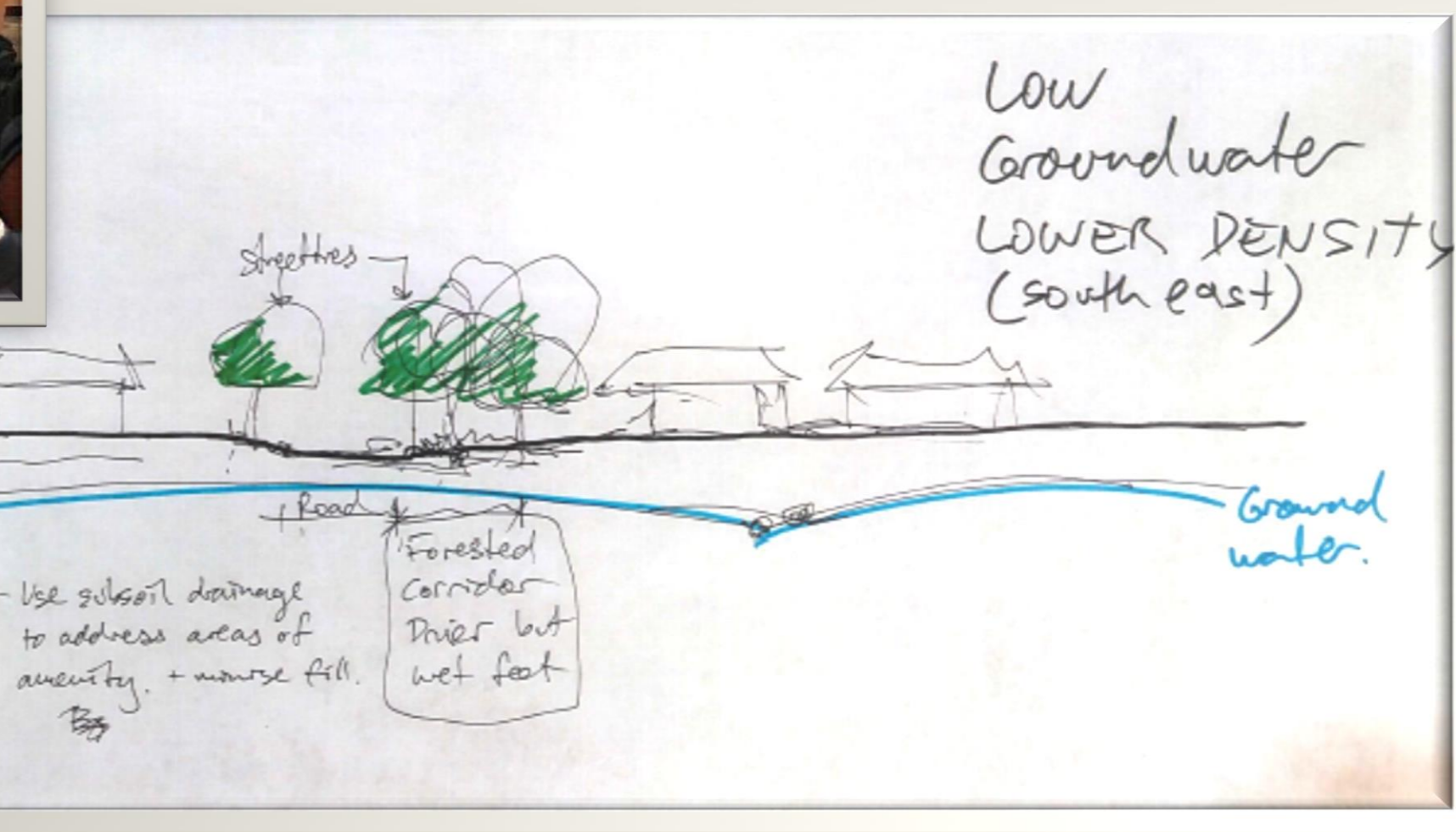
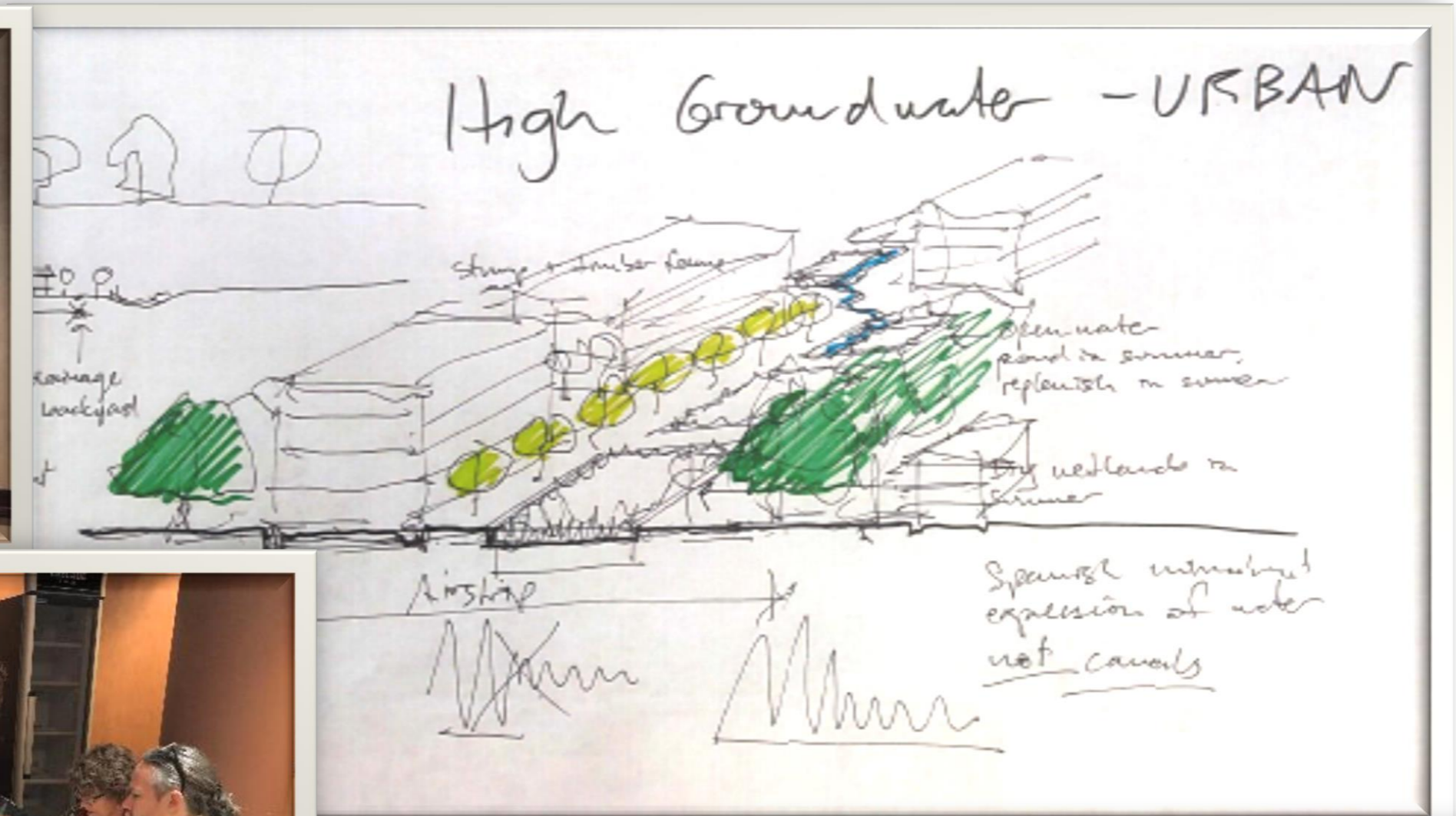
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INSIGHTS

Lines of Enquiry

- How can we reduce the need for fill?
- Can we identify new water sources?
- How can we stimulate innovation?
- How can agencies work together to implement innovative solutions?

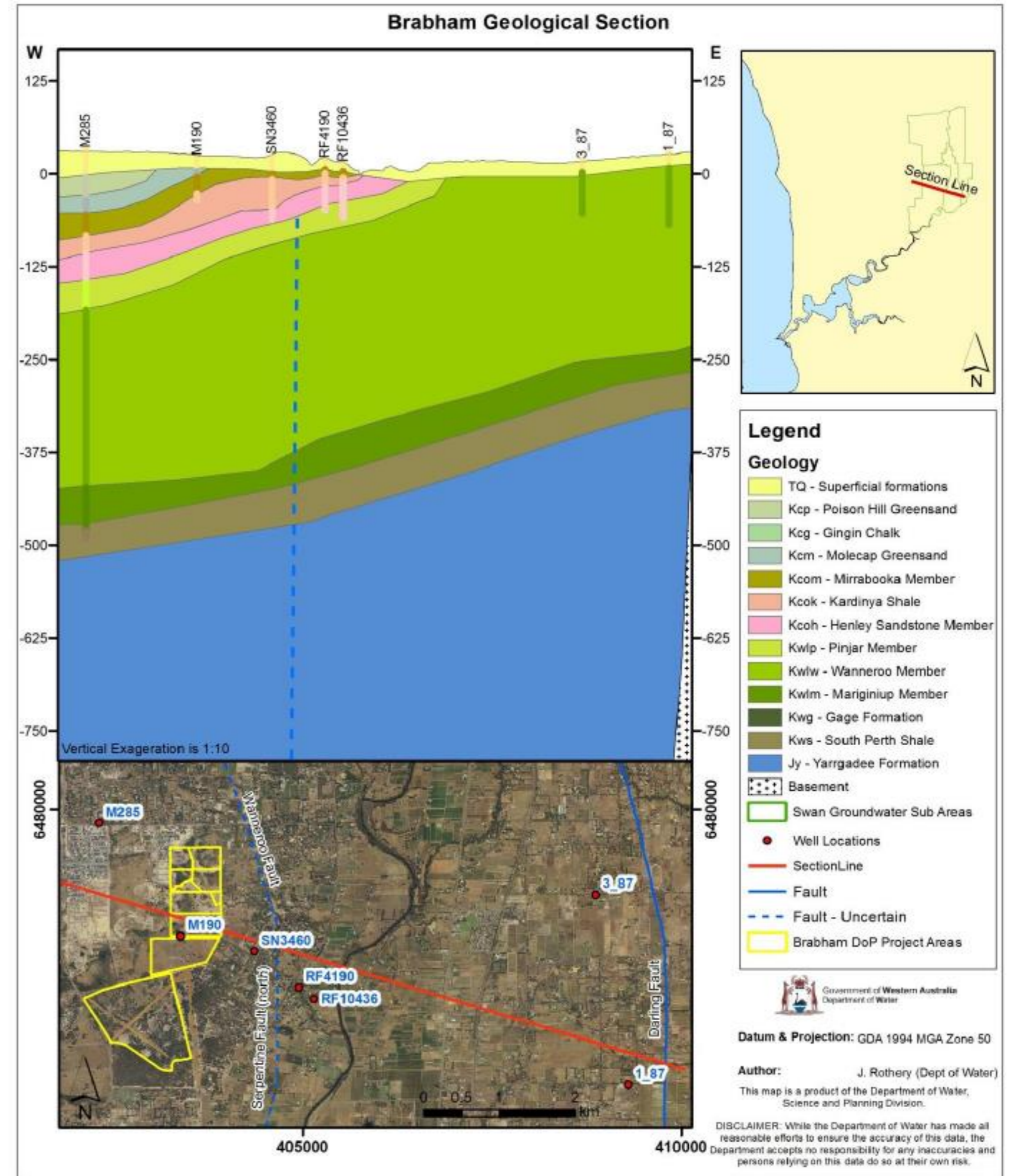


Insights/Ideas

“There is more than one way to manage high groundwater tables – lower the groundwater levels, raise the surface level or adapt the built form to higher water tables” Ideas for Brabham Report

Heading 3

- Manage groundwater levels sustainably
- Harvest excess water
- Brabham as a water supply catchment
- Built form co-existing with high water tables



Lessons Learned

- Transitioning into waterwise, future-focused communities is complex and exciting but requires genuine collaboration
- Innovative approaches require new decision-making frameworks
- Good governance



Opportunities

“There are opportunities to deliver Brabham as an innovative waterwise development that is replicable, scalable, commercially viable and a blueprint for future groundwater constrained areas.” Greg Cash

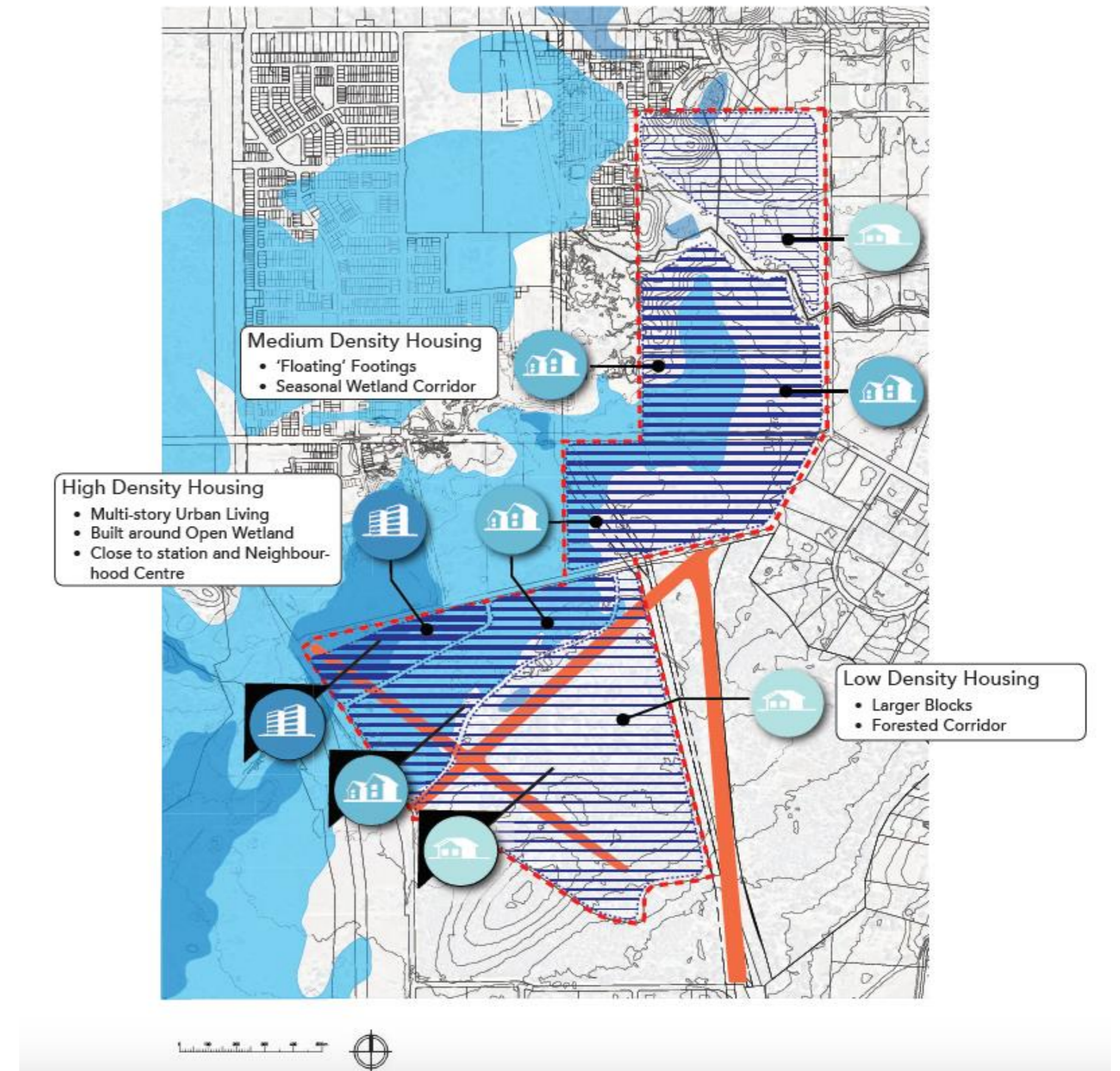
Way forward

- Staged development
- Minimise fill – saving \$20,000 per lot
- Harvest additional recharge
- Expand water supply options
- Diversity of typologies
- Governance models for innovation



**A liveable
environment**

Built Form/Density Typologies



Picture Credit : CRCWSC

Next Steps

- Working in collaborative partnership with the CRCWSC Integrated Research Planning (IRP3) project team and across government
- Identifying current policy constraints
- Finding pathways for implementation of the technical solutions
- Encouraging stakeholders to cooperatively negotiate and approve innovative water solutions



Embed Sustainability

