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Dear Ms Trimble

DRAFT METHODOLOGY ON URBAN TREE CANOPY TARGETS AND DEVELOPMENT CONTROLS

Thank you for the opportunity to make this submission to the Department's Draft Methodology paper. The Water Services Association of Australia (WSAA) is the peak industry body representing the urban water industry. Our members provide water and sewerage services to over 24 million customers in Australia and New Zealand and many of Australia's largest industrial and commercial enterprises.

Water is a key ingredient to delivering greener places

Investing in water-enabled green and blue infrastructure can deliver benefits to physical and mental health by making our communities cooler, healthier and more attractive places to live, work and play.

Our 2019 report [*Blue + green = liveability: the value of water to liveable communities*](#) seeks to increase understanding and explain how the urban water industry enables broader liveability outcomes. This includes contributing to green and blue infrastructure to deliver benefits to physical and mental health by making communities cooler, healthier and more attractive places to live, work and play.

Health benefits can be up to \$94/person/day in a greenfield development built with an integrated water management approach. Health benefits include improved physical and mental health, air quality and urban cooling. This is in addition to the provision of safe, secure and affordable drinking water and wastewater services.

However, while planning for green and blue infrastructure can start to unlock improved liveability outcomes there are often no clear pathways to deliver and fund these initiatives.

In *Blue + green = liveability* we outline specific recommendations for governments (all levels), the urban water industry and collaboration partners to enable green and blue infrastructure to

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deliver liveability outcomes for cities and regions. We recommend the NSW Government consider these recommendations in developing the Urban Tree Canopy Targets methodology.

Comments regarding the draft methodology

We support the development of a methodology for urban tree targets which are evidence-based and nuanced in terms of land use types and contexts. We recognise that there is limited international or local guidance on how methodologies in various jurisdictions were derived, or based on what.

We have sought some input from our members and provide the following comments:

1. The draft methodology appropriately makes reference to rainfall patterns and soil water capacity; however it should also include consideration of climate change on local weather patterns (eg rainfall patterns, frequency and duration of extreme heat).
2. The draft methodology refers to local council examples both in the Eastern City (Sydney, Woollahra), where it rains more than the Central and Western cities. The methodology would benefit from consideration of:
 - long term measures to support tree resilience and survival over the long term
 - existing design solutions for Western Sydney that demonstrate how to achieve canopy targets. We understand that a DPIE ESS has recently gone to tender for technical design solutions that meet the new waterway health objectives in Wianamatta.
3. It is also important that the draft methodology refer to and highlight:
 - Sydney Water guidance on minimum distances and trees to avoid planting near wastewater pipes due to aggressive root intrusion (available on the Home maintenance section of www.sydneywater.com.au). Sydney Water spends about \$12 million each year to reactively clear sewer blockages, a significant portion of which are caused by invasive tree roots. These blockages have a potential impact on public health and the environment and the cost to clear is an ongoing impact on customer bills. This further highlights the importance of appropriate design and tree selection. Blockages due to root invasion can also occur in sewers on private property and property owners bear the costs of clearing, which can be costly.
 - '[Urban Green Cover in NSW Technical Guidelines](#)', prepared by the Government Architect's Office for the Office of Environment and Heritage (2015) – include considerations regarding design of tree pits, bioswales drainage and watering (to protect sewers and reduce drinking water demand)
 - Publicly available information which may assist with tree selection and density of planting for different rainfall and climate zones across NSW. It is also important to have different targets for areas where alternative water sources are available, such as recycled water, stormwater or water diverted into street trees via inlets in the side entry pits. One example of a tree guide is:

[Where will all the trees be? | The 2020 benchmark of green cover in our cities and suburbs \(greenspacesbetterplaces.com.au\)](http://www.greenspacesbetterplaces.com.au)

- The value of integrating water sensitive urban design solutions for rainwater capture to reduce the Mean Annual Run-off Value (MARV), to support urban greening and cooling, and reduce environmental impacts of stormwater runoff (in line with the above-mentioned technical guidelines).
 - Sydney Water's recent Urban Typologies work showing how smart water planning typologies (or urban templates) can be used to guide development across Western Sydney to maintain waterway health and help reduce the Urban Heat Island Effect at the same time. Further information is available at: <https://www.sydneywater.com.au/SW/water-the-environment/what-we-re-doing/current-projects/servicing-growth-areas/west/index.htm>. The report found implementing cooling actions such as permeable surfaces, tree planting, vegetation and irrigation will provide welcome relief to communities in Western Sydney.
4. A focus on tree canopy alone may not provide the greatest level of urban heat island mitigation. Research suggests that irrigated grass will cool the air to a similar, and often greater level than trees alone. We would be happy to share relevant research papers, and provide contacts to Australian water utilities undertaking this work. Anecdotal information from trials around Australia demonstrate the cooling benefits of irrigated grass compared to trees, for example [SA Water's work mapping green parks with real time temperature](#). There is also information from the Olympic village in Beijing focused on this same aspect. As this is not the focus of the assessment, we raise it purely as a consideration for urban heat island strategies, to complement the tree canopy.

We believe that a well thought-out approach to urban tree targets has the potential to greatly improve liveability outcomes for our growing cities.

Please do not hesitate to get in touch if you have any questions, via my mobile 0417 211 319 or email adam.lovell@wsaa.asn.au.

Kind regards



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