



SUBMISSION:

Explanation of intended effects for a Design and Place SEPP

NSW Office of the Government Architect

Western Sydney Regional Organisation of Councils Ltd.

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1 Introduction

1.1 About WSROC

Western Sydney Regional Organisation of Councils (WSROC) welcomes the opportunity to provide a response and submission to the *Explanation of Intended effect of a Design and Place SEPP* released by the NSW Department of Planning, Industry and Environment.

This submission is prepared on behalf of WSROC member councils. Some of our councils will make their own submission. This document should be viewed in addition, and complimentary to those responses.

This submission consists of three parts:

1. General comments on the Design Principles and Mandatory Matters
2. Detailed comments on the BASIX review
3. Detailed comments on waste and resource recovery

WSROC would welcome an opportunity to further discuss this submission. Should there be any questions, please do not hesitate to contact WSROC CEO, Mr Charles Casuscelli on charles@wsroc.com.au or 02 9671 4333.

2 General comments about the Design and Place SEPP

2.1 General recommendations

WSROC welcomes the opportunity to consolidate planning instruments to streamline the planning system for new development across NSW. A planning system that delivers well designed places and communities for the residents of Western Sydney that also supports the delivery of housing choice, housing diversity and housing affordability is largely supported.

The development of planning policy that recognises the importance of good design for establishing healthy places that support the wellbeing of people, community and Country is also welcomed.

There is support for the inclusion of the five design principles that are to be given effect within the Design and Place SEPP. WSROC is particularly pleased to see the strong focus on resilience. We strongly encourage that the lessons learned through the COVID -19 pandemic, the unprecedented bushfires of 2019/20, and the recent flooding are used to deliver better outcomes for our community. There is an increasing need for better urban design that not only ensures people stay safe, but can thrive in future climatic conditions.

We further acknowledge that the COVID-19 pandemic has provided a unique opportunity to encourage social connectivity, and a stronger focus on local amenity. We are pleased to see that this will feature strongly in the proposed SEPP and is recognised as a catalyst for creating 30 minute cities.

2.1.1 Ensure design principles are backed up by minimum standards

WSROC understands that the intent of the new SEPP is to provide relatively few prescriptive measures, and instead focus on principles and supporting guidelines to encourage innovation. While allowing room for innovation and place-based planning is important, setting sound and improved minimum standards on which developments can build is critical. Failing to do so could result in a rapid increase in development-inequity across the city whereby lower-socioeconomic areas see poorer development outcomes due to an increased focus on affordability.

In addition, we caution that a lack of any prescriptive controls can cause uncertainty for both applicants and consent authorities resulting in delays and costs for both parties.

WSROC urges the NSW Government to ensure that the SEPP is supported by minimum standards at state level to ensure, safe, functional, and productive development outcomes.

Recommendation:

- Ensure the design principles are underpinned by minimum standards.
- Ensure these minimum standards are continuously reviewed and adjusted based on latest available data and information. Options to scale-up standards and for ongoing investment in tools and pathways is recommended.

2.1.2 Invest in capability to deliver

WSROC commends the vision outlined in the Design and Place SEPP EIE, but also recognises that a change of this magnitude will require appropriate resourcing to ensure implementation is appropriately supported. Training and upskilling will be required to ensure all actors have the skills and capabilities required to deliver the new SEPP.

We also highlight that overall clarity regarding the process is needed, including strong consultation with local government, assessment authorities and other stakeholders, to inform the new process. A key consideration should be assessment and compliance. We note that a design and principles-based approach will be inherently difficult to assess and monitor. Appropriate processes and safeguards should be put in place to ensure the intended effect is indeed achieved, and certain developments do not fall under the radar. As such, WSROC recommends piloting all elements of the new SEPP and associated guides to ensure there are no unintended adverse effects.

We further point to the need for appropriate funding and resources of potential additional studies, training and upskilling. Local government should be a key stakeholder in identifying what training and resourcing will be required for them to implement the SEPP.

Recommendation:

- The NSW Government develop a capability pathway that ensures all actors and stakeholders have the appropriate skills and knowledge to deliver the SEPP. Investment in clarity of process is critical to ensure the intended outcomes are achieved.
- The NSW Government ensures each element of the proposed SEPP and accompanying guidance material is piloted across private and public stakeholders to ensure that the intended outcomes are achieved.

2.1.3 Engagement with councils

The EIE highlights the importance of process in matters of planning and design. In line with this focus, WSROC hopes that due consideration is given to the internal processes of local government when drafting and exhibiting the SEPP. This not only refers to how the SEPP will interact with local controls and guidelines, but internal review and approval processes. In order for local government to have adequate time to provide the best possible feedback we request that the draft SEPP be placed on exhibition for a minimum of eight weeks.

Councils can also provide critical insights into likely assessment and compliance challenges. We urge that internal local government processes are acknowledged for the assessment and compliance of any development and appropriate time is provided to do this well.

Recommendation:

- The NSW Government to review the Place and Design SEPP development process in order to ensure councils are provided with enough time to provide meaningful feedback.

- Strong consideration be given to ensuring assessment and compliance of any development is appropriately resourced.

2.1.4 Exempt and complying development

WSROC notes the intent to review the Exempt and Complying Development Codes. Councils have expressed concern regarding Exempt and Complying Developments; in many cases they do not deliver the best outcomes for communities. Ensuring the same resilience principles are prioritised for Exempt and Complying Development is critical to ensure liveable communities, particularly in view of a changing climate. While affordable and sufficient housing stock is important, speed and cost saving at the development stage should not come at the cost of healthy, quality housing that is affordable to run. We caution that sub-standard developments will ultimately shift the costs and risks (health and economic) to the occupant.

Recommendation:

- Ensure that Exempt and Complying Development Codes are reviewed to ensure quality of developments are safeguarded, especially in view of climate extremes. Any cost benefit analysis should take into account whole of life costs for a development (e.g. energy costs) instead of focusing solely on up front development costs.

2.2 Five key principles driving the SEPP

WSROC broadly supports the principles of the new SEPP. However, WSROC and its councils have some concerns about the intended effects of these principles. For example, while sustainability topics such as circular economy are referenced, there are no intended effects relating to waste management infrastructure or outcomes. Failure to recognise waste management as an essential service (one that is critical for liveability, sustainability, health and amenity) is an ongoing shortcoming of state government planning policy and instruments.

The importance of proper waste planning, particularly for higher-density typologies is critical for liveable, sustainable well-functioning city. WSROC has provided detailed feedback on waste and resource recovery consideration in Section 4 of this document.

Further comments on the Design and Place principles are outlined below.

2.2.1 P1. Design places with beauty and character

Through a considered response to context, character, heritage, culture and Country, well-designed buildings and spaces create places people can engage and connect with. Attractive built environments are attractors, and powerful tools for economic growth.

The quality of our neighbourhoods, towns and cities has a significant impact on our daily lives.

Visually attractive and physically comfortable places that respond to a community's needs and desired future character feel connected, sensitive and relevant, and make a positive impact. WSROC supports this principle, and in particular, the elevated role of connection to Country and focus on good design as outlined in the *Better Placed* (2017) policy (Figure 1).

In line with the Design and Place SEPP's first principle of creating places *'that people feel proud to belong to'* as well as the SEPP's broader emphasis on process, WSROC emphasises the importance of community engagement. Good design is highly subjective, and sense of place even more so. Communities must feel new precincts, architecture and design reflects their local understanding of place, and how those places are used and engaged with. WSROC stresses that to achieve this, planning and development processes must enhance community involvement and input; particularly for significant developments. Achieving the above will likely take more time in some cases. Therefore, it is important that the government outline to what extent they are willing to compromise timely delivery in order to meet good design and place outcomes for local communities.



Figure 1. Objectives for Good Design, Better Placed (NSW Government, 2017).

2.2.2 P2. Design inviting public spaces to support engaged communities

High-quality public spaces are inviting, accessible, diverse and comfortable. They encourage a healthy public life for our communities, fostering active lifestyles and social connections.

WSROC agrees that good public spaces are becoming increasingly important to quality of life in an expanding and densifying Sydney. We strongly agree with the statement of intended effects that specifies public spaces,

'...include open spaces, streets, community facilities and venues that are publicly owned or of public use, and can be used by all...are adaptable to changes in climate, ecology, demographics and economy...build our capacity to withstand shocks during times of crisis by providing space for refuge or escape.' (p.17).

However, we are concerned that neither the listed intended effects, nor the proposed considerations for public spaces (2,3,14,15, or 16) include any requirements to ensure that public spaces can function in the ways outline above.

Indoor public spaces

WSROC's recent work on urban heat and heatwaves has outlined the increasing importance of public spaces – particularly public venues – as places for refuge and respite during extreme heat events. This need is expected to be greatest for vulnerable groups and will increase in line with climate change. With this in mind, it is critical that the design of public buildings considers likely use as emergency shelters including features such as: air-conditioning systems rated to a minimum of 47 degrees Celsius, back-up power generation or islanded battery backup for events of power outages, defibrillators, adequate seating, and drinking water provision. Other requirements for alternative emergency scenarios must also be considered.

In light of the increased requirement for multi-functional public spaces, WSROC would like to see a review revision of processes for the provision and funding of quality, accessible, multi-functional public spaces, particularly within precinct scale developments.

Outdoor public spaces

WSROC councils have expressed that mandatory considerations should more strongly reflect the stated importance (Principle 2) of accessibility, comfort and safety when designing new streets and public spaces.

In addition, WSROC supports the intended effect:

“...deliver green infrastructure for greater connectivity, including landscape corridors, recreational walking and cycling networks, and fit-for-purpose open space for recreation.”

However, we would recommend this be extended to include blue infrastructure as well.

Recommendation:

- Include a mandatory consideration requiring all public venues to be designed to act as emergency shelters in the event of disasters including: heatwave, fire, flood or storm.
- Update mandatory consideration 2, 3 and 5 to better emphasise the importance of accessible design to ensure safe, comfortable, accessible public spaces and street networks to people of all abilities and backgrounds.
- Ensure the principle is expanded to include blue and green infrastructure.

2.2.3 P3. Develop productive and connected places to enable thriving communities

Places with sufficient densities, and sustainable and active transport connections to a wider network of jobs, services and attractors, enhance local economies and communities, enabling them to thrive.

WSROC broadly agrees with the stated intent of this principle, however some concerns exist regarding how this will manifest in practice. It is essential that the draft SEPP anticipates, tests and addresses these issues.

Setting residential density targets

While it is acknowledged places with higher residential densities are associated with more walkable urban forms, more economic opportunities, and stronger business cases for investment in government services (e.g. public transport). WSROC has concerns regarding the stand-alone use of density targets to achieve this intended outcome.

To ensure jobs, commercial activity, and cultural facilities co-locate with, and support increased residential densities, provisions must ensure new development includes commercial uses. It is widely acknowledged that once residential uses are established it is difficult to return to commercial use.

Further, consideration should be given to existing areas of Western Sydney. Where sprawling suburbs with impermeable street networks are already in place, greater consideration must be given as to how to increase walkability and access. Proceeding with increased residential densities in the absence of plans for greater public transport and other local services will cause such neighbourhoods to suffer the disadvantages of residential densities many years before the benefits of improved services eventuate.

Recommendation:

- Residential density on its own cannot be expected to deliver the intended liveability impacts but should be part of a holistic approach to planning vibrant communities.

Providing needs-based car parking assessment methods

WSROC supports a transition to more walkable neighbourhoods and incentivising public transport use. These actions are important both for achieving the NSW Government's *Net Zero Plan*, and for addressing the significant and growing prevalence of preventable health conditions in Western Sydney¹. We also commend the EIE's recognition that reduced minimum car-parking provision is place-dependent and can only provide a practical means of reducing car-dependence where viable alternatives to car use exist. In the absence of good alternatives, inadequate parking will result in poorer local amenity, and impediments to the effective delivery of local services such as waste collection.

With this in mind, we stress that '*needs-base car parking assessment methods*' must be more holistic and sophisticated than previous policies which have considered proximity to a public transport as the sole determinant of parking space provision. WSROC proposes that assessment methods should also consider:

- **The quality of public transport in a place**
Not all public transport stops support an equal level of mobility or connectivity. A place-based approach must consider:
 - Regularity of services: Do services come every 10 minutes or twice per day?

¹ Western Sydney Diabetes (2020). Western Sydney Diabetes Year-In-Review 2020.

<https://westernsydneydiabetes.com.au/year-in-review/2020/>

- Connectivity to other services, modes and routes: Is the public transport stop an interchange with many options for travel direction?
- Temporal variations in timetabling: Do services run in the evenings? Or at weekends?
- **Relevance of public transport connections to place**
The likelihood of people using public transport depends on whether a service serves the social, recreational, educational, and economic opportunities available to a certain place.

Recommendation:

- That needs-based car parking assessment models should consider a range of place-based factors in assessing parking requirements including the quality (frequency, connectivity, reliability) and relevance of public transport routes.
- In regional towns and peri-urban centres, the needs of car-dependent residents in surrounding regional areas should also be considered.

2.2.4 P4. Design sustainable and greener places for the wellbeing of people and the environment

Environmentally sustainable places reduce emissions; adopt water, energy and material efficiency; and integrate green infrastructure, including urban tree canopies, to support the health and wellbeing of present and future communities and natural systems, including habitat for biodiversity.

WSROC supports the intended effects of improving sustainability and greening in places. *“These intended effects will be realised through mandatory considerations for water management, green infrastructure, emissions, resource efficiency and tree canopy.”*

Net zero pathways

The intended effect alignment with the NSW Government’s Net Zero Plan is supported. WSROC points to *Planning for Net Zero Energy Buildings* step change improvements to performance standards developed by City of Sydney with industry and government for some land uses to achieve net zero emissions sooner than 2050. This work indicates positive feasibility and developer acceptance of increased BASIX targets in line with a net zero target.

However, WSROC cautions that a one size fits all approach might not work and would instead suggest that similar work is needed to confirm the viability of pathways to net zero emissions for western Sydney typologies in local markets.

Recommendation:

- The *Planning for Net Zero Energy Buildings* study should be utilised to inform the new SEPP. WSROC recommends that a similar study is undertaken for Western Sydney to inform a tailored approach for this region, acknowledging that the development environment is different for Greater Western Sydney.

Require coordinated planning and design of green infrastructure

WSROC supports the increased weight given to green infrastructure considerations under this principle, and in particular, mandatory considerations for green infrastructure in new developments.

WSROC would like to emphasise that it is critical to consider the purpose of green infrastructure in a particular place when creating mandatory guidelines. Under the Premier's Priority of Greening our City, several objectives relating to green infrastructure are outlined:

- Increasing biodiversity and supporting native fauna
- Mitigating the urban heat island effect
- Managing stormwater and flooding

While green infrastructure can help achieve all of the above objectives, not all species perform equally under each measure. For example, many of the species that support increased biodiversity outcomes (Australian natives) can perform poorly to mitigate the urban heat island effect; both in terms of shading and evapotranspiration². It is noted that under the proposed Mandatory Matters for Consideration (MMC) Green Infrastructure, preference is proposed to be given to locally Indigenous natives. While this is generally encouraged, WSROC urges that species that provide cooling benefit (both canopy and evapotranspiration) are prioritised in urban locations where vulnerability to heat is high. We refer to the *Which Plant Where*³ research to provide stronger guidance on species selection. Other considerations for green infrastructure include ongoing care and maintenance considerations such as water requirements, growth rates and root infrastructure. We further highlight that species performance under future climate conditions should be taken into account. This is specifically important for UHI mitigation where the greatest outcomes will not be reached for several decades.

Lastly, while WSROC supports the 2 for 1 replacement (or if local requirements are higher), we note that quality is equally important to quantity in ensuring canopy cover. Green infrastructure requirements should also include assurance that trees are replaced like-for-like or better in terms of canopy spread and height and have adequate soil depth to support canopy development.

Recommendation:

- That the principle incorporates the need to prioritise cooling benefits of green infrastructure, particularly for areas vulnerable to heat.
- The further consideration is provided to ensure quality green infrastructure is provided, including:
 - guidance for species selection (climate resilience and cooling benefit prioritised)
 - ensuring irrigation and maintenance considerations are met

² Wujeska-Klaue & Pfautsch. (2020). The best urban trees for daytime cooling leave nights slightly warmer. Western Sydney University.

<https://researchdirect.westernsydney.edu.au/islandora/object/uws%3A57217/datastream/PDF/view>

³ <https://www.whichplantwhere.com.au/>

- ensuring trees are replaced like-for-like or better in terms of canopy spread and height.

2.2.5 P5. Design resilient and diverse places for enduring communities

Resilient places are designed with adaptive capacity to respond to shocks, chronic stresses, and climate change. Diverse, compact neighbourhoods support inclusive, socially resilient communities and ageing in place.

WSROC commends the inclusion of resilience as a key matter for consideration in the Design and Place SEPP. The need for NSW's planning system to be built on a resilience foundation has never been more apparent. The advent of catastrophic bushfires, heatwave, pandemic, and major floods in just 24 months has made communities and governments more aware of the resilience challenges facing our city.

WSROC fully supports the inclusion of a principle focused solely on resilience. However, we are concerned that this well-intentioned principle translates into intended effects and mandatory considerations focused almost solely on housing diversity and affordability. Meanwhile core resilience considerations are not included (e.g. urban design that mitigates climate change, housing that protects residents from hazards, public spaces that support shelter in emergencies).

WSROC has particular interest and expertise in extreme heat resilience and welcomes further discussion in this area. WSROC highlights the work that is currently being undertaken on urban heat that can inform the Design and Place SEPP and associated guidelines. We particularly highlight:

- **Urban heat planning toolkit:** A toolkit that provides guidance to councils regarding the integration of heat-mitigation objectives in local planning policy (a new and complex area of planning) The toolkit suggests new LEP and DCP provisions, improvements to existing provisions, and outlines limitations in local planning (e.g. BASIX).
- **Cool Suburbs:** A voluntary design-support tool to identify the most appropriate urban heat interventions (adaptation, mitigation, resilience), for existing and new developments. The tool has been developed based on the leading science from top Australian universities and will provide a 'cool rating' to a development which can be marketed by a developer. Governments can incorporate the tool in DCPs or design guidelines as desired.
- **Heat Smart:** A resilience approach involves not only reducing urban heat, but also helping people adapt, and be prepared to respond in extreme events. Heat Smart Western Sydney looks at what processes and structures are needed for the city to respond to extreme and emergency events with a focus on how we can support our most vulnerable.

We further note that resilience-based planning is a relatively new area for both planners and developers and substantial guidance will be needed including:

- Consistent, state-wide risk mapping for all identifiable hazards

- Strong design guidance to support transition to resilient design
- Upskilling of consent authorities to ensure new requirements are understood
- Consultation and integration with emergency plans and associated combat agencies.

Recommendation:

- That this principle be expanded to include the following mandatory considerations – applicable to different levels of planning:
 - Urban design that mitigates climate change – thermally efficient design to reduce air-conditioner reliance, higher uptake of renewables, inclusion of EV charging
 - Urban design that adapts to the impacts of climate change – better building quality, infrastructure design that is resilient to climate stresses, technological changes and unforeseen economic and environmental shocks.
 - Affordable housing that considers the lifecycle costs of a dwelling, and protects low-income occupants from the physical and financial impacts of climate change – energy bills etc.
 - Public spaces that support sheltering from emergencies – this includes disaster resistant building design, transport networks that support evacuation and access to shelters.
- That the required guidance is developed, including:
 - Consistent, state-wide risk mapping for all identifiable hazards
 - Strong design guidance to support transition to resilient design
 - Upskilling of consent authorities to ensure new requirements are understood
 - Consultation and integration with emergency plans and associated combat agencies.

2.3 Mandatory matters for consideration

Proposed consideration	Comment	Recommendation
4 Local living	This matter stipulates a 20-minute walk from local shops, primary schools, public transport, supermarkets, or groceries. Accessible distance to train stations is 800m or a 10-minute walk, therefore a 20-minute distance (1600m) or a resultant 40-minute round trip is not considered accessible or socially inclusive, particularly for those with a disability, young children, or older people.	<ul style="list-style-type: none"> ○ That the 20 minute walk is reduced to 10 minutes, or 15 minutes at a maximum.
5 Street design	<p>The focus on walkability, permeability through fine-grain street pattern and direct pedestrian-only routes is to be commended.</p> <p>Ensuring streets are shaded in order to promote active transport and reduce the urban heat island effect is important.</p> <p>Street network must also ensure that heavy-ridged vehicles can access (grid street structure supports this, but width of street also important) for both emergency access and waste collection purposes.</p>	<ul style="list-style-type: none"> ○ Ensure shading is included in this consideration. ○ Ensure street design incorporates access for heavy-ridged vehicles (incl emergency vehicles and waste collection vehicles).
7 Green infrastructure	<p>WSROC commends the use of the SEPP as a baseline with reference to meeting both state and local provisions (whichever is higher).</p> <p>We are concerned by the consideration “giving preference to locally Indigenous and Australian native plant species”. As discussed, for areas most vulnerable to</p>	<ul style="list-style-type: none"> ○ That the consideration prioritises cooling benefits of green infrastructure, particularly for urban areas vulnerable to heat. ○ That further consideration is provided to ensure quality green infrastructure is provided, including:

	<p>heat impacts, trees that provide greatest cooling benefits (canopy cover and evapotranspiration) should be prioritised.</p> <p>In addition, WSROC supports the 2 for 1 replacement (or if local requirements are higher) however quality is equally important to quantity in ensuring canopy cover. Green infrastructure requirements should also include:</p> <ul style="list-style-type: none"> • Ensuring trees are replaced like-for-like or better in terms of canopy spread and height. • Ensuring irrigation and maintenance considerations are met. 	<ul style="list-style-type: none"> ▪ Guidance for species selection (climate resilience and cooling benefit prioritised) ▪ Ensuring irrigation and maintenance considerations are met ▪ Ensuring trees are replaced like-for-like or better in terms of canopy spread and height.
<p>8 Resilience</p>	<p>WSROC commends the inclusion of resilience as a key matter for consideration in the Design and Place SEPP.</p> <p>We note that resilience-based planning is a relatively new area for both planners and developers and substantial guidance will be needed.</p>	<p>Ensure this consideration is supported with appropriate guidance, including:</p> <ul style="list-style-type: none"> ○ Consistent, state-wide risk mapping for all identifiable hazards ○ Strong design guidance to support transition to resilient design ○ Upskilling of consent authorities to ensure new requirements are understood ○ Consultation and integration with emergency plans and associated combat agencies.
<p>9 Fine grain movement</p>	<p>The focus on walkability and permeability through fine-grain street pattern and direct pedestrian-only routes is to be commended.</p> <p>Ensuring streets are shaded in order to promote active transport and reduce the urban heat island effect is important.</p>	<ul style="list-style-type: none"> ○ Ensure shading is included in this consideration.

10 Density	Concern that the term “urban capable land” and the intended outcome of “retaining arable land for food security” are poorly aligned. In the metropolitan area much arable land is “urban capable”. Further clarification is needed to determine a hierarchy of uses for different parts of the city.	<ul style="list-style-type: none"> ○ Provide further clarification to determine a hierarchy of uses for different parts of the city.
11 Housing diversity	While the intention is to support diverse communities via a range of dwelling and tenure types, this can be difficult to achieve in practice. For example, WSROC member, City of Parramatta, currently achieves a very low level of compliance with its DCP dwelling mix requirements (DCP requires 10-20 per cent of dwellings be three bedroom). A review of compliance with this requirement from 2016-18 found that 12 per cent of relevant developments achieved a yield within this range. The requirement for 20 per cent of units to be two or more bedroom ‘family units’ providing minimum 12m ² bedrooms (as specified in Table A6 of the EIE) is supported.	<ul style="list-style-type: none"> ○ Further information and consultation with councils is required to ensure the SEPP can deliver intended outcomes.
19 Affordable housing	While this inclusion is supported, it is unclear how the SEPP will expand requirements in existing SEPPs relating to housing affordability, or existing affordable housing contribution schemes, or the VPA process. The language is vague in this item about what might be required in relation to affordable housing contribution or inclusion outside of these existing mechanisms.	<ul style="list-style-type: none"> ○ Further information and consultation with councils is required to ensure the SEPP can deliver intended outcomes.
12 Transport and parking	As outlined above, WSROC supports incentivising active transport modes but notes that minimising parking will not achieve the proposed benefit “ <i>balance transport mode share, reduced demand for driving and car parking provision</i> ” in areas where alternative transport options are of poor quality or do not support local economic, social and recreational opportunities.	<ul style="list-style-type: none"> ○ That needs-based car parking assessment models should consider a range of place-based factors in assessing parking requirements including the quality (frequency, connectivity, reliability) and relevance of public transport routes.

	Further, the commodification of car parking in areas without strong transport alternatives is problematic for equity reasons. In Western Sydney there is a significant correlation between socio-economic disadvantage and public transport access. Further, the region spends a greater percentage of household income than the Sydney average on transport. In this context, commodification of parking could further disadvantage low-income households who are car-dependent.	<ul style="list-style-type: none"> ○ In regional towns and peri-urban centres, the needs of car-dependent residents in surrounding regional areas should also be considered.
13 Attractive form	With regards to attractive form, there is suggestion that developments should contribute to local character 'where described'. Stronger reference to local planning policy would add additional weight to LSPS, LEPs and DCPs delivering more place-appropriate forms.	<ul style="list-style-type: none"> ○ That overt reference is made local planning policy in outlining and determining 'local character'.
17 Emissions and resource efficiency	For detailed comments on the proposed BASIX review, please refer to Section 3.	<ul style="list-style-type: none"> ○ That BASIX requirements be expanded and strengthened, and climate data updated as outlined in Section 3.
18 Tree canopy	<p>This 'matter for consideration' is a good demonstration of balancing the general with the specifics of place:</p> <ul style="list-style-type: none"> • Setting minimum targets (minimum 1 for 2 replacement) to ensure objectives are met • Allowing councils to set higher targets via their DCP based on local need. <p>WSROC also commends the encouragement of innovation and greening alternatives as in the below excerpt.</p>	<ul style="list-style-type: none"> ○ That further consideration is provided to ensure quality green infrastructure, including: <ul style="list-style-type: none"> ○ guidance for species selection (climate resilience and cooling benefit prioritised) ○ ensuring irrigation and maintenance considerations are met ○ ensuring trees are replaced like-for-like or better in terms of canopy spread and height. ○ That quality of green infrastructure (height and canopy spread) be included in minimum targets quantity in the mandatory considerations.

	<p><i>“The proposal demonstrates the use of greening alternatives (such as green roofs, walls, softscape, etc.) particularly where tree canopy targets cannot be met.” (p.32)</i></p> <p>It is important that this matter be carefully reviewed to ensure greening alternatives do not become a replacement for trees where the latter is possible. Green walls are costly and resource intensive to maintain as such, their continuation cannot be guaranteed over the long term. If green walls are used in place of trees to increase floor space ratios but are subsequently not maintained, this will lock-out capacity for future tree planting.</p> <p>Finally, as outlined under ‘green infrastructure’, WSROC suggests that considerations around tree height and canopy size (similar to those set out in the Aerotropolis Precinct Plans) are equally important to quantity of trees planted for delivering canopy targets and associated benefits.</p>	<ul style="list-style-type: none"> ○ That greening alternatives should not be considered an appropriate replacement for tree cover where the latter is possible. ○ Use of green roofs and walls should not allow increased floor-space ratios where doing so would exclude potential for future tree canopy.
<p>19 Affordable housing</p>	<p>The provision of affordable housing is increasingly important as Sydney’s real estate prices rise. However, the suggestion that developers could propose their own viable affordable housing targets is concerning. Give that the targets for Greater Sydney sit within the five to 10 per cent range, it is suggested that a minimum of at least five per cent affordable housing be required for all major developments.</p> <p>Further, WSROC councils have expressed concern that there is no incentive to maintain rental accommodation as affordable housing over the longer term. Mechanisms to review this issue should be considered.</p>	<ul style="list-style-type: none"> ○ Set affordable housing target at five per cent minimum. ○ Mechanisms to maintain affordable rental housing over the long term should be reviewed.

2.4 Guidance

2.4.1 Proposed Resilience Toolkit

WSROC commends the Design and Place SEPP's stated focus on resilience. As our city develops it will become more susceptible to a range of environmental and technological hazards, and planning has a critical role to play in reducing both exposure and vulnerability of communities through built form.

Given the significant impacts that extreme heat and heatwaves have on the Greater Western Sydney region, WSROC has particular expertise and interest in heat-mitigating urban design. In partnership with leading researchers, Resilient Sydney, councils and state agencies, WSROC has developed a suite of planning and design guidance to reduce the impacts of heat and has been looking closely at the management of heatwave emergencies. We welcome an opportunity to discuss our work and its relevance to the proposed Resilience Toolkit in further detail.

- **Urban heat planning toolkit:** A toolkit that provides guidance to councils regarding the integration of heat-mitigation objectives in local planning policy (a new and complex area of planning) The toolkit suggests new LEP and DCP provisions, improvements to existing provisions, and outlines limitations in local planning (e.g. BASIX).
- **Cool Suburbs:** A voluntary design-support tool to identify the most appropriate urban heat interventions (adaptation, mitigation, resilience), for existing and new developments. The tool has been developed based on the leading science from top Australian universities and will provide a 'cool rating' to a development which can be marketed by a developer. Governments can incorporate the tool in DCPs or design guidelines as desired.
- **Heat Smart:** A resilience approach involves not only reducing urban heat, but also helping people adapt, and be prepared to respond in extreme events. Heat Smart Western Sydney looks at what processes and structures are needed for the city to respond to extreme and emergency events with a focus on how we can support our most vulnerable.

Recommendation:

- That the Resilience Toolkit makes use of the existing work, including WSROC's urban heat programs.

2.4.2 Apartment Design Guide & Urban Design Guide

WSROC commends the focus on resilience and heat mitigation for both the Apartment Design Guide and the Urban Design Guide.

The strong focus on green space and deep soil requirements under the apartment design guidelines are supported. We acknowledge the importance of the proposed changes supported to create air flow, sky view and maximise space for greening are supported.

In addition, heat mitigation and adaptation, design including improved shading, orientation, and guidance on façade glazing are supported. We are also pleased to see the recognition of trees as essential infrastructure.

We further commend the inclusion of EV charging to ensure developments are future ready.

WSROC points to the Urban Heat Planning Toolkit and Cool Suburbs Tool for further reference.

Recommendation:

- For the guidelines to be informed by the WSROC Urban Heat Planning Toolkit and Cool Suburbs Tool and associated research translation to ensure best-practice urban heat design is incorporated.
- Ensure cooling infrastructure is able to cope with maximum temperature extremes experienced in the local area.

2.4.3 Proposed BASIX review

Detailed comments on the proposed BASIX review are provided in section 6 of this document.

3 BASIX SEPP

WSROC strongly supports the proposed BASIX review. BASIX is an important tool to achieve more sustainable and resilient dwellings. WSROC believes that a revised BASIX SEPP and tool will allow NSW to implement best practice development, setting itself up as a national leader in addressing heat and implementing sustainability standards. Below are a range of recommendations for consideration when reviewing the BASIX SEPP.

3.1.1 Allow local government to set higher than BASIX standards

WSROC and councils strongly agree that BASIX standards should be the baseline, not the boundary. Unfortunately, under current legislation, the process for councils to implement higher than BASIX standards for local developments is highly prohibitive. As a result, higher than BASIX standards are hardly applied outside of design excellence developments. This misses the opportunity to improve the liveability of the vast new residential developments across much of Western Sydney. WSROC strongly suggests that a revised BASIX should allow local councils to impose higher or more detailed standards where local circumstances like urban heat stress warrant this consideration.

3.1.2 Regularly update climate data

Any update to BASIX should be based on the most recent climate data available. And this should be regularly reviewed and updated. For example: current peak conditions (outdoor temperatures) and weather data used in the tool are out-of-date and do not reflect the severity nor the frequency of heatwaves experienced today or expected within the life of new building stock. This is especially true in areas like Western Sydney that are particularly exposed to extreme heat.

3.1.3 Thermal comfort and thermal safety

For residential buildings within NSW, BASIX sets requirements for energy efficiency, water efficiency and thermal comfort. However, the thermal comfort standards in BASIX are not the same as a thermal safety or thermal autonomy design standard. There is no recognition of thermal safety or thermal autonomy as a fundamental objective of compliance.

Currently, thermal comfort is recognised in terms of energy use limits placed on heating/cooling systems to maintain that comfort. As such, heating and cooling caps define the maximum load placed on heating/cooling systems to maintain comfortable indoor conditions. This is an indirect measure of a building's thermal performance. While it is possible to choose no active heating or cooling, and meet the BASIX target based on passive measures, most homes include air conditioning and, in these cases, the inherent assumption is that this will function during heatwaves. However, not all homes have functional air conditioning, not all residents can afford to run it, and air conditioning is dependent on reliable power.

Furthermore, the thermal comfort requirements in BASIX are limited by the fact that the tool's peak design conditions (outdoor temperatures) and weather data are out of date and do not reflect the severity nor the frequency of heatwaves experienced now, especially in Western Sydney.

This means that houses or apartment units in NSW, including in Western Sydney, will typically get hotter, faster than they would if built to more stringent international residential building standards, or if they were built to meet current standards under future climatic conditions.

Cool homes are a vital element in addressing the impacts of urban heat. Houses are a key refuge in heatwaves and therefore need to maintain safe temperatures during extreme events. A revised BASIX should acknowledge this. WSROC urges the NSW Government to integrate good design guidance and tools on design to achieve thermal safety/passive survivability objectives. There are international precedents for stronger thermal performance standards that should be considered.

Given the severity of the risk that extreme and urban heat poses to Western Sydney, WSROC strongly rejects the proposal to trade-off energy and thermal comfort targets for three reasons:

1. Those most vulnerable to heat would be put at risk as many low-income households:
 - a. Cannot afford to run mechanical cooling
 - b. Are more likely to be renting and have no choice in energy/comfort trade-offs
2. Increasing energy use would place avoidable pressures on our energy grid.
3. Relying on energy would compromise thermal safety in Western Sydney (e.g. during black outs).

3.1.4 Compliance and post-occupancy performance

There is also evidence to indicate that in terms of actual post-occupancy performance, many BASIX-compliant homes are currently falling short of the standards reported in their BASIX certificates. Post-construction monitoring has shown that BASIX-compliant homes are not reliably thermally comfortable, despite the code's intention to deliver comfortable indoor conditions. This partly results from the BASIX assessment method (discussed above), which doesn't directly calculate comfort, instead it calculates peak heating and cooling energy demands as a proxy for comfort.

Furthermore, there is evidence that BASIX substantially underestimates average energy requirements for cooling, particularly in Western Sydney (Ding et al., 2019). The same study found that in homes with high cooling energy use, poor design and build quality were key issues. These poorly performing homes may be failing to achieve thermal comfort or thermal safety in the event of a summer power outage. This indicates a potential gap at the compliance stage. This compliance gap is something that will need to be addressed.

Several opportunities for improvement exist, including:

- Use revenue generated from BASIX certificates to continually refine and improve the tool and framework.

- Improve the compliance process, for example by mandating additional compliance visits during critical construction phases (e.g. a NSW-funded compliance officer position). In addition, BASIX compliance should be appropriately funded to ensure the integrity of the program and that efficiency targets are realised. This could involve random sampling by the BASIX Assessor Accrediting Organisations.
- Improve disclosure requirements regarding energy and water performance of residential and commercial buildings at the point of sale or lease.
- Regularly update and publicly disclose the emissions factors in the BASIX and NABERS tools, in line with tool updates.

3.1.5 Existing work to inform BASIX review

WSROC would like to highlight several studies and reports that should inform a revised BASIX SEPP:

- WSROC *Urban Heat Planning Toolkit* and *Cool Suburbs Tool* which have delivered detailed planning and design guidance indicating how urban heat contributes to thermal efficiency of a dwelling, and how this can be mitigated.
- *Future Proofing Residential Development to Climate Change* study⁴ shows the limitations of the current BASIX tool and its governance. The study illustrates the risk that homes built today will be very difficult to keep liveable in future climate conditions, particularly due to increased cooling loads. The study also found that both energy and water consumption could be expected to increase significantly in the future, with implications for equity, affordability, reliability of rainwater tanks and stability of the electricity grid.
- *City of Sydney Planning for Net Zero Energy Buildings*. This work indicates positive feasibility and developer acceptance of increased BASIX targets in line with a net zero target. Similar work is needed to confirm the viability of pathways to net zero emissions for western Sydney typologies in local markets.

Recommendation:

- WSROC urges the Government to work closely with local government to inform the new BASIX SEPP. Several councils have worked on increased BASIX targets. This existing work should be acknowledged and considered to inform the new BASIX targets
- Ensure BASIX uses the most current climate data, including expected future climate change. Sub-regional climate projections (including Western Sydney) should be included
- Review of all parameters likely to be affected by a changing climate
- Review available technologies to include new options available today

⁴ Future Proofing Residential Development to Climate Change, WSP, 2021

- Include stronger energy efficiency and thermal comfort targets
- An additional performance target for thermal safety/thermal autonomy (similar to CIBSE TM 59) is needed to address overheating risk in present and future climate conditions in western Sydney. We seek thermal safety, i.e. so conditions remain liveable without air conditioning (or when air conditioning is disabled)
- Allow the ability for local councils to impose higher or more detailed standards where local circumstances like urban heat stress warrant this consideration
- Review of the BASIX governance framework by an independent agency
- WSROC strongly reject the proposal to trade-off energy and thermal comfort targets because of the potential to compromise thermal safety, e.g. during black outs
- BASIX settings for residential gas should be reviewed in line with Government's net zero emissions target.
- Ensure appropriate training and guidance materials are developed and implemented to ensure compliance.

4 Waste and resource recovery

4.1 General comments

WSROC welcomes the opportunity to consolidate planning instruments to streamline the planning system for new development across NSW. A planning system that delivers well designed places and communities for the residents of Western Sydney that also supports the delivery of housing choice, housing diversity and housing affordability is largely supported.

The development of planning policy that recognises good design is paramount in the establishment of healthy places that support the wellbeing of people, community and Country is also welcomed.

There is support for the inclusion of the five design principles that are to be given effect within the Design and Place SEPP. Of particular relevance to waste management is *Principle 4. Design sustainable and greener places for the wellbeing of people and the environment*. It is positive to see the inclusion of guiding principles that support environmentally sustainable places and ambitious aims for design to achieve equilibrium (sustainable design) and contribute to the repair or mitigation of past damage (regenerative design).

The recognition of sustainability and circular economy as fundamental aspects of whole of life design is very encouraging. However, there also needs to be consideration on how the design and ongoing management of waste management systems for individual developments can have a significant impact on recycling and waste stream separation.

The importance of early consideration of waste management systems and how they can be integrated holistically within the development to minimise impact on amenity, is integral in ensuring good and sustainable design of places and our community. It is also important that the early consideration of waste generation and waste facilities needed within individual developments is undertaken during this early stage in securing positive sustainable outcomes that support recycling and source separation of waste. These considerations would support *Principle 3. Develop productive and connected spaces to enable thriving communities*, but appear to be absent from the Explanation of the Intended Effect.

The development of the Design and Place SEPP provides an opportunity for developments to be more sustainable with waste and recycling systems and for these considerations to be elevated within the planning considerations for new developments.

The intent of the Design and Place SEPP to move away from prescriptive controls to enable greater flexibility and support innovation and creative approaches can have positive effects across the development process and for the built environment. However, WSROC cautions that for some elements of the built environment such as waste management, there are certain standards and requirements that need to be applied to ensure developments can function safely and sustainably and can be effectively integrated with the relevant councils' waste management service.

4.2 Waste is an essential service

Waste and recycling is an essential service provided by local councils to every household. The potential impact of waste planning and service delivery on the safety, health, amenity and well-being of the community cannot be underestimated. For the best environmental and social outcomes waste management needs to be considered early on in the design process.

It is vital that the development of the Design and Place SEPP recognises that waste management is an essential element within individual developments as it is an essential service that has the ability to greatly impact on the built environment.

Unfortunately, waste is often overlooked and undervalued in the design and planning stage for new developments, resulting in poor and costly outcomes for future residents as well as perpetual impacts on the built environment from the ongoing service requirements.

For example, *Principle 3. Develop productive and connected spaces to enable thriving communities* currently excludes waste management considerations, despite the fact that essential waste services has important implications on how the development interacts between the crossover of the private and public domain.

When waste services are not considered appropriately, efficient servicing cannot occur and impedes on the ability to provide green, attractive, and safe street networks for the community. Figure 2 highlights an example of roads with sharp turns that are difficult for truck access, and rear collection laneways where waste bins are stored, but are too narrow for service vehicles.

Figure 2: Narrow streets and sharp corners not suitable for service vehicle access



4.3 Waste management issues

It is our experience that early design and consideration of waste management systems for new developments result in positive outcomes for the community, built and natural environments.

Good waste management promotes recycling, protects the environment and mitigates health and safety risks for all users. Developments with good waste management facilities minimise the impacts of waste to amenity and on occupant and community wellbeing. Waste management also needs to be considered and integrated holistically within the development as well as with other planning considerations such as landscaping, car parking and access.

Waste management requirements need to be given adequate consideration early on in the design phase of the development process to ensure safe, affordable and sustainable outcomes for the community. Unfortunately, there have been many examples of developments where waste management has been an afterthought, resulting in impeded access of essential waste collection vehicles, inadequate kerbsides resulting in bins on road thereby impacting amenity and public safety, and additional costs to the ratepayers to provide alternate service options such as smaller collection vehicles or manual collection.

Developments are also failing to incorporate well designed waste management facilities that are responsive to the waste management needs of the occupants, such as bin rooms that promote waste stream separation (see Figure 3). This has significant impact on the resource recovery rates of the development.

These impacts are easily avoidable when considered early on in the design process to ensure new developments can be integrated with the councils' waste service. However, when overlooked, greatly impact on the ability of local councils to service new developments in a safe and efficient manner. This directly translates to on-going costs that are borne by the local council and broader community, as well as adverse impacts to amenity and built environment.

Figure 3: Inadequate waste storage due to bin bay not being built to requirements.



4.4 Specific comments on the Design and Place SEPP

The following specific comments have been made on the Design and Place SEPP:

Design and Place SEPP reference	Comments
<p>Table 1 (pages 28-31)</p> <p>Proposed consideration</p> <p>5: Street Design</p>	<p>There is general support for the development of walkable neighbourhoods and consideration to be given to encouraging additional modes of transport at precinct development stage.</p> <p>However there needs to be consideration at street design stage of ensuring road widths and subdivision road patterns can safely accommodate waste collection vehicles and emergency vehicles.</p> <p>Waste collection vehicles that are used in domestic waste collection are predominantly heavy rigid vehicles. It is vital at precinct planning stage to ensure that street design and layouts are designed to the relevant council specifications to ensure that waste collection vehicles can operate safely and service developments in an efficient manner.</p> <p>Street design at precinct planning stage should also consider any required bin presentation area so it can be designed and integrated within the street design. Failure to consider any required kerbside presentation area can cause future amenity issues for residents as well as restrict pedestrian access. Poorly designed or inadequate kerbside presentation areas can also cause traffic hazards impacting on community safety.</p> <p>Street design planning considerations should include:</p> <ul style="list-style-type: none"> • Whether the precinct will have mobile garbage bins presented to the kerbside for collection (preferable for single dwellings, dual occupancy and smaller low rise medium housing developments); and • Whether nominated bin presentation bays within laneways or roads where there may be restricted access to waste collectors due to limited car parking opportunities. <p>It is recommended that the intended effect of this principle be amended to:</p> <ul style="list-style-type: none"> • Clearly articulate that considerations in street design must also extend to considering emergency and waste collection vehicle access. This includes ensuring street widths and street subdivision designs allow for the safe movement of waste collection vehicles and emergency vehicles.

<p>Table 1 (pages 28-31)</p> <p>Proposed consideration 17: Emissions and Resource Efficiency</p>	<p>There is support for mandatory considerations that give effect to the five guiding principles identified incorporated into the Design and Place SEPP.</p> <p>The inclusion of a specific consideration for emissions and resource efficiency is supported as well as the alignment with the NSW Governments commitment to zero net emissions by 2050.</p> <p>However, it is disappointing despite the importance of integrating sustainable design considerations and circular economy framework into the whole of life design of new buildings, there is a clear absence for the consideration and inclusion of on-going waste management practices within developments.</p> <p>Waste needs to be considered as an essential service and needs to be elevated in its consideration across the planning framework. There needs to be consideration of the design of waste management systems within new buildings that can be integrated with the local council waste services and support increased recycling.</p> <p>There is a real opportunity in the development of the Design and Place SEPP to establish the importance of good design of waste management systems to ensure that they are operated effectively and efficiently to improve resource recovery and improve overall environmental and built environment outcomes. This would align with the targets for resource recovery within the WARR.</p> <p>Unfortunately, the proposed mandatory considerations contained within Table 1 fall short regarding waste management practices.</p> <p>It is our experience that resource recovery across multi-unit and residential flat building developments fall well short of the resource recovery targets compared to traditional detached dwellings. Contributing factors include the poor design of waste management systems within the developments that are inconvenient for residents and occupants to utilise as well as developments failing to consider the on-going waste needs (including waste generation) resulting in developments that are difficult and costly for local councils to service.</p> <p>Our experience has shown while there have been significant improvements across new developments to incorporate sustainability design measures that support water and energy reuse and reduction, developments are failing to consider and incorporate design measures that deliver waste storage areas that enable convenient and effective waste stream separation and ensuring developments can be serviced by local councils. Good and sustainable design solutions for waste management systems support a reduction in waste generation, minimal contamination of recyclables and organics and increased resource recovery.</p> <p>The incorporation of good design solutions for waste management where they are integrated holistically within the development will not only result</p>
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	<p>in improving on-going waste management practices for the development but will also result in improvements to the overall built form of the development.</p> <p>Waste management facilities are essential elements of a development yet are often undervalued or considered too late in the design and development process. Waste management facilities are retrospectively applied and designed to fit in around other development and site considerations and constraints. This results in poor outcomes for residents and the community in regard to amenity, reduced resource recovery and costly outcomes to local councils that burden the community for the life of the development.</p> <p>There is opportunity for the Design and Place SEPP to recognise the importance of integrating waste management systems holistically within developments to secure resource recovery targets outlined within the WARR and support the NSW Government commitments to transitioning to zero net emissions by 2050.</p> <p>It is recommended that the intended effect of this principle be amended to:</p> <ul style="list-style-type: none"> Clearly articulate that the intended outcomes for the design of new developments is to improve the energy, waste and waste performance of buildings through environmentally sustainable development. Expand considerations of waste to include the ongoing and operational waste generated by the development.
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Specific comments on the Apartment Design Guide

The following specific comments have been made on the Apartment Design Guide (ADG):

Apartment Design Guide		
ADG Reference	Comment	Recommendation
Urban Design and Site Layout		
Car Parking (page 16)	<p>The proposed changes to the ADG have removed broader transport considerations and focused solely on the need to reduce car parking for higher density developments.</p> <p>While there may be some merit in a reduction in car parking rates, strict criteria needs to be applied.</p>	<p>The design objective be extended to also include vehicle access/egress.</p> <p>It is vital for medium and high density developments to consider early in the design process the need for the planning and design of on-site waste collection.</p>

	<p>This is to include whether within the proposed car parking design considerations or as a standalone criteria the need for medium and high density developments to be provided with basement car parking areas that are of sufficient area and dimensions that allow a waste collection vehicle to service the developments.</p> <p>It is accepted as better practice in waste management systems for medium and high density developments for the waste collection vehicle to enter the site to collect waste and service the development. This can be from a nominated collection point within the building footprint or within the basement car parking area where waste rooms are located.</p> <p>It is therefore essential that upfront planning for vehicle access and manoeuvring reflect the need to consider whether the development must be designed to facilitate on-site waste collection vehicle collection.</p> <p>The common standard waste collection vehicle for high density developments is a heavy rigid vehicle. Failure to consider safe and efficient access, egress and manoeuvring at the early design and planning stage of developments can have significant consequences for the development. Best outcomes for the site and the development are achieved when considerations of waste collection vehicle access requirements are considered and designed upfront in the process.</p>	<p>This means that the development will have to accommodate waste collection vehicle access and manoeuvring within the development site to the nominate waste collection point.</p> <p>It is recommended that vehicle and servicing requirements be included within the site planning criteria for new developments. This includes:</p> <ul style="list-style-type: none"> • Accommodating on-site waste collection that allows waste collection vehicles to enter/exit and manoeuvre within the site in a safe and efficient manner. • Ensures the amenity and safety of all users at all stages of the waste management process.
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Environmental performance		
<p>Promoting the use of sustainable and local materials to support net zero targets.</p> <p>(page 25)</p>		
<p>Improving waste management of mixed-use development.</p> <p>(page 25-26)</p>	<p>Local councils have an obligation to provide waste services under the <i>Local Government Act 1993</i>.</p> <p>It is vital to consider the impact of the design in the ability for the development to be serviced by local council in a safe and efficient manner.</p> <p>This needs to be undertaken early on in the design stage of the development and elevated in its consideration as an essential element of building design and function.</p> <p>It is disappointing that the criteria to be incorporated into the future ADG has been limited to mixed use developments only.</p> <p>It is strongly recommended that the development type be expanded to include all residential flat building developments including mixed use developments.</p>	<p>The design objective for waste management need to be amended to expand its applications to improve waste management for all residential flat buildings and mixed-use developments.</p> <p>Good waste management design promotes resource recovery (including recycling) resulting in improved environmental performance for the life of the development.</p> <p>Good waste management design also minimises impacts on the health and safety of all users (including waste collection staff) and the amenity of residents and the community.</p>
<p>Proposed Design Criteria:</p> <p>7: Waste Management</p> <p>Provide new design guidance: waste facilities for residential and non-residential uses to be separated.</p>	<p>The proposed new design guidance falls well short regarding the design considerations of waste management systems for new developments.</p> <p>It is vital that waste management systems are integrated holistically within the design of new developments to support improved built environment outcomes but also</p>	<p>The design criteria needs to be expanded to support the delivery of developments that:</p> <ul style="list-style-type: none"> • Ensure new developments are designed to support waste stream separation and encourage recycling.

<p>(page 26)</p>	<p>to ensure that they support the delivery of local councils waste service.</p> <p>Considerations for waste management needs to include ensuring local councils can service the developments safely and efficiently but also ensuring that waste facility design supports the on-going waste management needs of the development.</p> <p>Key considerations need to require designers, architects and future proponents to have a clear understanding of the relevant local councils waste service and the waste management needs of the development. This includes the types of waste streams generated and the waste generation rates.</p>	<ul style="list-style-type: none"> • Ensure new developments are provided with adequate waste storage facilities that minimises the impact on the built environment and protects the amenity of residents and the community. • Ensure new developments are design to support the safe, efficient and effective collection of waste by local councils. <p>Further details for the design guidance is provided in the Table below.</p>
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Recommended Design Guidance

The following guidance criteria is recommended for the design and planning of waste management systems for new developments:

General

- New developments are to implement best practice in waste management that minimises waste generation and that maximises re-use and recycling across all stages of the development.
- Waste and recycling facilities of new developments are to be responsive to the waste generation needs of the development and are to be designed to be integrated with and support safe delivery of the local waste service.
- New developments are to ensure the quality design of waste management services and facilities that are an integrated with and are a cohesive part of any new development.

Best practice

- The design and planning of waste management system for new developments is to be in accordance with the Better Practice Guide for Resource Recovery in Residential Developments (EPA, 2019).

Waste management plan

- A Waste Management Plan is required for every development application and its to clearly demonstrate how the development is integrated with the local council waste service. This is to include identifying the clear method for storage, collection, and disposal of household waste, recyclables, green waste and bulky waste.

Development application submission requirements

- A Waste Management Plan is to be submitted with every development application that:
 - Identifies the generation of waste expected from the development including general waste, recycling, garden waste and bulky waste.
 - Details how the development will manage waste generated on-site. This is to include identifying all allocated waste bins (number and size) and how they will be stored; and
 - Details how waste will be collected managed for the development. This includes responsibility for cleaning, transfer of bins between storage and collection points and general maintenance of waste management facilities.
- The Waste Management Plan is to be supported by architectural plans that:
 - Identifies the waste storage area and layout of all allocated bins;
 - Identify the waste collection point for the development site; and
 - Identifies the access/exit point, path of travel for waste collection vehicles and waste collection staff.

Requirements for waste management facilities

- Provide a well-designed waste management system in all new developments that ensures waste management services and facilities are integrated with the local council waste service and are:
 - Safe, efficient, cost effective;
 - Maximise recycling and reuse; and
 - Contribute to the built form, amenity and liveability of the community.
- The waste management system is to be designed to:
 - Complement the design of the development and be integrated cohesively into the overall built form of the development to minimise impacts on the built environment. This includes access and loading area for the waste collection vehicle and bin presentation area for collection.
 - Enhance resident, occupant and public amenity such as visually unpleasant waste.
- Ensure the design of waste bin storage areas respond to the following:
 - Are located within the building footprint (or basement) where possible;
 - Avoid locating waste storage areas between the front alignment of a building and the street to minimise impacts on the streetscape and not be visually prominent;

- Is of sufficient size to accommodate all required waste bins allocated for the development;
- Is of sufficient size and dimensions that support manoeuvring of waste bins, on-going maintenance and cleaning and onsite for any required equipment to manage waste, and waste bins (including washing and cleaning).

On-site waste collection

- Residential Flat Buildings and Mixed-Use developments are to be designed to accommodate on-site waste collection, unless otherwise specified by the relevant local council. This is to include on-site loading, manoeuvring and access by Councils Standard Heavy Rigid Collection Vehicles.