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Draft Illawarra Shoalhaven Regional Plan 2041

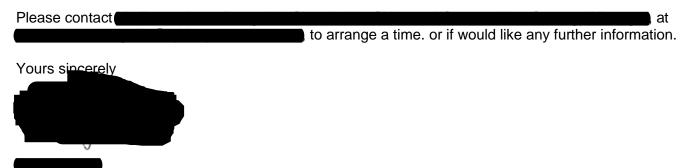
Dear Ms Jordan

Congratulations on the release of the draft *Illawarra Shoalhaven Regional Plan 2041* (the draft Plan) for public comment. Sydney Water commends the Department in the first of nine regional plans in NSW to be refreshed after five years.

As you know, Sydney Water provides water, wastewater and some recycled water services to the Illawarra communities across the local council areas of Wollongong, Shellharbour and Kiama. At the same time, the value of the services we provide extends beyond pipes and pumps to the health of the city and its people, managing the environment, and protecting the health of waterways.

Sydney Water strongly supports the vision and objectives of the draft Plan which envisages an innovative, sustainable, connected, and resilient Illawarra Shoalhaven. The draft plan's vision aligns with Sydney Water's vision *Creating a better life with world-class water services*, through its focus on resource recovery, sustainability, and circular economy. The role of water and good water management is paramount in supporting great precincts and regional centres, enabling them to grow and connect, be resilient to changing climatic conditions and support thriving, liveable and sustainable communities.

Our detailed comments on the draft Plan are attached for your consideration. We would also welcome the opportunity to discuss Sydney Water's submission in more detail and brief you about key initiatives in the region of common interest.



Head of Corporate Strategy & Corporate Social Responsibility



Sydney Water's comments on the <u>Draft Illawarra Shoalhaven Regional Plan 2041</u>

Chapter	Sydney Water comments
Introduction and Vision	Vision Sydney Water supports the draft Plan's vision. Sydney Water believes as the role of water and waterways is substantial in shaping the region's lifestyle, identity and appeal, the attraction of the region's waterways and environment could be more strongly recognised within the vision. Also, the effective management of water and water resources will enable the vision for the region to be more effectively achieved. For readability and ease, a succinct vision statement could be useful for readers, like in the earlier version of the Plan in 2015. Implementation of the Plan The draft Plan could further elaborate on implementation measures such as nominating: Supporting agencies or key stakeholders for relevant actions and strategies Agreed timeframes to assist tracking progress. Performance measures in the draft Plan to monitor the success of each action and strategy. Collaboration underpins a whole-of-government approach to strategic planning, streamline the planning process, and helps to optimise opportunities for transformational change. Sydney Water supports this approach wholeheartedly. Sydney Water acknowledges its interest in the further development of the draft Plan. Sydney Water services about 300,000 people and customers in the region with water, wastewater, and some recycled water services. Also, some of Sydney's raw drinking water is sourced from catchments in the region. We would welcome opportunity to collaborate on a number of key actions and strategies as discussed below.



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Sydney Water comments

A productive and innovative region

Objective 1: Strengthen Metro Wollongong as a connected, innovative and progressive city

- Strengthening Wollongong as a connected, innovative city provides clear opportunity for collaboration. This can be achieved through place-based planning, water sensitive urban design (WSUD), and water to enhance liveability enhancement and climate adaptation.
- Action 1: Sydney Water is open to collaborating on a number of initiatives outlined in the draft Plan including the development of a **Metro Wollongong Health precinct strategy**. Hospitals in urban settings are one of the highest water and energy users. The redevelopment of the hospital precinct presents an opportunity to improve water efficiency and establish low carbon use practice within the precinct. Opportunities to improve efficiency include for example:
 - Maximising water efficiency,
 - Capturing rainwater and, where economically feasible, recycling water for irrigation of green spaces, cooling, and toilets,
 - · Improving water leakage, and
 - Developing a water management plan.

Objective 2: Grow the region's regional cities

• Strategy 2.2: Sydney Water would be pleased to be involved in plans to enhance and shape the development opportunities for the Shellharbour City Centre and leveraging future investment in health, education, and employment.

Objective 3: Grow the Port of Port Kembla as an international trade hub

- Sydney Water has a strong interest in early collaboration on developing a green hydrogen hub at Port Kembla. The nearby Sydney Water Wollongong water recycling plant provides an ideal opportunity to participate in developing the hydrogen hub.
- Current recycled water schemes in the Port Kembla area are very successful. These include BlueScope Steel and Port Kembla Coal Terminal where recycled water is used for cooling, dust suppression, descaling, and scrubbing.
- Strategy 3.2: Sydney Water would be keen to collaborate on the development of the Port as a green hydrogen hub.

Objective 4: Activate regionally significant employment precincts to support new and innovative economic enterprises

 Sydney Water notes the draft Plan nominates several regionally significant employment precincts within our area of operation. Precincts include Port Kembla, West Dapto, Tallawarra, Shellharbour Airport, and Shell Cove Business and Technology Park.

Sydney Water comments

- Early collaboration would provide an opportunity to review the water service offering and efficient water demand management. Particularly if there are opportunities towards circular economy principles.
- For instance, defence and advanced manufacturing industries potentially provides an opportunity to utilise more recycled water in the region and conserve drinking water supplies.
- At Shellharbour Airport there is an opportunity to consider options for developing a Green Airport using Adelaide Airport as an example. At Adelaide Airport cooling towers use water from a stormwater scheme which reduced drinking water demand by 50%. We believe this also links to WQ6 in the Lake Illawarra action management program
- Action 3 and Strategy 4.1: Sydney Water would be happy to participate in the precinct collaboration teams for activating these employment precincts

Objective 6: Activate the region's harbours to promote the blue highway

- Sydney Water agrees harbours and ports are an opportunity to increase the economic contribution of marine tourism in the area. With this economic growth it is equally important there are commitments to protect water quality whilst promoting access from cruise ship and boating industries.
- The draft Plan should also address the immense value of public beaches and swimming sites bring to community recreation, health, and marine tourism for the region. The 2019-20 State of the Beaches report rated 100% of swimming sites in the Illawarra as either very good or good which make them among the best in NSW.

Objective 9: Promote agriculture innovation, sustainability and value-add opportunities

- The draft Plan highlights the transformative change in the agricultural sector contributing to zero waste, carbon neutrality and development of niche markets and high value products.
- This also presents an opportunity to incorporate more use of recycled water and water efficiency measures and help progress towards a circular economy.
- Strategy 9.1: Sydney Water recommends the draft Plan also reinforce the protection of the drinking water catchment by coordination of management activities. Collaboration with Sydney Water and Water NSW is encouraged to protect and enhance the drinking water catchment for Greater Sydney and the Illawarra.

Sydney Water comments Chapter A sustainable and resilient region beaches and marine environment regional waterways.

- Sydney Water commends the Department as it is extremely positive that the draft Plan highlights the importance of integrating land use planning with planning for natural hazards, resilience, open space and waterway health processes.
- The vision of the region leading in sustainability through collaborative approaches to reduce emissions, promoting a circular economy, acting as a hub for clean energy, using water resources efficiently is laudable. It also completely aligned with Sydney Water's vision and long-term plans for the Illawarra region.
- As stated previously, this objective could also highlight the immense recreational and ecological value of the region's
- Sydney Water would be keen to support and collaborate on many aspects of this important objective.

Objective 11: Protect important environmental assets

- Sydney Water agrees with the need to consistently manage riparian corridors and other land of high environmental value. The adoption and integration of water sensitive urban design (WSUD) principles would also be useful in their protection via local strategic planning and local environment plans.
- Strategy 11.1: A whole of catchment protection approach could also be utilised to help achieve a level of performance to reduce flow and pollutant impacts on wetlands, coastal lakes, estuaries, waterways and native vegetation to achieve healthy
- Strategy 11.4: Sydney Water agrees it is vital to protect biodiversity values when planning new development. To support this, work has been done by the NSW Government and Sydney Water in Urban Typologies and Stormwater Management to demonstrate how effective land use decisions can protect riparian areas. This work demonstrates that keeping water in the landscape can protect biodiversity and waterways. Also, that land use planning needs to be supported by effective design and water planning approaches to achieve the waterway and biodiversity outcomes sought.
- Sydney Water would be happy to brief you further on the Urban Typologies work.

Secure the health of the region's waterways and coast

Sydney Water considers this objective a very important objective of the draft Plan.

¹ Urban Typologies and Stormwater Management – achieving a cool, green, liveable Western Parkland City, Available at: https://www.sydneywater.com.au/web/groups/publicwebcontent/documents/document/zgrf/mjmy/~edisp/dd 232132.pdf

Sydney Water comments

- In Sydney Water's experience, waterway health is dependent on using WSUD approaches to retain water in the landscape. This can include raingardens, green landscape buffers, street trees (and tree pits), green roofs and walls, deep soil percolation, swales, porous and permeable pavements and rainwater tanks. These green infrastructure design approaches increase the volume of water held in the soil increasing water availability for trees and vegetation and improving urban greening and cooling and contribute to healthy waterways.
- A 'drained city' approach where rainwater is drained away from streets and buildings in hard, hydraulically efficient channels, has ensured the city's public health is protected, services are delivered efficiently, and properties are protected from local floods. However, our waterways have borne the cost of this. With the release of new urban areas, development and construction is a particular risk for waterways. Bare, disturbed soils are prone to erosion, and many development practices still entail removal, piping and relocation of waterways. This has also contributed to the urban heat island effect, because hard, drained urban areas do not hold water in the landscape meaning water is not available for natural evaporative cooling or for slow natural irrigation of trees.
- Sydney Water has proposed development compliance metrics for annual run off and flood runoff (Mean Annual Runoff Volume or MARV, and Flood Event Runoff Volume or FERV). These are outlined in our study 'Stormwater Retention and Detention for WSUD'.² Achieving these metrics would enable effective reductions in the volume and frequency of runoff. Sydney Water also provides a rigorous calculation methodology.
- Retention can also help towards flood mitigation benefits that are sought through on-site detention, potentially with greater effectiveness and more cost efficiency.
- While metrics will ideally be developed for individual catchments, Sydney Water's assessment has revealed that for most
 catchments reductions in MARV is a strong metric for achieving waterway flow objectives. In other words, if a high level of
 MARV reduction is being achieved, other waterway and stormwater flow objectives are likely to be improved. Flow volume
 reductions of between 30 percent and 70 percent are needed to rehabilitate or remediate waterways to moderate ecological
 condition.
- Sydney Water would also be pleased to brief the Department on the inter-government collaboration for the 'Parramatta River Masterplan' where Sydney Water took the lead coordinating role to help drive key actions.

² E2DesignLab 'Stormwater Retention and Detention for Water Sensitive Urban Design '(2019)

³ Parramatta River Catchment Group, 'Ten Steps to a Living River: Parramatta River Masterplan' https://www.ourlivingriver.com.au/content/uploads/2019/04/Parramatta-River-Masterplan_lores_spreads.pdf

Sydney Water comments

- **Strategy 11.5**: Sydney Water supports this strategy to implement the Government's *Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-use Planning Decisions* in local strategic planning and local plans for better water quality and ecological function.
- Strategy 11.6: Likewise, Sydney Water agrees that local plans must be aligned with certified coastal zone management plans or certified coastal management programs. Sydney Water has been involved recently in the coastal zone management plan (CZMP) for Lake Illawarra. We are also involved with the CZMP being developed for Kiama. The CZMP process provides an opportunity to align coastal protection and development with infrastructure planning, such as protecting important water and wastewater assets from coastal erosion and inundation risk. Applying a whole of catchment management approach is important to maintain and improve coastal waterway values.

Objective 12: Build resilient places and communities

- Sea level rise, coastal inundation and flooding present challenges to the performance of local water utility assets located in estuaries and low-lying floodplains. Improving our understanding of the risks of sea level rise across the region will help communities and infrastructure providers adapt to these challenges.
- Sydney Water is currently developing a Regional Servicing Master Plan for the Illawarra. This plan will highlight the necessity
 of understanding the need for adaptation. This could be done through a joint Climate study for Adaptive Illawarra to
 understand what is essential in building resilient communities, including elements such as the water demand and
 management for bushfire and flooding. The climate study could leverage the *AdaptWater* tool and *XDIGlobal* tool similar to a
 study recently completed by Sydney Water for Eastern Sydney ⁴.

Objective 13: Increase urban tree canopy cover

• Strategy 13.1: Sydney Water supports local councils' local strategic planning and local plans fostering opportunities to increase urban tree canopy cover and potentially setting targets. Sydney Water would also encourage consideration being given to appropriate tree species for planting and methods to ensure trees receive enough water to grow including via passive irrigation via stormwater.

⁴ see AdaptNSW https://climatechange.environment.nsw.gov.au/Adapting-to-climate-change/Infrastructure

Objective 14: Enhance and connect parks, open spaces and bushland with walking and cycling paths

- Action 5: Sydney Water strongly supports the Department's plan to develop a green grid for the Region to map the open space network and help identify options and priorities to improve and better connect spaces. Sydney Water recommends waterways and beaches be explicitly added to this action as a highly valued part of a blue-green corridor.
- Sydney Water is also keen to collaborate in **green grid** work as this will also help to better understand the water demand that may be needed to support healthy green spaces and opportunities for resilient water sources, such as recycled water and stormwater harvesting.
- Sydney Water would be able to contribute knowledge, including existing open space irrigation guidance, and emerging research on stormwater retention performance and design.
- Sydney Water's planning of Urban Typologies for Western Sydney has demonstrated that improved urban design can
 improve the number of pervious surfaces in urban areas, reduce harmful levels of runoff to waterways, and significantly
 improve the quality and quantity of public open space available.⁵ This also creates a large, stable demand for recycled water,
 which can improve the viability of such systems.
- As noted in the Federal Productivity Commission's 2020 report on integrated water cycle management, clear, governmentendorsed objectives for providing green public open space for communities are needed. These objectives will enable effective planning that enhances urban amenity and meets communities' needs.
- Sydney Water also has a number of easements and infrastructure corridors within the Illawarra that could form part of a green grid with the right integrated planning and controls.

Objective 15: Plan for a Net Zero region by 2050

- Sydney Water strongly supports this objective and is willing to work in partnership to develop and maximise opportunities.
- Action 6 and Strategy 15.3: Sydney Water has previously collaborated with the Ports Authority on a feasibility assessment of large-scale wind turbines along Seawall Road, south of the Wollongong water recycling plant. Wind remains a potentially significant renewable source in this highly industrial part of Wollongong. The previous study, almost 10 years ago, considered 6 x 2MW turbines feeding nearby facilities (including Sydney Water's facility) and exporting to the grid.
- Also, Sydney Water's Wollongong water recycling plant could significantly increase its biogas production through the addition
 of commercial and household food waste and new technologies that can extract more energy from wastewater. Land at and
 surrounding the water recycling facility potentially could also be considered for suitability as a circular economy hub.

Sydney Water comments

Objective 16: Support the development of a circular economy

- Sydney Water's corporate strategy is strongly aligned with this goal. 100% of biosolids produced at our wastewater treatment and water recycling plants in the Region are beneficially reused. We are currently developing a **Resource Recovery and**Circular Economy Strategic Plan which Sydney Water would be keen to talk more about with the Department.
- Sydney Water's Strategy is to shift from a traditional linear model where water is used once and disposed of, to a circular model where water and by products are captured, used and reused.
- Sydney Water can play an integral role in the development of circular economies in the Illawarra including the importance of water management in achieving a circular economy in the region.
- The Wollongong Water Recycling Plant has the assets and capability to process many waste streams (sewage, commercial food and beverage waste, fats oils and grease, household food waste) and turn them into valued resources, including recycled water, electricity, heat, grit, nutrients and bio-fertiliser. Research shows that anaerobic digestion is clearly the best carbon emissions outcomes for management of organic waste. It is also likely to reduce the cost of waste management compared to landfill and other existing options.
- Also, our co-digestion research facility at the Shellharbour Water Recycling Plant has tested a range of different food waste streams with sewage sludge. Sydney Water suggests the Regional Plan considers a range of infrastructure options for food waste collection and treatment to reduce contamination to minimum as part of new precinct planning and industry.
- **Action 7:** Sydney Water encourages the inclusion of the role of water in achieving a circular economy as a clear opportunity to limit waste and beneficially use waste products.

Objective 17: Secure water resources

- Sydney Water strongly supports the sustainable use of water resources in local strategic planning and local plans.
- Sydney Water is also supportive of increasing the use of recycled water in the region, especially where economically viable.
 Water recycling can provide a source of water which is independent of rainfall. We suggest the uses of recycled water are not just limited to new developments and irrigation. Some of the most successful water recycling schemes in the region are supplying industrial customers with recycled water. Options could include recycling wastewater, stormwater harvesting, rainwater capture, and the reuse of treated minewater.

⁵ Western Parkland City: Urban Typologies and Stormwater Solutions - Part 5 of 5, Available at: https://www.sydneywater.com.au/web/groups/publicwebcontent/documents/document/zgrf/mji0/~edisp/dd_224358.pdf

Sydney Water comments

- Sydney Water is working with the Department's Water group and WaterNSW to develop the *Greater Sydney Water Strategy* (GSWS). Sydney Water has considered new water supply options that are not rainfall dependent as also highlighted within the draft Plan. As the draft plan continues to be developed, we encourage collaboration with the Water group, Sydney Water, and Water NSW on the GSWS to plan for diversity in water sources and to promote reliable and resilient water sources.
- Ideally, the draft Plan should also link to the Greater Sydney Water Strategy currently being developed by the Department's Water group.
- Sydney Water appreciates the importance of providing secure and resilient water services to the region to support a growing
 economy and contribute to the amenity, liveability and wellbeing of residents and visitors. In the context of a changing
 climate, there are challenges that should be acknowledged, and key actions strengthened to manage water wisely.
 Especially in respect of the role of water conservation and water efficiency to ensure the wise use of valuable and finite
 resources.
- Ideally the timing of the draft Plan could be aligned with the GSWS to ensure close integration. If this is not possible, it is suggested strategy 17.1 foreshadow embedding the GSWS outcomes relevant to the region in land use strategic plans.
- Strategy 17.1: Sydney Water recommends that this strategy also includes demand reduction options as part of broader water conservation measures to promote water wise community behaviour. This will help mitigate the impacts of increased demand from growth, greening and cooling in the region, contribute to resilience during drought, and delay the need for costly system augmentations.
- Sydney Water notes the Illawarra Shoalhaven Joint Organisation work on WSUD and would be interested in
 understanding needs for capacity building in WSUD. We are also undertaking work to quantify the performance of individual
 WSUD approaches. Our Western Sydney Urban Typology study has demonstrated how improved integration of land use
 and water planning can protect waterways by significantly reducing the amount of stormwater that's discharged into
 waterways, improve local amenity, and meet urban outcomes.
- As previously mentioned, Sydney Water is in the early stages of developing its Illawarra Regional Servicing Master Plan.
 We would welcome your team's participation and collaboration on this project in 2021. The master plan will consider
 alternative approaches to water cycle management for the region relative to a conventional servicing approach over a 40year horizon. Following an economic assessment of the pathways, the master plan will set Sydney Water's servicing
 direction. Effective stakeholder engagement with government agencies and local councils is critical to the master plan's
 development.

Chapter	Sydney Water comments
	On a similar basis, Sydney Water has recently completed the Western Sydney Regional Master Plan 'Reimagining water in Western Sydney' ⁶ which you may find of interest.
	 Greater Sydney and Illawarra's drinking water catchment As the draft Plan highlights, 20% of the drinking water catchment area lies within the region. Sydney Water has a solid preference for the strong ongoing protection of drinking water quality and quantity as it is a priority for our customers. Sydney Water supports strict controls on development within the drinking water catchment area and would like to see strong ongoing protection of the broader catchments from both new and existing development and uses.
A region that values	
its people and places	Objective 18: Provide housing supply in the right locations AND Objective 19: Deliver housing that is more diverse and affordable
	 Sydney Water is making significant investment in the region to support housing and job growth. As you know, one of Sydney Water's key functions is to plan for and provide water-related infrastructure to support the timing and staging of new land release and development areas aligned with the Government's plans, including the draft Plan. To ensure the timely delivery of services, it is important that services are delivered to meet adequate and demonstrated demand from new development. Sydney Water must show its expenditure for growth infrastructure is both prudent and efficient. Sydney Water is also aware that improving housing affordability and increasing housing supply remains one of the NSW Government's key objectives and priorities, particularly on the urban fringe as well as in identified growth precincts, and the property industry remains a significant contributor to the NSW economy. Sydney Water works collaboratively with government and the development industry to understand growth trends and using
	this knowledge to inform our infrastructure planning. This ensures that infrastructure is provided in time for new development across our area of operations.
	 Sydney Water believes that ongoing coordinated infrastructure planning is essential to meet the objectives and actions in the draft Plan and the ongoing annual review of the Illawarra Urban Development Program.
	 Integrating delivery of infrastructure such as services in roadways as they are constructed will be beneficial for Sydney Water and its potential customers. Planning authorities could emphasise integrated planning in their strategic planning work, and continue to work in collaboration with all infrastructure and service agencies, including Sydney Water, from initiation. through

⁶ Sydney Water 'Reimagining water in Western Sydney: Western Sydney Regional Master Plan' 2020 https://www.sydneywater.com.au/web/groups/publicwebcontent/documents/document/zgrf/mjiz/~edisp/dd_223336.pdf

Sydney Water comments

to the strategic planning stage of new developments to effectively plan critical infrastructure, to support some of the targets, actions that are identified in the draft ISRP 2041.

- **Strategy 18.2:** Sydney Water would welcome working with local councils to facilitate housing opportunities and create more liveable strategic centres through local strategic planning and local plans.
- Strategies 18.3 and 18.4: We would welcome the opportunity to share and develop methodologies to forecast development in new growth areas, monitor housing activity through connections to Sydney Water's system network, and planning our investment programs to meet future growth.

Objective 20: Establish a shared vision for the future of Bombo Quarry lands

- Sydney Water would appreciate clarification of the location of the Bombo Quarry lands proposed for vision-setting in the draft Plan. We understand this site may not be the Bombo Headland Quarry geological site, a unique heritage feature of the region.
- Sydney Water owns part of the State Heritage Register-listed area of the Bombo Headland Quarry, while the land that forms
 the northern part of the State Heritage Register is owned by the Department. Sydney Water has worked with stakeholders to
 ensure community access to the Council-managed headland is achievable through the Sydney Water Bombo facility.

Objective 22: Embrace and respect the region's local character

- Sydney Water appreciates the special and diverse character of the region, its places and its communities.
- Strategy 22.1: We would be pleased if local councils' character statements, once prepared, could be shared with Sydney Water and integrated into the Illawarra Regional Servicing Master Plan. This master plan is currently in the early stages of development.

Chapter
A smart, connected and accessible region

Sydney Water comments

Objective 28: Create connected and accessible walking and cycling networks

- Sydney Water agrees that land owned by utilities, local councils and public agencies can be important in complementing public open space, where operationally feasible, and creating new connections to facilitate community access and enjoyment. More often this works best when agencies collaborate. The above-mentioned Bombo Headland Quarry is a good example of such collaboration.
- Sydney Water would encourage local councils to consider sustainable and efficient water management methods to supporting greening of recreational spaces and tree canopy plantings.
- Strategy 28.1: Sydney Water would be happy to collaborate with the relevant local council and other agencies to support the realisation of this important initiative. Sydney Water has easements and infrastructure corridors within the Illawarra that could be considered as part of the network and would be keen to collaborate on this key initiative.

Objective 29: Utilise smart infrastructure to drive resilience, prosperity and vibrant places

- Sydney Water strongly agrees with this objective to promote smart technology to retain and use knowledge, promote resilience and economic activity and ultimately create more liveable and vibrant places.
- Sydney Water has extensive experience in System Monitoring and Control, Internet of Things, Communications Systems, Smart Metering, and Data Analytics.
- Strategy 29.1: Sydney Water would be keen to collaborated with local councils on considering how technology can improve community engagement and information sharing in the planning process