



Department of Planning



Western Australian Planning Commission

Draft Perth and Peel@3.5million Submission Form

The Western Australian Planning Commission is seeking public comment on the draft *Perth and Peel@3.5million* suite of strategic land use planning documents. You are advised to review the documents before making your submission. They can be found at: www.planning.wa.gov.au/3.5million.asp

SUBMISSIONS CLOSE AT 5PM ON FRIDAY 31 JULY 2015.

LATE SUBMISSIONS WILL NOT BE CONSIDERED.

Please send your submissions to:

Project Manager
Perth and Peel@3.5million
Locked Bag 2506
PERTH WA 6001

or email: 3.5million@planning.wa.gov.au

Name:

Address:

..... Postcode:

Organisation (if relevant):

Email address:

Telephone no:

I wish to comment on:

- Perth and Peel@3.5million
- Central Sub-regional Planning Framework
- North-West Sub-regional Planning Framework
- North-East Sub-regional Planning Framework
- South Metropolitan Peel Sub-regional Planning Framework

If your submission is about a specific property, please include:

Lot No: Street:

Suburb:

Certificate of Title: Volume: Folio:

It would be helpful if you could include the section and/or page number that relate to your comments.

For more information about making a submission please contact:
Project Manager, Perth and Peel@3.5million: (08) 6551 9000.

PLEASE NOTE

The WAPC is subject to the *Freedom of Information Act 1992* so submissions made to the WAPC may be subject to applications under the Act.

As part of the assessment and reporting process, your submission or the substance of that submission may be disclosed to third parties. Please advise if you do not wish your name to be included in any subsequent publication or referral.

I request that my name is removed before my submission is made available to third parties.

Signature:

Date:

WATER WEST SUBMISSION

Western Australian Planning Commission DRAFT Strategy: “Perth and Peel @ 3.5 Million”

31st July 2015

Executive Summary

The WAPC Sub-regional Planning Framework (“Framework”) is an important document that will help drive and dictate the future shape and form of the Perth-Peel region. Importantly, its formulation has involved a “whole of government” approach as well as the input of the State-owned infrastructure and utility providers. However, the Framework currently lacks practical planning and implementation information with respect to key infrastructure needs and solutions. This is particularly the case with respect to water (wastewater, potable water and recycled water), a key resource that will only become more scarce and valuable as a driver of population location, growth, affordability and livability.

The Framework fails to recognise the role that decentralised local-scale utility infrastructure can play in both greenfields and infill urban development:

- **Greenfields:** The Framework defaults to the historical assumption that water and wastewater servicing for new greenfields urban development must be frontal and that consequently any development ahead of the urban front will attract a servicing cost penalty (which therefore impacts on affordability). Local decentralised servicing outcomes remove the issue of cost of lead-infrastructure extending from the urban front. Wastewater recycling and the creation of a non-potable source of water for irrigation of public open space in localities which have increasingly limited access to groundwater is a beneficial spin-off from the local treatment approach.
- **Infill:** The Framework focuses on the importance of developing decentralised District Centres as hubs of matched economic and residential activity, aiming to minimise cross movement and transport infrastructure across regions, yet it fails to recognise the role that local scale utility infrastructure can play in the location, growth and success of these centres.

The Western Australian water services sector is now deregulated¹ yet the Framework only incorporates the views and future conceptual plans of the Water Corporation. The Water Corporation model can be fairly described as a large infrastructure, “hub and spoke” network with limited design flexibility (which consequently has driven urban frontal growth, or “sprawl”). The Water Corporation also has limited focus on local water recycling initiatives².

Legacy cultural and philosophical issues aside, Water Corporation is also constrained by the financial position of the State, which will continue to duly influence its planning and decision

¹ The Water Services Act 2012 and the regulator, the Economic Regulation Authority (ERA), now encourage and facilitate private participants in the water sector whilst at the same time continuing to protect the WA consumer.

² The focus of the Water Corporation has been understandably on large-scale approaches such as the Beenyup Groundwater Replenishment project.

processes separate to what otherwise may be sensible, achievable and cost effective solutions assessed and implemented by a private sector operator. Water West is a privately owned water utility that operates precisely in this space.

Water West believes it is prudent for the WAPC, in formulating the Framework, to recognise the existence and global usage of smaller, local, decentralised water infrastructure models and recycling solutions and consult and assess where such models could deliver different planning, cost/affordability and environmental/livability outcomes, potentially with higher degrees of certainty and timeliness of implementation.

Water West thanks the WAPC for allowing submissions on the draft Framework and requests that WAPC amend the Framework as follows:

- To recognise the existence of non-Water Corporation infrastructure service providers which can deliver local decentralised water solutions (wastewater, potable water, recycled water);
- Consider local decentralised solutions in the assessment of land use planning and affordability/livability issues for the Perth-Peel region. To this end, references in the Framework to i) water and wastewater servicing needing to be on a frontal basis (including references to higher servicing costs of non-frontal development) and ii) urban development sites such as Stoneville, Parkerville and Gidgegannup being likely to remain urban deferred in the long term due to provision of service infrastructure, should be removed;
- Reference the need to consult with water service providers such as Water West, in the planning and implementation of the Framework;
- Recognise the open and effective deregulation of utilities, in areas such as water, may be an important driver of the successful implementation of the Framework including achieving environmental, sustainability and livability outcomes and meeting water recycling goals.

About Water West

Water West is a privately owned, WA-based public water utility that provides water solutions and water infrastructure, principally to large land developments and areas that can benefit from local, decentralised water recycling solutions.

Water West's aim is to be a long term, stable, trusted water utility in Western Australia. This is backed by the financial strength and infrastructure experience of our major shareholders (Brookfield Infrastructure and Azure Capital). Our Advisory Panel, Board and Management (see our website at www.waterwest.com.au), give Water West strong strategic oversight, execution capability and significant experience in owning and operating long term essential infrastructure.

Water West is interested in developing new or acquiring existing water related infrastructure assets where it can offer a competitive solution. Our current focus is providing water services to large property developments and segments of the property market that are less suited to being serviced by the government owned participants³, the main player being Water Corporation.

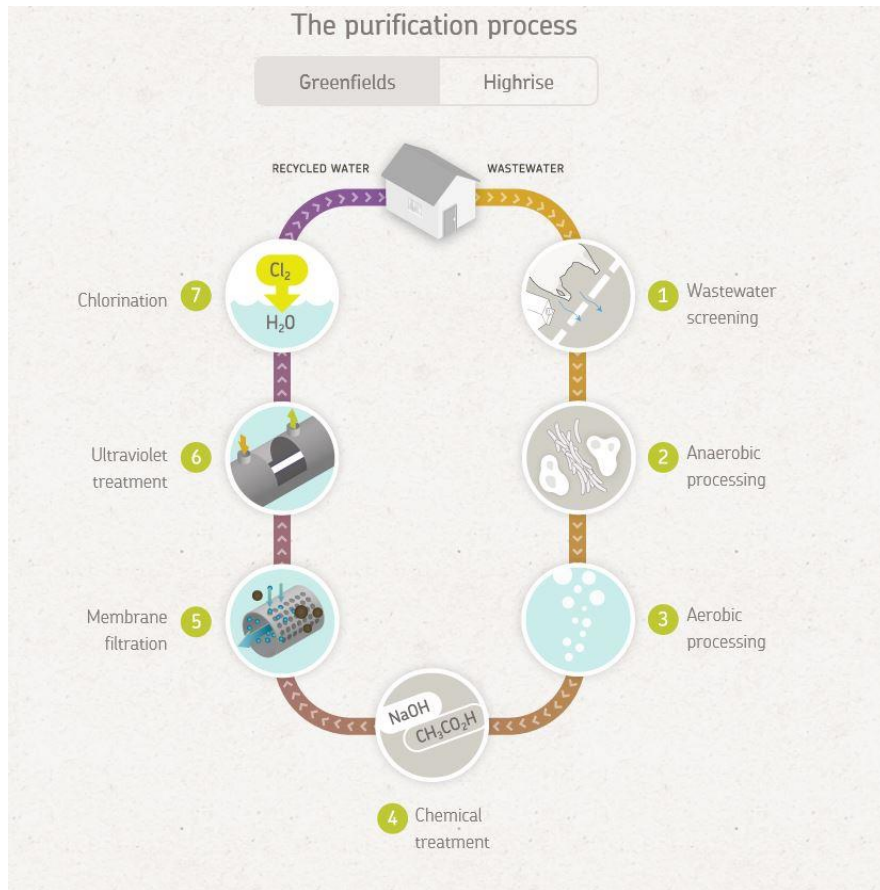
³ Water West's services are in many cases likely to be complementary to those provided by government-owned participants.

Opportunities for Water West to provide practical, cost effective solutions include:

- developments requiring new infrastructure that are not consistent with Water Corporation’s current plans;
- developments where the Water Corporation is geared towards connecting developments to its network infrastructure notwithstanding a decentralised solution is likely to be more practical, timely and cost effective;
- segments of the market requiring more flexible, specialised, innovative and smaller infrastructure design solutions;
- developments requiring a source of recycled, non-potable water for use in irrigating POS and/or supply back into homes

Decentralised Water Solutions

Decentralised water solutions refer to water infrastructure and schemes that are localised or specific to a district or geographic region, designed to service only the needs of that particular area and not otherwise connected to a bigger network system or multiregional scheme. Decentralised schemes are prevalent on the east coast of Australia and are also commonly used in many countries around the world.



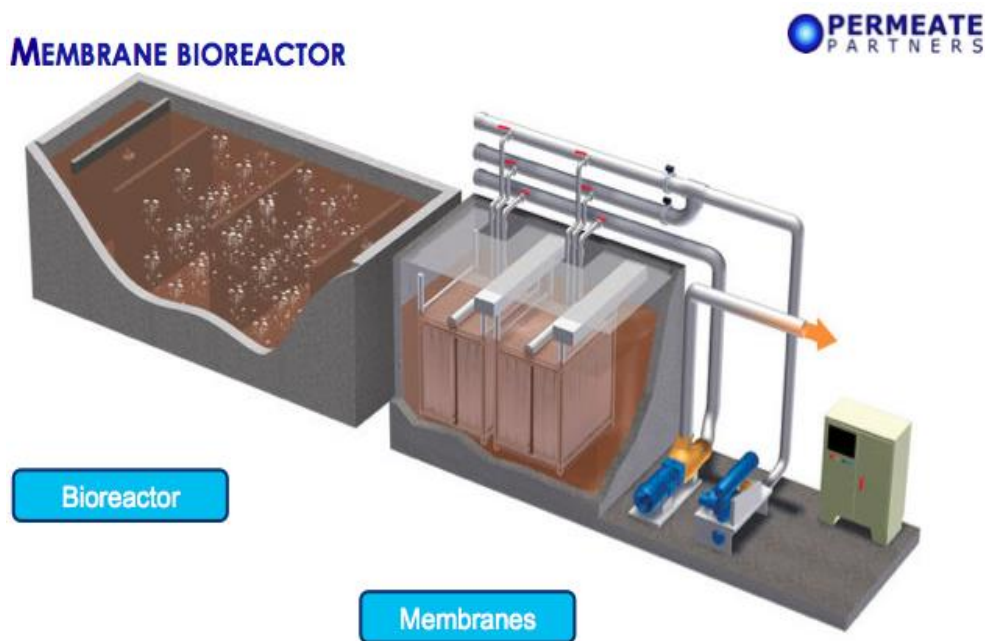
Source: Flow Systems

Decentralised water schemes are designed specifically for the area or development that they service. This contrasts to the “plug-in” approach of a network scheme where the design and specification of

the network (and any upgrades) are not tailored to the specific usage characteristics or to the actual economic and cost reflectivity of a specific development or region.

Decentralised schemes can employ a range of plant and technology specifically designed and fit-for-purpose. Decentralised schemes can be designed and used for any or a combination of water catchment, potable water and wastewater treatment and for generating a supply of recycled non-potable water for re-use.

For wastewater treatment it is common for decentralised schemes to use tertiary treatment technology such as SBR⁴ or MBR⁵ plant and equipment, technology that has been used and tested for many years around the world. These tertiary treatment plants produce effluent that can typically be disposed of in a practical and cost-effective manner, which, depending on the effluent quality and polishing⁶, may include recycling and re-use to irrigate farmland, public open space, supply back to houses (3rd pipe)⁷ and potentially allowing recharge back into aquifers⁸ and waterways.



⁴ Sequencing Batch Reactor. An activated sludge wastewater treatment process where sewage is introduced into a reaction(or SBR) tank/s and treated one batch at a time using a timed sequence of operations, consisting of filling, reaction(aeration), settling, decanting, idling and sludge wasting.

⁵ Membrane BioReactor. A wastewater treatment process that integrates a membrane microfiltration process with a suspended growth bioreactor. MBRs produce high quality effluent allowing for various discharge possibilities. Particularly suited for irrigation of public open space.

⁶ Polishing is the process removing contaminants from the initially treated (primary or secondary treatment) wastewater through a series of tertiary treatment stages, resulting in the removal of remaining suspended solids and biological oxygen demand.

⁷ “3rd pipe”, the colloquial term given to a water conveyance pipe which carries a non-potable supply of water (usually from treated wastewater or sometimes groundwater) for beneficial end-use, typically at a local scale for irrigation within urban lots and inside houses for non-potable purposes such as toilet flushing and clothes washing. The 3rd pipe is in addition to the sewage pipe and the scheme water pipe.

⁸ Managed Aquifer Recharge (“MAR”) is the process of intentionally placing and storing water in an aquifer for later human use or to benefit the environment. MAR may involve one or a combination of treated wastewater, stormwater capture or excess drainage capture.

Decentralised water solutions employed by Water West can make sense when one or a combination of the following circumstances exist:

- there is no existing infrastructure or a multiregional network infrastructure in close proximity to a development⁹.
- it is expensive to extend large, multi-regional network infrastructure to a new development, particularly in a timely manner or when financial constraints and circumstances may make timing and future costs uncertain¹⁰.
- localised water recycling is a key objective, for either use back to the house (3rd pipe) and/or for use on POS. A decentralised, closed loop solution is commonly the most practical and cost-effective way to achieve this¹¹.
- groundwater is scarce or future supply is uncertain (volume and/or cost), resulting in a need and a value for a recycled water source¹².
- where staging of infrastructure is valuable. This is far more practical and easier to incorporate in the design and cost of a decentralised system¹³.
- where land use and the footprint and buffer zone of a wastewater processing plant is relevant. Decentralised, closed loop systems utilise tertiary treatment technology, plant and equipment that occupies only small amounts of land and require minimal buffer zones¹⁴.
- where an integrated water and energy infrastructure solution which can deliver key sustainability outcomes is a key objective of a developer or government¹⁵.

MEMBRANE FILTRATION



⁹ This is currently the case with respect to the urban deferred land in Stoneville, where Water Corporation wastewater infrastructure does not exist. Point Grey is a practical example of where a decentralized water solution (Peel Water) was used to unlock zoning for development, and at a fraction of the cost of the proposed Water Corporation solution.

¹⁰ This is the case in the urban zoned Mundijong/Whitby and North Dandalup areas, urban deferred areas such as Bullsbrook and urban expansion areas like East Wanneroo.

¹¹ This contrasts to a traditional multiregional networked sewerage system (such as that used by the Water Corporation) that pumps sewerage away from a development, possibly then out into the ocean, and does not facilitate local recycling of wastewater. Areas which would benefit from localized water solutions that generate a source of recycled non-potable water include Alkimos Eglinton and Albion/West Swan.

¹² For example in Alkimos/Eglinton and Albion/West Swan.

¹³ Compared to a networked system where the ultimate solution or connection upgrade has to be built upfront in order to match the existing network. Mundijong/Whitby, North Dandalup and the Burswood Peninsula are examples where infrastructure staging is valuable.

¹⁴ This contrasts to most Water Corporation's wastewater treatment plants which use large pond systems occupying extensive amounts of land and requiring large buffer zones for odour etc. Water Corporation's Alkimos treatment plant occupies an area of over 110ha, including a 600 meter odour buffer zone. For the same wastewater treatment capacity, a decentralized solution would occupy a fraction of the land, with a buffer zone of less than 50 meters. A decentralized solution would also generate significant amounts of recycled, non-potable water.

¹⁵ Infill projects such as Innaloo/Stirling, Canning Bridge and the Burswood Peninsula are possible examples.

Benefits of Water West Approach

Water West's approach to servicing has a number of beneficial outcomes including:

- ✓ shifting the costs and servicing burden from the State to the private sector; noting that from a consumer protection perspective, these services will still be regulated by the ERA
- ✓ potentially delivering services at a meaningfully lower cost, resulting in improved affordability for homeowners
- ✓ delivering services with a greater degree of timing and cost certainty, benefiting planners, developers and homeowners alike. A product of private enterprise.
- ✓ providing more design, cost and timing flexibility to developers and planners, resulting in more innovative and interesting developments, ultimately adding to the choice, affordability and livability to consumers
- ✓ delivering significant cost-efficient water recycling results, to help achieve sustainability objectives and environmental targets and adding flexibility to the design possibilities, use and irrigation of POS – a key to future livability of districts and developments.

Water West Involvement in the Perth-Peel 3.5 Million Framework

Recognising the existence of privately funded, decentralised solutions for water services and infrastructure will allow the WAPC to explore and consider land use possibilities and therefore alternative urban forms of the Perth-Peel region, without the traditional constraint of relying only on the Water Corporation (such as its integrated network approach of large-scale catchment sewage collection and transference to the coast for treatment) as the sole solution to water services.

Water West believes it can add value in the consultation and formulation process of the Framework by introducing achievable, cost-effective ideas around decentralised, local infrastructure solutions for water services that might otherwise not be considered. For example, the landholdings at Stoneville, Parkerville and Gidgegannup are currently identified in the Framework as “*likely to remain urban deferred in the long term*” due to issues of service infrastructure provision; however if a Water West decentralised solution is considered, such a statement could not be made with respect to water services.

Such ideas could be applied meaningfully across the Perth-Peel region with respect to assessing the possible and practical use of land, achieving recycling and sustainability objectives and providing certainty and cost effectiveness of water services and infrastructure - ultimately positively affecting the affordability and livability of that land.

Water West has identified existing infrastructure needs where the use of decentralised solutions could be significantly more cost-effective versus the large infrastructure network solutions proposed by the Water Corporation, without compromising the service quality or ability for future growth in these areas and in most cases providing a non-potable supply of water (through wastewater recycling) for irrigation of public open space where access to groundwater is limited/not available.

Such situations would be a win for the State, taxpayers and would also free up additional financial resources of the Water Corporation for use in other areas deemed important by the WAPC.

Sub-regions where Water West could add valuable input to the planning process include:

North West	North East
▪ Yanchep and Two Rocks	▪ Bullsbrook
▪ Eglinton	▪ West Swan (Albion and Brabham)
▪ East Wanneroo	▪ Parkerville
	▪ Stoneville
Southern and Peel	▪ Gidgegannup
▪ Mundijong and Whitby	
▪ Nambeelup	Central
▪ Karnup	▪ Stirling City Centre
▪ Ravenswood	▪ Burswood Peninsula
	▪ Canning Bridge