

# WASTEWATER MANAGEMENT

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### ADELAIDE

## UPDATE ON THE ONSITE SYSTEMS CODE REVIEW

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# *Purpose of Review*

- **To address failures**
  - Installation, operation & maintenance
- **To address awareness / training**
  - Developers, designers, installers, servicing agents, EHOs and home owners
- **To achieve better catchment management**
- **To include new approaches**
  - Greywater reuse, new or alternative technology
- **To have one-stop shop**
  - Local councils to administer all types of onsite ww installations  $\leq 20$  EP; between 20 to 50 EP voluntary

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# National Approach

- **AS/NZS 1547 Onsite ww management**
  - Management including development, design, installation operation, maintenance & training
  - Land application of final effluent
- **AS/NZS 1546.1, 2 & 3 – Product standards**
  - For septic tanks, composting toilets & AWWTP
  - Quality Assurance, Pre- approval testing
- **AS/NZS 1547-** To include risk management, greywater, larger than 10 EP ► ► all in SA Code

# *Approach Taken in SA Code Review -1*

- Adopted AS/NZS 1547
- A Performance Based Approach
- US EPA Wastewater Treatment Systems Manual has also “performance based” approach
- Other States have similar standards
- Qld Code is very similar: contents & format
- NSW & VIC Codes contents very similar

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# ***Approach Taken in SA Code Review - 2***

- **Quality Assurance of products and installations**
- **Better soils classification and land applications**
- **Restrictions on setbacks**
- **Restrictions on system type**
- **Record keeping and auditing by Councils**
- **Reserve area requirement**
- **Developers to demonstrate suitability of onsite systems vs reticulated systems**
- **Training – of all stakeholders**
- **Certification**

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# Quality Assurance of products and installations

- Pre-approval testing of products
  - Ongoing quality assurance (yearly SAI Global or equivalent assessment and reporting)
  - Five yearly renewal of approvals
- 10% of all installations every year
  - First 12 months at the expense of manufacturers – administered by DH
  - Older systems at the expense of homeowners – administered by councils

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# Quality Assurance of products -1

- Pre-approval testing of products
- Ongoing quality assurance (*yearly SAI Global or equivalent assessment and reporting*)
- Five yearly renewal of approvals

This is already in place in the Eastern States : NSW, QLD and VIC

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# Quality Assurance of products – 2

- Pre-approval testing of products - Structural
  - Septic tanks : In accordance with AS/NZS 1546.1; and
  - Others / further treatment systems:
    - As per AS/NZS 1546.1 or
    - As specified by the DH
- Pre-approval testing of products - Final effluent / end product quality
  - In accordance with AS/NZS 1546.2 or 1546.3, or
  - Non- Standard systems as specified by DH

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# Quality Assurance of installations

- Yearly tests of final effluent / end product
  - 10% or a minimum of 5 systems of each model installed (or the total no if less than 5 installed) – Randomly chosen by DH
  - First 12 months at the expense of manufacturer
  - Older systems at the expense of homeowners
- +
  - Auditing of installations by local Councils

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# *Better Soils classification & Land application*

- AS/NZS determines soils in detail
- Land applications are not only based on “permeability”
- Long term application rates of soils are considered in AS/NZS 1547
- Design application rates depend on the soil type and land application method

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# *Reserve area requirement*

- Reserve area as a future land application site
- No development on the reserve area

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# Setback Distances

- **Not one distance for all effluent types!**
- **A Modelling study considered**
  - 5 types of soils
  - 4 types of effluent quality
  - BOD, SS, EColi, Viruses, Protozoa, Helminths, N ( $\text{NH}_4$ ,  $\text{No}_x$ ,  $\text{N}_2$ ) and total P
  - Vertical and Horizontal movement

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# *Restrictions on setbacks*

- Setbacks are based on
  - Effluent quality, and
  - Soil type, and
  - Environmental sensitivity of the area
- Categories of Environmentally Sensitive Areas
  - Water Protection areas – with specific reference to River Murray
  - Coastal areas
  - Elsewhere

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# Restrictions on setbacks vs system type

- **Septic tank effluent disposal**

- **Not allowed** in Water Protection Areas including River Murray
- **In sandy soils in coastal areas** 70 m+ additional distance as per the Council Development Plans & Coastal Protection requirements
- 70 m **in sandy soils elsewhere**
- 50 m **elsewhere with other soil types**

- **Aerobic / secondary system effluent disposal**

- 50 m + additional distance as per the Council Development Plans & Coastal Protection requirements in coastal areas
- 50 m from watercourses in Water Protection Areas
- 100 m or above 1956 flood levels - River Murray
- 50 m in sandy soils elsewhere; 30 m elsewhere in other soil types

- **Nutrient removed effluent:** 100 m River Murray; 50 m in Water Protection Areas; 50 m + additional distance as per the Council Development Plans & Coastal Protection requirements in coastal areas; 50 m in sandy soils elsewhere; 20 m elsewhere other soils

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# *Record Keeping and Auditing by Councils*

- Councils to maintain accurate records of
  - Approvals
  - Installation and servicing details
- Councils will ensure owners hold copies of these details
- Councils are recommended to audit installations

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# *New Developments: suitability of onsite systems*

- For all new subdivisions, developers must
  - Assess the option of reticulated system
  - Compare with onsite systems, and
  - Demonstrate that chosen option best meets performance requirements
- Assessment is to consider
  - Public health, environment, legal & economic factors

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# *Training – of all stakeholders*

- Site evaluators & Designers
- Installers & plumbers
- Servicing Agents
- EHOs
- Home owners – on the web info

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# Certification

- Plumbers – Completion certificate  
Parallel to SA Water requirement
- Designers and/or installers to certify their work, or
- Independent certification by third parties

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# *Where to from here*

- Changes to Regulations
- Seeking Comments
- Implementation
- Grace Periods
- Connections to Communal Wastewater Systems Code

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