Government of **Western Australia**
Department of **Health**

Consultation Summary

Draft Code of Practice for Onsite Wastewater Disposal in Western Australia

November 2024

health.wa.gov.au

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Executive Summary

In early 2021, as part of the implementation of the *Public Health Act 2016*, the Department of Health (the Department) released the consultation paper Managing public health risks from wastewater conveyance, treatment and disposal in Western Australia. The consultation paper focussed on two key areas:

- reticulated and non-reticulated sewerage schemes
- onsite wastewater systems.

The consultation resulted in several recommendations for managing public health risks associated with wastewater management. These recommendations included the development of a new regulation to replace the *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974* under the *Health (Miscellaneous Provisions) Act 1911* and the development of a Code of Practice to guide the design, installation and maintenance of onsite wastewater systems based on Australian Standards. It is intended that the Code of Practice will apply to domestic, commercial and industrial onsite wastewater systems installed in Western Australia.

In 2023, the Department released an online consultation survey on the draft *Code of Practice for Onsite Wastewater Disposal in Western Australia* (draft Code) for industry and public comment on:

- the roles and responsibilities (regulatory environment)
- approval processes
- site and soil evaluation and performance criteria for individual lots
- product approval process for manufacturers of onsite wastewater treatment systems
- land application systems
- sizing of wastewater systems
- operation and maintenance of onsite wastewater systems
- checklists for installers for wastewater and land application systems
- filter systems and supplementary technology
- typical components used in land application areas.

Thirty two submissions were received from local government, industry, environmental health practitioners, professional associations, state government, consultants, mining, property management and the general public.

Respondent feedback indicated broad support for the draft Code and the need to provide training to local government and other key stakeholders.

The Department of Water and Environmental Regulation (DWER) is a key stakeholder in wastewater management and provided feedback in relation to setback distances and nutrient

disposal with regard to onsite wastewater systems. To avoid duplication on setback distances and nutrient disposal, the Department has removed any reference to these requirements in the draft Code.

Several minor amendments will be made to the draft Code to improve clarity and readability.

Other changes to the draft Code will be made to address inconsistencies with other agency policies and to avoid gaps in data presented in the draft Code.

Next steps

The Department will progress the development of the new regulations for managing the public health risks of wastewater which will incorporate the Code of Practice for Onsite Wastewater Disposal.

Glossary and terms

Aerobic treatment

Treatment that uses bacteria in the presence of oxygen to break down waste.

Application area (AA)

A designated area intended for the application of treated wastewater for further treatment, absorption, or evaporation.

Application system

The system used to apply effluent from a wastewater treatment system into or onto the application area.

Australian Qualifications Framework (AQF)

The national policy for regulated qualifications in Australian education and training.

Authorised officer

Has the meaning in section 24 of the *Public Health Act 2016*.

Biosolids

Stabilised organic solid residues generated from municipal treatment of domestic and industrial wastewater.

Composting toilet (waterless)

A device that receives and treats human excreta, organic matter as outlined by the manufacturer for aerobic stabilisation processes to produce a product that is suitable for disposal.

Desludging

Removal of accumulated sludge and/or scum from a septic tank, other treatment system, pumps sump or holding sump/well.

Durable notice

A form of notice that is permanently fixed to buildings. Information is clearly written and should be of materials that will not deteriorate or fade over time.

Effluent

The liquid discharged from a wastewater system.

Greywater

Domestic wastewater from baths, showers, basins, and laundries, specifically excluding water closet and urinal wastes.

Groundwater

A body of water in the soil, all the pores of which are saturated with water. If the body of water is present at all times, it represents permanent or true groundwater.

Holding tank

Tank or vessel used for the temporary containment of wastewater prior to approved disposal.

Hydraulic loading

The liquid flow required to be handled by the wastewater system.

Irrigation

The distribution of effluent into the topsoil by a shallow subsurface or covered surface drip irrigation system, a shallow subsurface low pressure effluent disposal system (LPED) irrigation system or an above ground spray irrigation system.

Onsite wastewater disposal

Disposal of wastewater on an application area within an individual lot boundary using an onsite wastewater system.

Partners in Government Agreement

An agreement made in 2021 which seeks to strengthen the relationship between the state and local government sector for the benefit of Western Australian communities**.**

Primary treatment

The separation of suspended material from wastewater by settlement and/or floatation in septic tanks, primary settling chambers etc, prior to effluent discharge to a secondary treatment process or to a land application system.

Public Drinking Water Source Area (PDWSA)

Public drinking water catchment and recharge areas that are water reserves, catchment areas, or underground water pollution control areas constituted under the *Metropolitan Water Supply, Sewerage, and Drainage Act 1909* or the *Country Areas Water Supply Act 1947*.

Reticulated sewerage

A network of sewers managed by a water service provider that conveys sewage from any development or subdivision for treatment and disposal offsite.

Secondary treatment

Aerobic biological processing and settling or filtering of effluent received from a primary treatment process. Effluent quality following secondary treatment is expected to be equal to or better than 20 mg/L 5-day biochemical oxygen demand (BOD5) and 30 mg/L suspended solids (SS).

Septic tank

A single or multiple-chambered tank through which wastewater is allowed to flow slowly to permit suspended matter to settle and be retained, so that organic matter contained therein can be partially decomposed (digested) by anaerobic bacterial action in the liquid. The term covers the tanks that are used to treat wastewater, greywater and blackwater.

Setback

The distance that an onsite wastewater system or land application system must be situated from any building, structure, boundary, watercourse, body of water, groundwater or other components of the wastewater system.

Sewage

Any waste composed wholly or in part of liquid including wastewater.

Site and soil evaluation (SSE)

The evaluation of site and soil characteristics and the assessment of public health, environmental, legal, and economic factors associated with onsite wastewater disposal in a development area, subdivision, or individual lot.

Sludge

Unstabilised concentrated organic solids produced during a wastewater treatment process.

Watercourse

(a) any river, creek, stream, brook, estuary or inlet, into which water flows (including if flow is intermittent or occasional).

(b) any collection of water (including a reservoir) into, through or out of which anything coming within paragraph a) flows.

(c) any place where water flows that is prescribed by local by-laws to be a watercourse.

and includes the bed and banks of anything referred to in (a), (b), or (c).

Wastewater

Any kind of faecal matter, urine or sewage composed wholly or in part from human sources. It includes any sewage from premises used for domestic purposes, for the housing of animals, or for commercial food production, but does not include liquid waste.

Acronyms

ANZECC	Australian and New Zealand Environment and Conservation Council
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
AS	Australian Standards
AS/NZS	Joint Australian/New Zealand Standards
CEO	Chief Executive Officer
CHO	Chief Health Officer
DWER	Department of Water and Environmental Regulation
EHD	Environmental Health Directorate
NCC	National Construction Code
WALGA	Western Australian Local Government Association

Introduction

The 2021 consultation on Managing public health risks from wastewater conveyance, treatment and disposal in Western Australia resulted in 51 recommendations for the effective management of associated public health risks.

These included the need for regulation,, the adoption of Australian Standards where appropriate and the development of a draft Code.

The Department supports the development of new wastewater regulations, and the adoption of a Code of Practice is designed to inform and guide consumers and industry. It is intended that the regulations and Code of Practice will be implemented under Stage 5B of the *Public Health Act 2016*. Stage 5B is scheduled from 2026 onwards.

As part of the development of new regulations, the draft Code was prepared for further consultation with industry, local government, and the community.

It was released for further comment on 7 July 2023 for a 12 week period.

This report summarises feedback received on the draft Code.

Background

In 2016, the *Public Health Act 2016* (the Act) was partially enacted. Full implementation, which is being undertaken in stages, will involve the repeal of the *Health (Miscellaneous Provisions) Act 1911* (Health (MP) Act) and all subsidiary legislation including the *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974*.

New risk-based regulations will be developed under the Act. Section 304 of the Act provides broad powers for making regulations and allows regulations to authorise, prescribe, require, prohibit, restrict or otherwise regulate a number of matters.

In the lead up to the full implementation of the Act, the Environmental Health Directorate (EHD) reviewed all environmental health regulations adopted under the Health (MP) Act. The review considered whether certain public health risks should continue to be regulated under the new framework provided by the Act, or whether these risks could be effectively managed through a local law, other legislation or a guideline.

In relation to the *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974,* it was determined that new risk-based regulations would be developed.

The consultation on the draft Code is part of the regulatory review process leading up to Stage 5B.

Methodology

The principles of community engagement used in this consultation are contained in the Environmental Health Directorate's Customer Service and Stakeholder Engagement Charter. These principles are consistent with the 2021 Partners in Government Agreement with local government.

The consultation process, timeframe and methodology used were designed to elicit local government council-endorsed views and practitioner observations on the draft Code.

The consultation methodology for the draft Code included:

- the publication of an advertisement July 2023
- a website page publicising the online survey with links provided to the consultation paper
- articles in WALGA's Community and Place newsletter
- an article in the Environmental Health e-news
- an article in the Department of Health's Health Happenings newsletter and Twitter/X account
- emails to peak stakeholder groups such as WALGA and Local Government Professionals (WA)
- emails to industry/professional groups and communities of practice, including 137 local governments, wastewater system manufacturers and installers, geotechnical engineers and plumbers who were invited to submit feedback.

The Department released an online consultation survey on the draft Code that was designed to encourage feedback, suggestions and improvements from stakeholders engaged with the current regulatory practices for onsite wastewater disposal.

The online survey comprised a total of 24 open ended questions concerning:

- the roles and responsibilities (regulatory environment)
- approval processes
- site and soil evaluation and performance criteria for individual lots
- product approval process for manufacturers of onsite wastewater treatment systems
- land application systems
- sizing of wastewater systems
- operation and maintenance of onsite wastewater systems
- checklists for installers for wastewater and land application systems
- filter systems and supplementary technology
- typical components used in land application areas.

This report summarises the key themes raised from the submissions received in response to the online survey.

Anonymous submissions were not accepted. Respondents were required to indicate whether their submission was being made in an individual capacity or on behalf of an organisation. Respondents were also asked to indicate a preference for whether their comments should be treated as confidential, noting that submissions may be subject to release under the *Freedom of Information Act 1992*.

The comments in this document represent the views of respondents only and should not be taken as the views of the Department.

Out of scope

Some responses were not included for the following reasons:

- The comments were incomplete, unclear, or anonymised.
- Survey answers were outside the scope of the consultation.

Structure of the report

This report incorporates respondent feedback to the provisions of the draft Code, including suggested amendments. Specific provisions that did not attract commentary were not considered.

The final section of the report summarises the key recommendations proposed by respondents and provides an opportunity to clarify issues raised.

The report concludes with recommendations designed to improve local government and industry understanding of the operation of the draft Code. Submissions provided useful insights and the Department thanks respondents for their feedback.

Survey results

Overview of survey respondents

A total of 32 respondents provided submissions (**Table 1 and below for explanation**) of which:

- 13 submissions were from Environmental Health Officers (EHOs) working with local governments (with only 2 submissions endorsed by their Chief Executive Officer (CEO)
- 7 submissions were from industry
- 3 submissions were from Environmental Health Professional Associations
- 3 submissions were from individual members of the public.

Potential for bias

The same response template was received from 5 local governments and 3 environmental health professional associations. Five submissions from industry (that comprised manufacturers of wastewater products) were from the same franchise, with each providing the same submission. One member of the public and a local government submitted the same response. The use of a template response by these groups means there were only 14 different submissions.

All submissions were included as individual submissions when reporting percentage of respondents (n=32). However, the comments were considered as a single comment representing the group as a collective.

This representation has a potential to create bias in the results obtained and in the comments that have been received.

This should be considered when interpreting the percentage responses.

Table 1. Summary of Respondent Categories

Respondent categories	Number of submissions
Consultants	2
Industry	7[1]
Local government	13[,23]
Mining	2

[1] Five of the 7 submissions were from the same franchise.
[2] Two local government submissions were endorsed by the CEO.
[3] Of the 16 environmental health practitioners (13 local government and 3 Environmental Health Professional Associations), 8 used the same response.

Environmental Health Professional Association	3[3]
Property management	1
Public	3[4]
State government	1
Total	**32**

Confidentiality of responses

Most respondents did not require their responses to be kept confidential (81%, n=25) with 5 respondents requesting confidentiality. These names were deidentified from the respondent list.

Table 2. Distribution of responses when asked about confidentiality of responses

Option	Total	Per cent (n=32)
Yes	6	19
No	25	78
Not Answered	1	3

Chapter 1: Wastewater regulatory environment

Questions 5 to 7 sought feedback on the first chapter of the Code.

Chapter 1 identifies the roles and responsibilities of various parties involved in the manufacturing, purchasing, design, installation and approval of onsite wastewater systems and discusses the objectives and application of the Code including reference to Australian Standards.

Question 5. Do you have any concerns with installers having to be 'Recognised Persons' by the Department for the purposes of installing an onsite wastewater system?

Fifty six per cent of respondents did not have any concerns with installers having to be recognised persons (Table 3).

Table 3. Distribution of responses in relation to any concerns with installers having to be 'Recognised Persons' by the Department for the purposes of installing an onsite wastewater system

[4] One member of the public response was identical to a local government response.

Option	Total	Per cent (n=32)
Yes	11	34%
No	18	56%
Not Answered	3	9%
TOTAL	32	

Question 6. If you responded yes to the previous question, please outline the reasons for your concerns.

Seventy-five per cent of respondents either did not comment, or their responses were out of scope or did not answer the question asked.

Three concerns were raised:

- installers should be registered by the Plumbers Licensing Board
- specific qualifications not required to be a recognised person
- the Department of Health creating and regularly updating a list of recognised persons.

Registration with Plumbers Licensing Board

Twenty-five per cent of respondents expressed concern that installers of wastewater systems should be registered by the Plumbers Licensing Board.

The Department subsequently consulted with the Plumbers Licensing Board members who advised registration was impractical and strict enforcement could be challenging, adversely affecting skilled installers already working in the field, such as earth-moving contractors, resulting in a shortage of installers, particularly in regional areas.

Specific qualifications and recognised person

Concerns were raised by 10 per cent of respondents that no specific qualifications are required to be ‘recognised persons’ under the draft Code.

The Department acknowledges these concerns. However, as noted by the Plumbers Licensing Board, it is impractical to restrict installation of onsite systems to plumbers.

The Department considered an option to mandate licensing of wastewater system installers, but as there are currently no qualifications recognised under the Australian Qualifications Framework (AQF), or training providers to set out a competency criterion, the Department is unable to licence this activity under the Act. It is anticipated that as the industry grows, training providers will offer courses to assess the competency of recognised individuals.

Updating lists

One respondent raised questions about the Department creating and regularly updating a list of 'recognised persons'. The Department will explore this option further.

Question 7. Please provide any feedback relating to the 'roles and responsibilities' outlined in Chapter 1.

Approximately half of respondents (56%, n=16) provided additional feedback on Chapter 1. Feedback themes included:

- concern regarding additional costs to access Australian Standards
- concern regarding additional costs associated with larger onsite wastewater systems and site and soil evaluation requirements due to the introduction of Australian Standard AS/NZS 1547:2012
- how enforcement agencies will monitor and record routine maintenance activities and options for modified penalties for non-compliance
- concern regarding a potential increase in the complexity of the onsite wastewater system approval process due to the adoption of AS/NZS 1547:2012.

Additional costs to access Australian Standards

Concerns were expressed by 36 per cent of respondents that numerous Australian Standards referenced in the draft Code would pose an additional cost burden.

There is a cost to purchasing reference materials, primarily stemming from the main reference document, AS 1527:2012. An alternative option is to access most of the referenced materials through the National Construction Code Referencing Set Suite offered by Standards Australia.

Given that local governments are involved in assessment of building permits and the essential documents are included in the NCC referencing set by Standards Australia, it is expected that both industry and local government, which charge for their services, should have access to the necessary documents required to conduct professional assessments. Australian Standards can be accessed for free at the State Library of Western Australia.

Additional costs of larger onsite wastewater systems and site soil evaluation

Additional costs were identified by 36 per cent of respondents associated with AS/NZS 1547:2012 related to site soil evaluation requirements and the potential for larger wastewater system requirements.

The primary objective of new wastewater regulations and the proposed Code of Practice is to protect public health by ensuring onsite systems are safe and reliable and to provide consistency across different local governments. Australian Standards are designed to provide guidance on the specifications for systems and practices that are safe, consistent and reliable,[5] having undergone extensive review by technical committees. In addition, this would not represent a widespread introduction of building costs as onsite wastewater systems may only be installed where reticulated sewerage is not available.

[5] Australian and other Standards | Safe Work Australia

Unlike the existing regulation, which solely placed accountability on the permit-issuing officer (EHO), the new wastewater framework aims to distribute this responsibility. The draft Code incorporates shared responsibility so that every aspect of a wastewater system, from the site soil evaluation to installation and use, will ensure system functionality throughout its lifespan.

Monitoring and recording routine maintenance activities

Information was sought by 28 per cent of respondents on how enforcement agencies will monitor and record routine maintenance activities and the need for modified penalties for non-compliance.

Each local government will be able to identify how they will monitor and record routine maintenance activities as each local government has their own system and processes for managing workflow. Modified penalties have been proposed in new wastewater regulations that can be used for enforcement purposes.

Increased complexity

Twenty-five per cent of respondents stated that reliance on Australian Standards has potential to complicate the approval processes by increasing the complexity of the application process and including requirements for maintenance. It is anticipated there will be a change in the application assessment process and the draft Code provides a clear flow chart for stakeholders to follow. The Department will prepare and provide information and materials such as approved forms and checklists for local government and other stakeholders to guide them through the approval process.

Concerns were raised by 12 per cent of respondents around the use of engineers to certify system designs over 2000 L. The Department considers it appropriate for large onsite wastewater systems to be certified by a qualified engineer considering the increased public health risk should a large system fail. Certification also provides accountability for the engineers designing the systems.

Nearly 10 per cent of respondents indicated support for the proposed ‘roles and responsibilities’ outlined in Chapter 1.

Chapter 2: Approval process

Chapter 2 of the draft Code focuses on the installation approval process, the role of local government and the Department in the process, the requirements for lodging an application to install, certification and approvals. A checklist for installers is also provided in Appendix A of the draft Code.

Question 8. Please provide any feedback relating to the removal of the hydraulic loading design capacity for local government approval.

This question was answered by 72 per cent of respondents. Answers provided were often outside the scope of the question.

Of those that answered the question, approximately 22 per cent indicated support for the removal of the 540 litre threshold for local government approval.

One respondent from local government stated:

Initially had concerns but after the seminar where it was explained how the roles and responsibilities worked, I don't think the hydraulic design capacity is that relevant due to the new process which includes an evaluation and design requirement with confirmation of AS compliance.

Comments on the removal of hydraulic loading design capacity for local governments were received by 46 per cent of respondents. A query was raised about whether the Department would provide more product approvals for larger capacity systems.

The Department is considering no longer issuing product approvals. For systems with a hydraulic load up to 2000 L/day, products certified to AS 1546 could be approved for installation. For larger systems with a hydraulic load of over 2000 L/day, engineering certification would be required to be submitted to the local government with the application for installation.

Question 9. Please provide any feedback relating to the requirement of engineer certification for hydraulic loading capacity exceeding 2000 L per day.

This question was answered by 75 per cent of respondents. Many supported certification of system designs that exceed 2000 L per day.

Some respondents were unclear about the difference between a product approval and certification of a system and why both were required.

The requirement for certification of systems over 2000 L/day was based on AS/NZS 1547:2012 which covers systems designed for domestic flows of up to 14 000 L/week. The flow limit of 14 000 L/week represents an average flow rate of 2000 L/day for a single residence of up to 10 people or an institution or commercial facility that may have a varying 5 to 7-day operation that is averaged out over a full week (AS/NZS 1547:2012). Further information and training will be provided by the Department when the new regulations are introduced.

Out of scope responses referred to the qualifications of persons certifying a system and the request for engineers to provide their public liability insurance details.

Question 10. Please provide any other comments or feedback related to Chapter 2.

Of the 63 per cent of respondents who provided feedback, 41 per cent of the submissions were out of scope. These submissions referred to training for authorised officers or sought clarification.

In-scope responses focussed on section 2.2.6 which details requirements for a durable onsite wastewater system notice.

Out of the 5 comments received, 4 related to the Department providing a template of the notice with further comment concerning who provides the notice. The durable notice is to be supplied by the installer and a copy provided to local government for record keeping. The Department will provide a recommended template outlining the details that need to be supplied.

Proposed regulations will require an onsite wastewater system to be registered with local government and should be transferred if the property changes hand. Submissions queried whether the transfer of an onsite system registration would increase local government

workload. It is noted that local governments are already involved with providing information as part of the transfer of land process and it is envisaged this would be included in this process. Fees and charges may be collected for such services under the framework outlined in Part 6, Division 5, Subdivision 2 of the *Local Government Act 1995*. The requirement for registrations is outside of the scope of the draft Code.

Two respondents provided feedback on the requirement for the 100m set back distance of watercourses or water bodies from a proposed onsite system that must be included in a site plan. One respondent suggested the setback distance should be 30m but did not provide evidence as to why this was appropriate. The other respondent stated that they have 300m and 500m well head protection zones and would like to see the document updated to capture this. The Department has updated the draft Code to support setbacks as per State Planning Policy 2.9 that involve drinking water areas.

One respondent proposed waiving requirements for site soil evaluations for commercial and industrial site. The Department does not support this position. The wastewater discussion paper and its summary concluded that an exemption could be granted for a site soil evaluation for a single residential development at the discretion of an authorising officer, and the authorised officer should clearly document the reasons for the exemption and provide information about the soil type to the applicant.

Strong support that exemptions should not be granted in Public Drinking Water Source Areas (PDWSA) was indicated in the submissions. This position aligns with the Department's direction and will be added into the draft Code.

Chapter 3: Site and soil evaluation and performance criteria

Chapter 3 of the draft Code outlines the procedures for site and soil evaluations for individual lots and the performance criteria for an onsite system.

Question 11. Please provide any feedback relating to the Site and Soil Evaluation (SSE) Exemption Criteria.

Sixty-five per cent of respondents answered this question.

Approximately 34 per cent of respondents raised concerns regarding requirements for a site and soil evaluation where the local government is already aware of soil conditions.

A respondent from a regional centre stated:

Many councils have sandy soils throughout their district. The EHOs at these LGAs are not keen to impost the cost of an SSE when it will confirm what they already know.

The draft Code provides that an exemption may be granted at the discretion of the authorised officer for a single residential lot in accordance with the exemption criteria in section 3.1.1.

The authorised officer will be responsible for documenting the rationale behind the exemption and providing the property owner or applicant with information on the soil type in the designated area.

Twenty-eight per cent of respondents proposed EHOs should also have the authority to waive the site and soil evaluation requirement for commercial sites.

The management of wastewater for commercial sites or lots with more than a single dwelling can be more complex than lots with a single residential building. There are potentially different wastewater streams (sewage and trade waste), larger volumes of wastewater, additional structures which may reduce the space available to site an onsite waster system and larger lot sizes with greater variability in site and soil conditions across the lot.

An accurate site and soil evaluation is therefore an important component of designing a system appropriate the intended use of the site.

The Department will consider in what circumstances it may be appropriate to waive the requirement for an SSE on commercial lots.

One respondent proposed that a person should have the ability to use site and soil evaluations that were conducted at subdivision level.

The Department is not opposed to designers using a site and soil evaluation that has been conducted during a subdivision if it pertains to the specific site and not the general subdivision. The site and soil evaluation needs to inform the design of a system and how it will perform on a specific site. The site and soil evaluation needs to be of a standard that provides sufficient detail to assess the appropriateness of the design for the site (i.e. compliant with AS/NZS 1547) and should be submitted with the application.

While cost is cited as the reason for not conducting a site soil evaluation, most developments require some form of geotechnical investigation of the footing design of structures. During this stage, the soil sample and assessment can be extended to include an AS/NZS 1547:2012 assessment to reduce cost.

Sixteen per cent of respondents queried whether the designer/installer could conduct a site and soil evaluation when the authorised officer does not have sufficient local knowledge and experience. The site and soil evaluation can be conducted by the designer/installer if they have the demonstrated competencies.

One respondent proposed that the wording in the section be changed from ‘a site and soil evaluation can be exempted if it’s not practical to do one AND the local government has sufficient local knowledge to allow it’ to OR , thereby suggesting that if the local government officer has sufficient knowledge, they can exempt the requirement for a site and soil evaluation regardless of whether it is practicable or not. The word ‘and’ is a safeguard to avoid ‘practicability’ being used as a reason to evade site and soil evaluation requirements.

The same respondent indicated that the Government Sewerage Policy and the Draft State Planning Policy 2.9 Planning for Water specifically exempts single residential development and therefore from the need for a site and soil evaluation and that the Code is therefore inconsistent.

The draft State Planning Policy will be referred to during the planning process. Many single residential lots do not require a Development Approval. This does not reduce the need to adequately assess the site constraints at the time of application and design of the wastewater treatment system.

Question 12. Please provide any other comments or feedback relating to Chapter 3.

Seventy-eight per cent of respondents comprising state government agencies, mining companies, local government and consulting companies provided feedback to this question.

The common theme of the feedback related to setback distances, with 16 of the 25 respondents referring to setback distances.

The Department notes that setback distances can be varied upon engineering advice, which allows for greater range of flexibility in constrained lots.

Feedback included:

Site and Soil Evaluation (SSE) procedures given in AS/NZS 1547:2012 are an important area to consider while designing onsite wastewater systems for remote communities to find better solutions.

Feedback has been carefully considered and the draft Code will address respondents' comments where appropriate:

- The setback distance for private drinking water bores from the application area is set at 30 metres.
- To ensure the protection of public drinking water sources, separation distances from wellhead protection zones is to be aligned with the Department of Water and Environmental Regulation, Water Quality Protection Note 25.
- The Department is considering removing all setback distances except those that relate to drinking water resources. Other setbacks would be determined with reference to regulating agencies and their policies and guidelines.

A submission advised that the draft Code attempts to manage nutrient losses by applying unnecessarily restrictive groundwater separation distances, and that this approach overlooks the advantage of shallow groundwater in Western Australia in that it provides a source of water to facilitate plant growth (i.e. nutrient uptake) during the dry season. The draft Code follows AS/NZS 1547:2012 and any variation on separation distances relating to nutrient uptake will need to be supported by DWER as this is an environmental, not a public health, concern.

In general, setbacks in the draft Code have been aligned with AS/NZS 1547:2012 and other states' current practices. The draft Code is different to eastern states guidelines and the ANZECC and ARMCANZ (2000)[6] guidelines in that it does not require nutrient loadings (i.e. matching applied nutrients to the amount required by plants) on domestic secondary treatment systems (STS).

Feedback from 1 respondent indicated that where effluent is applied via spray irrigation, the application area is to be isolated so as not to be used for passive or active recreation purposes (fenced off, delineated garden etc.). The respondent noted the spray area should also be stock proof during and immediately after application. The Department has considered this response and supports the approach.

A concern was raised that the proposed requirements for site and soil evaluations, as compared to those under the current legislation are notably more complex. A site and soil evaluation provides greater rigour and accountability when conducting assessments to

[6] ANZECC and ARMCCANZ, National water quality management strategy – Australian and New Zealand guidelines for fresh and marine water quality.

ensure wastewater systems are selected based on soil category and site limitations, ensuring they do not fail prematurely.

Further comments suggested that tables L1, N1, M1 from AS/NZS 1547:2012 should be included in the draft Code. However, copyright laws prohibit this inclusion.

Chapter 4: Treatment systems

Chapter 4 of the draft Code focuses on the different wastewater treatment systems that can be used in Western Australia. These include primary, secondary and greywater treating systems and composting toilets. The survey asked for general rather than specific feedback.

Question 13. Please provide any feedback relating to Chapter 4.

Approximately 62.5 per cent of respondents provided feedback on chapter 4. Feedback from 2 respondents related to rephrasing of text to make the document clearer or align with draft SPP2.9 planning for water.

Section 4.2.5 (Intermittent use of secondary treatment systems) received the most feedback with nearly 38 per cent of respondents from both local government and industry providing a comment. Intermittent use can occur when a premise is not occupied or used all the time such as community halls or holiday housing. This results in irregular hydraulic and organic loads of systems.

A manufacturer stated that modern secondary treatment systems are required to undergo a 4 week no-flow stress test to confirm the system is suitable for low flow or intermittent use. While local government expressed concern over intermittent use they did not explain the basis of their concern.

The Department will amend the draft Code to make a distinction between powering down of systems and intermittent loading and will state that secondary treatment systems should not be turned off when a premise is not occupied, ensuring continuous operational readiness.

Conflicting comments from 32 per cent of respondents were received on the length of approval times for holding tanks. One group indicated approvals should be limited to 12 months and another indicated approvals should be longer than 12 months. Holding tanks are a temporary solution for managing wastewater and therefore an approval for 12 months is considered appropriate. A 12 month maximum period for holding tanks unless approved by the Chief Health Officer (CHO) is proposed for wastewater regulations.

Twenty-eight per cent of respondents queried whether composting toilets will be permitted in sewered areas. The Department does not support the use of onsite wastewater systems or composting toilets in areas where sewerage is available. This was addressed in the Department's Managing public health risks from wastewater conveyance, treatment and disposal in Western Australia consultation paper. Reticulated sewerage is the most effective means of managing public health risks associated with sewage as it:

- minimises the risk of exposure to wastewater
- places less burden on homeowners
- allows for higher population density
- reduces the potential for environmental contamination impacts

- allows for large scale reuse options essential for sustainable water use.

A lack of information on the use of solids control filters (outlet filters) on septic tanks was raised by 25 per cent of respondents. While solid control filters are not specifically addressed in the draft Code, AS/NZS 1547:2012 is referenced and section C5.4.1 of the Standard recommends use of outlet filters on septic tanks. If a system designer advises the incorporation of a solids control filter, and the specific product meets AS/NZS 1546, there are no concerns associated with installing such a filter.

One respondent stated that if the CHO were to be the sole approver of systems, there is a missed opportunity to utilise products approved by other states in Australia. The Department is considering whether a product approval is required when a product meets AS/NZS 1546 or where an engineer has already signed off on the design.

Chapter 5: Land application systems

Chapter 5 discusses 5 different types of land application systems, considerations for which type of system to use and installation checklists. Respondents were asked to provide feedback on two questions.

Question 14. Please provide any feedback relating to the introduction of land application systems such as mounds and evapotranspiration absorption (ETA) beds as outlined in AS/NZS 1547:2012.

Approximately 44 per cent of respondents provided feedback to this question. Overall, the responses were positive with acknowledgment from 1 respondent that it was 'good to be consistent with AS 1547:2012.'

The Department will consider feedback concerning the use of the term 'should' instead of 'must' within the draft Code.

Two respondents provided feedback indicating that the draft Code should provide specific details on construction materials for mounds and ETA beds, i.e. geotextile fabric and sand. To ensure that future regulations and the draft Code remain current and enable best practice, the Department does not support the inclusion of prescriptive measures. A designer should consider the individual parts of a system and select the appropriate components to ensure system performance.

Other feedback related to specifications for absorption and evapotranspiration trenches with 1 stakeholder proposing minimum leach drain lengths to be included and another stating individual trenches should not exceed a maximum length of 20 metres for passive systems.

As specified in the draft Code, leach drain lengths are to be determined based on hydraulic output and calculated for a standard of 5 persons. Local government has the discretion, based on the proposed development, to reduce the number of persons considered for calculation as indicated in section 6.1.2 Determining Design Flow.

AS/NZS 1547 states that individual trenches should not exceed 20 metres for gravity-fed trenches. However, if a pump system is employed, the Standard allows for an extension. This aligns with the Department's approach and that of the Australian Standard, that a system is designed to perform to a certain level taking into consideration the components of the system, site conditions etc. and should not be limited by arbitrary restrictions.

Question 15. Please provide any other feedback relating to Chapter 5.

Just over one third of respondents (37.5%) provided feedback on Chapter 5.

Of the 11 responses received:

- 3 did not relate to the chapter material
- 1 was a general comment on incorrect maintenance of systems resulting in health hazards
- 1 stakeholder commented that the chapter was 'good' and another stated 'This appears to be similar to the Greywater Code of Practice which has proved to be a workable document.'

Feedback from industry (~16%) proposed updating Table 5 water quality criteria to include water quality parameters for secondary treatment systems as per AS 1546:2017. The Department has decided to remove all water quality criteria from the draft Code and designers should refer to AS 1546:2017.

Chapter 5 states that the sizing of evapotranspiration and absorption (ETA) systems is determined though a water balance calculation; these calculations should be undertaken by an appropriately qualified professional.

One local government proposed the inclusion of water balance equations for sizing of ETA beds. A system designer is required to take into consideration specific site conditions and climate conditions for the region. Including an equation can potentially overlook site specific conditions, therefore the Department does not support including water balance equations.

Chapter 6: Sizing onsite wastewater systems

Chapter 6 discusses sizing an onsite wastewater system. It addresses matters such as design flow, capacity, land application areas for both residential and commercial systems. The survey provided stakeholders the opportunity to respond to 4 questions: 3 questions asked for feedback on specific sections of the draft Code including commercial flow rates, sludge accumulation rates and grease trap design, the remaining questionsought general feedback.

Question 16. Please provide any feedback relating to commercial flow rates.

Over half (62.5%) of the respondents provided feedback. Eight comments were supportive with 5 indicating they felt the flow rates were accurate and 2 respondents supported the use of other data to determine flow rates where available.

Seven respondents (21.9%) queried the data provided in Table 6.1 flow rates for residential premises and Table 6.2 flow rates for commercial systems. The respondents were concerned about the appropriateness of the flow rates.

The flow rates provided are consistent with those in other states.

The draft Code states that 'In cases where specific wastewater flow data is unavailable, Table 6.2 can be utilised as a resource to determine suitable design flow rates for the system.'

Designers are encouraged to use flow rates from existing comparable developments, and it is up to the applicant to demonstrate that the flow rate proposed in their system design is appropriate for the application for which it is proposed.

One respondent noted inconsistencies between the Draft State Planning Policy 2.9 Planning for Water and AS/NZS 1547:2012. The Department will review these comments but note they do not relate to commercial flow rates.

Question 17. Please provide any feedback relating to the sludge accumulation rates.

Approximately 38 per cent of respondents commented on this question, with 22 per cent noting that sludge accumulation rates were 'good' or 'accurate'. Approximately 25 per cent commented on secondary treatment systems indicating that sludge accumulation should not be factored into the design for these systems or that sludge accumulation is considerably lower in secondary systems compared to septic systems. Three respondents questioned whether desludging is part of a system design. AS/NZS 1546 includes desludging frequency as a component of system design. Desludging frequency of secondary treatment systems will be determined by manufacturer specifications. Desludging of primary systems on residential sites should not be less than 3 to 5 years and is taken from AS/NZS 1547:2012. The draft Code has been updated to refer to AS 1547.

One respondent provided suggestions to simplify portions of text for clarity. These suggestions will be considered by the Department and incorporated where appropriate.

Question 18. Please provide any feedback relating to grease trap design considerations.

Grease traps will not be a mandatory requirement for onsite wastewater systems, the information in the draft Code provides guidance for designers who may wish to incorporate a grease trap into an onsite system. Water Corporation publish a list of approved grease traps and suppliers for system designers for use in Western Australia.

Thirty-eight per cent of respondents provided feedback on this question. Of the 12 responses received:

- 8 supported the inclusion of the information
- 2 provided feedback that the link to the Water Corporation website did not work
- 1 respondent suggested the draft Code should use stronger language regarding where a grease trap should be located.

The Department notes that grease traps are an optional component of an onsite wastewater system, and it is up to the designer to consider the best location for the grease trap.

One respondent expressed concern that the draft Code did not include trade waste. In general, trade waste is managed by other state agencies and therefore is not specifically addressed in the draft Code, noting that trade waste will be defined in regulation for consistency with other state agency legislation.

Question 19. Please provide any other comments or feedback relating to Chapter 6.

Approximately 34 per cent of respondents provided additional feedback on Chapter 6. The additional feedback related to septic tank capacities and strengthening wording of the

document i.e. change wording from ‘should’ to ‘must’. Other feedback was out of scope for Chapter 6.

Section 6.4 of the draft Code sets out how to determine the capacity of wastewater treatment systems for residential and commercial systems. Information is provided in tables and is taken from AS/NZS 1547:2012.

One respondent proposed that the draft Code should be updated to make the tank capacity the same for 2, 3, and 4 bedroom houses. The example given suggested that 2 and 3 bedroom homes are often upgraded to 4 bedroom houses and the cost to upgrade the septic system is then excessive.

While the Department notes this comment, the draft Code aligns with the AS/NZS 1547. The Department does not support deviating from the Australian Standard for property owners that may opt to renovate their homes.

Chapter 7: Operation and maintenance

Chapter 7 provides an overview of the expectations for operating and maintaining the different types of onsite wastewater system and outlines the responsibilities of an owner/ operator.

Question 20. Please provide any feedback on Chapter 7.

Chapter 7 received feedback from 40 per cent of respondents.

The Department has considered all feedback and notes while some of the proposals have merit, they are outside the scope of the document. Feedback themes included:

- inclusion of how to develop maintenance schedules
- disposal of biosolids from composting toilets in public drinking water sensitive areas
- required access to septic tank chambers
- training and qualifications of licensed service persons if not a plumber
- servicing requirements for secondary treatment systems/aerobic treatment systems
- recommendation for a requirement that septic tanks be emptied upon sale of a property
- a mandatory requirement for lids of septic tank chambers to be visible.

One respondent proposed the draft Code should include mandatory notification of sewerage spills to the Department of Water and Environmental Regulation (DWER) and the Department of Health. However, this is outside the objectives of the draft Code. Additionally, procedures are already in place for reporting of sewerage spills, which can be found in Wastewater Overflow Notification and Response Procedures 2021.

DWER requested *Section 7.5 of the draft Code on the Maintenance of Composting Toilets* be amended to ‘composted material must not be disposed of or applied as a soil amendment in a PDWSA (Public Drinking Water Sensitive Area)’. The Department supports this inclusion.

Training and Qualifications of service personnel are available on the Department of Health website.

One respondent suggested servicing requirements should be the same for all secondary treatment systems and not specified by the manufacturer. The Department does not support this position due to the large variation in the types of secondary treatment systems.

The emptying of septic tanks upon sale of a property is outside the scope of the draft Code.

One respondent suggested lids of septic tanks should be visible. AS/NZS 1547:2012 addresses the siting and installation on onsite wastewater systems, the performance standards for installation include access for maintenance.

Conclusion

There was overall support for the draft Code as worded in the consultation. DWER has provided significant feedback in relation to setback distances and nutrient disposal for onsite wastewater systems.

The Department reviewed the information received from DWER on setback distances and nutrient disposal and to avoid duplication the Department is considering removing any reference to this.

Next steps

The Department will progress the development of the new regulations for managing the public health risks of wastewater which will incorporate the Code of Practice for Onsite Wastewater Disposal.

Appendix 1 Online submission questions

Introduction

Thank you for taking the time to provide a submission on the Draft Code of Practice for Onsite Wastewater.

If you are completing this submission on behalf of an organisation, please ensure the submission response has your organisation's endorsement and authorisation at the Chief Executive Officer level. You can download the submission questions and seek endorsement prior to completing online.

The responses form part of a public consultation process and may be quoted in any reports arising from the review.

Individuals or organisations who wish their comments to be treated confidentially should indicate this in question 4.

There are a total of twenty-four questions. Only two questions are mandatory. You only have to answer the questions that are relevant to you or your organisation. The questions provide the opportunity to submit constructive feedback with suggestions for improvement and solutions to any problems identified.

It is important you read and refer to the draft Code of Practice for Onsite Wastewater Disposal to support your submission.

1. What is your name?	
2. What is your email address?	
3. What is the name of the organisation you represent? If you are a member of the public, please type "public"	
4. Submission responses will form part of a public consultation summary report. Do you require your response to remain confidential?	

Chapter 1 - Wastewater regulatory environment

Chapter 1 of the draft Code of Practice discusses the roles and responsibilities of various parties involved in the manufacturing, purchasing, design, installation and approval of onsite wastewater system.

5. Do you have any concerns with installers having to be 'Recognised Persons' by the Department for the purposes of installing an onsite wastewater system?

Yes No

6. If you responded yes to the previous question, please outline the reasons for your concerns.

7. Please provide any feedback relating to the ‘roles and responsibilities’ outlined in Chapter 1.

Chapter 2 - Approval process

Chapter 2 outlines the approval process that industry must adhere to when installing an onsite wastewater system.

8. Please provide any feedback relating to the removal of the hydraulic loading design capacity for local government approval.

9. Please provide any feedback relating to the requirement of engineer certification for hydraulic loading capacity exceeding 2000 L per day.

10. Please provide any other comments or feedback relating to Chapter 2.

Chapter 3 - Site and soil evaluation and performance criteria

Chapter 3 sets out the Site and Soil Evaluation (SSE) procedures for individual lots. A separate site and soil evaluation shall be carried out for each individual lot, unless the approving agency waives this requirement for a single residential premise.

11. Please provide any feedback relating to the SSE exemption criteria.

12. Please provide any other comments or feedback relating to Chapter 3.

Chapter 4 - Treatment systems

Chapter 4outlines the product approval process manufacturers of onsite wastewater treatment systems must obtain from the Department of Health to produce and/or sell onsite wastewater systems. The Department's product approval process ensures all systems available for installation comply with the relevant Australian Standard.

13. Please provide any feedback relating to Chapter 4.

Chapter 5 - Land application systems

Chapter 5 outlines the land application systems based on the effluent treatment method.

14. Please provide any feedback relating to the introduction of land application systems such as mounds and ETA beds as outlined in AS 1547:2012.

15. Please provide any other feedback relating to Chapter 5.

Chapter 6 - Sizing onsite wastewater systems

Chapter 6 outlines the sizing design requirements for onsite wastewater systems to ensure the system is designed to receive, treat and dispose a volume of wastewater appropriate to the premises.

16. Please provide any feedback relating to commercial flow rates.

17. Please provide any feedback relating to the sludge accumulation rates.

18. Please provide any feedback relating to grease trap design considerations.

19. Please provide any other comments or feedback relating to Chapter 6.

Chapter 7 - Operation and maintenance

Chapter 7 details the requirements for the correct operation and maintenance of onsite wastewater systems by the landowner.

20. Please provide any feedback on Chapter 7.

Appendix A - Installation checklist

Appendix A lists a range of installer checklists for systems and land applications to assist installers and approving agencies with guidance for installation.

21. Please provide any feedback on Appendix A.

Appendix B - Filter systems and supplementary technology

Appendix B provides information on sand filter treatment systems.

22. Please provide any feedback on Appendix B.

Appendix C - Typical components used in land application areas

Appendix C provides information on typical components used in land application systems.

23. Please provide any feedback on Appendix C.

Any other feedback

24. Please provide any other feedback you may have about the Code of Practice for Onsite Wastewater Disposal in Western Australia.

Appendix 2: Respondent submissions

Submissions were received from the following organisations (please note that some respondents elected to remain confidential and therefore were not included in this list).

Name	Organisation
Kane Dickson	Chankar Environmental Pty Ltd
Steve Tedmanson	Taylex
Danny Ten Seldam	Taylex (Hundson Sewerage Service)
Mia Fox	South West Wastewater Specialist (Taylex)
Stuart Ostle	ATU Sewage System (Taylex)
Gary DeBoer	ATU Wastewater Systems (Taylex)
Joanne Hopley	Filtrex
Pia Linaker	Craneford Plumbing
Leon Myburgh	City of Karratha
Alysha Kempf	City of Cockburn
Alysha Kempf	Shire of Dundas
Magdalene Lannary	City of Gosnells
Cameron Chisholm	City of Kalamunda
Daniella Dagostino	City of Armadale
Bill Wansbrough	City of Swan
Kylie Neaves	Town of Cambridge
Wayne Harris	City of Wanneroo
Phil Steven	Shire of Murray
Craig MacKenzie	City of Belmont
Philip Swain	Shire of Katanning
Ashok Aryal	Fortescue
Nick Jones	WAPEHO
Nick Jones	EHA WA
Peter Haas	Public
DWER	DWER
Damayanthi (Dami) Chandrasekera	NA
Rebecca Brown	WALGA

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