Government of Western Australia
Department of Water and Environmental Regulation

Amendment Report

Department initiated Amendment

Part V Division 3 of the *Environmental Protection Act 1986*

Licence Number	L8410/2009/2
Licence Holder	WA Composts Pty Ltd
ACN	078 383 856
File Number	APP-0032114
Premises	C-Wise 230 Gull Road NAMBEELUP WA 6207 Legal description – Part of Lot 89 on Plan 741 Certificate of Title Volume 1112 Folio 243 As defined by the coordinates in Schedule 2 of the Revised Licence
Date of Report	12 December 2025
Decision	Revised licence granted

1. Decision summary

The Delegated Officer has determined to make amendments to Licence L8410/2009/2. This Amendment Report documents the amendments made pursuant to section 59 and 59(B) of the *Environmental Protection Act 1986* (EP Act).

The decision report for the existing licence will remain on the department's website for future reference and will act as a record of the department's decision making.

1.1 Regulatory framework

In amending the licence, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at: https://dwer.wa.gov.au/regulatory-documents.

1.2 Amendment summary

Licence L8410/2009/2 is held by WA Composts Pty Ltd (Licence Holder) for C-Wise (the premises), located at 230 Gull Road, Nambeelup.

The premises relates to the categories and the assessed production capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in existing Licence L8410/2009/2.

On 30 October 2025, the department initiated an amendment to licence L8410/2009/2. The amendment has been initiated to place additional controls relating to potential odour emissions from the premises.

Throughout 2024 and 2025 to date, the department has received a high volume of odour complaints from residents in Secret Harbour, Mandurah, Singleton and Lakelands. Field investigations identified several businesses in Nambeelup as potential sources of these emissions.

The licence holder was identified as a one of the premises within the Nambeelup precinct potentially contributing to the odour emissions.

Following investigations, the department issued Environmental Protection Notices (EPNs) on 22 February 2024 to the licence holder, which has subsequently been completed and revoked.

Odour and wastewater experts were engaged by the department to support ongoing assessments and to recommend actions to reduce emissions.

On 25 October 2024, C-Wise's licence was amended by the department to introduce stricter odour control conditions, including a requirement to develop a sludge management plan addressing odour, leachate, and PFAS compliance. The updated licence now expires on 22 April 2028.

2. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk assessments* (DWER 2020).

To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

2.1 Source-pathways and receptors

2.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises operation which have been considered in this Amendment Report are detailed in Table 1 below. Table 1 also details the existing regulatory controls that are specified as conditions on existing Licence L8410/2009/2.

Table 1: Existing regulatory controls relating to odour and leachate within L8410/2009/2

Emission	Sources	Potential pathways	Existing regulatory controls
Odour	Feedstock acceptance, handling and storage	Air/Windborne pathway	Limitations on the volume of compost that can be manufactured per annual period. Specified infrastructure including aeration systems. Specifying the location where processing of feedstocks and compost materials can occur. Specifying the types of liquid waste that can be applied on the pre-wetting area. Appropriate characterisation of the feedstock. Related record-keeping and complaints management.
	Composting process		
	Storage of liquid waste and leachate within pond system		
	Pond desludging		
Leachate	Acceptance and storage of liquid wastes	Seepage to land Spills and overflows discharging to land	Specified infrastructure including HDPE lining of ponds. Specifying the location where processing of feedstocks and compost materials can occur. Specifying the types of liquid waste that can be applied on the pre-wetting area. Appropriate characterisation of the feedstock Related record-keeping and complaints management.
	Pond desludging		

2.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the Delegated Officer has excluded employees, visitors and contractors of the Licence Holder's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 2 below provides a summary of potential human and environmental receptors that may be impacted by as a result of activities upon or emission and discharges from the prescribed premises *(Guideline: Environmental siting* (DWER 2020)).

Table 2: Sensitive human receptors and distance from prescribed activity

Receptors	Distance from prescribed activity
Human receptors	
Murrayfield Airport	Approximately 500 m south of the premises boundary.
Nearest group of rural residential premises	Starting at approximately 1,100 m southwest of the premises.
Group of rural residential premises	Starting at approximately 1,990 m southeast of the premises.
Nearest residential development (Stake Hill)	Approximately 3,160 m northwest of the premises.
Southern portion of Stake Hill residential area	Approximately 3,300 m northwest of the premises.
Barragup residential area	Approximately 3,750 m southwest of the premises.
Environmental receptors	
Nature reserve	Crown land vested in the Conservation Commission of Western Australian for the conservation of flora and fauna is located approximately 700 m to the southwest of the premises.
Threatened Ecological Communities and Priority Ecological Communities	A threatened ecological community is located approximately 5 km to the southwest of the premises.
Rare flora	The premises is located within an area approximately 20 km by 9 km known to contain declared rare flora.
Environmental Protection Peel Inlet – Harvey Estuary Policy 1992	The premises is within the Policy area.
Rights in Water and Irrigation Act 1914 - Surface Water (Serpentine River System) - Groundwater (Murray)	The premises is within the Proclaimed areas.
Groundwater	Groundwater is generally less than 2 m from the ground surface across the premises area. The regional direction of groundwater flow may be in a west to north-westerly direction towards the Serpentine River. There may be local variations in flow direction near Nambeelup Farm due to the presence of water table management drains, seepage from ponds and local groundwater abstraction. There are several abstraction bores within the vicinity and down hydraulic gradient from the premises which are used for livestock watering and irrigation.
RAMSAR wetland	Peel-Yalgorup System (Peel Estuary Harvey Inlet) located over 11 km west-southwest of the premises.

Receptors	Distance from prescribed activity
Geomorphic Wetlands	There are five conservation category wetlands within 1 km of the premises operational areas: - One approximately 1 km southwest of the premises; - Two approximately 800 m and 600 m southeast of the premises; and - Two approximately 400 m and 800 m north of the premises.
Waterbodies	The Nambeelup Brook is located approximately 2 km east of the premises. The Serpentine River is located approximately 2.5 km west of the premises. Goegrup Lake is approximately 5 km southwest of the premises and is fed by both the Serpentine River and Nambeelup Brook. All three waterbodies are Conservation category wetlands (western end of Nambeelup Brook only) and ultimately drain to the Peel Harvey Estuary.

Figure 1: Sensitive receptors for odour emissions surrounding the premises

2.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 2.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the Licence Holder has proposed mitigation measures/controls (as detailed in Section 2.1), these have been considered when determining the final risk rating. Where the Delegated Officer considers the Licence Holder's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

Additional regulatory controls may be imposed where the Licence Holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 3.

The revised Licence L8410/2009/2 that accompanies this Amendment Report authorises emissions associated with the operation of the premises.

The conditions in the revised licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 3: Risk assessment of potential emissions and discharges from the premises during operation.

Risk Event					Risk rating[1] C = consequence L = likelihood	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Existing regulatory controls**			
Composting process including solid and liquid feedstock acceptance, handling and storage Leachate generation, capture and reuse Storage of liquid waste and leachate within pond system	Odour	**Pathway:** Air / windborne **Impacts:** Health and amenity	Residential receptors Patrons of airfield located 500 m south	Refer Table 1	C = Moderate L = Likely **High Risk**	Existing conditions 1, 1A, 3, 4, 9, 10, 10A, 11, 13, 14, 19, 20, 22, 23, 23A-D and 35 **Conditions 15, 16, 17, 25 ,26, 27, 28, 29, 30, 31 and 32**	The Delegated Officer considers that current odour emissions are not acceptable and that additional controls and conditions are required to reduce the risk associated with current odour events to High risk. Refer section 3
	Leachate	**Pathways:** Seepage, spills and pond overflows discharging to land **Impacts:** Soil contamination, ecosystem disturbance and impacts to water quality	Peel-Yalgorup RAMSAR Wetland/Peel Inlet and Harvey Estuary EPP area Groundwater (abstraction bores) Conservation category geomorphic wetlands Nambeelup Brook Serpentine River Nature reserve Threatened Ecological Communities and Priority Ecological Communities	Refer Table 1	C = Moderate L = Likely **Medium Risk**	Existing conditions 4, 5, 6, 8, 10 and 21 **Conditions 29, 30 and 31**	As assessed in the 25 October 2024 licence amendment, the Delegated Officer considered that the liquids, solids and sludge present in ponds on the premises increased the likelihood of leachate emissions impacting surrounding receptors. To reduce the likelihood of leachate emission impacts, the Delegated Officer required the removal of sludge in accordance with an endorsed plan that sets out the key actions and objectives to be achieved. Conditions 29 to 31 specify the infrastructure requirements of the extended hardstand, leachate sumps and header tanks. Verification of the integrity of the infrastructure will occur through the Environmental Compliance Report.

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk assessments* (DWER 2020).

Note 2: Existing regulatory controls are depicted by standard text. **Bold and underline text** depicts 7additional regulatory controls imposed by the department through this amendment.

3. Detailed assessment for odour

The Delegated Officer considers that odour from the premises is likely to be causing a direct or indirect alteration of the environment to the detriment or degradation of an environmental value.

Environmental value, in this context, is considered to be the beneficial use of the portion of the environment (air quality) that is conducive to public amenity, public health and aesthetic enjoyment of the environment for surrounding receptors.

The Delegated Officer has considered current premises activities, the volume of odour complaints recently received and the outcomes of odour investigations in the area, to determine odour emissions from the premises which impact the surrounding community currently present an unacceptable risk, but will be reduced to High Risk subject to the implementation of additional outcome-based and management conditions to be specified on the licence as regulatory controls.

The following matters have been identified as requiring additional regulatory control within this amendment:

Animal mortality activities

The current acceptance of animal mortalities outside of operational hours may contribute to odour emissions during those hours when the mortalities are not covered. As such, the existing condition has been amended to authorise the acceptance of animal within an enclosed receptacle until such time that they can be incorporated into the composting windrows. The mortalities accepted during operational hours must also be incorporated into composting windrows within three hours of being received at the premises. The Delegated Officers considers that a reduction in odour emissions generated from the mortalities will occur with the implementation of these conditions.

Desludging of Pond 22

The desludging of Pond 22 is considered a priority for completion prior to peak summer conditions in early 2026, which would help in sanitising the pond and limit the risk of an anaerobic sludge layer and emissions of biogas from the pond.

The Sludge Management Plan (SMP) required by condition 21A was submitted to the department on 22 November 2024 and was approved by the department on 4 December 2024. Pond 22 can be desludged in accordance with this approved SMP, with geobags to be used for the removal of accumulated sediment.

Pond water quality review

The Delegated Officers considers that additional monitoring of the pond system water quality may be required to appropriately manage and monitor and the quality in relation to odour, and apply corrective measures if necessary. This may include the installation of a continuous monitoring system with robust probes to log measurements of ORP, BOD and the ammonia levels.

Odour Investigation

An amendment of the previously submitted *Odour Investigation of C-Wise (WA Composts Pty Ltd) Carbon Recycling Facility* (EAQ Consulting, March 2024) under the requirements of the Environmental Protection Notice is required to formalise procedures for management and mitigation of odour issues.

Documentation submission

The licence holder is currently in the process of drafting and amending documentation relating to procedures and processes at the premises, and their interaction with potential odour emissions. The Delegated Officer has specified that these documents are submitted to the

department to inform the potential for further assessment if required. The odour mitigation feasibility assessment in particular will detail the potential infrastructure and operational measures that may be feasible to implement at the premises to further mitigate odour emissions.

Trial activities

The licence holder is currently undertaking benchtop trials to determine the appropriateness of certain measures to mitigate odour. The proposed conditions will allow the licence holder to undertake these trials in a defined time period, allowing the department to assess the appropriateness of these measures prior to potential implementation. These trials include:

1. Reduced agitation of pond surfaces to encourage stratification of the water body, requiring an adjustment to the type of aeration currently in use. The proposed aeration system would mix the middle layer of the pond but cause minimal disturbance of the sludge or surface layer. This may encourage gentle flow of the water body leading to consistent conditions across the pond.
2. The use of Magnesium Hydroxide Liquid (MHL) as a peak summer treatment for oxidising ponds may promote an ideal pH range of 8.5 - 9.0, raise Oxidation-Reduction Potentia (ORP), promote denitrification, neutralise Volatile Fatty Acid and convert soluble sulphides into magnesium sulphide.
3. The use of specific biological additives to the ponds as a means to promote positive bacterial activity. It would involve an initial shock dosing followed by maintenance dosing.
4. The use of a Nanobubble system as a treatment for oxidising pond waters.

Hardstand extension

The licence holder has proposed that the additional hardstand area will improve the management of solids and liquids incorporation through the extra space available.

Appendix 2, Figures 2 and 3 provides a preliminary concept of the proposed hardstand extension.

Leachate collection sumps

Currently, leachate drains capture leachate runoff from the composting hardstand areas and direct the liquid back into the pond system, creating extra volume of liquids within the ponds. The installation of leachate sumps will allow the capture of all leachate runoff from the hardstand areas, with the leachate then recirculated into the composting process, bypassing the need to utilise the pond system. The Delegated Officer considers that the reduced volume of leachate entering the pond system will reduce odour emissions generated by the ponds.

Appendix 2, Figures 3 and 4 provides a preliminary concept of the leachate collection system.

Header tanks

With the installation of the leachate sump network, the leachate can be pumped into the header tanks. This will allow the separation of leachate and washdown liquids, reducing the volume of liquid required for recirculating into the early stage composting process. The Delegated Officer considers that the storage of leachate within the enclosed tanks, rather than the pond system, will reduce odour emissions generated by the premises.

Appendix 2, Figures 3 and 4 provides a preliminary concept of the leachate tank system.

4. Consultation

The licence holder was provided with the draft Amendment Report on 17 November 2025. Comments received from the licence holder on 28 November 2025 and 11 December 2025 have been considered by the Delegated Officer as detailed in Appendix 1.

5. Decision and summary of amendments

Based on the assessment in this Amendment Report, the Delegated Officer has determined that a revised licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

Table 4 below provides a summary of the proposed amendments and will act as a record of implemented changes. All proposed changes have been incorporated into the revised licence as part of the amendment process.

Table 4: Summary of licence amendments

Condition no.	Proposed amendments
1	Amendment of the Authorised Emissions Table, relating to the specified emissions.
4, Table 3	Inclusion of the leachate sump network for leachate containment.
13	Addition of header tanks for the transfer of leachate collected from the leachate sump network.
14	Inclusion of header tanks for the application of leachate using large droplet sprinklers to solid feedstocks or composting windrows.
16	The acceptance of animal mortalities must be covered immediately with a carbon rich material or retained within an enclosed receptacle until such time that they can be covered with a carbon rich material.
17	Animal mortalities retained in an enclosed can only be retained for a period not exceeding 12 hours.
25	A specified action has been added relating to the desludging of Pond 22 prior to 20 December 2025.
25	Specified actions have been added relating to the submission of the following documents: • Amendment of the Odour Investigation of C-Wise (WA Composts Pty Ltd) Carbon Recycling Facility • Odour mitigation feasibility assessment • Review of the Compost Mortality Stockpile Procedure • Summer Contingency Odour Response Plan • Accumulated Sediment Management Plan • Wastewater Review Report
25B	Specifies the amendment of the documents submitted in accordance with condition 25.
25C	Specifies the implementation of the documents submitted in accordance with condition 25.
26	Odour mitigation trial activities have been specified.
27	Requires the submission of a Trial Activities Report following the completion of trial activities specified in condition 26.

Condition no.	Proposed amendments
28	The information components of the Trial Activities Report are detailed.
29	Authorises the construction of: • A hardstand extension • Leachate collection sumps • Header tanks
30	The submission of an Environmental Compliance Report (ECR) is required following the completion of works specified in condition 28.
31	The information components of the ECR are detailed.
32	Addition of a notification requirement following any non-standard activity that has the potential for odour emissions. This allows the department to review submitted information against any potential odour complaints received in relation to the Nambeelup precinct.
Definitions	Definitions added relating to the amended conditions.

References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.

Appendix 1: Summary of Licence Holder's comments on draft amendment

Condition	Summary of Licence Holder's comment	Department's response
13	Seeks clarification from the department that the wording here is not specifically requiring that all leachate must be captured and used for irrigation. Due to seasonal weather, and stormwater volumes, this is not physically possible. Have also suggested amended wording so that early stage of the composting process is aligned with current pond 31/32 usage.	The department has amended the condition to remove ambiguity and align with the existing condition 14 in relation to Ponds 31 and 32.
16	The Licence Holder has been in discussion with farms generating mortalities, and their initial feedback is that this condition will require them to adjust their own mortality collection contracts which may not happen immediately. The use of covered bins is a significant change on the collection contractors for the farms as it means a change in collection vehicles, frequency and delivery methods. In the interim, we will seek to negotiate some adjustments to collection days/times with the farms. This would be made easier if the covering timeframe was increased to three hours instead of one. Our internal procedure for animal mortalities cover has maintained a minimum of 100 mm for pile coverage. Have also suggested some alternative wording based on seasonality impacts.	The department acknowledges the initial challenges and has amended the condition to reflect the incorporation of animal mortalities into composting windrows within three hours of being covered with a carbon-rich material. However, the department does not support the length of incorporation time to be dependent on temperature forecasts, and has retained three hours under all circumstances. The department will review the effectiveness of the proposed process following the change in collection contracts, and may revise the condition in a subsequent amendment if necessary.
17	Suggested amendment to accommodate seasonality impacts.	The department does not support the retention time of animal mortalities within the enclosed receptacle to be dependent on temperature forecasts, and has retained 12 hours under all circumstances.
25, Table 9, Row 5	Initial works undertaken to date indicate that C-Wise is either meeting or exceeding the requirements set out in the document *Composting Animal Mortalities* (Minnesota Department of Agriculture, May 2009).	The department recognises that the document *Composting Animal Mortalities* (Minnesota Department of Agriculture, May 2009) has not been adopted by the department. However, the department recognises that composting of animal mortalities

Condition	Summary of Licence Holder's comment	Department's response
	C-Wise would like to understand why this specific document was utilised by the DWER, as it is not a formal standard or policy document.	differs in process to the composting identified in the department's current *Guideline: Better practice organics recycling.* The use of the *Composting Animal Mortalities* document allows the department to review these changes in process required.
26, Table 10	Clarification is required regarding the duration (i.e. is DWER requiring that the trial be conducted for a minimum of 60 days?)	The condition specifies that the trial may only have a duration of 60 days or until directed by the CEO to cease, whichever is earlier. As such, the duration cannot exceed 60 days. The CEO may direct the cessation of the trial prior to this 60 day timeframe if necessary.
26, Table 10, Rows 2 and 3	Our current objective is to capture and redirect leachate for the purposes of use in early stage composting. In summer, this should result in all leachates being used for irrigation and blending. However, the wetter months add stormwater to the leachate flows. The leachate system will be designed to overflow back into the drainage system during these wetter months. Amended to state that concrete bunds will be required if tanks are installed on areas where drainage infrastructure is not connected to existing ponds.	The conditions have been amended to allow for the overflow of leachate from the collection sumps back into the pond drainage system. The requirement for bunding of the header tanks has also been removed, with the addition that the hardstand location must be graded such that containment spills are directed to the collection sumps.
29, Table 11	Priority for the inclusion of sumps in Area 1 and Area 3 can be achieved trough the staggering of scopes of work. However, the hardstand works for Area 4 being pushed back would allow this to occur.	The department supports the timelines proposed by the licence holder, as it is considered that the leachate sump network is a higher priority for installation to mitigate odour emissions as opposed to the Area 4 hardstand extension.

Appendix 2: Figures of proposed infrastructure

Figure 2. Proposed layout of hardstand, leachate system and header tanks

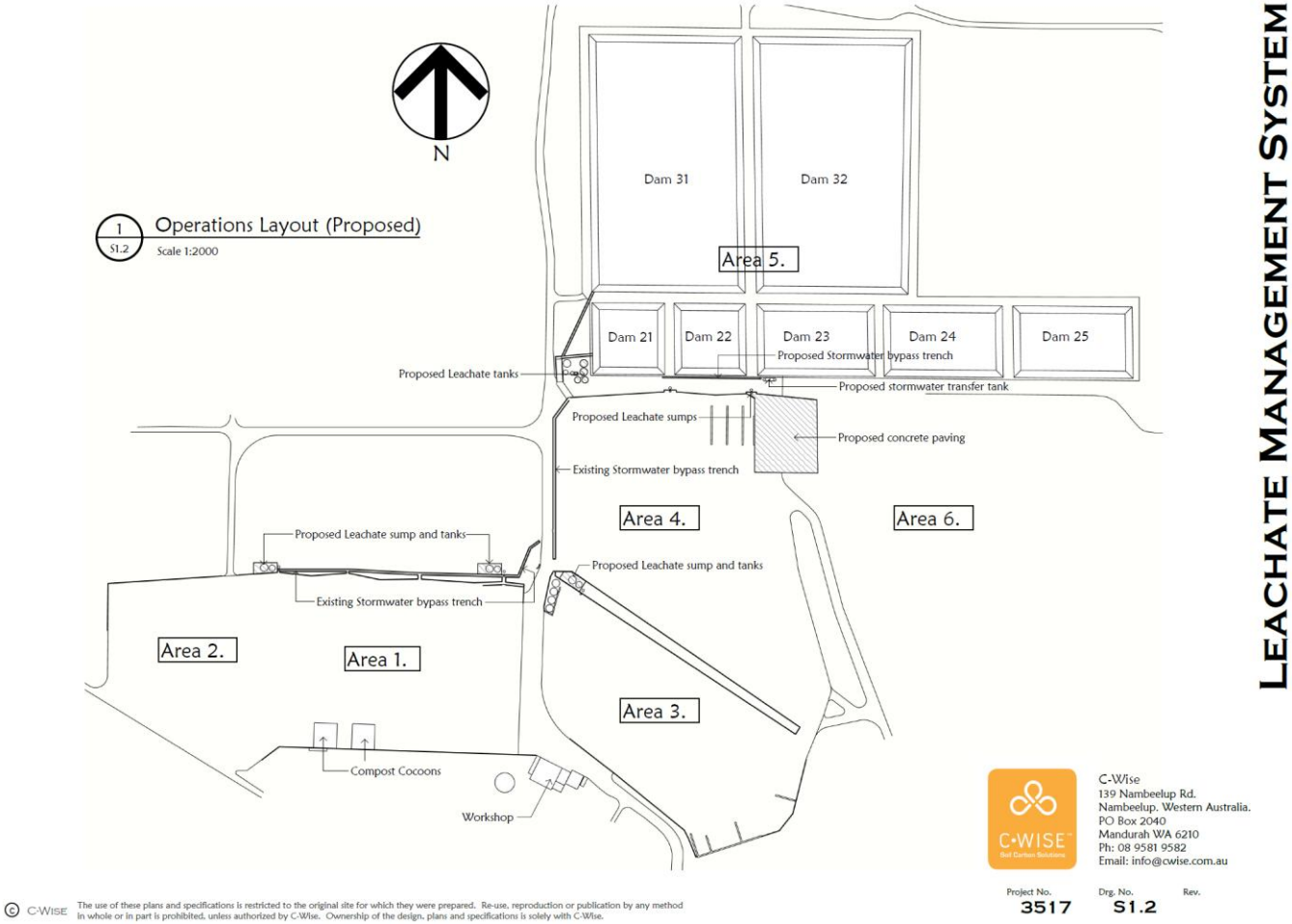

Figure 3. Proposed hardstand design

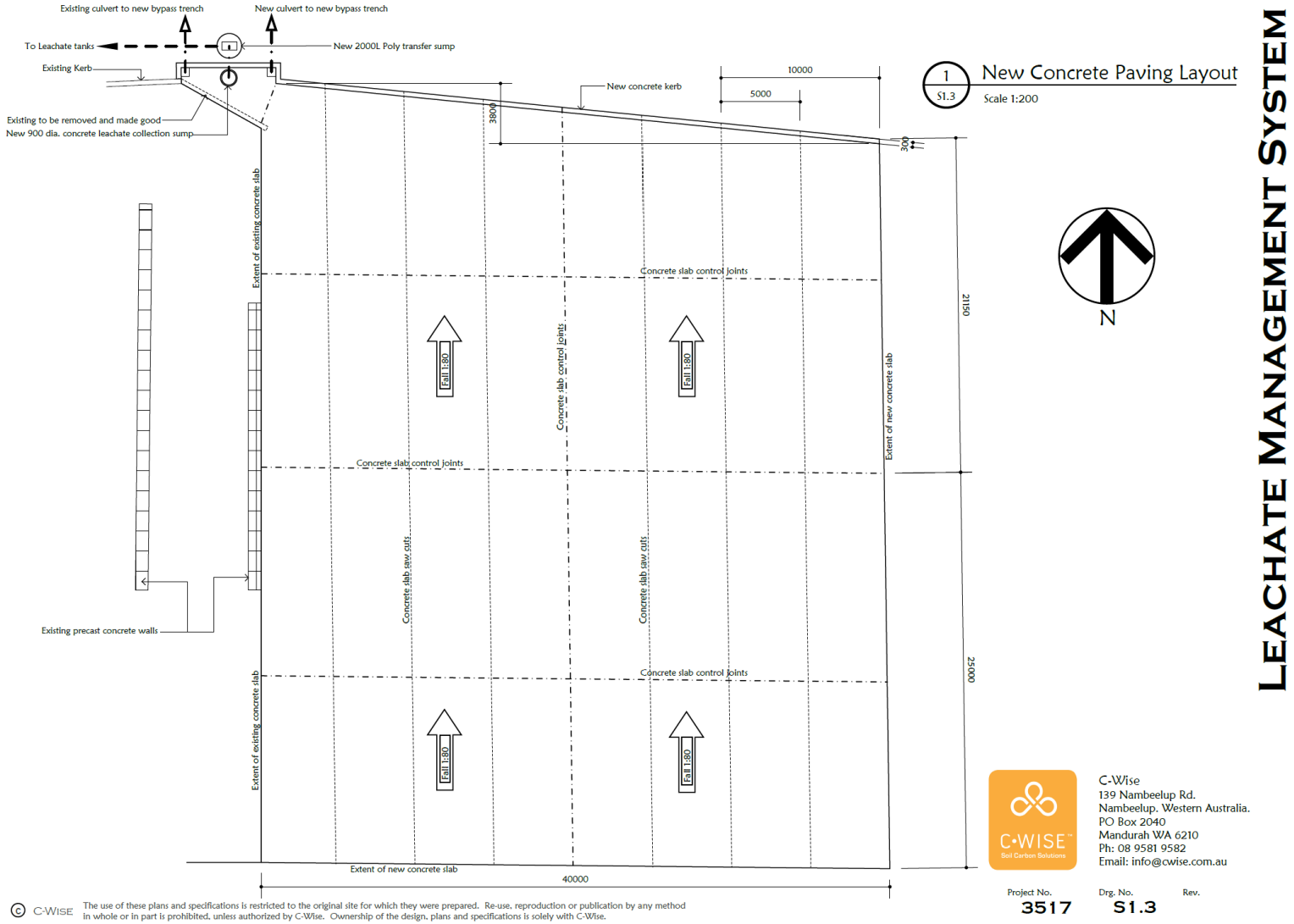

Figure 4. Proposed leachate sump and tank design