

Permit

Environmental Protection Act 1994

Environmental authority P-EA-100248284

This environmental authority is issued by the administering authority under Chapter 5 of the Environmental Protection Act 1994.

Environmental authority number: P-EA-100248284

Environmental authority takes effect on the 30 June 2025. This is the take effect date.

The first annual fee is payable within 20 business days of the take effect date.

The anniversary date of this environmental authority is the same day each year as the take effect date. The payment of the annual fee will be due each year on this day.

Environmental authority holder

Name	Registered address
Pandana Holdings Pty Ltd ACN 637 903 925	796 Pacific Parade Currumbin QLD 4223

Environmentally relevant activity and location details

Environmentally relevant activity (ERA)	Location
ERA 63 - Sewage Treatment 1(b-i) - Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of more than 100 but not more than 1500EP if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme	Lot 58 on CP847564; Lot 36 on WD4474; Lot 60 on WD4474

Additional information for applicants

Environmentally relevant activities

The description of any environmentally relevant activity (ERA) for which an environmental authority (EA) is issued is a restatement of the ERA as defined by legislation at the time the EA is issued. Where there is any inconsistency between that description of an ERA and the conditions stated by an EA as to the scale, intensity or manner of carrying out an ERA, the conditions prevail to the extent of the inconsistency.

An EA authorises the carrying out of an ERA and does not authorise any environmental harm unless a condition stated by the EA specifically authorises environmental harm.

A person carrying out an ERA must also be a registered suitable operator under the *Environmental Protection Act 1994* (EP Act).

Mobile and temporary activities

If you operate a mobile and temporary environmentally relevant activity (ERA), other than regulated waste transport, you are required to maintain a work diary. You must:

- use the approved form for a work diary (ESR/2015/1696);
- keep the work diary records for 2 years after the last entry;
- inform the administering authority within 7 days of the work diary being lost or stolen;
- record the information required in the work diary for each location within 1 day of leaving the location.

Contaminated land

It is a requirement of the EP Act that an owner or occupier of contaminated land give written notice to the administering authority if they become aware of the following:

- the happening of an event involving a hazardous contaminant on the contaminated land (notice must be given within 24 hours); or
- a change in the condition of the contaminated land (notice must be given within 24 hours); or
- a notifiable activity (as defined in Schedule 3) having been carried out, or is being carried out, on the contaminated land (notice must be given within 20 business days) that is causing, or is reasonably likely to cause, serious or material environmental harm.

For further information, including the form for giving written notice, refer to the Queensland Government website www.qld.gov.au, using the search term 'duty to notify'.

Take effect

Please note that, in accordance with section 200 of the EP Act, an EA has effect:

- a) if the authority is for a prescribed ERA and it states that it takes effect on the day nominated by the holder of the authority in a written notice given to the administering authority – on the nominated day; or
- b) if the authority states a day or an event for it to take effect – on the stated day or when the stated event happens; or
- c) otherwise – on the day the authority is issued.

However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the *Planning Act 2016* or an SDA Approval under the *State Development and Public Works Organisation Act 1971*), this EA will not take effect until the additional authorisation has taken effect.

If this EA takes effect when the additional authorisation takes effect, you must provide the administering authority written notice within 5 business days of receiving notification of the related additional authorisation taking effect.

If you have incorrectly claimed that an additional authorisation is not required, carrying out the ERA without the additional authorisation is not legal and could result in your prosecution for providing false or misleading information or operating without a valid environmental authority.



Signature

Rebecca Griffiths
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

20/09/2023

Date

Enquiries:
Utilities and Government Organisations Assessment
GPO Box 2454, Brisbane QLD 4001
Phone: 1300 130 372
Email: palm@des.qld.gov.au

Obligations under the *Environmental Protection Act 1994*

In addition to the requirements found in the conditions of this environmental authority, the holder must also meet their obligations under the EP Act, and the regulations made under the EP Act. For example, the holder must comply with the following provisions of the Act:

- general environmental duty (section 319)
- duty to notify environmental harm (section 320-320G)
- offence of causing serious or material environmental harm (sections 437-439)
- offence of causing environmental nuisance (section 440)
- offence of depositing prescribed water contaminants in waters and related matters (section 440ZG)
- offence to place contaminant where environmental harm or nuisance may be caused (section 443)

Other permits required

This permit only provides an approval under the *Environmental Protection Act 1994*. In order to lawfully operate you may also require permits / approvals from your local government authority, other business units within the department and other State Government agencies prior to commencing any activity at the site. For example, this may include permits / approvals with your local Council (for planning approval), the Department of Transport and Main Roads (to access State controlled roads), the Department of Resources (to clear vegetation), and the Department of Agriculture and Fisheries (to clear marine plants or to obtain a quarry material allocation).

Obligations under the *Mining and Quarrying Safety and Health Act 1999*

If you are operating a quarry, other than a sand and gravel quarry where there is no crushing capability, you will be required to comply with the *Mining and Quarrying Safety and Health Act 1999*. For more information on your obligations under this legislation contact Mine Safety and Health at www.resources.qld.gov.au, or phone 13 QGOV (13 74 68) or your local Mines Inspectorate Office.

Development Approval

This permit is not a development approval under the *Planning Act 2016*. The conditions of this environmental authority are separate, and in addition to, any conditions that may be on the development approval. If a copy of this environmental authority is attached to a development approval, it is for information only, and may not be current. Please contact the Department of Environment and Science to ensure that you have the most current version of the environmental authority relating to this site.

Conditions of environmental authority

Environmentally relevant activity	Location
ERA 63 - Sewage Treatment 1(b-i) - Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of more than 100 but not more than 1500EP if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme	Lot 58 on CP847564; Lot 36 on WD4474; Lot 60 on WD4474

The environmentally relevant activity conducted at the location as described above must be conducted in accordance with the following site-specific conditions of approval.

Agency interest: General	
G1	Activities must be conducted in accordance with the following: (a) Daily inflows into the sewage treatment plant must not exceed 29,600 litres on any day .
G2	All reasonable and practicable measures must be taken to prevent or minimise any environmental harm caused, or likely to be caused by the activities .
G3	Any contravention of a condition of this environmental authority must be reported to the administering authority as soon as practicable, but no more than 24 hours of becoming aware of the contravention.
G4	Within 14 days of providing the notification under condition G3, or a longer period agreed to in writing by the administering authority , an investigation must be completed into any contravention of a condition of the environmental authority to determine: (a) the potential circumstances and actions that may have contributed to the contravention; and (b) the environmental impact of the contravention; and (c) reasonable measures that could be implemented to address the cause of the contravention to prevent future contraventions of this nature.
G5	Measures identified under condition G4(c) must be implemented within: (a) 28 days of the investigation required by condition G4 being completed; or (b) a longer period agreed to in writing by the administering authority .
G6	The following details must be recorded for all contraventions of conditions within the environmental authority: (a) date and time the contravention occurred; and (b) nature and details of the contravention; and (c) investigations carried out in response to the contravention as required by condition G4; and (d) the results of investigations; and (e) measures taken under condition G5(c).

G7	Other than as permitted by this environmental authority, the release of a contaminant into the environment must not occur.
G8	All records required by the conditions of this environmental authority must be kept for a minimum of five years, and all monitoring results and raw data must be kept until surrender of this environmental authority.
G9	All records required by the conditions of this environmental authority must be provided to the administering authority : (a) within the timeframe specified by the administering authority ; and (b) in the format requested by the administering authority .
G10	An appropriately qualified person(s) must monitor , record and interpret all parameters that are required to be monitored by this environmental authority.
G11	All analyses required under this environmental authority must be carried out by a laboratory that has National Association of Testing Authorities (NATA) accreditation or an equivalent certification, for such analyses. The only exception to this condition is for <i>in situ</i> monitoring of dissolved oxygen, temperature, pH, electronic conductivity, free residual chlorine, total chlorine.
G12	An annual monitoring report (Annual Monitoring Report) must be prepared and submitted to the administering authority by 30 November each year, for the preceding financial year.
G13	The following details must be recorded for all environmental complaints received: (a) date and time the complaint was received; and (b) if authorised by the person making the complaint, their name and contact details; and (c) nature and details of the complaint; and (d) investigations carried out in response to the complaint as required by condition G14; and (e) the results of investigations; and (f) measures taken under condition G15.
G14	An investigation must be undertaken within 28 days (or a longer period agreed to in writing by the administering authority) into all complaints received to determine: (a) the potential circumstances and actions on site that may have contributed to the basis of the complaint; and (b) reasonable measures that could be implemented to address the complaint.
G15	Measures identified under condition G14 must be implemented within: (a) 28 days of the investigation required by condition G14 being finalised; or (b) a longer period agreed to in writing by the administering authority .
G16	When requested by the administering authority , monitoring must be undertaken in the manner and within the timeframe prescribed by the administering authority , to investigate any alleged environmental harm caused by the activity .
G17	The results, including an analysis of the results, of monitoring required by condition G16 must be provided to the administering authority : (a) within 10 days after you receive the monitoring results; or (b) A longer period agreed to in writing by the administering authority .

G18	Written procedures must be developed which: (a) identify all potential risks to the environment from the activity, including: (i) during routine operations; and (ii) outside routine operations; and (iii) during closure; and (iv) in an emergency; and (b) identify measures to prevent or minimise the potential for environmental harm for each of the potential risks identified; and (c) establish an inspection and maintenance program for plant and equipment including calibration and servicing that is in accordance with manufacturer's instructions; and (d) establish a staff training program on obligations under this environmental authority and the <i>Environmental Protection Act 1994</i> to be conducted as part of staff inductions and at least annually thereafter; and (e) establish processes to review environmental risks, incidents, performance and complaints.
G19	Written procedures required by condition G18 must be: (a) implemented; and (b) reviewed at least every two years; and (c) provided to the administering authority upon request and within a timeframe specified by the administering authority.
G20	Plant and equipment necessary to comply with the conditions of this environmental authority must be installed, operated, calibrated and maintained: (a) in a proper and effective manner; and (b) in accordance with the written procedures developed under condition G18 for the plant and equipment.
G21	Chemicals and fuels in containers of greater than 15 litres must be stored within a secondary containment system .
G22	The activity is only authorised to receive and treat sewage generated at the site .
G23	The activity must not accept the following wastes or wastewaters from the site for treatment: (a) brine from a water treatment plant, or (b) chlorinated water from swimming pools, or (c) trade wastes.
G24	An appropriately qualified person must install, operate, calibrate, and maintain the plant and equipment required to carry out the activity (including monitoring devices) in a proper and effective manner.
G25	Written procedures must be developed and implemented which identify measures to ensure that fluctuations in inflow rates to the sewage treatment plant throughout the year do not adversely impact the ability of the sewage treatment plant to treat sewage.
Agency interest: Air	
A1	Odours or airborne contaminants from the activity must not cause environmental nuisance to any sensitive place or commercial place .

A2	Effluent spray or overspray must not move beyond the effluent disposal area .																																													
Agency interest: Noise																																														
N1	Noise generated by the activity must not cause environmental nuisance to any sensitive place or commercial place .																																													
Agency interest: Waste																																														
W1	All waste generated by the activity must be lawfully reused or recycled, and/or lawfully removed to a facility that can lawfully accept the waste.																																													
Agency interest: Land																																														
L1	Other than as permitted by this environmental authority, contaminants from the activity must not be released to land .																																													
L2	Contaminants generated by the activity must only be released to the Effluent Disposal Area shown in <i>Appendix 1: Site Plan – Overall Land Application Area Layout, drawing number PAN-WWTS-H-0005, Revision E</i> including the specified GPS co-ordinates.																																													
L3	Contaminants generated by the activity must only be released to the Effluent Disposal Area where the following requirements are complied with: a) the release limits for each quality characteristic are complied with at the monitoring locations as specified in <i>Table 1 – Contaminant limits for releases to land</i>; and b) releases are monitored at all monitoring locations and at the minimum monitoring frequency for each quality characteristic specified in <i>Table 1 – Contaminant limits for releases to land</i>. Table 1 - Contaminant limits for releases to land <table><tr><th rowspan="2">Monitoring location</th><th rowspan="2">Quality characteristic (units)</th><th colspan="3">Release limits</th><th rowspan="2">Minimum monitoring frequency</th></tr><tr><th>Minimum</th><th>Mean</th><th>Maximum</th></tr><tr><td rowspan="7">Sewage treatment plant outflow</td><td>Irrigation volume (L/day)</td><td>-</td><td>16,122</td><td>29,600</td><td>Daily</td></tr><tr><td>Irrigation rate (mm/day)</td><td>-</td><td>-</td><td>5</td><td>Daily</td></tr><tr><td>Annual mean irrigation rate (mm/day)</td><td>-</td><td>3</td><td>-</td><td>Daily</td></tr><tr><td>Total Nitrogen TN (mg/L as N)</td><td>-</td><td>8</td><td>10</td><td>Monthly</td></tr><tr><td>Total Phosphorus TP (mg/L as P)</td><td>-</td><td>1</td><td>2</td><td>Monthly</td></tr><tr><td>pH (pH units)</td><td>6</td><td>-</td><td>8.5</td><td>Monthly</td></tr><tr><td>Escherichia coli (E.coli) cfu/100mL)</td><td>-</td><td>-</td><td>10</td><td>Monthly</td></tr></table>	Monitoring location	Quality characteristic (units)	Release limits			Minimum monitoring frequency	Minimum	Mean	Maximum	Sewage treatment plant outflow	Irrigation volume (L/day)	-	16,122	29,600	Daily	Irrigation rate (mm/day)	-	-	5	Daily	Annual mean irrigation rate (mm/day)	-	3	-	Daily	Total Nitrogen TN (mg/L as N)	-	8	10	Monthly	Total Phosphorus TP (mg/L as P)	-	1	2	Monthly	pH (pH units)	6	-	8.5	Monthly	Escherichia coli (E.coli) cfu/100mL)	-	-	10	Monthly
Monitoring location	Quality characteristic (units)			Release limits				Minimum monitoring frequency																																						
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	Escherichia coli (E.coli) cfu/100mL)	-	-	10	Monthly																																									

		Electrical Conductivity (EC) (µS/cm)	-	-	1,600	Monthly
Associated Requirement						
1) Mean calculations must be taken as a Long-Term Rolling Limit, meaning a limit applied to consecutive samples taken over a 12-month period (on a rolling basis for limit calculations) where consecutive samples are taken at the minimum frequency specified in <i>Table 1 - Contaminant limits for releases to land</i>. 2) Mean calculations for <i>Annual mean irrigation rate (mm/day)</i> must be taken as a Long-Term Rolling Limit, meaning a limit applied to consecutive samples taken over a 12-month period (on a rolling basis for limit calculations), for all monitoring results obtained for <i>Irrigation rate (mm/day)</i>. 3) Monitoring must be undertaken when effluent is being disposed, unless effluent disposal has ceased for longer than the relevant parameters specified minimum frequency (e.g., if pH was only required to be monitored once a week, then a pH sample would not be required after the first week following cessation of the release). 4) The <i>Irrigation rate (mm/day)</i> monitoring must be calculated based on the total area irrigated on that day, and the actual volume of effluent irrigated on that same day. 5) Volume monitoring required by condition L1 must be undertaken using a flow meter.						
L4	The Effluent Disposal Area must have a minimum surface area of 8,500m ²					
L5	All organic material removed from vegetation growing in the effluent disposal area must be transported and disposed of in an area other than in the effluent disposal area .					
L6	When soil in the effluent disposal area is saturated , effluent must not be released to land .					
L7	Ponding of contaminants within the effluent disposal area must not occur.					
L8	Spray drift or overspray must not occur beyond the effluent disposal area .					
L9	Deep drainage from irrigation of effluent must be minimised.					
L10	Contaminants must not run off to areas beyond the effluent disposal area .					
L11	Soil structure must not be degraded as a result of the activity .					
L12	Soil sodicity and the build-up of nutrients and heavy metals in the soil and subsoil must be minimised.					
L13	The effluent disposal area must be maintained with a crop of coastal couch grass (<i>Cynodon dactylon</i>) or similar crop species in a viable state .					
L14	The effluent disposal area must be maintained with a minimum crop coverage of 85%.					
L15	Notices at public access points warning the public and employees not to make contact with, use or drink the release of contaminants to land must be prominently displayed in and must be maintained in a visible and legible condition, in accordance with Australian Standard 1319-1994 Safety Signs for the Occupational Environment.					
Agency interest: Water						
WT1	Contaminants must not be released to waters .					
WT2	By no longer than 3 months from take effect date of this environmental authority a groundwater monitoring program (GWMP) must be designed and implemented by an appropriately qualified person(s) with experience and qualifications in groundwater monitoring, to monitor the effects of the activity on groundwaters .					

WT3	The GWMP required by condition WT2 must include: (a) clearly stated aims and objectives; and (b) a monitoring program that is developed using the latest version of the administering authority's guideline Using monitoring data to assess groundwater quality and potential environmental impacts, and that specifies: i) groundwater flow characteristics for the groundwater that could be impacted by the activity (potentially impacted groundwater), including a hydraulic gradient and groundwater flow rates; and ii) surface waters that could interact with potentially impacted groundwater (potentially impacted surface waters); and iii) the environmental values of the potentially impacted groundwater and the potentially impacted surface waters; and iv) cumulative impacts on the potentially impacted groundwater; and v) the spatial extent of the monitoring program, including the location of monitoring bores required under condition WT4; and (c) the temporal context of the monitoring program, including timing and frequency of sampling.
WT4	An appropriately qualified person(s) must install groundwater monitoring bores that enable monitoring from: (a) the uppermost aquifer; and (b) control location(s) that are suitable for establishing a background or other referable environmental value for the potentially impacted groundwater; and (c) test location(s) that are suitable for determining the extent to which the potentially impacted groundwater are, or are potentially, being impacted by the activity; and (d) for potentially impacted groundwater, hydraulically up-gradient bore(s) and hydraulically down-gradient bore(s) of the activity.

	Monitoring under the GWMP must include: (a) monitoring of the receiving environment at the monitoring location(s), and at the minimum monitoring frequency, and for the quality characteristics specified in <i>Table 2 – Groundwater Monitoring Program</i>. Table 2 – Groundwater Monitoring Program <table><tr><th>Monitoring locations</th><th>Quality characteristic (units)</th><th>Minimum monitoring frequency</th></tr><tr><td rowspan="8">Up-gradient and down-gradient of the effluent disposal area A location between the effluent disposal area and the sites drinking water bore</td><td>pH</td><td rowspan="8">Quarterly</td></tr><tr><td>Electrical Conductivity (µS/cm)</td></tr><tr><td>Total Nitrogen TN (mg/L as N)</td></tr><tr><td>Ammonia Nitrogen (mg/L)</td></tr><tr><td>Total Phosphorus TP (mg/L as P)</td></tr><tr><td>Total Chlorine</td></tr><tr><td>Calcium, Chloride, Potassium, Magnesium, Sodium, Sulphate, Bicarbonate, and Carbonate (mg/L)</td></tr><tr><td>Standing groundwater level (metres below ground level)</td></tr></table>	Monitoring locations	Quality characteristic (units)	Minimum monitoring frequency	Up-gradient and down-gradient of the effluent disposal area A location between the effluent disposal area and the sites drinking water bore	pH	Quarterly	Electrical Conductivity (µS/cm)	Total Nitrogen TN (mg/L as N)	Ammonia Nitrogen (mg/L)	Total Phosphorus TP (mg/L as P)	Total Chlorine	Calcium, Chloride, Potassium, Magnesium, Sodium, Sulphate, Bicarbonate, and Carbonate (mg/L)	Standing groundwater level (metres below ground level)
Monitoring locations	Quality characteristic (units)	Minimum monitoring frequency												
Up-gradient and down-gradient of the effluent disposal area A location between the effluent disposal area and the sites drinking water bore	pH	Quarterly												
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	Calcium, Chloride, Potassium, Magnesium, Sodium, Sulphate, Bicarbonate, and Carbonate (mg/L)													
	Standing groundwater level (metres below ground level)													
WT5	The GWMP required by condition WT2 must include: (a) the development of trigger values for the potentially impacted GW; and (b) procedures to determine when trigger values are reached; and (c) the development of management actions to mitigate any adverse impacts caused, or likely to be caused, by the activity; and (d) the implementation of the management actions if an GWMP trigger value is reached.													
WT6	The GWMP required by condition WT2 must be submitted to the administering authority upon request and within a timeframe (which must be at least 1 business day) specified by the administering authority.													
WT7	Any comments made by the administering authority on the GWMP must be addressed to the reasonable satisfaction and within a timeframe (which must be at least 5 business days) specified by the administering authority.													
WT8	A report summarising the results of the GWMP (GWMP Report) must be prepared by an appropriately qualified person(s) and submitted to the administering authority with the Annual Monitoring Report as required under condition G12.													
WT9	The GWMP Report required by condition WT8 must include: (a) a summary of the monitoring data obtained under the GWMP in the relevant financial year; and (b) an evaluation of all relevant data obtained under the GWMP, including graphical representations showing all relevant historical data and a comparison of data trends against the GWMP trigger values; and													

	(c) a description of all actions taken to minimise the environmental risk in response to data or other information obtained during the GWMP, including actions taken where GMPW trigger values were reached; and (d) the results of those management actions.
WT10	The GWMP Report required by condition WT8 must include analysis and interpretation of monitoring results by an appropriately qualified person(s) that determines: (a) whether any deep drainage of contaminants from the activity into groundwater has occurred; and (b) how the groundwater has been impacted by the activity.
WT11	The GWMP Report required by condition WT8 must include recommended action(s) to mitigate any adverse impacts caused, or likely to be caused, by the activity in respect of potentially impacted groundwater.
WT12	The GWMP required by condition WT2 must be reviewed annually by an appropriately qualified person(s) and certified as being appropriate to monitor the effects of the activity on groundwaters.

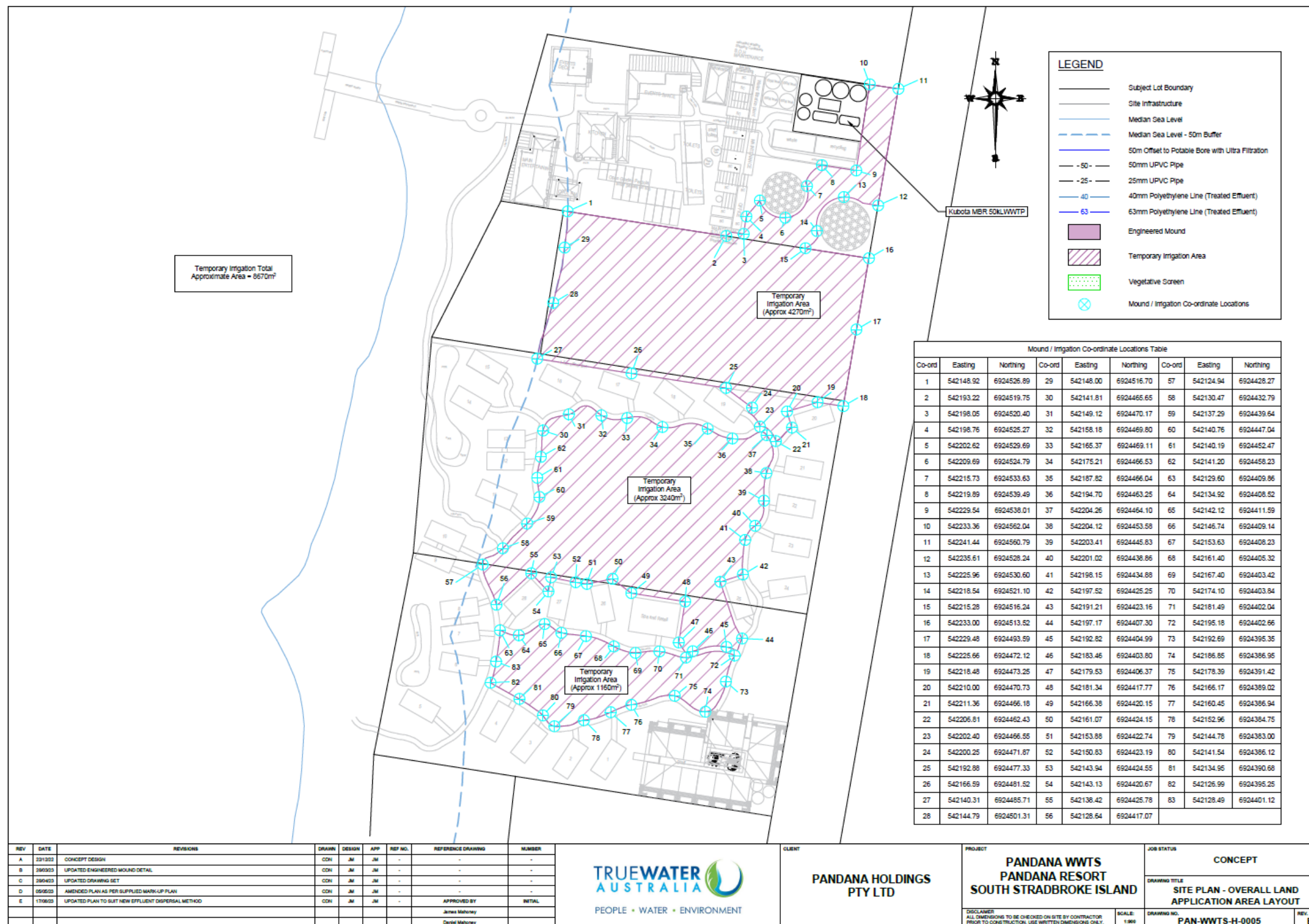
Definitions

Key terms and/or phrases used in this document are defined in this section. Where a term is not defined, the definition in the *Environmental Protection Act 1994*, its regulations or environmental protection policies must be used. If a word remains undefined it has its ordinary meaning.

Activity means the environmentally relevant activities to which the environmental authority relates.
Administering authority means the Chief Executive administering the <i>Environmental Protection Act 1994</i> .
Appropriately qualified person means a person who has professional qualifications, training, skills or experience relevant to the EA requirements and can give authoritative assessment, advice and analysis in relation to the EA requirements using the relevant protocols, standards, methods or literature.
Commercial place means a place, or part of a place, used as a workplace, an office or for business or commercial purposes
Day means any 24-hour period of a calendar day.
Down-gradient bore means a bore in a location hydraulically down gradient from those aspects of the activity that may affect groundwater quality.
Effluent means the liquid fraction of treated sewage.
Effluent disposal area means the effluent disposal area identified in <i>Appendix 1: Site Plan - Overall Land Application Area Layout, drawing number PAN-WWTS-H-0005, Revision E</i> including the specified GPS co-ordinates.
Flow meter means an instrument that accurately and reliably (i.e., must not be an analogue flow meter) quantifies bulk fluid movement.
Groundwater means water that occurs naturally in, or is introduced artificially into, an aquifer.
Land means land excluding waters and the atmosphere
Measures has the broadest interpretation and includes plant, equipment, physical objects, monitoring , procedures, actions, directions and competency.
Monitor, monitored and monitoring means monitoring the impact of an activity on the receiving environment and includes analysing, assessing, examining, inspecting, measuring, modelling or reporting any of the following matters— a) the quantity, quality, characteristics, timing and variability of the release of any contaminant; and b) the effectiveness of any control measure; and c) the characteristics of, and impact on, the receiving environment; and d) the effectiveness of remedial or rehabilitation measures (if applicable to the relevant monitoring requirement).
Release of a contaminant into the environment, release and released means to: (a) deposit, discharge, emit or disturb the contaminant; or (b) cause or allow the contaminant to be deposited, discharged, emitted or disturbed; or (c) fail to prevent the contaminant from being deposited, discharged emitted or disturbed; or (d) allow the contaminant to escape; or

(e) fail to prevent the contaminant from escaping.
Records include any written procedures, plans, monitoring results, and monitoring programs required under a condition of this environmental authority.
Saturated means the soil moisture level is greater than the soil field capacity. Field capacity means the amount of water retained in soil when the soil has been allowed to drain for 24hrs under normal gravity conditions.
Secondary containment system means a system designed, installed and operated to prevent any release of contaminants from the system, or containers within the system.
Similar crop species means a species that has the same or greater nutrient uptake as the specified crop species.
Sludge means any residual, semi-solid material that is produced as a by-product from the activity .
The site and site means the lot on plans identified as being approved for the carrying out of the activity as listed on the first page of this environmental authority.
Total Nitrogen (TN) means the sum of Organic Nitrogen, Ammonia Nitrogen, Nitrite plus Nitrate Nitrogen, expressed as mg/L as Nitrogen. This includes both the inorganic and organic fraction of nitrogen.
Total Phosphorus (TP) means the sum of the reactive phosphorus, acid-hydrolysable phosphorus and organic phosphorus, as mg/L of Phosphorus. This includes both the inorganic and organic fraction of phosphorus.
Trigger values are physicochemical, biological, or other parameter-specific measurement values used to indicate where an environmental value is at risk of environmental harm.
Up-gradient bore means a bore, in a location hydraulically up gradient from those aspects of the activity that may affect groundwater quality.
Viable state means able to live and grow.
Waters includes a river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water, natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater and any part thereof.
Year means a calendar year

Appendix 1: Site Plan - Overall Land Application Area Layout, drawing number PAN-WWTS-H-0005, Revision E



END OF ENVIRONMENTAL AUTHORITY