

Registration certificate

Environmental Protection Act 1994

Registration certificate

No: ENRE00764408

This registration certificate is issued by the administering authority and takes effect from: 19 August 2011.

The anniversary day for the purposes of the Annual Return remains: 4 August.

This registration certificate is a requirement of section 73F of the *Environmental Protection Act 1994* and authorises the registered operator to undertake the activity listed below at the following place; subject to the conditions set out in a development approval attached to the premises, or the relevant code of environmental compliance.

Registered Operator:-

Tangalooma Island Resort Pty Ltd
Trading as Tangalooma Pty Ltd
Tangalooma Island Resort
MORETON ISLAND QLD 4025

Place:-	Located at:-	Registered Activity:-	Development Approval:-
Lot 19 Plan SP106585	Tangalooma Island Resort, Amoolagnat Street, MORETON ISLAND QLD 4025	ERA 63 Sewage treatment Threshold 2(c) - operating sewage treatment works, other than no-release works, with a total daily peak design capacity of more than 1500 to 4000EP	IPDE00924208



Delegate
Department of Environment and Resource Management
Environmental Protection Act 1994

19-AUG-2011



Queensland Government
Environmental Protection Agency
Queensland Parks and Wildlife Service

Southern Regional Office (Brisbane)
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www.env.qld.gov.au ABN: 87221158786

Licence No. SR0798
(without development approval)
Section 93 Environmental Protection Act 1994

This licence to carry out an environmental relevant activity is issued in accordance with section 93 of the Environmental Protection Act 1994.

Under the provisions of the
Environmental Protection Act 1994 this licence is issued to:

Tangalooma Island Resort Limited
Corner of Kingsford Smith Drive and Harvey Street
EAGLE FARM QLD 4009

in respect of carrying out the environmental relevant activity:

15(c) Sewage treatment - Operating a standard sewage treatment works having a peak design capacity to treat sewage of 1 500 or more equivalent persons but less than 4 000 equivalent persons

at the following place(s):

Lot 19, SP106585, Parish of Tiffin, County of Stanley.

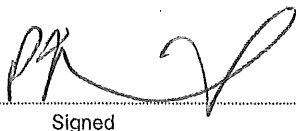
located at:

Tangalooma Resort
MORETON ISLAND QLD 4025

This licence is subject to the conditions set out in the attached schedules.

The anniversary date of this licence is **4 August**

This amended licence takes effect from **23 April 2003**.


Signed


Date

Peter Smith
Acting Manager (Licensing)
Delegate of Administering Authority
Environmental Protection Act 1994

Note: This licence document is not proof of the current status of the licence. The current status of the licence may be ascertained by contacting the Environmental Protection Agency.

Schedule of conditions

The aforementioned description of the ERA for which this authority is issued is simply a restatement of the activity as prescribed in the legislation at the time of issuing this authority. Where there is any conflict between the above description of the ERA for which this authority is issued and the conditions as specified in this authority as to the scale, intensity or manner of carrying out of the ERA, then such conditions prevail to the extent of the inconsistency.

This authority incorporates the following schedules of conditions relevant to various issues:

- Schedule A - General Conditions
- Schedule B - Air
- Schedule C - Water
- Schedule D - Stormwater Management
- Schedule E - Land Application
- Schedule G - Waste Management
- Schedule H - Monitoring and Reporting
- Schedule I - Definitions

Schedule A – General Conditions

Maintenance of Plant and Equipment

(A1) The holder of this environmental authority must:

- (a) install all plant and equipment necessary to ensure compliance with the conditions of this environmental authority; and
- (b) maintain such plant and equipment in a proper and efficient condition; and
- (c) operate such plant and equipment in a proper and efficient manner.

In this condition, "plant and equipment" includes:

- (i) plant and equipment used to prevent and/or minimise the likelihood of environmental harm being caused;
- (ii) devices and structures to contain foreseeable escapes of contaminants and waste;
- (iii) vehicles used to transport waste;
- (iv) devices and structures used to store, handle, treat and dispose of waste;
- (v) monitoring equipment and associated alarms; and
- (vi) backup systems that act in the event of failure of the primary system.

Display of Environmental Authority

(A2) A copy of this environmental authority must be kept in a location readily accessible to personnel carrying out the activity.

Records

(A3) Any record or document required to be kept by a condition of this environmental authority must be kept at the licensed place for a period of at least five (5) years and be available for examination by an authorised person. The record retention requirements of this condition will be satisfied if any daily and weekly records are kept for a period of at least three (3) years and these records are then kept in the form of annual summaries after that period.

Alterations

- (A4) No change, replacement or operation of any plant or equipment is permitted if the change, replacement or operation of the plant or equipment increases, or is likely to substantially increase, the risk of environmental harm above that expressly provided by this environmental authority.

An example of a substantial increase in the risk of environmental harm is an increase of 10% or more in the quantity of the contaminant to be released into the environment.

Calibration

- (A5) All instruments and devices used for the measurement or monitoring of any parameter under any condition of this environmental authority must be calibrated, and appropriately operated and maintained.

Trained Operators

- (A6) All persons engaged in the conduct of the activity, including but not limited to employees and contract staff, must be:
- (i) trained in the procedures and practices necessary to:
 - (a) comply with the conditions of this environmental authority, and
 - (b) prevent environmental harm during normal operation and emergencies; or
 - (ii) under the close supervision of such a trained person.

Site-Based Management Plan

- (A7) With the initial Annual Return, the holder of this environmental authority, must develop and implement an effective and appropriate Site-based Management Plan which details how the holder of this environmental authority will manage the actual and potential environmental impacts resulting from the carrying out of the environmentally relevant activity.
- (A8) The Site-based Management Plan must address at least the following matters:
- (i) Routine operating procedures to prevent or minimise environmental harm, however occasioned or caused during normal operations;
 - (ii) Maintenance practices and procedures;
 - (iii) Contingency plans and emergency procedures to deal with foreseeable risks and hazards including corrective responses to prevent and mitigate environmental harm (including any necessary site rehabilitation);
 - (iv) Monitoring of the release of contaminants into the environment including procedures, methods, record keeping and notification of results;
 - (v) Assessment of the environmental impact of any releases of contaminants into the environment including procedures, methods, record keeping and notification of results;
 - (vi) Handling of environmental complaints;
 - (vii) Keeping and production of environmental records and reports;
 - (viii) Lines and methods of communication to be utilised for communication of procedures, plans, incidents, potential environmental problems and results, including a feedback mechanism to ensure that management is made aware of potential environmental problems and any failure of procedures adopted; and
 - (ix) Staff training and awareness of environmental issues related to the operation of the environmentally relevant activities, including responsibilities under the Environmental Protection Act.
- (A9) A copy of the Site-based Management Plan and any subsequent amendment of the Site-based Management Plan must be kept at the licensed place and be available for examination by an authorised person on request.

END OF CONDITIONS FOR SCHEDULE A

Schedule B - Air

Noxious or Offensive Odour

- (B1) Notwithstanding any other condition of this environmental authority, no release of contaminants from the licensed place is to cause a noxious or offensive odour beyond the boundaries of the licensed place.

END OF CONDITIONS FOR SCHEDULE B

Schedule C - Water

Release of Contaminants to Waters

- (C1) Contaminants must not be directly or indirectly released from the licensed place to any waters or the bed and banks of any waters except:
- (i) as permitted under the water schedule; or
 - (ii) as permitted under the stormwater management schedule; or
 - (iii) to a sewer as permitted or otherwise agreed from time to time by the relevant Local Government.

Pump Stations

- (C2) Pump stations whose failure would or would be likely to result in a direct or indirect release of contaminants to waters must be fitted with stand-by pumps and pump-failure alarms. Pump failure alarms must be able to operate without mains power if such power failure occurs and, when in operation, must be detectable to those responsible for remedial action.

Emergency Response/Contingency Plans for all STP pump stations

- (C3) **With the initial annual return** the holder of this environmental authority must, in the implementation of Site-Based Environmental Management Plans for the Sewage Treatment Plants, develop and implement effective and appropriate Emergency Response/Contingency Plans to manage the environmental impacts of any release of contaminants from pump stations and other ancillary equipment.
- (C4) The Emergency Response/Contingency Plan required by condition (C3) must address at least the following matters:
- (i) the location of each pump station and overflow;
 - (ii) procedures to be implemented to reduce the likelihood of any pump station failure and likelihood of any release of contaminants;
 - (iii) response procedures to prevent any further release, or if such is not practicable, minimise the extent and duration of any release to the greatest practicable extent;
 - (iv) the practices and procedures to be employed to restore the environment, or if such is not practicable, mitigate any environmental impacts of the release (including in both dry and wet conditions);
 - (v) a description of the resources to be used in response to a release;
 - (vi) the training of staff that will be called upon to respond to a release;
 - (vii) procedures to investigate the cause of any release, and where necessary, implement remedial actions to reduce the likelihood of recurrence of a similar event;
 - (viii) the provision and availability of documented procedures to staff attending any release to enable them to effectively respond;
 - (ix) timely and accurate reporting of the circumstances and nature of release events to the administering authority;

- (x) periodic estimation of the catchment population serviced by the pump station(s) and hence daily dry weather flow(s) to minimise any likelihood of the design capacity of the pump station(s) being exceeded; and
 - (xi) the need for screening to prevent the release of gross solids.
- (C5) An up to date copy of the Emergency Response/Contingency must be kept at the at the licensed place to which that plan relates and be available for examination by an authorised person on request.

END OF CONDITIONS FOR SCHEDULE C

Schedule D – Stormwater Management

Stormwater Management Plan

- (D1) The holder of this environmental authority must:
- (i) develop and implement a stormwater management plan which provides for the following functions:
 - (a) avoidance or minimisation of contaminated stormwater; and
 - (b) reuse, treatment and disposal of contaminated stormwater; and
 - (ii) on or before **the initial annual return**, have completed and implemented the stormwater management plan.
- (D2) A copy of the Stormwater Management Plan must be kept at the licensed place.

Minimise Infiltration

- (D3) The holder of this environmental authority must take all reasonable and practicable measures to minimise sewer infiltration.
- (D4) For the purposes of demonstrating compliance with condition D3, the holder of this environmental authority must periodically report to the administering authority on the following matters:
- (i) the estimated level of infiltration;
 - (ii) the reasonable and practicable measures intended to minimise infiltration;
 - (iii) the actions taken to minimise infiltration; and
 - (iv) periodic re-estimations of the level of infiltration and, by comparison with previous infiltration estimates and connected population, an assessment of the effectiveness of the actions taken to minimise infiltration.
- (D5) The initial report must be lodged with the administering authority by **30 December 1998** with subsequent reports to be lodged with the Annual Return in 2000 and at least once every two years thereafter.

Maintenance and Cleanup

- (D6) Any spillage of wastes, contaminants or other materials must be cleaned up as quickly as practicable. Such spillages must not be cleaned up by hosing, sweeping or otherwise releasing such wastes, contaminants or material to any stormwater drainage system, roadside gutter or waters.

Pond conditions

- (D7) All ponds used for the storage or treatment of contaminants or wastes must be installed and maintained to prevent any discharge through the bed or banks of the pond from causing environmental harm in any waters (including groundwaters).

- (D8) All ponds used for the storage or treatment of contaminants or wastes must be constructed and maintained to ensure the stability of the ponds' construction.
- (D9) Suitable banks and/or diversion drains must be installed and maintained to exclude stormwater runoff from any ponds or other structures used for the storage or treatment of contaminants or wastes.

END OF CONDITIONS FOR SCHEDULE D

Schedule E – Land Application

Release of Contaminants to Land

- (E1) The only contaminants to be released to land are treated sewage effluents and sludge from the sewage treatment plant.

Contaminant Release Location

- (E2) The defined contaminant release area is the irrigation area to the south of the property as marked on the site **Drawing "Drawing No 98040/SK1: Tangalooma Moreton Island Sewerage treatment facility prepared by Codd Stenders Architects, dated January 1998"**.
- (E3) A minimum of 0.42 hectares of land must be provided for the treated sewage effluent contaminant release area.

Quantity of Contaminants Released

- (E4) The total quantity of contaminants released daily to land must not exceed 400 cubic metres.

Quality of Contaminants Released from the sewage treatment plant to licensed land

- (E5) The contaminants released from the sewage treatment plant to land must comply, at the sampling and in-situ measurement point/s specified in Schedule H, with each of the release limits specified in Schedule E Table 1 for each quality characteristic.

SCHEDULE E TABLE 1 - RELEASE QUALITY CHARACTERISTIC LIMITS

QUALITY CHARACTERISTICS	RELEASE LIMIT	LIMIT TYPE
5-day Biochemical Oxygen Demand (inhibited)	20 mg/L	maximum
Suspended Solids	30 mg/L	maximum
pH	6.5 to 8.5	range
Dissolved Oxygen	2.0 mg/L	minimum
Total Nitrogen	10 mg/L	maximum
Faecal Coliforms	200 organisms per 100 mL	median
Faecal Coliforms	1000 organisms per 100 mL	80 th percentile

- (E6) Notwithstanding the quality characteristic limits specified in Table 1 of the Land Application Schedule the contaminants released must also comply with the following qualitative characteristics:
- (i) The release must not have any properties nor contain any organisms or contaminants in concentrations that are capable of causing environmental harm.





Contaminant Release Precautions

- (E7) The contaminant release area must not be used for grazing, recreational activities or as a traffic thoroughfare.
- (E8) The contaminant release area must be maintained in a proper and efficient condition so as to provide adequate assimilation, percolation, evaporation and transpiration of the released contaminants.
- (E9) Spray from any release of contaminants to land must not drift beyond the boundaries of the licensed place.
- (E10) Public access to any contaminant release area must be denied during the release of contaminants to land and until the release area has dried.
- (E11) Notices warning the public not to use or drink the release of contaminants to land must be prominently displayed and must be maintained in a visible and legible condition.
- (E12) Pipelines and fittings for the release of contaminants to land must be clearly identified. Standard water taps, hoses and cocks must not be fitted to contaminant release pipelines, and the contaminant release system must not be connected to other service pipelines. Lockable valves or removable handles must be fitted to the contaminant release pipelines where there is public access to the contaminant release areas.

END OF CONDITIONS FOR SCHEDULE E

Schedule G – Waste Management

General

- (G1) The holder of this environmental authority must not:
 - (i) allow waste to burn or be burned at or on the licensed place; nor
 - (ii) remove waste from the licensed place and burn such waste elsewhere.

Off Site Movement

- (G2) Where regulated waste is removed from the licensed place (other than by a release as permitted under another schedule of this environmental authority), the holder of this environmental authority must monitor and keep records of the following:
 - (i) the date, quantity and type of waste removed; and
 - (ii) name of the waste transporter and/or disposal operator that removed the waste; and
 - (iii) the intended treatment/disposal destination of the waste.

(NOTE: Records of documents maintained in compliance with a waste tracking system established under the Environmental Protection Act 1994 or any other law for regulated waste will be deemed to satisfy this condition).

- (G3) Regulated waste must not be released to the environment, stored, transferred or disposed of contrary to any condition of this environmental authority.





Notification of Improper Disposal Of Regulated Waste

- (G4) If the holder of this environmental authority becomes aware that a person has removed regulated waste from the licensed place and disposed of the regulated waste in a manner which is not authorised by this environmental authority or improper or unlawful, then the holder of this environmental authority must, as soon as practicable, notify the administering authority of all relevant facts, matters and circumstances known concerning the disposal.

END OF CONDITIONS FOR SCHEDULE F

Schedule H – Monitoring and Reporting

Complaint Recording

- (H1) All complaints received by the holder of this environmental authority relating to operations at the licensed place must be recorded in a log book with the following details:
- (i) nature, time and date of complaint;
 - (ii) type of communication (telephone, letter, personal etc.);
 - (iii) name, contact address and contact telephone number of complainant (Note: if the complainant does not wish to be identified then "Not identified" is to be recorded);
 - (iv) response and investigation undertaken as a result of the complaint;
 - (v) name of person responsible for investigating complaint; and
 - (vi) action taken as a result of the complaint investigation and signature of responsible person.

Incident Recording

- (H2) A record must be maintained of events including but not limited to:
- (i) the time, date and duration of equipment malfunctions, including sewage pump stations, that may effect the environmental performance of the licensed place; and
 - (ii) any shut-downs of equipment upon which the environmental performance of the licensed place depends.

Notification of Emergencies and Incidents

- (H3) As soon as practicable after becoming aware of any emergency or incident which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with the conditions of this environmental authority, the holder of this environmental authority must notify the administering authority of the release by telephone or facsimile.
- (H4) The notification of emergencies or incidents as required by condition number H3 must include but not be limited to the following:
- (i) The holder of the environmental authority;
 - (ii) the location of the emergency or incident;
 - (iii) the number of the environmental authority;
 - (iv) the name and telephone number of the designated contact person;
 - (v) the time of the release;
 - (vi) the time the holder of the environmental authority became aware of the release;
 - (vii) the suspected cause of the release;
 - (viii) the environmental harm and or environmental nuisance caused, threatened, or suspected to be caused by the release; and
 - (ix) actions taken to prevent further any release and mitigate any environmental harm and or environmental nuisance caused by the release.

- (H5) Not more than 14 days following the initial notification of an emergency or incident, the holder of the environmental authority must provide written advice of the information supplied in accordance with condition number H4 in addition to:
- (i) proposed actions to prevent a recurrence of the emergency or incident;
 - (ii) outcomes of actions taken at the time to prevent or minimise environmental harm.
- (H6) As soon as practicable, but not more than six weeks following the conduct of any environmental monitoring performed in relation to the emergency or incident, which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with the conditions of this environmental authority, the holder of the environmental authority must provide written advice of the results of any such monitoring performed to the administering authority.

Monitoring of Effluent Released to Land

- (H7) The holder of this environmental authority is responsible for the making of determinations and keeping of records of the quality characteristics of the effluent released for irrigation, and at the frequency specified in Schedule H Table 1:

Schedule H - Table 1

QUALITY CHARACTERISTICS	UNITS	MONITORING FREQUENCY
Biochemical Oxygen Demand	mg/L	Monthly
Total Suspended Solids	mg/L	Monthly
pH ^{Note 3.5}	pH scale	Monthly
Dissolved Oxygen	mg/L	Monthly
Nitrate and Nitrite as N (NO _x)	mg/L	Monthly
Total Kjeldahl Nitrogen (as Nitrogen)	mg/L	Monthly
Total Nitrogen (as Nitrogen)	mg/L	Monthly
Faecal Coliforms	cfu/100 mL	Monthly
Total Phosphorus (as Phosphorus)	mg/L	Monthly
Ammonia (as Nitrogen)	mg/L	Monthly
Total Dissolved Solids (also known as Total Dissolved Salts)	mg/L	Six Monthly
Electrical Conductivity	µS/cm	Six monthly
Acid Digest for Total Cations	N/A	Six monthly
Total Cations (Na, Ca, Mg and K)	mg/L	Six monthly
Sodium Adsorption Ratio	calculated	Six monthly
Chloride	mg/L	Six monthly
Filtration for Dissolved Sulphate	µm/L	Six monthly
Dissolved Sulphate	mg/L	Six monthly
Boron	mg/L	Six monthly

Sampling and In-situ Monitoring Point Details

- (H8) Determinations of the quality of contaminants released to Land to check conformity with the release quality characteristics specified in Table 1 - Schedule E of this environmental authority must be undertaken at the sampling and in-situ measurement point(s) described as prior to land disposal
- (H9) All determinations of the quality of contaminants released to Land must be made in accordance with methods prescribed in the Department of Environment Water Quality Sampling Manual, 2nd Edition, February 1995, or more recent additions or supplements to that document as such become available, or as specifically approved by the administering authority.

- (H10) All determinations of the quality of contaminants released must be performed by a person or body possessing appropriate experience and qualifications to perform the required measurements.

Exception Reporting

- (H11) The holder of this environmental authority must notify the administering authority in writing of any monitoring result which indicates an exceedance of any licence limit within 28 days of completion of analysis.

- (H12) The written notification required by condition number H11 above must include:

- (i) The full analysis results, and
- (ii) Details of investigation or corrective actions taken, and
- (iii) Any subsequent analysis.

Monitoring Of Volume of Release

- (H13) The daily quantity of contaminants released must be determined or estimated by an appropriate method, for example, a flow meter.

Contaminant Release Area Monitoring Program

- (H14) By 1 July 1999 the holder of this environmental authority must develop and implement a Contaminant Release Area Monitoring Program to effectively monitor the condition of the land to which contaminants are released.
- (H15) Monitoring required by condition H14 shall include the taking of top soil and sub-soil samples from at least 2 sites for the quality characteristics and at the frequency specified in Schedule H Table 2.

Schedule H Table 2

QUALITY CHARACTERISTICS	UNITS	FREQUENCY
1:5 Solid / Liquid Leach for pH, EC, Total N and Chloride	N/A	Every 2 years
pH	pH scale	Every 2 years
Electrical Conductivity	µS/cm	Every 2 years
Exchangeable Sodium Percent (ESP)	mg/L	Every 2 years
Exchangeable Cations (Na, Ca, Mg and K)	mg/L	Every 2 years
Calcium/Magnesium Ratio	calculated	Every 2 years
Nitrate and Nitrite as N (NO _x)	mg/L	Every 2 years
Total Kjeldahl Nitrogen as N	mg/L	Every 2 years
Total Nitrogen as N	mg/L	Every 2 years
Bicarbonate Extractable Phosphorous (Colwell)	mg/L	Every 2 years
Bicarbonate Extractable Potassium (Colwell)	mg/L	Every 2 years
Chloride	mg/L	Every 2 years

- (H16) The Contaminant Release Area Monitoring Program must include but not be limited to the following:
- (i) the locations of monitoring stations including soil types and depths; and
 - (ii) the proposed vegetation characteristics to be monitored.

- (H17) The holder of this environmental authority must submit with each annual return a report on the Contaminant Release Area Monitoring Program including an assessment of the impact and sustainability of the application of treated sewage wastes to the contaminant release area. This report shall include an interpretation of the results and conclusions by an expert in the field of effluent land disposal.
- (H18) The holder of this environmental authority must ensure that the results of all monitoring performed in accordance with this environmental authority for the period covered by the return are submitted with the Annual Return.
- (H19) All determinations of the condition of the contaminant release area must be made by a person or body registered by the National Association of Testing Authorities (NATA) for the required determinations.

Monitoring of Groundwater Quality

- (H20) The holder of this environmental authority must design and conduct an on-going Groundwater Monitoring Program to monitor the quality of groundwater affected, or likely to be affected, by the indirect discharge of treated sewage waste water to the groundwater.
- (H21) A groundwater monitoring system must be installed to monitor the quality of groundwater affected, or likely to be affected, by the indirect discharge of treated sewage waste water to the groundwater. The system must include a sufficient number of wells installed at locations and depths which yield representative groundwater samples from the uppermost aquifer and that establish:
- (i) hydraulically up-gradient (background) groundwater quality from at least two locations that have not been affected by any release of contaminants to groundwater from the licensed place; and
 - (ii) groundwater quality hydraulically up-gradient of the contaminant release area(s) at the licensed place; and
 - (iii) groundwater quality hydraulically down-gradient of the contaminant release area(s) at the licensed place prior to any potential surface expression of that groundwater in nearby surface waters; and
 - (iv) groundwater quality in all water supply bores potentially affected by release of contaminants from the contaminant release at the licensed place.
- (H22) The groundwater monitoring system referred to in condition H21 must be developed by a person possessing appropriate qualifications and experience in the fields of hydrogeology and groundwater monitoring program design to be able to competently make recommendations about these matters.
- (H23) Locations for groundwater monitoring facilities must be given with reference to horizontal coordinates of such facilities accurate to 1.0 metre.
- (H24) The holder of this environmental authority must monitor and record quality of groundwater to detect any possible release(s) of contaminants for, at least, the following water quality characteristics:
- (a) nitrate as N (NO_3);
 - (b) nitrite as N (NO_2);
 - (c) total Kjeldahl Nitrogen as N;
 - (d) total Nitrogen as N;
 - (e) ammonia nitrogen (as N);
 - (f) total phosphorus (as P);
 - (g) chloride;
 - (h) electrical conductivity
 - (i) $\text{pH}^{\text{Note 3.5}}$; and
 - (j) faecal coliforms (cfu).
- (H25) The holder of this environmental authority must determine whether or not there has been any statistically significant increase over background values at locations hydraulically down-gradient of the contaminant release area for any water quality characteristic required to be monitored in condition H24.

- (H26) The holder of this environmental authority must monitor groundwater quality as often as is necessary but not less frequently than every three (3) months except in the case of monitoring of total coliforms and nitrate nitrogen in any water supply bores which must be monitored at least fortnightly for three (3) months after issuing the licence and thence every three (3) months.
- (H27) The results of monitoring in H26 must be submitted to the administering authority with the first annual return.
- (H28) All determinations of the quality of groundwater must be made in accordance with methods prescribed in the Department of Environment and Heritage Water Quality Sampling Manual, 2nd Edition, February 1995, or more recent additions or supplements to that document as such become available.
- (H29) All monitoring wells must be maintained in an operative condition and be reasonably accessible at all times to any authorised person.
- (H30) Each groundwater monitoring bore must be fitted with a locked cap at all times other than at the time of sampling.
- (H31) All determinations of the groundwater quality must be performed by a person or body possessing appropriate experience and qualifications to perform the required determinations.
- (H32) Records must be kept of the results of all determinations and monitoring carried out under the Surface Waters Monitoring Program for a period of at least 5 years.
- (H33) The holder of this environmental authority must submit with each annual return a report on the Groundwater Monitoring Program including an assessment of the impact of releases of effluent to the contaminant release area. This report shall include an interpretation of the results and conclusions by an expert in the field of groundwater monitoring and assessment as to whether there is any contamination, and if so, the level of environmental harm caused as a result of such contamination.

Report Submission

- (H34) The holder of this environmental authority must ensure that the results of all monitoring performed in accordance with this environmental authority for the period covered by the annual return are submitted with the Annual Return.
- (H35) Results of the required determinations of the daily quantity of contaminants released to land for the reporting period together with appropriate precipitation data for the sewer catchment area of the sewage treatment plant must be reported:
 - (i) in a tabular format, showing date of recording and raw data; and
 - (ii) graphically showing raw data versus time.
- (H36) Results of the required determinations of the quality of contaminants released to land for the reporting period must be reported:
 - (i) in a tabular format, showing:
 - (a) date, times, and day of week sampled;
 - (b) all raw data;
 - (c) any non-compliance with the release limits of all quality characteristics specified in Schedule E, Table 1 of this environmental authority; and
 - (d) maximum and minimum values obtained for the quality characteristics specified in Schedule H, Table 1 of this environmental authority; and
 - (ii) graphically showing data referred to in part (i) of this condition versus time

END OF CONDITIONS FOR SCHEDULE H



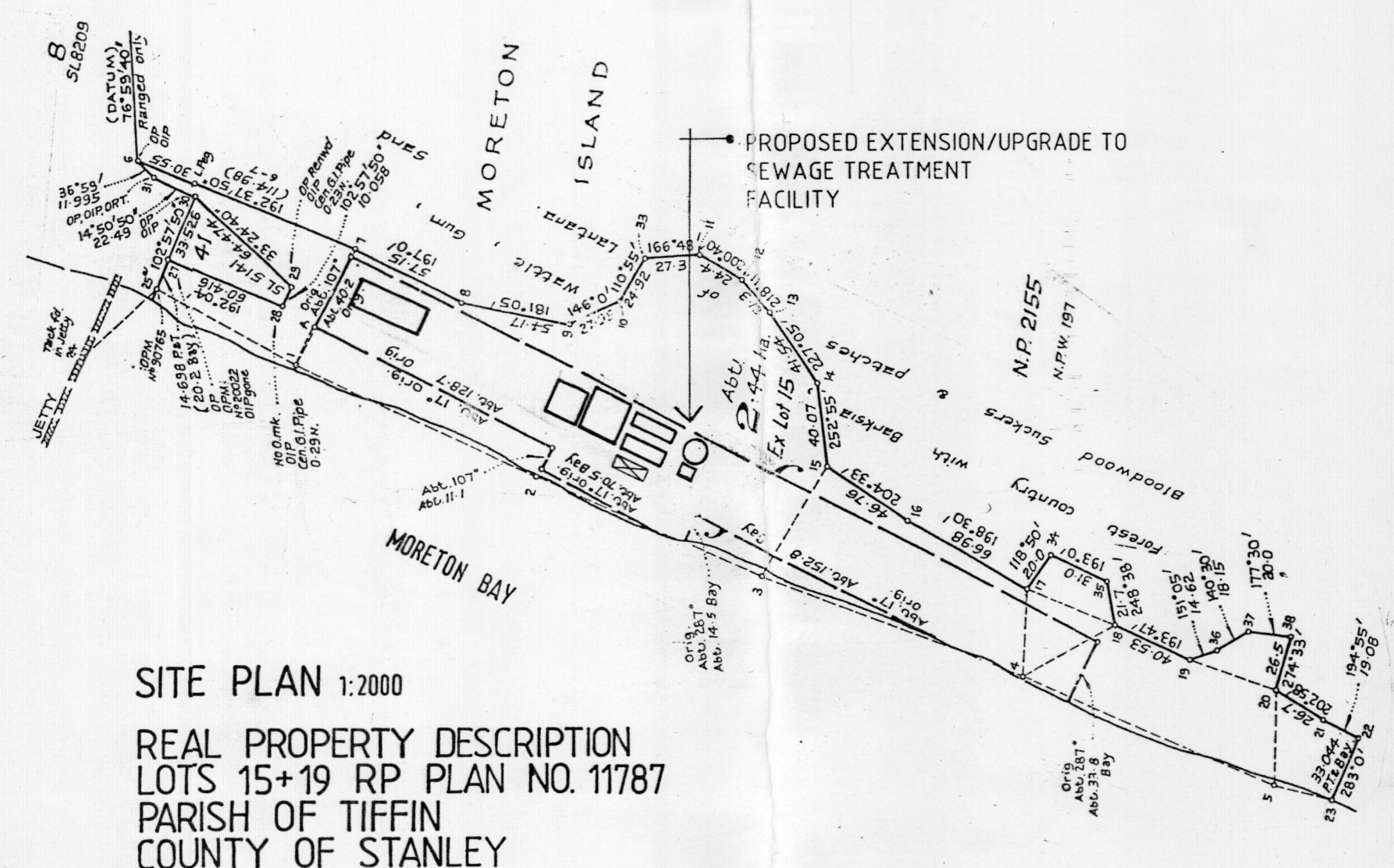
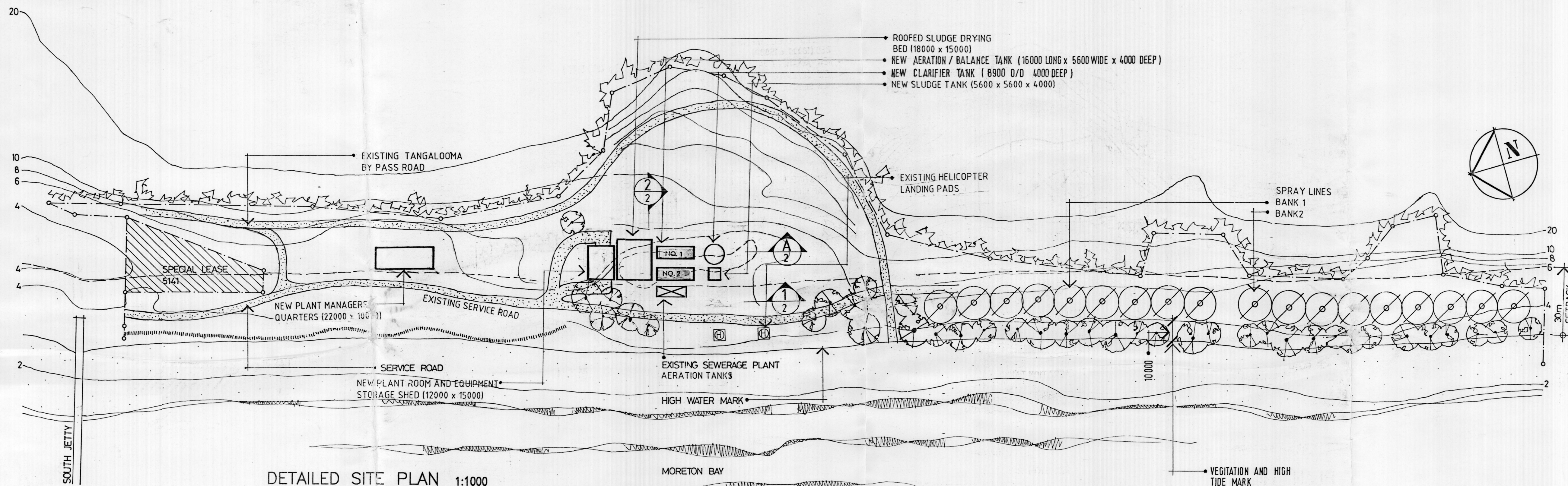
Schedule I - Definitions

For the purposes of this environmental authority the following definitions apply:

- (11) "**Act**" means the Environmental Protection Act 1994.
- (12) "**administering authority**" means the Department of Environment and Heritage or its successor.
- (13) "**authorised person**" means a person holding office as an authorised person under an appointment under the *Environmental Protection Act 1994* by the chief executive.
- (14) "**land**" in the Land Application Schedule, means land excluding waters and the atmosphere.
- (15) "**mg/L**" means milligrams per litre.
- (16) "**total nitrogen**" means the sum of Organic Nitrogen, Ammonia Nitrogen, Nitrite plus Nitrate Nitrogen.
- (17) "**total phosphorus**" means the sum of the reactive phosphorus, acid-hydrolyzable phosphorus and organic phosphorus, as mg/L of Phosphorus. This includes both the inorganic and organic fraction of phosphorus.
- (18) "**maximum**" means that the measured value of the quality characteristic or contaminant must not be greater than the release limit stated.
- (19) "**minimum**" means that the measured value of the quality characteristic or contaminant must not be less than the release limit stated.
- (110) "**range**" means that the measured value of the quality characteristic or contaminant must not be greater than the higher release limit stated nor lower than the lower release limit stated.
- (111) "**cfu**" means colony forming units.
- (112) "**regulated waste**" means non-domestic waste mentioned in Schedule 8 of the Environmental Protection (Interim) Regulation 1995, including but not limited to, for the purpose of this authority, bacterial sludge (septic tank and sewage) and includes-
 - (i) for an element - any chemical containing the element; and
 - (ii) anything that has contained a regulated waste; and
 - (iii) regulated waste that has been treated or immobilised.
- (113) "**noxious**" means harmful or injurious to health or physical well-being.
- (114) "**offensive**" means causing unreasonable offence; is unreasonably disagreeable to the sense; is disgusting, nauseous or repulsive.
- (115) "**sewage treatment works**" includes pump stations and other ancillary works.

END OF DEFINITIONS FOR SCHEDULE I

END OF ENVIRONMENTAL AUTHORITY



Legend

CODD STENDERS

ARCHITECTS PROJECT MANAGERS
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project
PROPOSED EXTENSION/UPGRADE
TO EXISTING SEWAGE
TREATMENT FACILITY
location
TANGALOOMA
MORETON ISLAND

client
TANGALOOMA
ISLAND RESORT
LIMITED

sheet title
LOCALITY +
SITE PLANS

scale
AS SHOWN

drawn

DC

date

JANUARY 1998

checked

drawing no.

98040/ 1(A)