

APPENDIX B

Waste Discharge Licence
No. 149 and 150



WASTE DISCHARGE LICENCE

(Pursuant to Section 74 of the Water Act)

Licence Number 149

Pursuant to section 74 of the *Water Act* ("the Act"), the Controller of Water Resources hereby grants a Waste Discharge Licence to the person or corporation specified in Schedule 1 for the purpose and period specified in Schedule 1, subject to the terms and conditions specified in Schedule 2.

SCHEDULE 1

Licensee:	Power and Water Corporation ABN 159 473 523 60
Purpose:	15 Iliffe Street Stuart Park NT 0820 Wastewater Discharge from Larrakeyah Macerator
Location of Premises:	Lot No. 5734A, Larrakeyah Macerator, Town of Darwin
Expiry Date:	31/10/2011

SCHEDULE 2

PREAMBLE

Waste Discharge Licence Objectives

Activities discharging wastewater in the Territory must comply with the requirements for best practice environmental management (BPEM) under the *Water Act* and the *Waste Management and Pollution Control Act* and/or move toward implementing standard accepted technology (SAT). The management of pollutant discharge from point sources is governed by the following principles namely:

- pollutant discharges must not prejudice water quality objectives (WQO) outside of any agreed mixing zone when defined for the receiving waters; and
- pollutant discharges must be reduced to the maximum extent by Best Practice Environmental Management (BPEM) in accordance with the hierarchy of waste management.

Controller of Water Resources:



Date of Issue: 13.10.06

Implementation

The conditions contained in this licence reflect the objectives contained in section 16 of the *Water Act* and section 5 of the Waste Management and Pollution Control Act ("WMPCA") as follows:

- discharge limits based on up to date performance data and BPEM/SAT criteria;
- adequate monitoring to maintain full compliance with discharge limits, to characterise the nature of the contaminated discharge and ensure agreed WQOs are not prejudiced;
- management of off-site wastewater discharges and assessment of aquatic ecological health in the receiving waters
- pro-active implementation of the BPEM waste management hierarchy with a focus on water recycling feasibility where appropriate; and
- self auditing/reporting requirements in line with industry best practice, including:
 - a) incident notification;
 - b) event reporting at the Controller's request;
 - c) annual reporting; and
 - d) environmental management plan review.

GENERAL CONDITIONS

Contact

- 1 The Licensee shall, within 14 days of the commencement date, provide to the Controller in writing the name and contact details (including telephone and/or pager details) of a person who can respond to an incident relating to the Activity, at any specified time, 24 hours a day.
- 2 The Licensee must notify the Controller within 24 hours if there are changes to the telephone and/or pager contact details of the person identified in clause 1 who can respond to an incident relating to the Activity.
- 3 The Licensee shall, within 14 days of any change of ownership or occupation of the lands in respect of which the licence is granted, or any business conducted thereto, give notice in writing to the Controller of Water Resources, PO Box 496, Palmerston NT 0831.

Operational Change

- 4 The Licensee must not, without the prior approval of the Controller, alter or change any of the following, if the changes will, or are likely to, cause or increase the levels of pollutants in wastes discharged, or otherwise result in environmental harm:
 - a) the components or treatment process of the Activity;
 - b) the nature or quantity of materials dealt with or used or produced in the operation of the Activity; and
 - c) the construction, installation, alteration or removal of any structure or equipment used in the course of the operation of the Activity.

Controller of Water Resources:



DISCHARGE LIMITS

- 5 Any wastewater that is unavoidably generated by the Activity must be reused, recycled, reduced, and treated to the maximum practicable extent prior to any discharge by the Licensee.
- 6 Subject to this Licence, the Licensee may discharge wastewater from the Activity at the authorised discharge points specified in Table 1.

Table 1. Authorised Discharge Points

Authorised Discharge Point	Description	Location
LARRAKEYAH OUTFALL 01	Larrakeyah outfall final discharge to outfall at Darwin Harbour	See Attachment 1 MGA 94 E698831 N8621000

Qualitative Discharge Limits

- 7 Wastewater discharged at authorised discharge point LARRAKEYAH OUTFALL 01 must not cause :
- a) odours which would adversely affect the use of the surrounding waters;
 - b) any objectionable discolouration or visible oil, grease, foam, scum or litter;
 - c) mortality of fish; or
 - d) fish, stock or other aquatic organisms to be unacceptable for human consumption as determined by Territory health standards, and any standard in force from time to time, applying to the sale for human consumption of such fish, stock or other aquatic organisms in the Territory, interstate or overseas.

Quantitative Discharge Limits

- 8 The Licensee must ensure that wastewater discharged at authorised discharge point LARRAKEYAH OUTFALL 01 does not exceed the quality limits and / or ranges identified in Table 2.

Table 2. Quantitative Discharge Limits

Parameter	Unit	Median	90% limit
Dry Weather Flow	kL/day	3200	5000
Wet Weather Flow	kL/day	4000	6000
Temperature	°C	-	±5 °C ambient
pH	units	-	>6
Biochemical Oxygen Demand	mg/L	160	270
Suspended Solids	mg/L	225	350
<i>E.coli</i>	cfu/100mL	10 ⁸	10 ⁹
Total Nitrogen	mg/L	55	75
Free Ammonia	mg/L	40	55
Total Phosphorus	mg/L	10	15

Controller of Water Resources:



13.10.06

Date of Issue:

Discharge Regime Conditions

- 9 The Licensee must ensure that wastewater discharged at authorised discharge point LARRAKEYAH OUTFALL 01 is discharged to provide the greatest opportunities for dilution of pollutants in the receiving environment. Discharge must be undertaken in accordance with Table 3.

Table 3. Discharge Regime Conditions	
Discharge Condition	Description
Tide	No conditions set
Seasonal	No conditions set
Rainfall	No conditions set
Discharge ratio	No conditions set
Flow	No conditions set
Gauging Station Stage height	No conditions set

ENVIRONMENTAL MONITORING

- 10 The Licensee shall undertake environmental monitoring at the sites and for the purposes identified in Table 5.

Table 5. Environmental Monitoring Sites			
Site	Purpose	Description	Location
SLa010 (inlet)	Influent/effluent quality	monitors quality parameters of influent/effluent at the activity	Inlet works Larrakeyah Macerator see Attachment 2

Note: a plan of the monitoring locations at the Activity is included as Attachment 2

- 11 The Licensee must not alter the location of any environmental monitoring site without the prior written approval of the Controller.
- 12 All environmental monitoring sites, excepting sites of ambient or open water sampling, must be clearly marked by a sign that indicates the location, purpose and name of the site, by the Licensee.

Water Monitoring

- 13 The Licensee shall ensure that samples collected at the environmental monitoring sites are analysed for the parameters and using the sampling frequency and methods specified in Table 6.

Table 6. Water Monitoring			
Parameter	Units	Sampling Method	Sampling Frequency Code for monitoring site
			SLa010 (inlet)
Flow	kL/day	Site test	12
pH	pH units	Site test	12
Temperature	°C	Site test	12
Conductivity	µS/cm @25°C	Site test	12
Dissolved Oxygen	% saturation	Site test	12
Alkalinity	mg/L	Site test	12
Hardness CaCO ₃	mg/L	Site test	12

Controller of Water Resources:



Expiry Date 31/10/2011

Turbidity	NTU	Site test	12
Biochemical Oxygen Demand	mg/L	Grab	12
Chemical Oxygen Demand	mg/L	Grab	12
Total Nitrogen	µg/L	Grab	12
Ammonia	µg/L	Grab	12
Nitrogen Oxides	µg/L	Grab	12
Total Phosphorus	µg/L	Grab	12
Total Suspended Solids	µg/L	Grab	12
Volatile Suspended Solids	µg/L	Grab	12
Filterable Reactive Phosphorus	µg/L	Grab	12
<i>E. coli</i>	cfu/100mL	Grab	12
<i>Enterocci</i>	cfu/100mL	Grab	12
Thermotolerant Coliforms	cfu/100mL	Grab	12
Chlorophyll <i>a</i>	µg/L	Grab	n/a
Multi-element ICPMS	µg/L	Composite	1

Note: n/a means not applicable, for sampling frequency see Table 7 below.

Table 7. Sampling Frequency	
Sampling Frequency code	Sampling Frequency
1	Annual
4	Quarterly
12	Monthly

Testing Methods

- 14 The Licensee must ensure that all samples not delineated as "site test" for the purposes of sampling method, are:
 - a) analysed at a laboratory with N.A.T.A. accreditation for the selected analyses or at a laboratory approved by the Controller; and
 - b) collected and analysed in accordance with the relevant Australian Standards unless otherwise specified by the Controller.
- 15 The Licensee must provide to the Controller all raw data in an electronic format approved by the Controller and at the times specified by the Controller.
- 16 All records of sampling and analysis required under this licence must be retained by the Licensee for a period not less than 2 years after the date of sampling. Records retained under this clause must be made available to the Controller upon request.

Controller of Water Resources:



 13.10.06
Date of Issue:

Sample Information Required

- 17 The Licensee must ensure the following information is recorded for all sampling:
- a) the date on which the sample was taken;
 - b) the time at which the sample was taken;
 - c) the monitoring point at which the sample was taken;
 - d) the measured or estimated daily flow of effluent at the time of sampling; and
 - e) the results of all monitoring.

Complaints Monitoring

- 18 The licensee shall keep a record of any complaint received by the Licensee alleging that pollution has occurred as a consequence of the Activity. The record must include the following details:
- a) the date and time of the complaint;
 - b) the name and address of complainant if known;
 - c) the nature of the complaint;
 - d) the approximate wind speed and direction and air temperature at the time of the complaint;
 - e) the likely source of the alleged pollution; and
 - f) the action taken in relation to the complaint, including any follow-up contact with the complainant.
- 19 The licensee shall retain a record of the complaint for a period not less than 2 years from the date the complaint is made.

WASTE DISCHARGE LICENCE REPORTING REQUIREMENTS

Incident Reporting

- 20 If an incident causing an exceedance of any limits or conditions of this licence, or threatening environmental nuisance, serious or material environmental harm from pollution, occurs in the course of the Activity to which this licence relates, the Licensee must:
- a) immediately take all practicable action to minimise any adverse environmental effects from the incident;
 - b) as soon as reasonably practicable, but not later than 24 hours, after becoming aware of the incident, notify the Controller of the incident by a telephone call to 1800 064 567;
 - c) as soon as reasonably practicable after becoming aware of the incident, notify any downstream users of water or owners of stock, with access rights to affected watercourses; and
 - d) not later than 24 hours after becoming aware of the incident, provide details of the incident to the Controller by facsimile to 8924 4053, or by hand delivery,

Controller of Water Resources:



Expiry Date 31/10/2011

outlining the nature of the incident, the circumstances in which it occurred and the action taken to deal with the incident and prevent recurrence.

- 21 Any notification given by a person in compliance with this condition will not be admissible in evidence against the person in proceedings for an offence or for the imposition of a penalty (other than proceedings in respect of the making of a false or misleading statement).

Annual Report

- 22 An annual report must be submitted by the Licensee to the Controller for each year of operation, in a format approved by the Controller.
- 23 The annual report must contain, but is not necessarily limited to, the following:
- a) A summary of the effluent discharge performance and discharge compliance;
 - b) Rainfall and temperature records, environmental monitoring, effluent and sludge monitoring data, mass loadings for all parameters required by licence conditions;
 - c) A summary of effluent flows;
 - d) A sewerage catchment plan including:
 - all SPS, storage, odour treatment, and overflow points
 - the installation date and age of all sewer infrastructure
 - the inflow and infiltration rates of each area of similar age
 - the summary program of asset maintenance works completed to maintain acceptable wet weather performance;
 - e) An assessment of the progress of any wastewater avoidance, reduction, reuse, recycling, containment, treatment and discharge schemes that involve wastewater at the Activity and any associated environmental monitoring;
 - f) Details of any construction or modifications to the plant, site management regime or process that have (or may have) impact on wastewater discharge volumes and/or quality;
 - g) A summary of complaints during the report period including:
 - i) the total number of complaints received by the person responsible for the Activity;
 - ii) a breakdown of the total number of complaints into categories of 'odours', 'water pollution', 'aesthetic' and any other category indicated by the complaints;
 - iii) the actions taken by the person responsible for the Activity to address the complaint;
 - iv) the actions taken to prevent recurrence; and
 - v) a description of any significant unresolved issues arising from the complaints.

Controller of Water Resources:



Page 7 of 12

Date of Issue:

13.10.06

- h) The results of the Biological Monitoring Program;
- i) A statement of compliance with all conditions contained in this licence; and
- j) Any other matter specified by the Controller.

ENVIRONMENTAL MANAGEMENT REQUIREMENTS

Outfall Closure Plan

- 24 The Licensee must, by 31 October 2008 provide an outfall closure plan for the Activity that is to the satisfaction of the Controller. The outfall closure plan must present an environmental improvement and cost benefit approach with respect to closing down the Larrakeyah outfall and relevant design scenarios for treating the wastes delivered at the Activity.
- 25 The outfall must closed and all wastewater redirected to another facility approved by the Controller by 31/10/2011

Mixing Zone Management

- 26 The Licensee must, by 31 October 2008 undertake modelling of the outfall mixing zone for the Activity that is to the satisfaction of the Controller. The mixing zone model must describe the water quality effects of the release of nutrients, aquatic toxicants and pathogenic organisms.

Darwin Harbour Monitoring Program

- 27 The Licensee must contribute to the agreed program of Darwin Harbour ambient and biological monitoring to the satisfaction of the Controller.

Directions

- 28 The Licensee shall cause any reasonable directions, including any directions to cease or limit the discharge of any waste, given by the Controller of Water Resources or a properly authorised officer in writing and with reasonable justification and notice of intention, to be implemented.

Rehabilitation

- 29 The Licensee shall notify the Controller of the permanent cessation of operations not less than 60 days prior to the planned date of cessation.
- 30 Following permanent cessation of operations, the Licensee shall undertake rehabilitation of the land in accordance with a decommissioning and rehabilitation plan approved by the Controller. The plan must be prepared in accordance with guidelines provided by the Controller, and by such date as the Controller may specify in writing.

Controller of Water Resources:



13.10.06
Date of Issue:

Expiry Date 31/10/2011

DEFINITION OF TERMS

In this Licence -

'Activity' means a wastewater treatment plant composed of primary and secondary waste stabilisation ponds and outfall, at Lot No. 5734A, Larrakeyah Macerator, Town of Darwin, which subject to specified conditions is approved to discharge treated wastewater through the authorised discharge point to Darwin Harbour. A plan of the Activity is included as Attachment 2.

'best practice environmental management' or 'BPEM' has the meaning described in section 4 of the *Waste Management and Pollution Control Act*;

'composite' means a flow proportional 24 hour representative composite sample made up of sub-samples collected at the required frequency and volumes to represent the loads of pollutants discharged from the Activity in a 24 hour period;

'conductivity' or 'EC' means the electrical conductivity (EC) of water adjusted to equivalent conductivity at 25°C and reported in microSiemens per centimetre (µS/cm);

'the Controller' is the Controller of Water Resources appointed under section 18 of the *Water Act* and includes any delegate of the Controller;

'environmental harm', 'environmental nuisance', 'material environmental harm' and 'serious environmental harm' each has the meaning described in section 4 of the *Waste Management and Pollution Control Act*;

'grab' means a single sample collected in a manner that ensures that it is a representative sample;

'incident' has the meaning described in section 14(5) of the *Waste Management and Pollution Control Act*;

'the land' means any part of the environment, including water, affected by water pollution from the Activity;

'Multi-element ICPMS' means: full scan (semi-quantitative) of elements by Inductively Coupled Plasma Mass Spectrometry;

'person responsible for the Activity' or 'licensee' is any person who is or was responsible for the environmentally relevant Activity for which this licence is issued and includes the officers, employees, agents and assigns of that person, and may be a body corporate;

'site test' means monitoring undertaken in the field with suitably calibrated field meters, in-line meters, measurement kits, or other observations;

'SPS' means sewage pumping station or sewage lifting station used to pump sewage wastewater in gravity flow and pressure mains sewers.

'standard accepted technology' or 'SAT' means technology which has consistently demonstrated achievement of the desired effluent pollutant levels in economically viable situations, takes account of engineering and scientific developments in economically viable operations and pursues opportunities for waste minimisation;

Controller of Water Resources:



Page 9 of 12

Date of Issue:

13.10.06

Expiry Date 31/10/2011

'water quality objectives' or 'WQO' means the agreed water quality objectives determined to provide water quality sufficient to ensure the maintenance of the beneficial use declarations under the *Water Act* for the receiving waters;

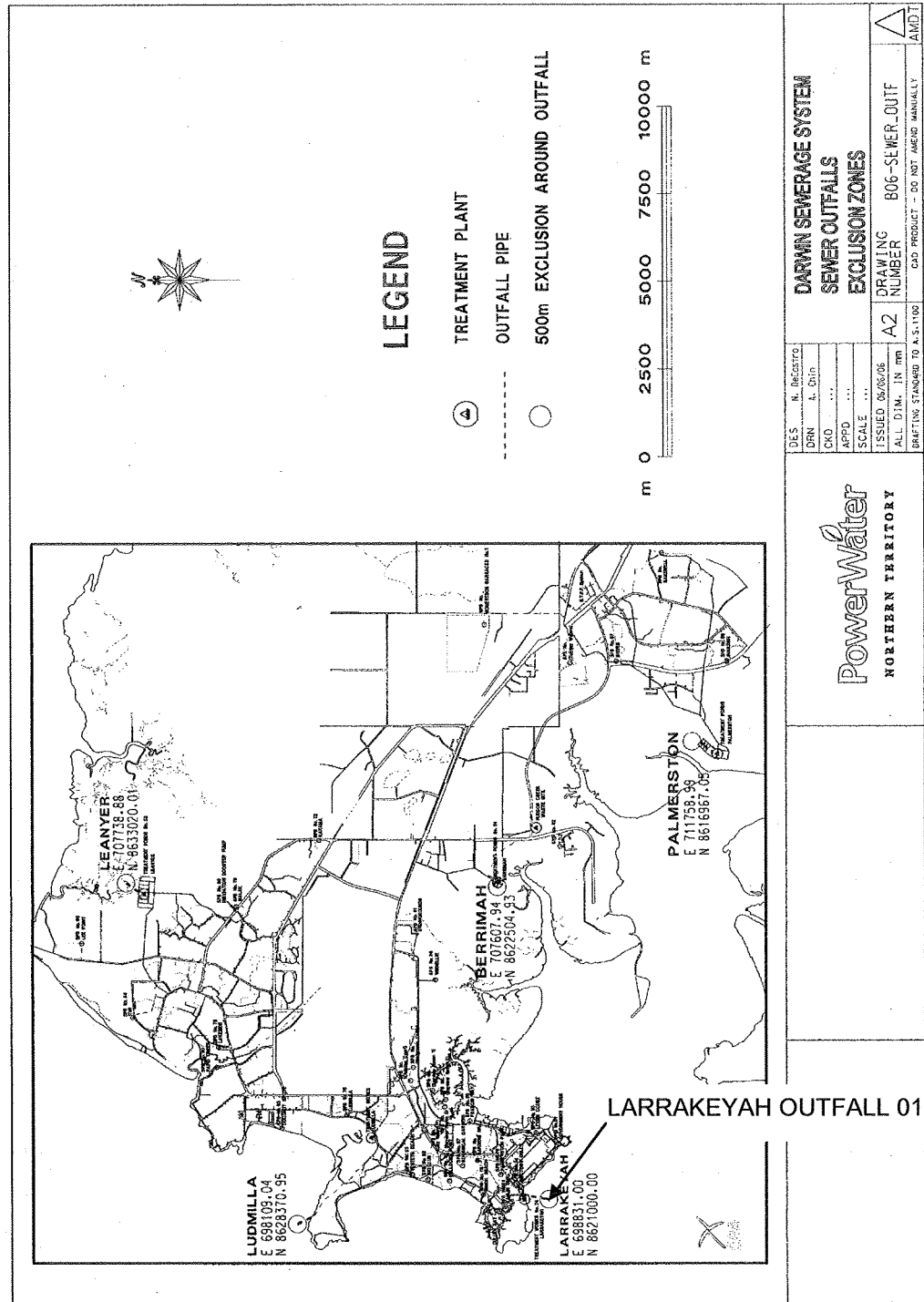
'WMPCA' means the *Waste Management and Pollution Control Act*.

Controller of Water Resources:



13.10.06
Date of Issue:

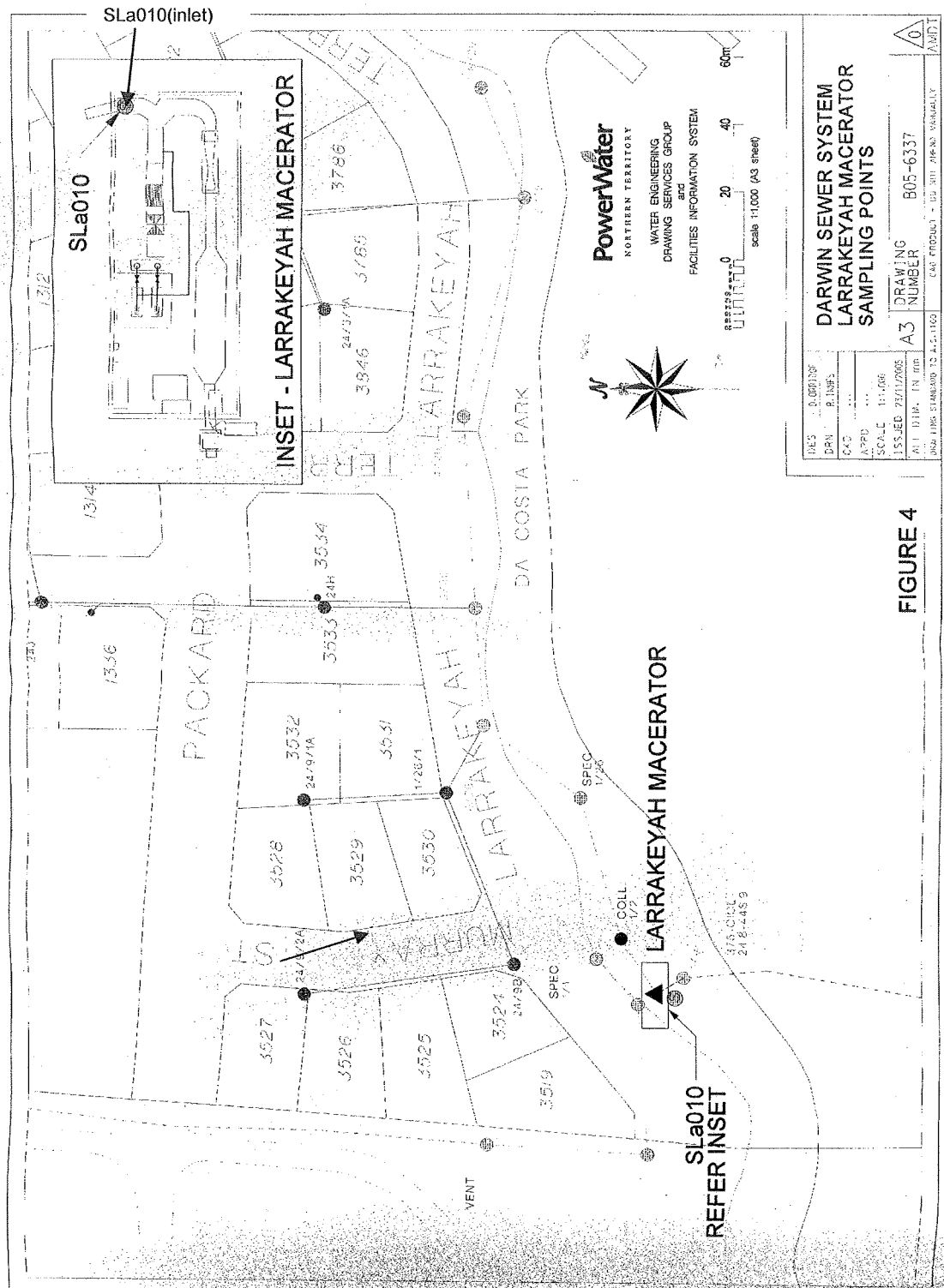
ATTACHMENT 1: PLAN OF ACTIVITY AUTHORISED DISCHARGE POINT LOCATIONS



Controller of Water Resources:

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ATTACHMENT 2: PLAN OF ACTIVITY ENVIRONMENTAL MONITORING LOCATIONS



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Page 12 of 12

13.10.06.
Date of Issue:

WASTE DISCHARGE LICENCE

(Pursuant to Section 74 of the Water Act)

Licence Number 150

Pursuant to section 74 of the *Water Act* ("the Act"), the Controller of Water Resources hereby grants a Waste Discharge Licence to the person or corporation specified in Schedule 1 for the purpose and period specified in Schedule 1, subject to the terms and conditions specified in Schedule 2.

SCHEDULE 1

Licensee:	Power and Water Corporation ABN 159 473 523 60
Purpose:	15 Iliffe Street Stuart Park NT 0820 Wastewater Discharge from Ludmilla Wastewater Treatment Plant
Location of Premises:	Dick Ward Drive, Ludmilla
Expiry Date:	31/10/2011

SCHEDULE 2

PREAMBLE

Waste Discharge Licence Objectives

Activities discharging wastewater in the Territory must comply with the requirements for best practice environmental management (BPEM) under the *Water Act* and the *Waste Management and Pollution Control Act* and/or move toward implementing standard accepted technology (SAT). The management of pollutant discharge from point sources is governed by the following principles namely:

- pollutant discharges must not prejudice water quality objectives (WQO) outside of any agreed mixing zone when defined for the receiving waters; and
- pollutant discharges must be reduced to the maximum extent by Best Practice Environmental Management (BPEM) in accordance with the hierarchy of waste management.

Controller of Water Resources:



Date of Issue: 13.10.06.



Implementation

The conditions contained in this licence reflect the objectives contained in section 16 of the *Water Act* and section 5 of the Waste Management and Pollution Control Act ("WMPCA") as follows:

- discharge limits based on up to date performance data and BPEM/SAT criteria;
- adequate monitoring to maintain full compliance with discharge limits, to characterise the nature of the contaminated discharge and ensure agreed WQOs are not prejudiced;
- management of off-site wastewater discharges and assessment of aquatic ecological health in the receiving waters
- pro-active implementation of the BPEM waste management hierarchy with a focus on water recycling feasibility where appropriate; and
- self auditing/reporting requirements in line with industry best practice, including:
 - a) incident notification;
 - b) event reporting at the Controller's request;
 - c) annual reporting; and
 - d) environmental management plan review.

GENERAL CONDITIONS

Contact

- 1 The Licensee shall, within 14 days of the commencement date, provide to the Controller in writing the name and contact details (including telephone and/or pager details) of a person who can respond to an incident relating to the Activity, at any specified time, 24 hours a day.
- 2 The Licensee must notify the Controller within 24 hours if there are changes to the telephone and/or pager contact details of the person identified in clause 1 who can respond to an incident relating to the Activity.
- 3 The Licensee shall, within 14 days of any change of ownership or occupation of the lands in respect of which the licence is granted, or any business conducted thereto, give notice in writing to the Controller of Water Resources, PO Box 496, Palmerston NT 0831.

Operational Change

- 4 The Licensee must not, without the prior approval of the Controller, alter or change any of the following, if the changes will, or are likely to, cause or increase the levels of pollutants in wastes discharged, or otherwise result in environmental harm:
 - a) the components or treatment process of the Activity;
 - b) the nature or quantity of materials dealt with or used or produced in the operation of the Activity; and
 - c) the construction, installation, alteration or removal of any structure or equipment used in the course of the operation of the Activity.

Controller of Water Resources:



Expiry Date 31/10/2011

DISCHARGE LIMITS

- 5 Any wastewater that is unavoidably generated by the Activity must be reused, recycled, reduced, and treated to the maximum practicable extent prior to any discharge by the Licensee.
- 6 Subject to this Licence, the Licensee may discharge wastewater from the Activity at the authorised discharge points specified in Table 1.

Table 1. Authorised Discharge Points		
Authorised Discharge Point	Description	Location
LUDMILLA OUTFALL 01	Waste Stabilisation Lagoons final discharge to outfall at Ludmilla Creek	See Attachment 1 MGA 94 E698109 N8628370
RECYCLING SCHEME 01	Water recycling irrigation areas as identified in the Irrigation Management Plan	Identified in the Water Recycling Irrigation Management Plan

Qualitative Discharge Limits

- 7 Wastewater discharged at authorised discharge point LUDMILLA OUTFALL 01 must not cause :
- a) odours which would adversely affect the use of the surrounding waters;
 - b) any objectionable discolouration or visible oil, grease, foam, scum or litter;
 - c) mortality of fish; or
 - d) fish, stock or other aquatic organisms to be unacceptable for human consumption as determined by Territory health standards, and any standard in force from time to time, applying to the sale for human consumption of such fish, stock or other aquatic organisms in the Territory, interstate or overseas.

Quantitative Discharge Limits

- 8 The Licensee must ensure that wastewater discharged at authorised discharge point LUDMILLA OUTFALL 01 does not exceed the quality limits and / or ranges identified in Table 2.

Table 2. Quantitative Discharge Limits			
Parameter	Unit	Median	90% limit
Dry Weather Flow	kL/day	8000	11000
Wet Weather Flow	kL/day	15000	30000
Temperature	°C	-	±5 °C ambient
pH	units	-	>6
Biochemical Oxygen Demand	mg/L	100	180
Suspended Solids	mg/L	110	170
<i>E.coli</i>	cfu/100mL	10 ⁶	10 ⁷
Total Nitrogen	mg/L	37	47
Free Ammonia	mg/L	28	33
Total Phosphorus	mg/L	10	15

Controller of Water Resources:



Discharge Regime Conditions

- 9 The Licensee must ensure that wastewater discharged at authorised discharge point LUDMILLA OUTFALL 01 is discharged to provide the greatest opportunities for dilution of pollutants in the receiving environment. Discharge must be undertaken in accordance with Table 3.

Table 3. Discharge Regime Conditions	
Discharge Condition	Description
Tide	No conditions set
Seasonal	No conditions set
Rainfall	No conditions set
Discharge ratio	No conditions set
Flow	No conditions set
Gauging Station Stage height	No conditions set

Water Recycling Discharge Limits

- 10 The Licensee must ensure that treated wastewater is only discharged at authorised discharge point RECYCLING SCHEME 01 for the purposes of reuse or recycling. Treated wastewater must:
- a) be discharged only in accordance with an Environmental Management Plan approved in writing by the Controller for the purpose of this condition; and
 - b) not exceed the quality limits or ranges specified in Table 4.

Table 4. Water Recycling Discharge Limits				
Parameter	Unit	Median	90% limit	Max range/ limit
pH	pH units	-	-	>6
Total Suspended Solids	mg/L	20	30	50
<i>E. coli</i>	cfu	1000	1500	5000

ENVIRONMENTAL MONITORING

- 11 The Licensee shall undertake environmental monitoring at the sites and for the purposes identified in Table 5.

Table 5. Environmental Monitoring Sites			
Site	Purpose	Description	Location
SLu080 (outlet)	Effluent quality	monitors quality parameters of effluent prior to release to the outfall	Ludmilla final treatment cell MGA 94 S12.422093° E130.84517° see Attachment 2
SLu001 (inlet)	Influent quality	monitors quality parameters of influent prior to treatment at the activity	Inlet Works Ludmilla WWTP Ponds MGA 94 S12.42111° E130.84540° see Attachment 2

Note: a plan of the monitoring locations at the Activity is included as Attachment 2

- 12 The Licensee must not alter the location of any environmental monitoring site without the prior written approval of the Controller.

Controller of Water Resources:



Expiry Date 31/10/2011

- 13 All environmental monitoring sites, excepting sites of ambient or open water sampling, must be clearly marked by a sign that indicates the location, purpose and name of the site, by the Licensee.

Water Monitoring

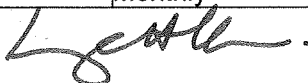
- 14 The Licensee shall ensure that samples collected at the environmental monitoring sites are analysed for the parameters and using the sampling frequency and methods specified in Table 6.

Table 6. Water Monitoring				
Parameter	Units	Sampling Method	Sampling Frequency Code for monitoring site	
			SLu080 (outlet)	SLu001 (inlet)
Flow	kL/day	Site test	12	1
pH	pH units	Site test	12	1
Temperature	°C	Site test	12	1
Conductivity	µS/cm @25°C	Site test	12	1
Dissolved Oxygen	% saturation	Site test	12	1
Alkalinity	mg/L	Site test	12	1
Hardness CaCO ₃	mg/L	Site test	12	1
Turbidity	NTU	Site test	12	1
Biochemical Oxygen Demand	mg/L	Grab	12	1
Chemical Oxygen Demand	mg/L	Grab	12	1
Total Nitrogen	µg/L	Grab	12	1
Ammonia	µg/L	Grab	12	1
Nitrogen Oxides	µg/L	Grab	12	1
Total Phosphorus	µg/L	Grab	12	1
Total Suspended Solids	µg/L	Grab	12	1
Volatile Suspended Solids	µg/L	Grab	12	1
Filterable Reactive Phosphorus	µg/L	Grab	n/a	1
E. coli	cfu/100mL	Grab	12	1
Enterocci	cfu/100mL	Grab	12	1
Thermotolerant Coliforms	cfu/100mL	Grab	12	1
Chlorophyll a	µg/L	Grab	n/a	n/a
Multi-element ICPMS	µg/L	Composite	1	1

Note: n/a means not applicable, for sampling frequency see Table 7 below.

Table 7. Sampling Frequency	
Sampling Frequency code	Sampling Frequency
1	Annual
4	Quarterly
12	Monthly

Controller of Water Resources:



13.10.06
Date of Issue:

Testing Methods

- 15 The Licensee must ensure that all samples not delineated as "site test" for the purposes of sampling method, are:
- a) analysed at a laboratory with N.A.T.A. accreditation for the selected analyses or at a laboratory approved by the Controller; and
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- 17 All records of sampling and analysis required under this license must be retained by the Licensee for a period not less than 2 years after the date of sampling. Records retained under this clause must be made available to the Controller upon request.

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 - b) the time at which the sample was taken;
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Complaints Monitoring

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- a) the date and time of the complaint;
 - b) the name and address of complainant if known;
 - c) the nature of the complaint;
 - d) the approximate wind speed and direction and air temperature at the time of the complaint;
 - e) the likely source of the alleged pollution; and
 - f) the action taken in relation to the complaint, including any follow-up contact with the complainant.
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WASTE DISCHARGE LICENCE REPORTING REQUIREMENTS

Incident Reporting

- 21 If an incident causing an exceedance of any limits or conditions of this licence, or threatening environmental nuisance, serious or material environmental harm from pollution, occurs in the course of the Activity to which this license relates, the Licensee must:
- a) immediately take all practicable action to minimise any adverse environmental effects from the incident;
 - b) as soon as reasonably practicable, but not later than 24 hours, after becoming aware of the incident, notify the Controller of the incident by a telephone call to 1800 064 567;
 - c) as soon as reasonably practicable after becoming aware of the incident, notify any downstream users of water or owners of stock, with access rights to affected watercourses; and
 - d) not later than 24 hours after becoming aware of the incident, provide details of the incident to the Controller by facsimile to 8924 4053, or by hand delivery, outlining the nature of the incident, the circumstances in which it occurred and the action taken to deal with the incident and prevent recurrence.
- 22 Any notification given by a person in compliance with this condition will not be admissible in evidence against the person in proceedings for an offence or for the imposition of a penalty (other than proceedings in respect of the making of a false or misleading statement).

Annual Report

- 23 An annual report must be submitted by the Licensee to the Controller for each year of operation, in a format approved by the Controller.
- 24 The annual report must contain, but is not necessarily limited to, the following:
- a) A summary of the effluent discharge performance and discharge compliance;
 - b) Rainfall and temperature records, environmental monitoring, effluent and sludge monitoring data, mass loadings for all parameters required by licence conditions;
 - c) A summary of effluent flows;
 - d) A sewerage catchment plan including:
 - all SPS, storage, odour treatment, and overflow points
 - the installation date and age of all sewer infrastructure
 - the inflow and infiltration rates of each area of similar age
 - the summary program of asset maintenance works completed to maintain acceptable wet weather performance;
 - e) An assessment of the progress of any wastewater avoidance, reduction, reuse, recycling, containment, treatment and discharge schemes that involve wastewater at the Activity and any associated environmental monitoring;

Controller of Water Resources:



Page 7 of 12

Date of Issue:

13.10.06

- f) Details of any construction or modifications to the plant, site management regime or process that have (or may have) impact on wastewater discharge volumes and/or quality;
- g) A summary of complaints during the report period including:
 - i) the total number of complaints received by the person responsible for the Activity;
 - ii) a breakdown of the total number of complaints into categories of 'odours', 'water pollution', 'aesthetic' and any other category indicated by the complaints;
 - iii) the actions taken by the person responsible for the Activity to address the complaint;
 - iv) the actions taken to prevent recurrence; and
 - v) a description of any significant unresolved issues arising from the complaints.
- h) The results of the Biological Monitoring Program;
- i) A statement of compliance with all conditions contained in this licence; and
- j) Any other matter specified by the Controller.

ENVIRONMENTAL MANAGEMENT REQUIREMENTS

Environmental Management Plan

- 25 The Licensee must, by 31 October 2008 provide an Environmental Management Plan for the Activity that is to the satisfaction of the Controller. The EMP must contain management and monitoring requirements for all aspects of wastewater treatment, sludge management, and outfall operation.
- 26 The EMP for the Activity must be reviewed and updated every 3 years to the satisfaction of the Controller.

Water Recycling Irrigation Management Plan

- 27 The Licensee must, by 31 July 2007 provide a water recycling environmental management plan for the Activity that is to the satisfaction of the Controller.

Mixing Zone Management

- 28 The Licensee must, by 31 October 2008 undertake modelling of the outfall mixing zone for the Activity that is to the satisfaction of the Controller. The mixing zone model must describe the water quality effects of the release of nutrients, aquatic toxicants and pathogenic organisms.

Outfall Management

- 29 The Licensee must, by 31 October 2008 provide a report to the satisfaction of the Controller, examining options for the future management of the outfall from

Controller of Water Resources:



the Activity. Health risk for recreational contact and wild catch fisheries, and mixing zone management must be a key focus of the report.

Darwin Harbour Monitoring Program

- 30 The Licensee must contribute to the agreed program of Darwin Harbour ambient and biological monitoring to the satisfaction of the Controller.

Directions

- 31 The Licensee shall cause any reasonable directions, including any directions to cease or limit the discharge of any waste, given by the Controller of Water Resources or a properly authorised officer in writing and with reasonable justification and notice of intention, to be implemented.

Rehabilitation

- 32 The Licensee shall notify the Controller of the permanent cessation of operations not less than 60 days prior to the planned date of cessation.
- 33 Following permanent cessation of operations, the Licensee shall undertake rehabilitation of the land in accordance with a decommissioning and rehabilitation plan approved by the Controller. The plan must be prepared in accordance with guidelines provided by the Controller, and by such date as the Controller may specify in writing.

DEFINITION OF TERMS

In this Licence -

'Activity' means a wastewater treatment plant composed of primary and secondary screening, primary sedimentation, pH correction, and outfall, at Lot 7302, Ludmilla WWTP, Town of Darwin, which subject to specified conditions is approved to discharge treated wastewater through the authorised discharge points to Darwin Harbour and Ludmilla Creek. A plan of the Activity is included as Attachment 2.

'best practice environmental management' or 'BPEM' has the meaning described in section 4 of the *Waste Management and Pollution Control Act*;

'composite' means a flow proportional 24 hour representative composite sample made up of sub-samples collected at the required frequency and volumes to represent the loads of pollutants discharged from the Activity in a 24 hour period;

'conductivity' or 'EC' means the electrical conductivity (EC) of water adjusted to equivalent conductivity at 25°C and reported in microSiemens per centimetre (µS/cm);

'the Controller' is the Controller of Water Resources appointed under section 18 of the *Water Act* and includes any delegate of the Controller;

'EMP' means an approved environmental management plan for the Activity to the satisfaction of the Controller.

Controller of Water Resources:



13.10.06
Date of Issue:

Expiry Date 31/10/2011

'environmental harm', 'environmental nuisance', 'material environmental harm' and 'serious environmental harm' each has the meaning described in section 4 of the *Waste Management and Pollution Control Act*;

'grab' means a single sample collected in a manner that ensures that it is a representative sample;

'incident' has the meaning described in section 14(5) of the *Waste Management and Pollution Control Act*;

'the land' means any part of the environment, including water, affected by water pollution from the Activity;

'Multi-element ICPMS' means: full scan (semi-quantitative) of elements by Inductively Coupled Plasma Mass Spectrometry;

'person responsible for the Activity' or 'licensee' is any person who is or was responsible for the environmentally relevant Activity for which this licence is issued and includes the officers, employees, agents and assigns of that person, and may be a body corporate;

'site test' means monitoring undertaken in the field with suitably calibrated field meters, in-line meters, measurement kits, or other observations;

'SPS' means sewage pumping station or sewage lifting station used to pump sewage wastewater in gravity flow and pressure mains sewers.

'standard accepted technology' or 'SAT' means technology which has consistently demonstrated achievement of the desired effluent pollutant levels in economically viable situations, takes account of engineering and scientific developments in economically viable operations and pursues opportunities for waste minimisation;

'water quality objectives' or 'WQO' means the agreed water quality objectives determined to provide water quality sufficient to ensure the maintenance of the beneficial use declarations under the *Water Act* for the receiving waters;

'WMPCA' means the *Waste Management and Pollution Control Act*.

Controller of Water Resources:



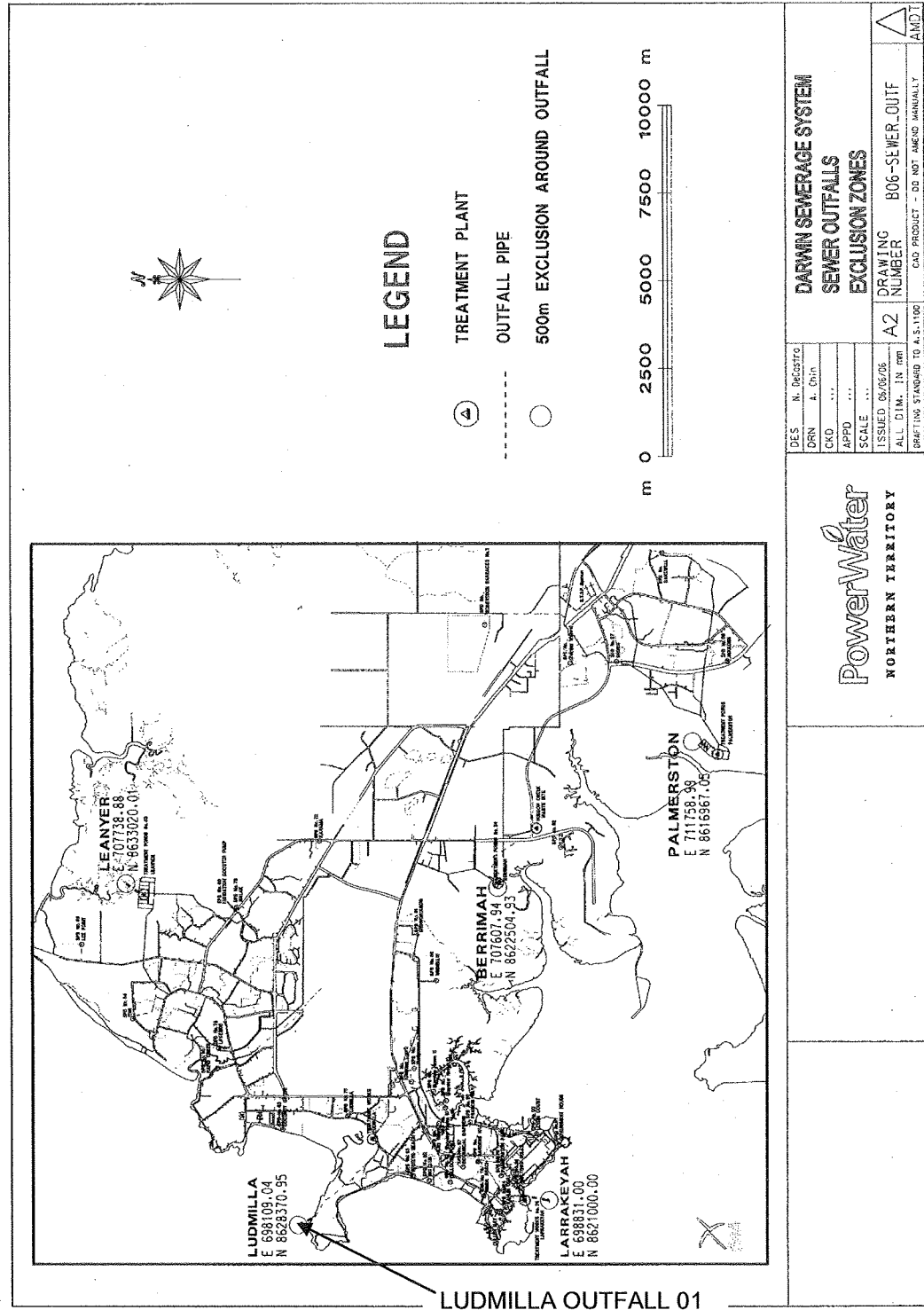
Page 10 of 12

Date of Issue:

13.10.06

Expiry Date 31/10/2011

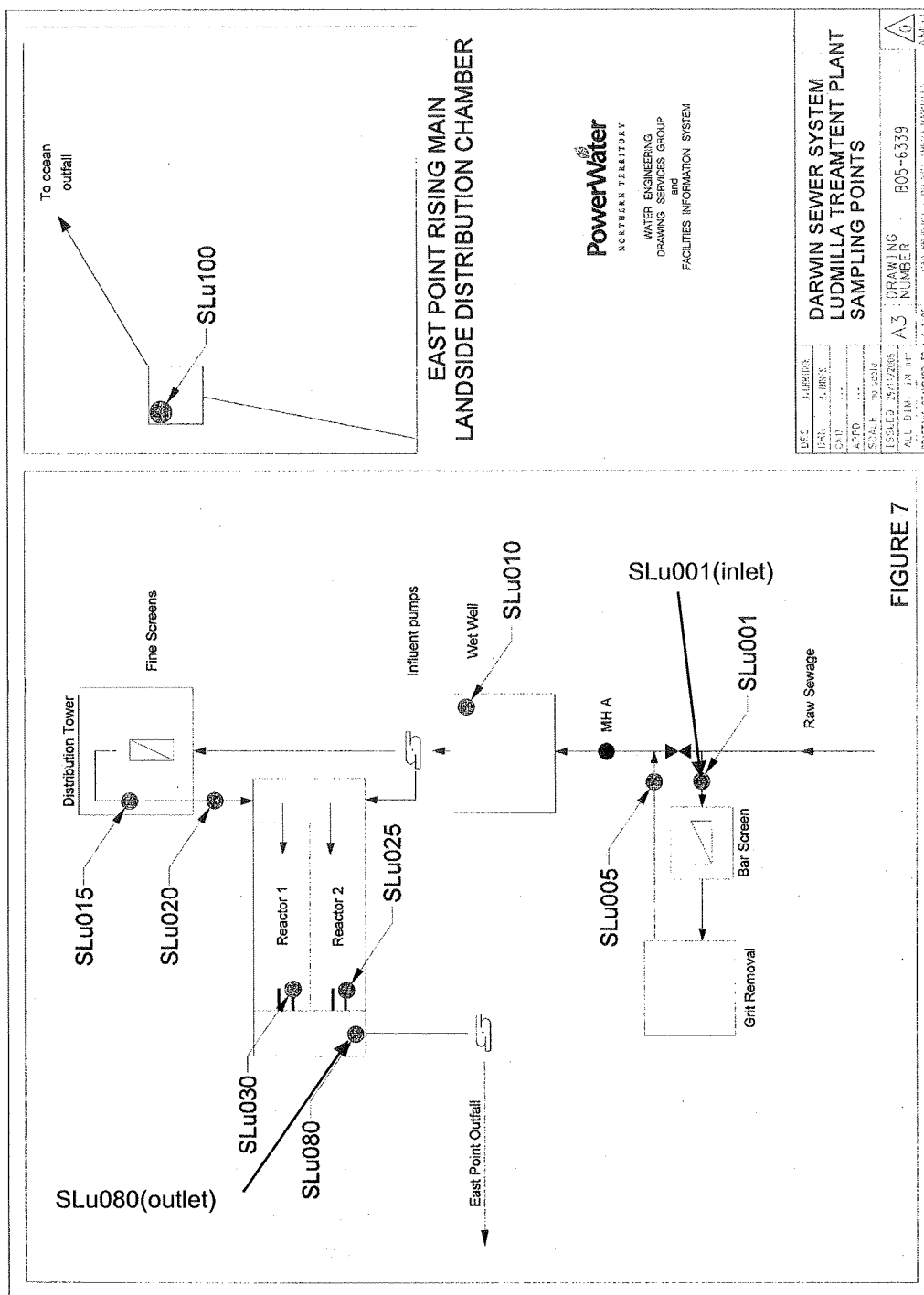
ATTACHMENT 1: PLAN OF ACTIVITY AUTHORISED DISCHARGE POINT
LOCATIONS



Controller of Water Resources:

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ATTACHMENT 2: PLAN OF ACTIVITY ENVIRONMENTAL MONITORING
LOCATIONS



Controller of Water Resources:

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