Government of Western Australia
Department of Water and Environmental Regulation

Works Approval

Works approval number	W6228/2019/1
Works approval holder	Project Sea Dragon Pty Ltd
ACN	604 936 192
Registered business address	Level 11, 225 St Georges Terrace PERTH WA 6000
DWER file number	DER2019/000201-1
Duration	17/06/2019 to 11/06/2026
Date of amendment	08/06/2023
Premises details	Project Sea Dragon Durack Drive KUNUNURRA WA 6743 Legal description - Part of Lot 203 on Deposited Plan 27929 Part of Lot 343 on Deposited Plan 44329 Part of Lot 521 on Deposited Plan 210702 Part of Lot 897 on Deposited Plan 28476 Crown Reserve 22609 As defined by the coordinates in Schedule 1

Prescribed premises category description **(Schedule 1, *Environmental Protection Regulations 1987*)**	**Assessed production / design capacity**
Category 14: Solar salt manufacturing: premises on which salt is produced by solar evaporation	1,854 tonnes per year
Category 22: Seafood processing: premises (other than a fish wholesaler) on which fish or other seafood is processed and which liquid waste is or is to be discharged onto land or into waters	16,000 tonnes per year

This amended works approval is granted to the works approval holder, subject to the attached conditions, on 8 June 2023, by:

Caron Goodbourn

Digitally signed by Caron Goodbourn
Date: 2023.06.08 11:49:40 +08'00'

Manager, Process Industries
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Works approval history

Date	Reference number	Summary of changes
07/06/2019	W6228/2019/1	Works approval granted.
19/05/2022	W6228/2019/1	Amendment to extend the works approval expiry date to 11 June 2023 and implement minor administrative changes.
08/06/2023	W6228/2019/1	Amendment to extend the works approval expiry date to 11 June 2026.

Interpretation

In this works approval:

(a) the words 'including', 'includes' and 'include' in conditions mean "including but not limited to", and similar, as appropriate;

(b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;

(c) where tables are used in a condition, each row in a table constitutes a separate condition;

(d) any reference to an Australian or other standard, guideline, or code of practice in this works approval:

(i) if dated, refers to that particular version; and

(ii) if not dated, refers to the latest version and therefore may be subject to change over time;

(e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and

(f) unless specified otherwise, all definitions are in accordance with the EP Act.

NOTE: This works approval requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this works approval.

Works approval conditions

The works approval holder must ensure that the following conditions are complied with:

Construction phase

Infrastructure and equipment

1. The works approval holder must install and undertake the works:

(a) for the infrastructure and equipment;

(b) to the corresponding requirements; and

(c) at the corresponding site plan reference;

in Table 1 below.

Table 1: Infrastructure and equipment requirements table

Infrastructure/Equipment	Requirements (design and construction)	Site plan reference
Prawn processing facility	Design layout as specified in Schedule 1: Premises Infrastructure Layout Map.	Refer to Schedule 1: Premises Infrastructure and Layout Map
	Seafood processing design capacity of 16,000 tonnes per year.	
Premises WWTP to treat process wastewater generated during operations	Design capacity to treat up to 306kL of process wastewater per day.	Refer to Schedule 1: Premises Infrastructure and Layout Map
	Sample point to be installed on the discharge pipeline.	
	Flow meter to be installed on discharge pipeline to allow cumulative discharge volumes to be measured.	
	Consists of enclosed tanks located on concrete bunded hardstand.	
	Includes the following treatment processes: • primary screening for removal of organic solids; • dissolved air flotation; • membrane bioreactor; • reverse osmosis system.	
	Designed and constructed to achieve the following effluent quality: • Biochemical Oxygen Demand: ≤5mg/L; • Total Nitrogen: ≤5mg/L; • Total Phosphorus: ≤0.5mg/L; • Total Suspended Solids: ≤2mg/L; • Total Dissolved Solids: ≤800mg/L.	

Infrastructure/Equipment	Requirements (design and construction)	Site plan reference
2 x evaporation ponds for storage of brine wastewater	Combined storage capacity of 45,216kL.	Refer to Schedule 1: Premises Infrastructure and Layout map and Premises Stormwater Plan
	Geosynthetic (HDPE) liner with permeability <$2x10^{-10}$m/s (including perimeter bund).	
	Entirely bunded around pond perimeter and including sumps and pipework to allow pond to be completely drained.	
	Design operating freeboard of 500mm.	
Stormwater drainage system	To be installed as depicted in Schedule 1: Premises Stormwater Plan.	Refer to Schedule 1: Premises Stormwater Plan
	Vegetated swale drains constructed to convey stormwater to the detention basin.	
	Stormwater detention basin to have: • storage design capacity of 5,750m^3; • to be constructed with overflow weir and rock protection to prevent scouring and erosion; and • a screen to be placed over the outlet of the overflow weir to capture litter / solid wastes.	
Groundwater monitoring bores	To be installed as depicted Schedule 1: Location of Monitoring bores.	Refer to Schedule 1: Location of Monitoring bores

Compliance reporting

2. The works approval holder must not depart from the requirements specified in Table 1 except:

(a) where such departure does not increase risks to public health, public amenity or the environment; and

(b) all other conditions in this works approval are still satisfied.

3. Subject to condition 2, and prior to operation the works (or portion thereof), the works approval holder must:

(a) undertake an audit of compliance with the requirements in Table 1; and

(b) prepare and submit to the CEO an Environmental Compliance Report of that compliance.

4. The Environmental Compliance Report required by Condition 3, must:

(a) Be certified by a suitably qualified professional engineer that each item of infrastructure or component of infrastructure specified in Table 1 has been constructed with no material defects and to the requirements specified;

(b) where a departure from the requirements specified in Table 1 occurs and is of a type allowed by condition 2, the works approval holder must provide to the CEO a description of, and explanation for, the departure along with the report required by condition 3; and

(c) be signed by a person authorised to represent the works approval holder and contain the printed name and position of that person within the company.

Emissions

5. The works approval holder must not cause any emissions from the works authorised through this works approval except for specified emissions and general emissions described in column 1 of Table 2, subject to the exclusions, limitations or requirements specified in column 2, of Table 2.

Table 2: Authorised Emissions table

Column 1	**Column 2**
Emission type	**Exclusions/Limitations/Requirements**
Specified Emissions	
Treated process wastewater discharged to D6 drain	Subject to compliance with conditions 8, 9, 10, 11, 13, 14, 15 and 17
Treated stormwater	Subject to compliance with conditions 8 and 9
General Emissions (excluding Specified Emissions)	
Emissions which arise from undertaking the works set out in Table 1.	Emissions excluded from general emissions are: • Unreasonable emissions; or • Emissions that result in, or are likely to result in, pollution, material environmental harm or serious environmental harm; or • Discharges of waste in circumstances likely to cause pollution; or • Emissions that result, or are likely to result in, the discharge or abandonment of waste in water to which the public has access; or • Emissions or discharges which do not comply with an approved policy; or • Emissions or discharges which do not comply with prescribed standard; or • Emissions or discharges which do not comply with the conditions in an implementation agreement or decision; or • Emissions or discharges the subject of offences under regulations prescribed under the EP Act, including materials discharged under the Environmental P*rotection (Unauthorised Discharges) Regulations 2004*.

6. Upon completion of the works specified in Table 1, the works approval holder shall commission the infrastructure referred to in Table 1 for a period not exceeding 3 months.

7. Upon completion of commissioning the works specified in Table 1, the works approval holder shall operate the works specified in Table 1 for a period not exceeding 6 months.

Environmental commissioning and operation requirements

8. The works approval holder must ensure that the site infrastructure and equipment listed in Table 3 and located at the corresponding infrastructure location is maintained in good working order and operated in accordance with the corresponding operational requirement set out in Table 3.

Table 3: Infrastructure and equipment requirements (commissioning and operation)

Infrastructure/Equipment	Operational requirements	Site plan reference
Prawn processing facility	Process wastewater is directed to the premises WWTP or evaporation ponds	Refer to Schedule 1: Premises Infrastructure and Layout Map
Premises WWTP to treat process wastewater generated during operations	Treated wastewater shall only be discharged to the D6 drain at the location depicted in Schedule 1: Premises Infrastructure Map	Refer to Schedule 1: Premises Infrastructure and Layout Map
	The integrity of the containment infrastructure is maintained	
	Organic sediment (sludge) from WWTP to be stored in skip bins on a bunded hardstand area and collect daily for disposal to licences facility	
Evaporation ponds for storage of brine wastewaters	• Overtopping of the ponds does not occur; • A minimum freeboard equal to, or greater than, 500mm is maintained; • The integrity of the containment infrastructure is maintained; • A cover to be placed over one pond during wet weather to maintain storage capacity and reduce rainfall inputs; and • Only the following waste types are accepted: ▪ Chiller brine; ▪ Brine reject water from the reverse osmosis plant; and ▪ Treated wastewater from the WWTP (as contingency storage)	Refer to Schedule 1: Premises Infrastructure and Layout Map
Surface water drainage and storage infrastructure	Surface water run-off is directed to the Premises stormwater detention basin.	Refer to Schedule 1: Premises Stormwater Plan

9. The works approval holder must ensure that the emissions specified in Table 4 are discharged only from the corresponding discharge point and only at the corresponding discharge point location set out in Table 4.

Table 4: Authorised discharge points

Emission	Discharge point	Discharge point location
Treated wastewater	D6 drain discharge point	As shown in Schedule 1: Premises Infrastructure and Layout Map
Stormwater	Stormwater detention basin overflow weir	
Odour from cooking of prawns	Prawn processing facility cooking vent	

10. During commissioning and operation of the works, the works approval holder must ensure that emissions from the discharge point listed in Table 5 for the corresponding parameter do not exceed the corresponding limit when monitored in accordance with condition 11.

Table 5: Emission and discharge limits

Discharge point	Parameter	Limit
As shown in Schedule 1: Premises Infrastructure and Layout Map – treated water discharge point	Biochemical Oxygen Demand	≤5mg/L
	Total Nitrogen	≤5mg/L
	Total Phosphorus	≤0.5mg/L
	Total Suspended Solids	≤2mg/L
	Total Dissolved Solids	≤800mg/L

Monitoring

Discharges to surface water

11. During commissioning and operation of the works, the works approval holder shall monitor and record emissions:

(a) from the discharge point;

(b) at the corresponding monitoring location;

(c) for the corresponding parameter;

(d) at the corresponding frequency;

(e) for the corresponding averaging period;

(f) in the corresponding unit; and

(g) using the corresponding method,

as set out in Table 6.

Table 6: Monitoring of emissions to surface water during Commissioning and Operation

Monitoring location	Parameter	Frequency	Averaging period	Unit	Method
Refer to Schedule 1: Premises Infrastructure and Layout Map – Treated water discharge point	Volumetric flow rate	Continuous	Daily	m^3 / day	
	pH[1]	Weekly during commissioning Monthly during operation	Spot sample	pH Units	AS/NZS 5667.1 and AS/NZS 5667.10
	Biochemical Oxygen Demand			mg/L	
	Total Nitrogen				
	Total Phosphorus				
	Total Suspended Solids				
	Total Dissolved Solids				

Note 1: In field non-NATA accredited analysis permitted

Ambient Monitoring

12. The works approval holder must monitor and record the groundwater for concentrations of the parameter listed in Table 7:

(a) at the corresponding monitoring location;

(b) in the corresponding unit;

(c) at no less than the corresponding frequency;

(d) for the corresponding averaging period; and

(e) using the corresponding method,

as set out in Table 7.

Table 7: Monitoring of ambient groundwater concentrations

Parameter	Monitoring location	Unit	Frequency	Averaging period	Method
Standing water level[1]	Refer to Schedule 1: Map of monitoring location - Groundwater bores SFM2 and SFM3	mbgl, AHD	At least once 3 months prior to the commencement of commissioning Monthly during commissioning Monthly during operation	Spot sample	AS/NZS 5667.1 and AS/NZS 5667.11
Temperature[1]		°C			
Electrical Conductivity		mg/L			
Total dissolved solids					
pH[1]		pH units			
Alkalinity (total) as $CaCO_3$		mg/L			
Hardness					
Total Nitrogen					
Total Phosphorus					
Calcium					
Magnesium					
Potassium					
Sodium					
Chloride					
Sulphate					
Sulphide					
Aluminum					
Chromium					
Iron					
Manganese					
Selenium					
Zinc					

13. The works approval holder must monitor and record the surface water for concentrations of the parameter listed in Table 8:

(a) at the corresponding monitoring location;

(b) in the corresponding unit;

(c) at no less that the corresponding frequency;

(d) for the corresponding averaging period; and

(e) using the corresponding method,

as set out in Table 8.

Table 8: Monitoring of ambient surface water concentrations

Parameter	Monitoring location	Unit	Frequency	Averaging period	Method
Total Nitrogen	Refer to Schedule 1: Map of monitoring locations - Surface water	mg/L	At least once 3 months prior to the commencement of commissioning Weekly during commissioning Monthly during operation	Spot sample	AS/NZS 5667.1 AS/NZS 5667.6 and AS/NZS 5667.10
Total Phosphorus					
Electrical Conductivity		mS/m			
Total Suspended Solids		mg/L			

14. The works approval holder shall submit all samples required by conditions 11, 12 and 13 of this works approval to a laboratory with current NATA accreditation for the analysis of parameters specified.

15. The works approval holder must ensure that:

(a) monitoring is undertaken in each weekly period such that there are at least 4 days in between the days on which samples are taken in successive weeks;

(b) monitoring is undertaken in each monthly period such that there are at least 15 days in between the days on which samples are taken in successive months;

(c) monitoring is undertaken in each quarterly period such that there are at least 45 days in between the days on which samples are taken in successive quarters.

16. The works approval holder must, within 4 weeks after the completion of commissioning of the works in accordance with condition 6, submit to the CEO, an Environmental Commissioning Report that includes:

(a) a summary of the monitoring results during commissioning recorded in accordance with conditions 11, 12 and 13;

(b) a list of any original monitoring reports submitted to the works approval holder from third parties for the commissioning period;

(c) a summary of the treated wastewater quality from the WWTP as installed, against the design specifications set out in condition 1, Table 1; and

(d) where the design specifications have not been met, measures proposed to meet the design specifications, together with timescales for implementing the proposed measures.

Specified Actions

17. The works approval holder must undertake visual inspections of the infrastructure specified in Table 9:

(a) of the type; and

(b) at the corresponding frequency;

set out in Table 9.

Table 9: Inspections of infrastructure

Infrastructure (refer to Schedule 1: Premises Infrastructure and Layout Plan)	**Type of inspection**	**Frequency**
WWTP discharge pipeline	To confirm integrity	Daily
Brine water discharge pipeline		
Evaporation ponds (freeboard)	To confirm required freeboard capacity is available	

Records and reporting

18. The works approval holder must record the following information in relation to complaints received by the works approval holder (whether received directly from a complainant or forwarded to them by the Department or another party) about any alleged emissions from the premises:

(a) the name and contact details of the complainant, (if provided);

(b) the time and date of the complaint;

(c) the complete details of the complaint and any other concerns or other issues raised; and

(d) the complete details and dates of any action taken by the works approval holder to investigate or respond to any complaint.

19. The works approval holder must maintain accurate and auditable books including the following records, information, reports, and data required by this works approval:

(a) the works conducted in accordance with condition 1;

(b) any maintenance of infrastructure that is performed in the course of complying with condition 8;

(c) monitoring programmes undertaken in accordance with conditions 11, 12 and 13; and

(d) complaints received under condition 18.

20. The books specified under condition 19 must:

(a) be legible;

(b) if amended, be amended in such a way that the original version(s) and any subsequent amendments remain legible and are capable of retrieval;

(c) be retained by the works approval holder for the duration of the works approval; and

(d) be available to be produced to an inspector or the CEO as required.

21. The works approval holder must comply with a Department request within 14 days from the date of the Department request or such other period as agreed to by the Inspector or the CEO.

22. The works approval holder must submit to the CEO reports for the conditions listed in Table 10 during operation, which provide information in accordance with the corresponding requirements and by the specified due dates set out in Table 10.

Table 10: Reporting requirements

Condition	Requirements	Due date
11	Tabulated monitoring data results for each monitoring location showing concentrations of all parameters. An interpretation of the monitoring data including comparison to historical trends and emission limits (where applicable). Copies of original monitoring, laboratory and analysis reports submitted to the works approval holder from third parties.	Monthly
12		
13		
18	Complaint's summary	Within 14 days of receiving any complaint

Definitions

In this works approval, the terms in Table 11 have the meanings defined.

Table 11: Definitions

Term	Definition
°C	Degrees Celsius
AS/NZS 5667.1	means the Australian Standard AS/NZS 5667.1 Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples
AS/NZS 5667.10	means the Australian Standard AS/NZS 5667.10 Water Quality – Sampling – Guidance on sampling of waste waters
AS/NZS 5667.6	means the Australian Standard AS/NZS 5667.10 Water Quality – Sampling – Guidance on sampling of rivers and streams
AS/NZS 5667.11	means the Australian/New Zealand Standard AS/NZS 5667.11 for Water quality – Sampling Part 11: Guidance on sampling of groundwaters
AHD	Australian Height Datum
books	has the same meaning given to that term under the EP Act.
brine	Saline water used for transportation and storage of prawns and for the cooking and cooling of prawns
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department administering the *Environmental Protection Act 1986* Locked Bag 10 Joondalup DC WA 6919 info@dwer.wa.gov.au
condition	means a condition to which this Works Approval is subject under s.62 of the EP Act.
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V Division 3 of the EP Act.

Term	Definition
Department request	means a request for Books or other sources of information to be produced, made by an Inspector or the CEO to the Works Approval Holder in writing and sent to the Works Approval Holders address for notifications, as described at the front of this Works Approval, in relation to: (a) compliance with the EP Act or this Works Approval; (b) the Books or other sources of information maintained in accordance with this Works Approval; or (c) the Books or other sources of information relating to Emissions from the Premises.
discharge	has the same meaning given to that term under the EP Act.
DWER	Department of Water and Environmental Regulation
emission	has the same meaning given to that term under the EP Act.
environmental commissioning	means the process of operation and testing that verifies the works and all relevant systems, plant, machinery and equipment have been installed and are performing in accordance with the design specification set out in the works approval application
Environmental Commissioning Report	means a report on any commissioning activities that have taken place and a demonstration that they have concluded, with focus on emissions and discharges, waste containment, and other environmental factors.
Environmental Compliance Report	means a report to satisfy the CEO that the conditioned infrastructure and/or equipment has been constructed and/or installed in accordance with the works approval.
environmental harm	has the same meaning given to that term under the EP Act.
EP Act	*Environmental Protection Act 1986* (WA).
EP Regulations	*Environmental Protection Regulations 1987* (WA).
HDPE	High Density Polyethylene
implementation agreement or decision	has the same meaning given to that term under the EP Act.
Inspector	means an inspector appointed by the CEO in accordance with s.88 of the EP Act.
material environmental harm	has the same meaning given to that term under the EP Act.
mbgl	metres below ground level

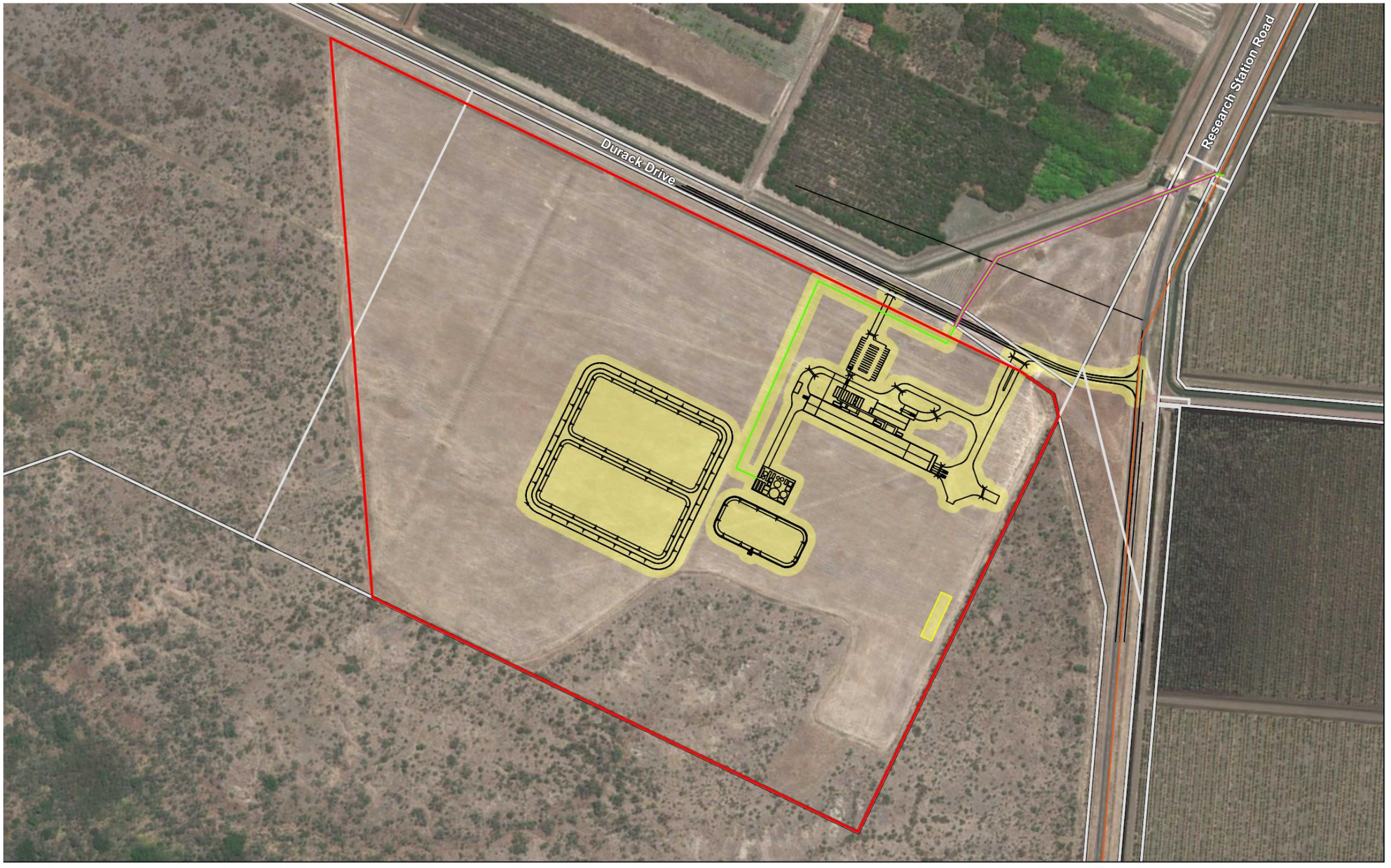
Term	Definition
mg/L	milligrams per litre
NATA	National Association of Testing Authorities
operate or operation	means the acceptance of prawns on the premises for processing (grading, cleaning, cooking and packing etc. for sale and / or export) and the treatment and disposal / discharge of associated processing wastes
Pollution	has the same meaning given to that term under the EP Act.
premises	the premises to which this licence applies, as specified at the front of this licence and as shown on the premises map in Schedule 1 to this works approval.
prescribed premises	has the same meaning given to that term under the EP Act.
Serious Environmental Harm	has the same meaning given to that term under the EP Act.
Unreasonable Emission	has the same meaning given to that term under the EP Act.
Waste	has the same meaning given to that term under the EP Act.
Works	refers to the Works described in Schedule 2, at the locations shown in Schedule 1 of this works approval to be carried out at the premises, subject to the conditions.
works approval	refers to this document, which evidences the grant of the works approval by the CEO under section 54 of the EP Act, subject to the conditions.
works approval holder	refers to the occupier of the premises being the person to whom this works approval has been granted, as specified at the front of this works approval.
WWTP	Wastewater Treatment Plant

END OF CONDITIONS

Schedule 1: Maps

Premises boundary map

The premises boundary is shown in the map below. The red line and the green pipeline easement depict the premises boundary.



Source:	Satellite Image: DigitalGlobe 20/9/2014 Site Detail: Wiley & Co Pty Ltd 2018
Disclaimer:	No warranty is given in relation to the data (including accuracy, reliability, completeness, currency or suitability) and no liability is accepted (including without limitation, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of the data. Data must not be used for direct marketing or be used in breach of the privacy laws.
File:	File: KununarraPP_PrescribedPremises_190311 Date: 11/03/2019

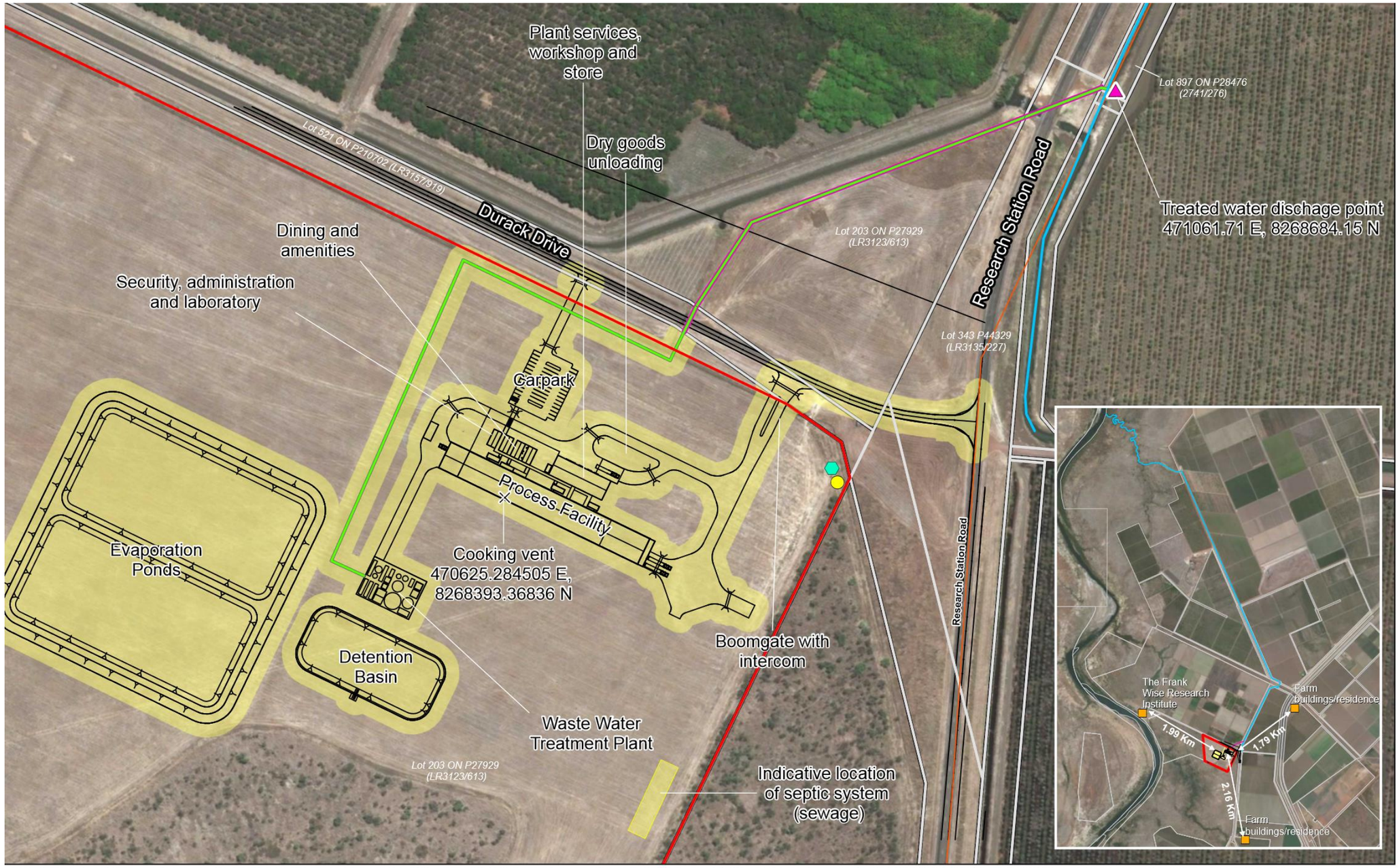
0 50 100 150 200 250
Meters
A4 Scale 1:4,000
Coordinate System: GDA 1994 MGA Zone 52

- Premises boundary
- Cadastral boundary
- Treated water discharge pipeline
- Easement boundary
- Development Footprint (9.92 Ha)

Prescribed Premises Boundary

Premises infrastructure and layout map

The works infrastructure and layout is shown in the map below.



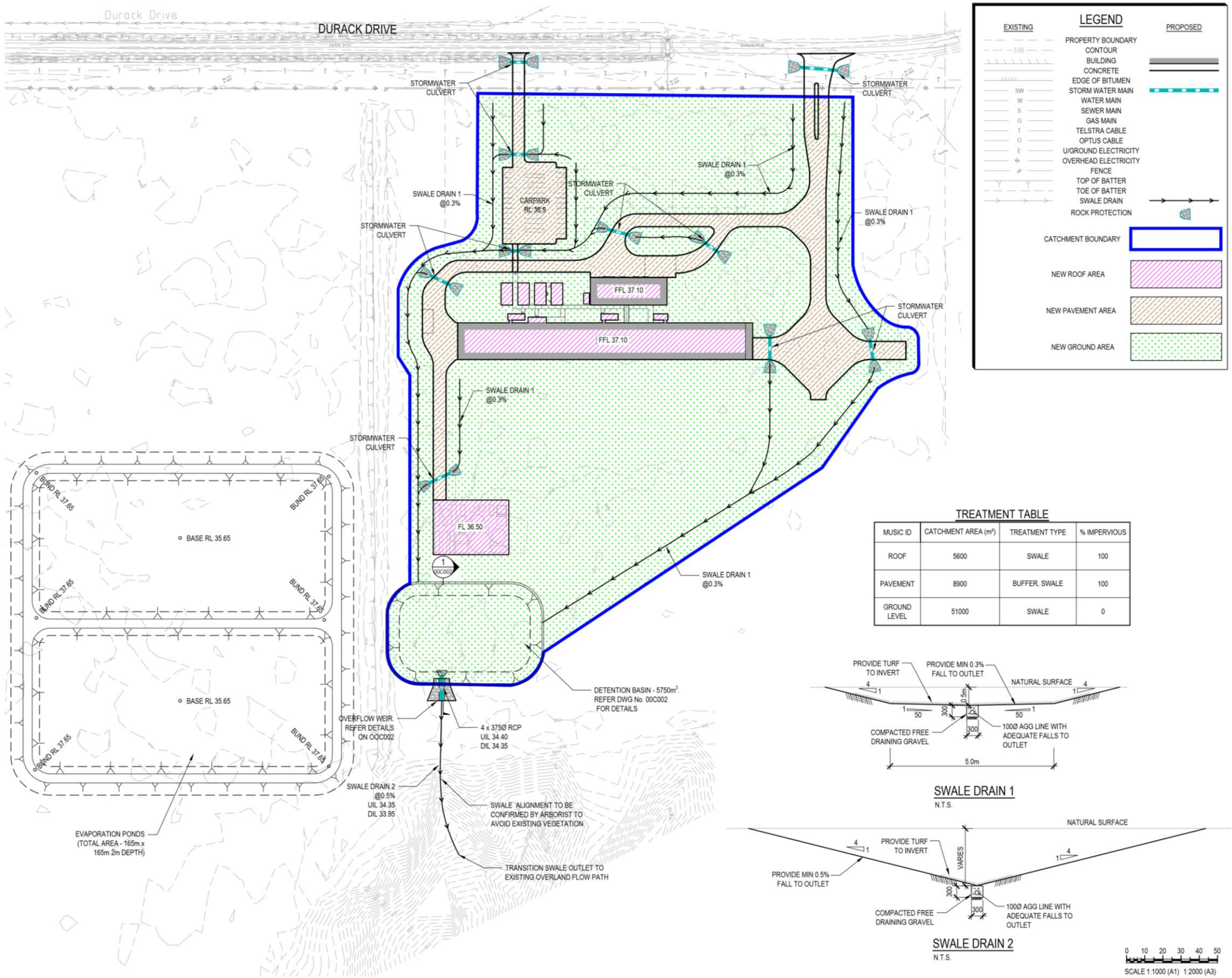
seafarms / CO_2 Australia	Source:	Satellite Image: Google Earth 7/6/18 Site Detail: Valley & Co Pty Ltd 2018 Production Bore: Rockwater Pty Ltd 2018	Premises Map
	Disclaimer:	No warranty is given in relation to the data (including accuracy, reliability, completeness, currency or suitability) and no liability is accepted (including without limitation, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of the data. Data must not be used for direct marketing or be used in breach of the privacy laws.	
	File:	File: KununarraPP_PremisesMap _190311 Date: 11/03/2019	

0 25 50 75 100 125 150 Meters
A4 Scale 1:2,500
Coordinate System: GDA 1994 MGA Zone 52

Cadastral Boundary
Premises boundary
SFHI (Production Bore)
SFMI (Monitoring Bore)
D6 drain and discharge to the Ord River
Sensitive receptors
Easement boundary
Discharge Point
Treated water dischage pipeline
Development Footprint (9.92Ha)

Premises stormwater map

The premises stormwater plan is shown in the map below.



TREATMENT TABLE

MUSIC ID	CATCHMENT AREA (m²)	TREATMENT TYPE	% IMPERVIOUS
ROOF	5600	SWALE	100
PAVEMENT	8900	BUFFER, SWALE	100
GROUND LEVEL	51000	SWALE	0

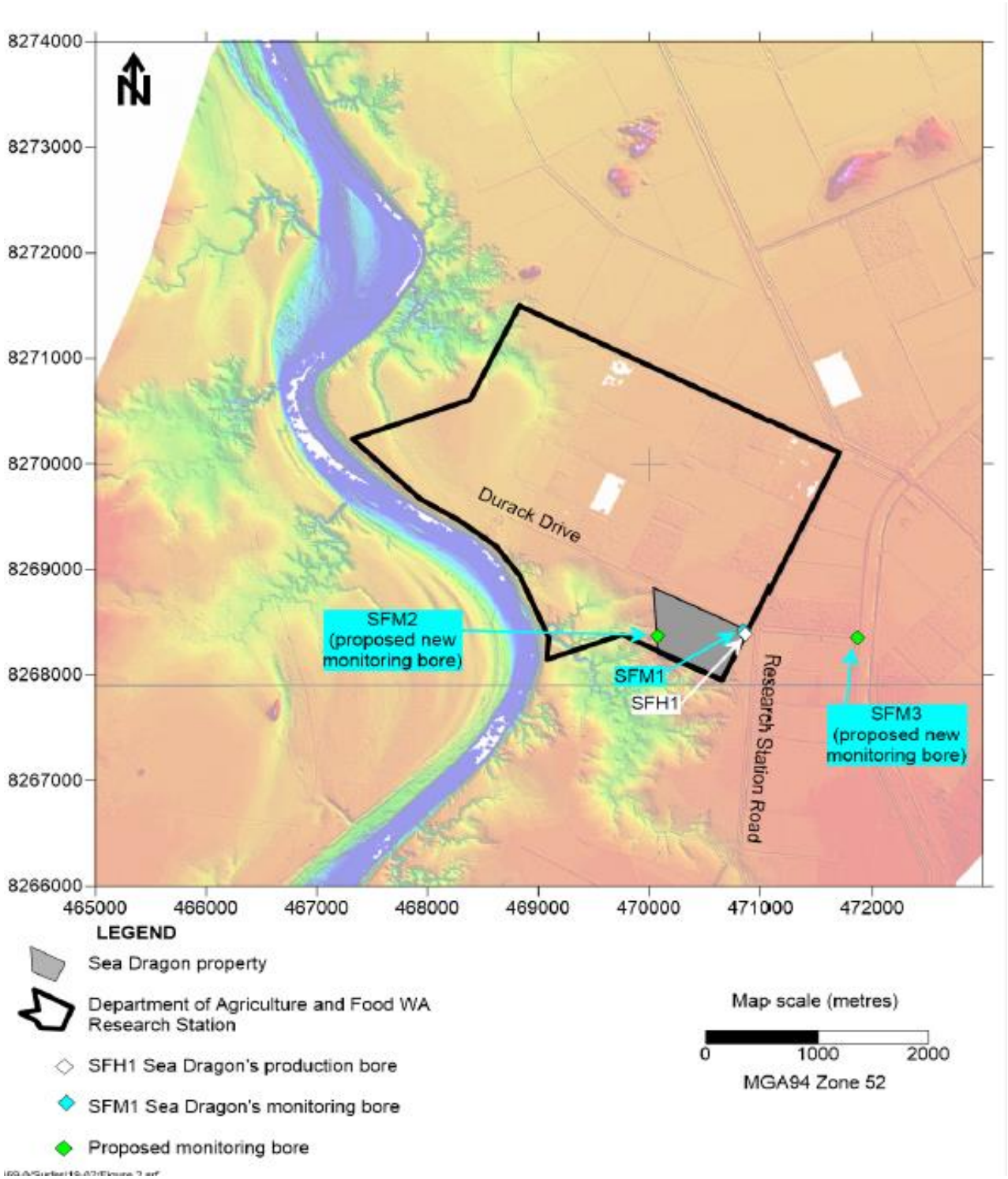
SWALE DRAIN 1
N.T.S.

SWALE DRAIN 2
N.T.S.

0 10 20 30 40 50
SCALE 1:1000 (A1) 1:2000 (A3)

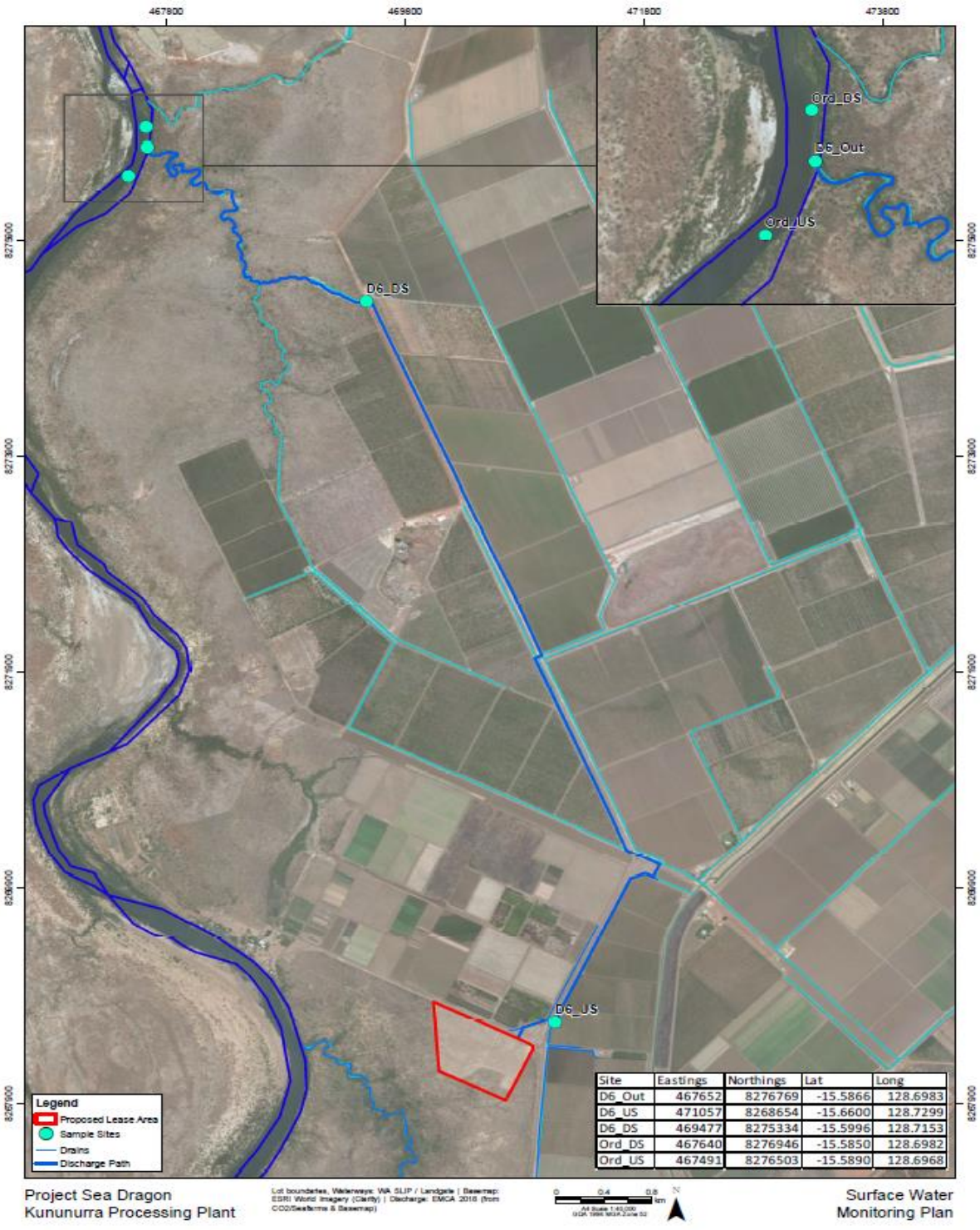
Map of monitoring location – Groundwater bores

The location of the premises groundwater monitoring bores are shown in the map below.



Map of monitoring locations – Surface water

The location of the premises surface water monitoring locations are shown in the map below.



Schedule 2: Premises boundary

The premises boundary is defined by the coordinates in Table 12.

Table 12: Premises boundary coordinates

Easting	Northing
470035.281435	8268842.05546
470827.104952	8268459.83161
470865.710241	8268432.78178
470872.002459	8268407.32746
470641.10435	8267929.95452
470083.317217	8268199.74724