



Licence Number L7066/1997/15

Licence Holder Shire of Carnarvon

File Number: 2010/010873-1

Premises

Coral Bay Landfill Site
43 Sanctuary Road
CORAL BAY WA 6701

Legal description –
Crown Reserve 44763
Lot 530 on Plan 64057
Certificate of Title Volume LR3157 Folio 878

Date of Report 18/05/2020

Decision Amendment Granted

1. Definitions and interpretation

Definitions

In this Amendment Report, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
AACR	Annual Audit Compliance Report
ACN	Australian Company Number
AER	Annual Environment Report
Amendment Report	refers to this document
Category/ Categories/ Cat.	categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the <i>Environmental Protection Act 1986</i> Locked Bag 33 Cloisters Square PERTH WA 6850 info@dwer.wa.gov.au
CS Act	<i>Contaminated Sites Act 2003 (WA)</i>
Delegated Officer	an officer under section 20 of the EP Act
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation
EPA	Environmental Protection Authority
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)</i>
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of and during this Review
Licence Holder	Shire of Carnarvon
m ³	cubic metres
Minister	the Minister responsible for the EP Act and associated regulations
NEPM	National Environmental Protection Measure

Term	Definition
Noise Regulations	<i>Environmental Protection (Noise) Regulations 1997 (WA)</i>
Occupier	has the same meaning given to that term under the EP Act.
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Amendment Report applies, as specified at the front of this Amendment Report.
Revised Licence	the amended Licence issued under Part V, Division 3 of the EP Act, with changes that correspond to the assessment outlined in this Amendment Report.
Risk Event	as described in <i>Guidance Statement: Risk Assessment</i>
UDR	<i>Environmental Protection (Unauthorised Discharges) Regulations 2004 (WA)</i>

2. Amendment Description

The following guidance statements have informed the assessment and decision outlined in this Amendment Report.

- *Guidance Statement: Regulatory Principles (July 2015)*
- *Guidance Statement: Setting Conditions (October 2015)*
- *Guideline: Decision Making (June 2019)*
- *Guidance Statement: Risk Assessment (February 2017)*
- *Guidance Statement: Environmental Siting (November 2016)*

2.1. Purpose and scope of assessment

Shire of Carnarvon (the Licence Holder) submitted an application to the Department of Water and Environmental Regulation (DWER) to amend Licence L7066/1997/15 for the Coral Bay Landfill site. The landfill is located at Lot 530 on Plan 64057 Crown Reserve 44763, 43 Sanctuary Road, Coral Bay. The application was submitted to DWER on 20 December 2019.

The Delegated Officer has assessed the operational impacts of the proposed amendments and these are documented through this Decision Report.

The Decision Report explains how DWER has assessed and determined the amendment and provides a record of DWER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DWER's assessment and decision-making under Part V of the Environmental Protection Act 1986. Other legislative requirements may apply to the proposed amendment, and it is the Licence Holder's responsibility to ensure that they have met all relevant requirements for their Premises.

2.2. Premises details

The Licence Holder operates a Class II putrescible landfill and solid waste depot that can accept up to 10,000 tonnes per annual period of putrescible, inert type 1, inert type 2, special type 1 and special type 2 waste. The Premises is owned by the Shire of Carnarvon and managed by the external contractor Coral Bay Contracting. The Premises is manned for a limited period each day and is open to the public from 8:30am to 5:30pm, seven days a week.

The Premises accepts approximately 3,000 tonnes per annual period of putrescible waste and approximately 1,500 tonnes per annual period of Type 1 and 2 inert waste. The landfill also accepts asbestos and clinical wastes, with asbestos accepted predominately due to progressive demolition and closure of temporary residences in the Coral Bay townsite. Clinical wastes are accepted from the Ambulance and Royal Flying Doctor Service only and volumes received are low.

Wastes are disposed on the Premises in shallow landfill trenches. Landfill trenches are covered daily through the main tourist season and reduce to every two or three days during the off season. Fish offal is disposed and covered daily in a separate disposal trench with collections reduced to every second day during the off season. Green waste received at the Premises is burnt during winter after resting for a minimum of three months.

The Premises holds a 3,000 litre water tank which is mounted on a truck with a hose and pump to assist in the management of any unauthorised fires occurring at the landfill. The local fire brigade is within close proximity (<10 minutes) to assist at the landfill.

The Premises location is shown in Figure 1 below.

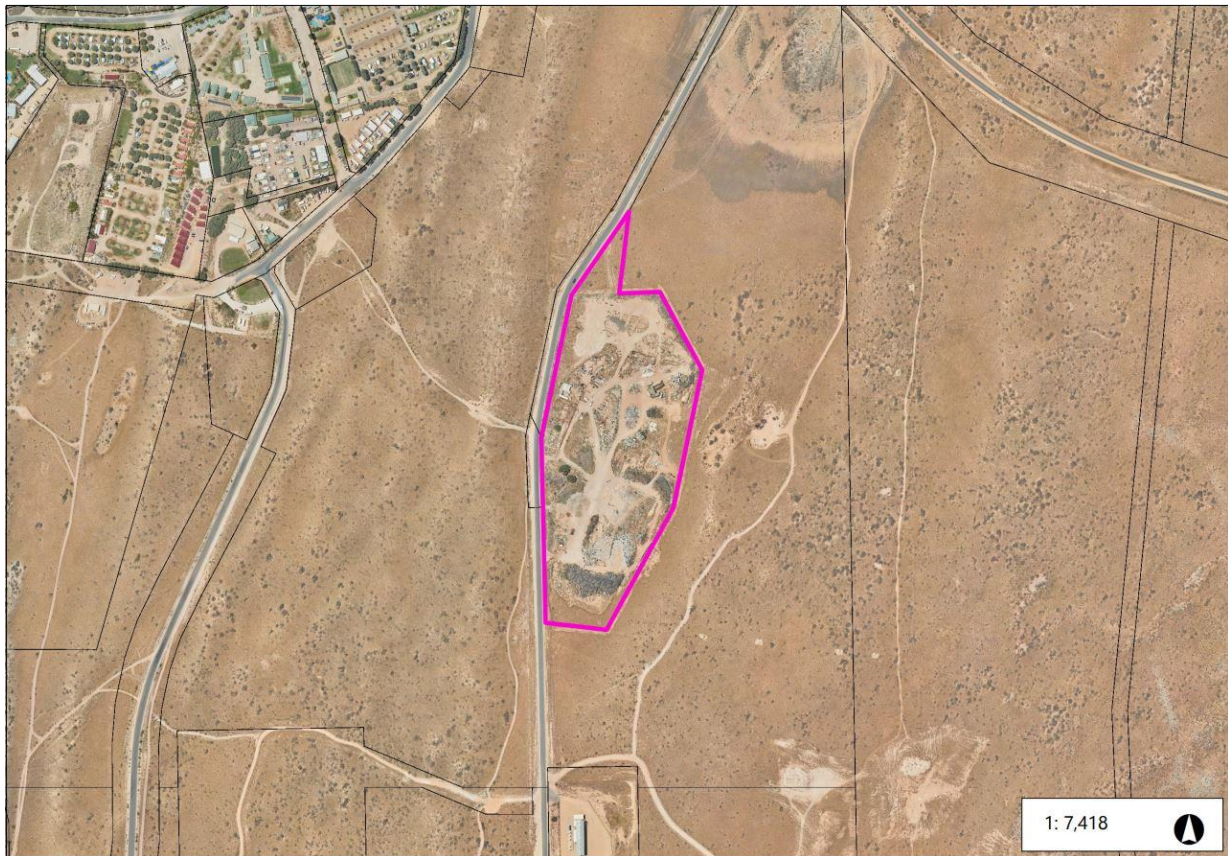


Figure 1: Premises boundary and location

2.3. Proposed amendment

The Licence Holder is seeking to amend their Existing Licence to permit landfilling of waste material within 35 metres of the Premises boundary, up to 5 metres from the boundary. The change is being sought to increase the life of the landfill for a further three years while the Licence Holder finalises acquisition of an adjoining crown land parcel to the east of the Premises.

The Licence Holder considers that the increased potential for fire within the Premises spreading offsite can be managed by construction of a 5 metre firebreak between the landfilling area and the Premises boundary. This would be additional to a 5 metre firebreak already installed along the outside perimeter of the Premises boundary.

The scope of this amendment would require a modification to *Table 1.3.2: Waste processing* within the Existing Licence. The waste processing table currently specifies that *No waste shall be temporarily stored or landfilled within trenches within 35 metres from the boundary of the Premises.*

2.4. Consolidation of Licence

As part of this amendment package DWER has updated the template of the licence. The obligations of the Licence Holder have not changed through this update and DWER has not undertaken any additional risk assessment of the Premises.

In updating the licence, the CEO has:

- updated the format and appearance of the Licence;
- replaced reference to *licensee* with *licence holder*;

- revised licence conditions numbers, and removed any redundant conditions and realigned condition numbers for numerical consistency; and
- corrected clerical mistakes and unintentional errors.

3. Licensing history

Table 2 provides the amendment history for L7066/1997/15.

Table 2: Licence amendments

Instrument	Issued	Amendment
L7066/1997/15	17/01/2014	Licence renewed and changed to new format.
L7066/1997/15	8/10/2015	Licence amendment to change throughput/ design capacity
L7066/1997/15	29/04/2016	Amendment by notice – extension of licence expiry date
L7066/1997/15	05/12/2017	Licence amendment to include Category 62.
L7066/1997/15	19/05/2020	This amendment.

4. Environmental siting

The Premises is located on a 6.9 hectare area in Coral Bay, approximately 190 km north of Carnarvon and 1,000 km north of Perth. The Premises is situated in a coastal interdunal depression south of the Coral bay township. Coral Bay currently has a permanent population of 250 business operators and workers, with the population peaking at around 4,000 during the peak tourist season (April – November). Off season population numbers range between 250-600.

The Premises is located within a ‘public utilities services’ land use area under the Shire of Carnarvon District Zoning Scheme No. 11. The Premises is surrounded by unallocated crown land, with a power station and water treatment facility located to the south.

4.1. Potential receptors

Table 3 below lists the sensitive land uses in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

Table 3: Distance to receptors

Human receptors	Description of receptors	Distance from prescribed premises
Coral Bay town site	Coral Bay residential area and temporary accommodation	Approximately 330m northwest of the Premises boundary
Environmental receptors	Description of receptors	Distance from prescribed premises
World Heritage Area	Ningaloo Coast	Approximately 700m to the west of the Premises boundary.

DBCA managed lands and waters	Ningaloo Marine Park	Approximately 700m to the west of the Premises boundary.
Surface water	Unnamed seasonal playa	Approximately 255m to the northeast of the Premises boundary.
Public Drinking Water Source Area	<p>Coral Bay Water Reserve – Priority 1</p> <p>Water is sourced from the Birdrong confined aquifer, which sits at a depth of approximately -781 mAHD and has a thickness of 34 m.</p> <p>The Birdrong aquifer has not been considered further as a potential receptor due to the significant depth of the aquifer and presence below multiple confining layers.</p>	Approximately 345m south of the Premises boundary.
Groundwater	<p>Superficial aquifer of the Carnarvon Basin.</p> <p>No site specific groundwater information is available for the Premises. Groundwater flow is inferred to be westerly with a salinity in the range of 10,000-14,000 mg/L TDS.</p> <p>Superficial and alluvial sediments cover the coastal plain which overlies the sedimentary rocks of the Carnarvon Basin. They range in thickness up to 30 m.</p>	Superficial groundwater is described generally as within 5 to 10 metres of the surface.
Environmental aspects	Description of receptors	Distance from prescribed premises
<i>Rights in Water and Irrigation Act 1914</i>	Pilbara Surface Water Area	The Premises falls within the proclaimed area.
	Gascoyne Groundwater Area	

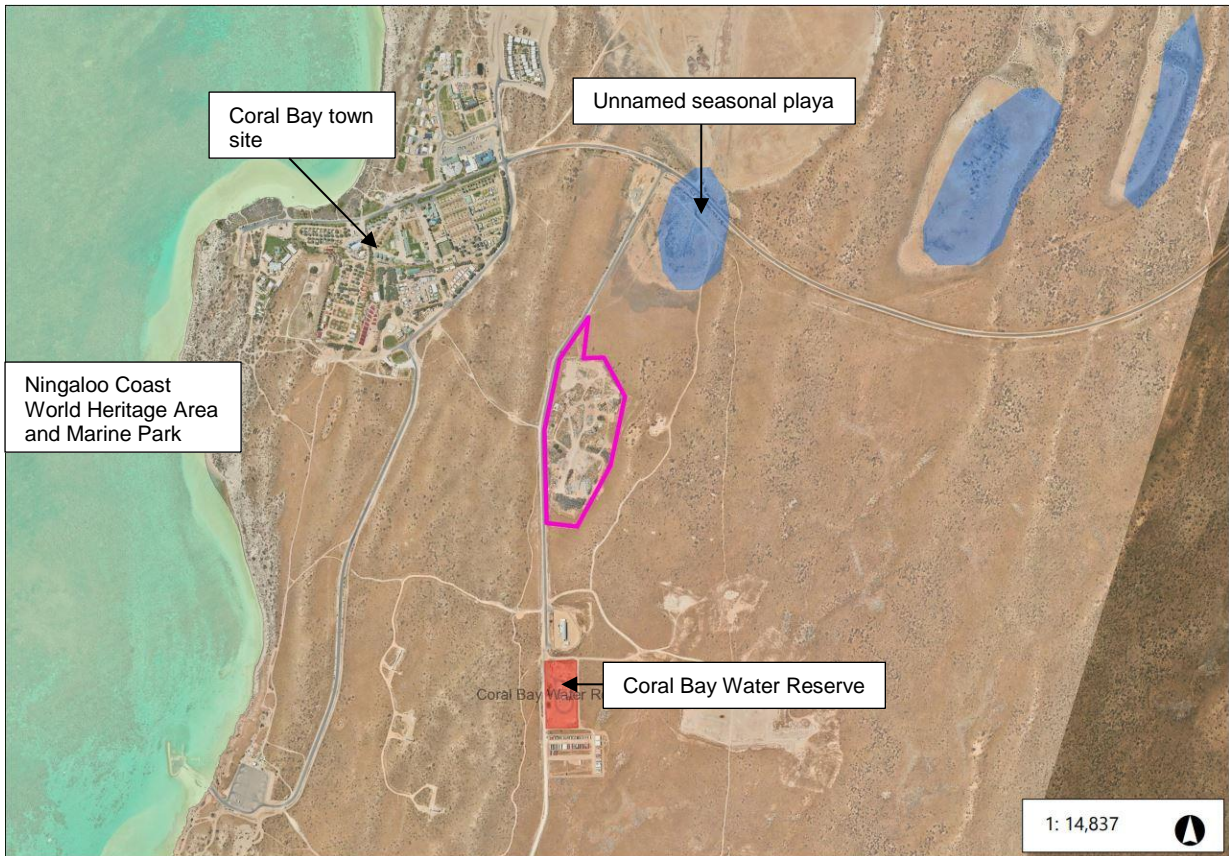


Figure 2: Potential receptors surrounding the Premises

4.2. Potential pathways

Air, soil, surface runoff and groundwater have been considered potential pathways during the assessment. The meteorological, topographical and geological conditions at the Premises have been presented in Table 4 below and this information has been considered in the risk assessment table in Section 5. Groundwater information is contained in Table 3 above as it is considered both a potential pathway and receptor.

Table 4: Potential pathways

Environmental aspects	Description
Soil type and surface geology	<p>The Coral Bay area consists of coastal flats and dunes, underlain by a series of calcarenites and limestone formations with possible karst features. The Premises lies across the boundary of the Coast and Cardabia Systems, with soils of both described as red deep sands.</p> <p>The underlying soil and surface geology at the Premises would likely exhibit a high degree of permeability.</p>
Topography and hydrology	<p>The Premises is situated within the base of a shallow valley tending north to south at approximately 10m AHD. The valley is bounded on both sides by dune sand ridges that rise to an average height of approximately 25 mAHD.</p> <p>No significant drainage lines are mapped within or surrounding the Premises. The existing land surface has been modified to divert storm water northward around the facility.</p>

Environmental aspects	Description
Meteorology	<p>The Learmonth Airport weather station (No. 6066), located approximately 104.9 km north of the Premises is the closest station recording climatic information considered representative of the Premises.</p> <p>Annual average rainfall at the station is 253.5 mm occurring across 16.3 days. Highest rainfall occurs during January to June with lowest rainfall between July to December. Annual evaporation is approximately 2,800 mm with low evaporation rates occurring in winter to spring when rainfall is at its lowest.</p> <p>Measurements from the station indicate that the prevailing wind direction at the Premises would likely be southerly in the morning and north or northeasterly in the afternoon.</p>

5. Risk assessment

Table 5 below describes the Risk Events associated with the amendment consistent with the *Guidance Statement: Risk Assessments*. The table identifies whether the emissions present a material risk to public health or the environment, requiring regulatory controls.

Sensitive receptors located up or cross hydraulic gradient of the Premises have not been considered in the risk assessment as there is unlikely to be a viable pathway to these receptors.

Table 5: Risk assessment for proposed amendments during operation

Risk Event				Consequence rating ¹	Likelihood rating ¹	Risk ¹	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source/Activities*	Potential emissions	Potential receptors, pathway and impact	Licence Holder controls					
Landfilling of waste within 5-35 metres of the Premises boundary	Leachate and contaminated stormwater	Seepage through the soil profile to groundwater causing a reduction in water quality: <ul style="list-style-type: none"> Superficial groundwater (5-10 mbgl) 	Landfill trenches are separated from groundwater by more than 3 metres.	Moderate – low level offsite impacts	Unlikely	Medium	As there are no different waste types or increased quantities proposed in the amendment, the Delegated Officer does not consider that leachate or contaminated stormwater emissions from the premises will increase. A reduction in the horizontal buffer distance to the Premises boundary will not reduce the separation of landfilled waste from underlying groundwater. Stormwater is directed around the Premises and is unlikely to come into to contact with the tipping face.	Condition 3 Table 2: <i>Internal landfill buffer specification</i>
		Overland flow or groundwater discharge causing a reduction in surface water quality: <ul style="list-style-type: none"> Ningaloo Marine Park and World Heritage Area (700m west) 	Stormwater diversion around the Premises. Existing licence conditions.	Major – short term impact to an area of high conservation value or special significance	Unlikely	Medium		
	Landfill gas	Lateral migration through the soil profile causing impacts to health and amenity of closest human receptors: <ul style="list-style-type: none"> Coral Bay townsite (330m northwest) 	None proposed	Moderate – low level or occasional medical treatment and mid-level impact to amenity	Rare	Medium	The Delegated Officer does not consider the potential for landfill gas to impact on the nearest sensitive receptor will substantially change as a result of the amendment.	
	Windblown waste	Air/windborne pathway causing impacts to amenity of closest human receptors: <ul style="list-style-type: none"> Coral Bay townsite (330m northwest) Air/windborne pathway causing impacts to local fauna	Green waste stockpiles are arranged to act as bunds to reduce the strength of southerly winds across the Premises Daily cover Perimeter fencing Limited tip face size Existing licence conditions	Minor – minimal offsite impacts	Possible	Medium	A review of the departments incidents and complaints management system reveals that the Premises has historically had issues with windblown waste attributed to the strong southerly winds commonly experienced at Coral Bay. As a result improved perimeter fencing was installed at the Premises and complaints made in relation to the Premises have since ceased. The Delegated Officer considers there is increased potential for windblown waste to leave the Premises, based on the reduced distance between landfilling activities and the premises boundary. It is noted that the potential for windblown to impact the Coral Bay townsite remains unchanged due to the eastern location of the reduced separation distance. The frequency for windblown waste collection will be increased from monthly to weekly in the Revised Licence.	
Dust	Air/windborne pathway causing impacts to health and amenity of closest human receptors: <ul style="list-style-type: none"> Coral Bay townsite (330m northwest) 	None proposed	Minor – low level impact to amenity	Rare	Low	The Delegated Officer does not consider dust impacts received at the nearest sensitive receptor will substantially change as a result of the amendment. Therefore further regulatory control is not required.	N/A	

Risk Event				Consequence rating ¹	Likelihood rating ¹	Risk ¹	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source/Activities*	Potential emissions	Potential receptors, pathway and impact	Licence Holder controls					
	Odour	Air/windborne pathway causing impacts to amenity of closest human receptors: <ul style="list-style-type: none"> Coral Bay townsite (330m northwest) 	Daily cover Existing licence conditions	Minor – low level impact to amenity	Rare	Low	The Delegated Officer does not consider odour impacts received at the nearest sensitive receptor will substantially change as a result of the amendment. This is due to waste type, quantities and cover requirements staying the same. Therefore further regulatory control is not required.	N/A
	Pests and vermin	Animal disease vectors causing impacts to health and amenity of closest human receptors: <ul style="list-style-type: none"> Coral Bay townsite (330m northwest) 	Daily cover Perimeter fencing Existing licence conditions	Minor – low level impact to amenity	Rare	Low	The Delegated Officer does not consider that increased quantities of pests and vermin will be attracted to the Premises as a result of the amendment. Therefore further regulatory control is not required.	N/A
	Noxious fumes as a result of fire	Air/windborne pathway causing impacts to health and amenity of closest human receptors: <ul style="list-style-type: none"> Coral Bay townsite (330m northwest) 	Internal 5m firebreak External 5m firebreak Daily cover Existing licence conditions	Moderate – low level or occasional medical treatment and mid level impact to amenity	Unlikely	Medium	The Delegated Officer does not consider that the risk profile for noxious fume emissions as a result of fire at the Premises has changed. Therefore further regulatory control is not required.	N/A

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the Department's Guidance Statement: Risk Assessments (February 2017)

6. Consultation

Table 6: Summary of consultation

Method	Comments received	DWER response
Department of Planning, Lands and Heritage advised of proposal on 27 February 2020	None received	N/A
Licence Holder referred draft documents on 15 May 2020	The Licence Holder responded on 18 May 2020 with no comments and a request to waive the remainder of the comment period.	N/A

7. Decision

An internal landfill buffer of 35m from the Premises boundary is generally conditioned to reduce the potential for windblown waste to exit the Premises, reduce the potential for fire to spread external to the Premises and to provide an internal buffer for the migration of any landfill gas or leachate to an adjacent land parcel. As the amendment application has been made in the context of future plans to extend the landfill into unallocated crown land to the east, the Delegated Officer considers it reasonable that the internal buffer should be amended only for those portions of the Premises boundary adjacent to the land parcel currently in the acquisition process. This corresponds generally to the southern and eastern Premises boundaries. The land parcel proposed for acquisition and its location in relation to the current Premises can be seen in Appendix 2.

The Licence Holder has stated on 14 May 2020 that a baler, originally applied for inclusion on the Licence in 2016, is no longer intended to be installed at the Premises. Installation of the baler was cancelled as the high occurrence of termites in the area prevents the stockpiling of cardboard in quantities suitable for baling. The baling equipment and associated construction compliance conditions will be removed from the Revised Licence.

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

The Delegated Officer notes that:

- A licence under Part V of the *Environmental Protection Act* does not negate statutory obligations under the *Contaminated Sites Act* (CS Act).
- Should acquisition of the adjacent land parcel not be successful, lateral migration of leachate or landfill gas beyond the Premises boundary may result in the Premises being considered a *source site* under the CS Act.

7.1. Summary of amendments

Table 7 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the Revised Licence as part of the amendment process.

Table 7: Licence amendments

Condition No.	Proposed amendments
Throughout the licence	Reference to the baler equipment and reporting requirements have been removed.
3 Table 2 (was 1.3.3 Table 1.3.2)	The process specification limiting the landfilling of waste within 35 metres of the premises boundary has been modified. The new specifications allow landfilling of waste up to 5 metres from the premises boundary along a specified area shown in a figure attached to the licence. The internal 35 metre buffer still applies outside of the specified area.
11 (was 1.3.7)	The requirement to collect and return windblown waste has been increased to weekly from monthly.
Schedule 1: Figure 1	The premises map has been updated.
Schedule 1: Figure 2	A premises layout map has been included.

Table 8 provides a summary of the licence conversion to the new format and will act as record of implemented changes. All proposed changes have been incorporated into the Revised Licence as part of the amendment process.

Table 8: Licence conversion map for new licence format

Existing licence condition	Condition Summary	Revised licence condition	Conversion notes
1.2.1	Firefighting equipment operation and maintenance requirement	6: Table 4 Row 1	Change to condition formatting.
1.2.2	Spill recovery	9 and 10	Minor change to wording and additional requirement for disposing of clean up material.
1.2.3	Works specifications	Removed.	Removed at the request of the Licence Holder (14 May 2020) as the equipment is no longer required.
1.2.4	Limit on works departures		
1.2.5	Reporting of works departures		
1.2.6	Construction compliance document		
1.2.7	Construction compliance document requirements		
1.3.1	Waste acceptance	1	Minor change to formatting
1.3.2	Waste removal	2	Minor change to wording
1.3.3	Waste processing	3	Minor change to formatting
1.3.4	Landfill management	4	Minor change to formatting
1.3.5	Cover requirements	5	Minor change to formatting
1.3.6	Site security	7	Minor change to wording
1.3.7	Windblown waste collection	11	Change to formatting and wording
1.3.8	Entrance signage	8	Minor change to formatting
1.3.9	Firefighting procedures	12	Minor change to formatting
2.1.1	Monitoring of inputs and outputs	13 and 14	Minor change to formatting and wording.

Existing licence condition	Condition Summary	Revised licence condition	Conversion notes
2.2.1	Groundwater monitoring	15, 16 and 17	Change to formatting and wording. Included specifics on NATA and recording.
2.2.2	Records	20 and 21	Change to formatting and wording.
2.2.3	AACR submission	22	Minor change to formatting and wording.
2.2.4	Complaint management	19	Minor change to formatting and wording.
2.2.5	Special Waste Type 1 and 2 register	18	Minor change to formatting
2.3.1	Annual Environmental Report	23	Minor change to formatting and wording.
2.4.1	Notification requirements	24	Minor change to formatting and wording.
Schedule 2	N1 Notification Form	Schedule 2	Update to new format.

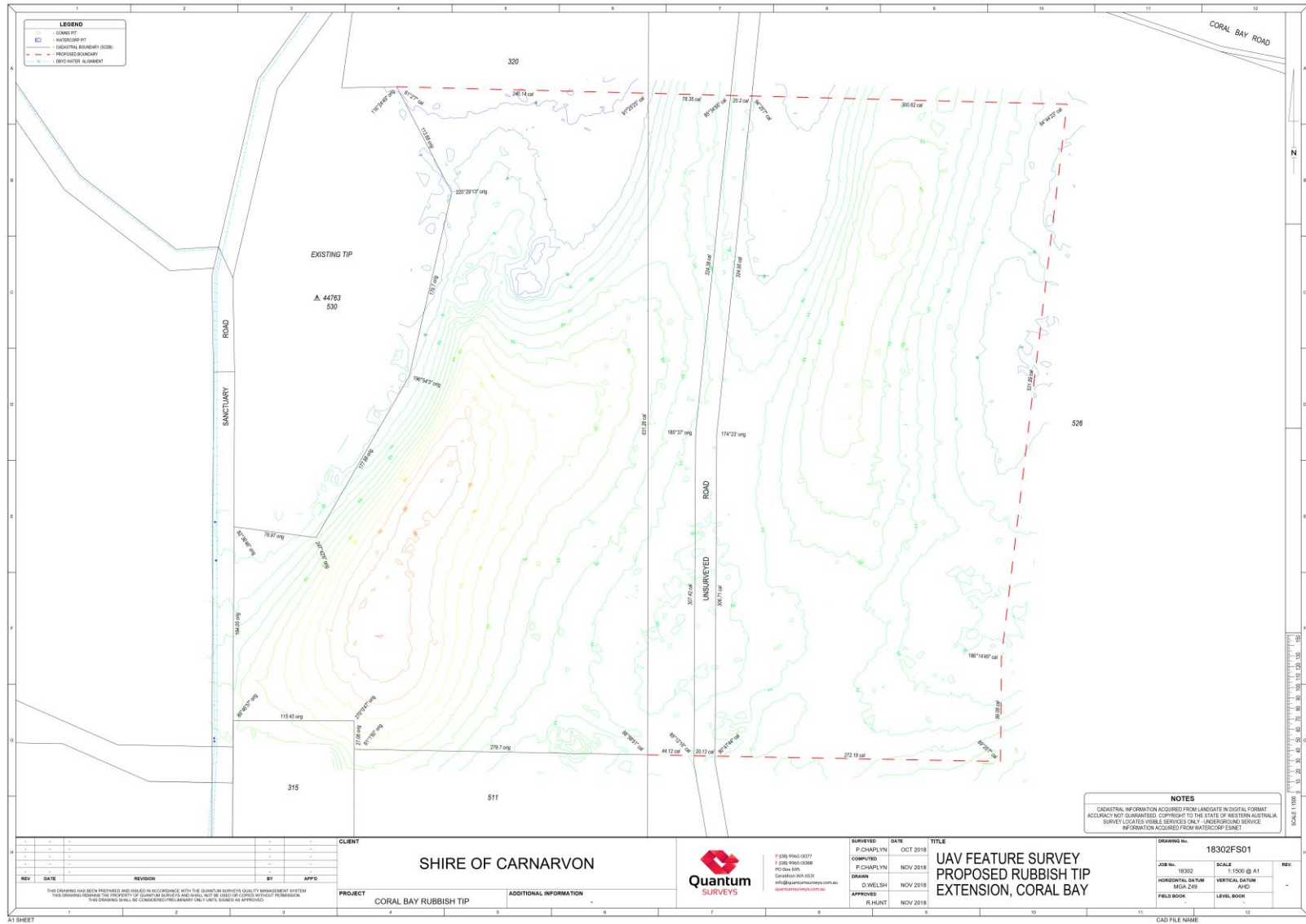
Melissa Chamberlain
A/MANAGER WASTE INDUSTRIES
INDUSTRY REGULATION

An officer delegated by the CEO under section 20 of the EP Act

Appendix 1: Key documents

Document title	Availability
Licence L7066/1997/15 – Coral Bay Landfill Site	accessed at www.dwer.wa.gov.au
Licence amendment application	DWER records (DWERDT238131)
DER, July 2015. <i>Guidance Statement: Regulatory principles</i> . Department of Environment Regulation, Perth.	accessed at www.dwer.wa.gov.au
DER, October 2015. <i>Guidance Statement: Setting conditions</i> . Department of Environment Regulation, Perth.	
DER, February 2017. <i>Guidance Statement: Risk Assessments</i> . Department of Environment Regulation, Perth.	
DWER, June 2019. <i>Guideline: Decision Making</i> . Department of Water and Environmental Regulation, Perth.	
DOW, May 2010. <i>Coral Bay Water Reserve drinking water source protection plan</i> . Department of Water, Perth.	accessed at https://www.water.wa.gov.au
Rockwater, November 1994. <i>Evaluation of groundwater conditions near Mauds Landing, in the Coral Bay area for public environmental review</i> .	accessed at http://www.epa.wa.gov.au/
Allen, A.D., 1987. <i>Groundwater</i> . Geology of the Carnarvon Basin, Western Australia. Geological Survey of Western Australia Bulletin 133.	accessed at https://www.dmir.wa.gov.au/

Appendix 2: Site survey for landfill extension



Licence: L7066/1997/15

IR-T08 Amendment Notice (Major) template v2.0 (July 2017)