Perth
Dilhorn House, 2 Bulwer Street
Perth WA 6000
T (08) 9227 2600
F (08) 9227 2699

28 July 2016

Mr James Widenbar
Manager
Native Vegetation Clearing Branch
Locked Bag 33 Cloisters Square
PERTH WA 6850

Submitted via email: nvp@der.wa.gov.au

Dear James,

RE: Vegetation Clearing Application – Lot 2 on Diagram 65861 Banksia Road, Crooked Brook

On behalf of Cleanaway Solid Waste Pty Ltd (Cleanaway), please find enclosed a purpose permit application (Attachment 1) to clear up to 7.4ha of native vegetation (Figure 1) for the purposes of expanding an existing landfill operation. The site is located 165km south of Perth and 17km south-east of Bunbury on Lot 2 (Diagram 65861) Banksia Road, Crooked Brook.

A letter from the land owner authorising the application is provided with this application (Attachment 2). Also attached is a letter from Cleanaway's Company Secretary authorising Louis Sparks to sign on behalf of the Company (Attachment 3).

As the clearing application has the potential to impact upon matters of national environmental significance, a referral to the Commonwealth Department of Environment under the *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* has been submitted (EPBC 2016/7672). EPBC 2016/7672 has recently been determined as a controlled action due to the potential impacts upon black cockatoo habitat. In light of this decision, the Applicant requests that the assessment be conducted under the bilateral agreement. The DoE contact is Mallory Owen, Project Assessments West Section (02) 6274 2368 or Mallory.Owen@environment.gov.au.

Aurora Environmental has also completed Annex C7 to support the clearing application. The completed form and supporting information is provided as Attachment 4. A Level 2 flora and vegetation survey and a Level 1 Fauna Assessment has been conducted by Astron Environmental Services (Astron, 2014). A copy of the report, along with the EPBC Referral, will be provided to the assessing officer to assist with their assessment of the application. The file size is too large to email with this application.

Please note that Aurora has conducted an assessment of the proposed clearing against the 10 Clearing Principles. A copy of this assessment is provided as Attachment 5. We would happy to discuss any aspect of this assessment with the Assessing Officer.

Any questions relating to the clearing application can be directed to Paul Zuvela on (08) 9227 2600 or via email – paul.zuvela@auroraenvironmental.com.au.

For and on behalf of Aurora Environmental,

Paul Zuvela
Manager – Environmental Impact Assessment

Attachments:

Attachment 1: Application Form
Attachment 2: Letter of Authorisation – Landowner Consent
Attachment 3: Letter of Authorisation – Authorisation of Louis Sparks
Attachment 4: Annex 7 and Supporting Information
Attachment 5: Assessment of Clearing against the Ten Clearing Principles

Figure 1: Application Area

ATTACHMENT 1

Application Form

GOVERNMENT OF WESTERN AUSTRALIA

Department of Environment Regulation – Department of Mines and Petroleum

Application for a clearing permit (purpose permit)

Environmental Protection Act 1986 s 51E

FORM C2

Clearing of native vegetation is prohibited in Western Australia except where a clearing permit has been granted or an exemption applies. A person who causes or allows unauthorised clearing commits an offence.

CPS No.

Date stamp

Part 1 Assessment under the EPBC bilateral agreement

The native vegetation clearing processes under Part V of the *Environmental Protection Act 1986* (EP Act) have been accredited by the Commonwealth of Australia under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and can be assessed under an assessment bilateral agreement.

To be assessed under the assessment bilateral agreement, the proposed clearing action must be referred to the Commonwealth under the EPBC Act prior to submitting this application form and Annex C7 must also be completed.

For further information see Annex C7 and *A guide to native vegetation clearing processes under the assessment bilateral agreement* available at www.der.wa.gov.au.

Do you want your proposed clearing action assessed in accordance with, or under, an EPBC Act Accredited Process such as the assessment bilateral agreement?

☑ Yes ☐ No Proceed to Part 2

Has the proposed clearing action been referred to the Commonwealth of Australia under the EPBC Act?

☑ Yes EPBC Number 2016/7672

☐ No It cannot be assessed under an Accredited Process until it has been referred to the Commonwealth. Proceed to Part 2.

Has a decision been made under the EPBC Act as to whether or not the proposed clearing action is a controlled action?

☑ Yes ☐ No Proceed to Part 2

Is the proposed clearing action a controlled action under the EPBC Act?

☐ No It cannot be assessed under an Accredited Process, proceed to Part 2

☑ Yes Complete and attach the requirements of Annex C7 to this completed form

List the controlling provisions identified in the notification of the controlled action decision

Listed threatened species and communities (Sections 18 and 18A)

☑ Annex C7 is complete and the required supporting information is attached

Part 2 Land details

The location of the land where clearing is proposed must be accurately described.

FILE REFERENCE

Land description: volume and folio number, lot or location number(s), Crown lease or reserve number, pastoral lease number or mining tenement number of all properties.

Lot 2 on Diagram 65861

Local government area

Shire of Dardanup

Part 3 Proposal

An aerial photograph or map with a north arrow must be attached, clearly marking the area proposed to be cleared *or*
if you have the facilities, a digital map on CDROM of the area to clear as an ESRI shapefile with the following properties:

- Geometry type: polygon shape
- Coordinate system: GDA 1994 (Geographic latitude/longitude)
- Datum: GDA 1994 (Geocentric Datum of Australia 1994).

Total area of clearing proposed (hectares)

7.4ha

Proposed method of clearing or final land use

Mechanical

Period within which clearing is proposed to be undertaken, e.g. May 2013 – June 2018

November 2016 – March 2017

Purpose of clearing

To enable the expansion of an operating landfill facility.

Has this clearing application or any related matter been referred to the Environmental Protection Authority (EPA) ☐ Yes ☑ No

Part 4 Applicant

To apply for a permit you must either be:
- the landowner
  or
- have the authority of the landowner to access the land and undertake the clearing.

Are you applying as an individual, a company or an incorporated body? Enter details for one only (please print).

An individual— applicant's given names, family name and title (Mr, Mrs, Ms, etc.)
or
A body corporate or other entity formed at law

Cleanaway Solid Waste Pty Ltd

Ownership of land

A landowner can be:
- a person who holds the Certificate of Title
- a person who is the lessee of Crown land
  or
- a public authority that is responsible for care of the land.

Form of ownership:

☑ Certificate of Title (please attach a copy of the certificate and all associated encumbrances with the application, available from the Western Australian Land Information Authority – Landgate)

☐ Pastoral lease (please attach a copy of the lease and all associated encumbrances with the application)

☐ Mining lease

☐ Public authority that has care, control or management of the land

☑ Other form of lease, land tenure or specific arrangement. Please state:

Landowner is J & P Metals. A letter of authorisation is enclosed with this application.

Authority to access land

Please specify the applicant's authority to access land to be cleared. For example, a letter from Department of Planning, a statutory power or letter of authority from the landowner.

Note: the letter of authority must explicitly state the applicant has authority to clear on the said land.

State nature of authority to access land (please attach copy of authority)

Cleanaway leases the premises from J&P Metals to operate an approved landfill for disposal.

Proposed permit holder details

*****If applying as a company or incorporated body, please also supply the registered business office address.

Given names, family name and title (Mr, Mrs, Ms, etc.)	Position title/Company

Contact details

☐ Contact details are the same as above **or:**

Person with whom the Department of Environment Regulation or Department of Mines and Petroleum should liaise concerning the clearing application.

*****If applying as a company or incorporated body, please also supply the registered business office address.

Given names, family name and title (Mr, Mrs, Ms, etc.)

Position title/Company

Part 5 Declaration and signature

For your application to be accepted, it must be signed either on behalf of the company or as an individual.

By signing this form you are declaring that the statements on this form are true and correct.

The department in accepting this form accepts you are a person duly authorised to sign for and on behalf of the body corporate in applying for and in holding a permit.

Knowingly providing false or misleading information is an offence under section 112 of the *Environmental Protection Act 1986* and may incur a penalty of up to $50,000.

Please indicate if you are signing as an individual or a company:

☐ **An individual**. If an individual landowner is applying, **all landowners** must sign this form.

☑ **A company**. A person duly authorised to sign for and on behalf of the body corporate must sign this form. A company must be a legal entity and provide an Australian Company Number (ACN). Please note Australian Business Number (ABN) is not sufficient.

☐ **Other entity formed at law**. Provide details:

Signature(s)

(1)

(2)

Date

02/05/16

Print name(s)

(1) L.Sparks

(2)

Common seal (if used)

Position (e.g. director, CEO etc.)

(1) Regional Manager

(2)

Company name/ACN or other entity (incorporation etc.)

Cleanaway Solid Waste Pty Ltd
120 175 635

Part 6 Prescribed fee

Make cheques or money orders payable to:

Department of Environment Regulation
(for all clearing purposes other than mining and petroleum activities)
or
Department of Mines and Petroleum
(for mining and petroleum clearing activities under the Mining Act, various Petroleum Acts or State Agreement Acts).

To make payment with a credit card, please complete Form C3 and attach to this form.

Do not send cash in the mail.

A **$200** fee is required for all purpose permit applications.

OFFICE USE ONLY

Payment method (tick applicable box):

☐ Cheque ☐ Money order ☑ Credit card (please complete Form C3 and attach)

Part 7 Application checklist and documentation summary

Additional information to assist in the assessment of your proposal may be attached to this application—e.g. reports on salinity, fauna or flora studies or other environmental reports conducted for the site could be included in electronic format and submitted on CDROM.

Please ensure you have included the following as part of your application:

REQUIRED

☑ A completed application form that is signed and dated by all landowners, or the applicant acting on behalf of or likely to become the landowner.

☑ Payment.

☑ An aerial photograph or map with a north arrow clearly identifying the areas of vegetation proposed to be cleared or ESRI shapefile. An ERSI shapefile must be provided if the application requires an assessment under an EPBC Act Accredited process.

☑ Written authority from the landowner to access the land and undertake the clearing.

☑ I have read and understood the 'Confidential or commercially sensitive information' section at the bottom of this form.

REQURED IF APPLICABLE

☑ Copy of the Certificate of Title or pastoral lease.

☑ Form C3 if fee is to be paid by credit card.

☑ Annex C7 if the clearing applied for is also to be assessed under an EPBC Act Accredited Process.

Please provide a summary of all attached documentation.

Part 8 Lodgement

Send by email or post original applications for all clearing purposes (other than mining and petroleum activities) to:

Department of Environment Regulation
Locked Bag 33, CLOISTERS SQUARE
PERTH WA 6850
Email: nvp@der.wa.gov.au

Telephone: 6467 5020

For more information: www.der.wa.gov.au/nvp

Send original applications related to mining and petroleum clearing activities (under delegation) to:

Department of Mines and Petroleum
Environment Division
Mineral House
100 Plain St
EAST PERTH WA 6004

Telephone: 9222 3333

For more information: www.dmp.wa.gov.au

Please retain a copy of this form for your records.
Incomplete applications will be declined in accordance with section 51E (3) of the *Environmental Protection Act 1986*.

CONFIDENTIAL OR COMMERCIALLY SENSITIVE INFORMATION

Information submitted as part of this application may be made publicly available. If you wish to submit information that you believe to be commercially sensitive or otherwise confidential, then you should submit that information in an appendix to this application, with a written statement of reasons why you request that each item of information be kept confidential. The department will take reasonable steps to protect confidential or commercially sensitive information. Please note in particular that all submitted information may be the subject of an application for release under the *Freedom of Information Act 1992*. If you have any enquiries regarding the provision of relevant information as part of this application contact either the Department of Environment Regulation or the Department of Mines and Petroleum.

If there is insufficient space on any part of this form, please continue on a separate sheet of paper and attach to this form.

ATTACHMENT 4

Annex C7 and Supporting Information

GOVERNMENT OF WESTERN AUSTRALIA

Department of Environment Regulation – Department of Mines and Petroleum

Applications for a clearing permit to be assessed under a Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Accredited Process Assessment bilateral agreement – Annex C7

The native vegetation clearing permit processes under Part V of the *Environmental Protection Act 1986* (EP Act) have been accredited by the Commonwealth under the EPBC Act and can be assessed under an assessment bilateral agreement.

To be assessed under the assessment bilateral agreement, the proposed clearing action must be referred to the Commonwealth under the EPBC Act prior to submitting this Annex C7 together with a permit application form (C1, C2 or C4).

Part 1 Project name and identification

☑ EPBC Act Number: 2016/7672

☑ Short name for the project

Lot 2 Banksia Rd, Crooked Brook Putrescible Landfill Expansion

☑ Provide 2 or 3 sentences to uniquely identify the proposed action and its location

Cleanaway Solid Waste Pty Ltd (Cleanaway) proposes to clear 7.4ha of native vegetation to expand their existing landfill operation on Lot 2 Banksia Road, Crooked Brook. The vegetation has been deemed to potentially support the three species of Black Cockatoos.

Part 2 Proposed clearing action and impact assessment details

Where the proposed clearing action has been determined to be a controlled action by the Commonwealth Minister for the Environment, assessment of the clearing action under the assessment bilateral agreement can occur if the following information is provided and attached to this Annex and the clearing permit application form (C1, C2 or C4).

Please tick the boxes to indicate you have attached the required information:

☑ Description of the proposed clearing action.

☑ Detailed descriptions, including surveys reports and methodologies, of the matter/s of national environmental significance (matters of NES) prescribed through the EPBC Act controlled action decision and any other relevant matters:

- ☐ World heritage property
  Specify
- ☐ National heritage property
  Specify
- ☐ Wetlands of international importance (Ramsar)
  Specify
- ☑ Nationally listed threatened species and ecological communities including suitable habitat
  Specify: Carnaby's Black Cockatoo, Baudin's Black Cockatoo & Forest Red-tailed Black Cockatoo
- ☐ Listed migratory species including suitable habitat
  Specify
- ☐ Commonwealth Marine
  Specify

☑ The likely relevant impacts of the action on matters of NES prescribed through the EPBC Act controlled action decision such as:

- a description of the relevant impacts, including environmental, social and economic impacts;
- a detailed analysis of the nature and extent of the likely direct, indirect, short or long term impacts;
- a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible;
- technical data and other information used to make the detailed assessment.

☑ Feasible alternatives to the proposed action such as:

- the alternative of taking no action;
- a comparative description of the impacts of each alternative;
- sufficient detail to make clear why any alternative is preferred to another.

☑ Detailed description and cost details of possible mitigation measures such as:

- avoidance and mitigation measures proposed to be undertaken to prevent or minimise the relevant impacts

of the action on any matter of NES;

- a detailed outline of a plan for the continuing management, mitigation and monitoring of relevant matters of NES impacts of the action;
- details of the offset package to compensate for any significant residual impacts on matters of NES;
- an analysis of how the offset package meets the requirements of the EPBC Act Offsets Policy.

☑ Sources of information and references

Part 3 Consultation

☑ The role and interest of Aboriginal peoples, as applicable, in promoting conservation and ecologically sustainable use of natural resources and knowledge of biodiversity and Aboriginal heritage are included.

☐ Note: After the CEO has determined that the permit application is validly made under section 51E of the EP Act the application will be advertised for public comment. The applicant will be provided with submissions made by the public during the public comment period and must prepare and submit to the CEO a written response which summarises or takes into account the issues raised by the public in those submissions.

If you need any assistance please contact the Department of Environment Regulation
Email: nvp@der.wa.gov.au
Telephone: +61 8 6467 5020

ANNEX 7 – SUPPLEMENTARY INFORMATION

The following information is provided in support of the clearing application. Additional information can be sourced from the EPBC referral documentation and the flora, vegetation and fauna assessment report by Astron (2014). Copies of this documentation will be provided to the assessing officer.

Description of the Proposed Action

The proposed action is the clearing 7.4 ha of native vegetation that is potentially suitable for Black Cockatoo foraging and breeding habitat within a 63 ha design footprint. This will:

- Enable the expansion of the current Class III putrescible landfill operation;
- Achieve optimum utilisation of airspace in the landfill, allowing the operation to remain a best practice operated landfill for a longer term to service the community;
- Utilise in-situ soil for use as a daily landfill cover;
- Undertake progressive rehabilitation works to restore the Site as public open space or recreational park as agreed with the landowner, the Shire of Dardanup and the Department of Environment Regulation.

IMPACTS OF THE ACTION ON MNES:

Astron (2014) recorded one broad fauna habitat within the proposed area of clearing; a Jarrah-Marri woodland on mid to upper slopes. Despite this fauna habitat being located in an operating landfill facility, this fauna habitat type provides foraging resources for Black-Cockatoos. A total of 7.4ha will be cleared, including 80 potential breeding trees (31 Jarrah and 49 Marri) with a diameter at breast height of greater than 50cm were recorded. Of these, 17 were found to contain hollows potentially suitable for Black-Cockatoos and two of these trees may be utilised by Black-Cockatoos for breeding based on evidence of scratching at the entrance to the hollows.

No evidence of western ringtail possums were recorded during the survey.

Significance of Impacts

To determine if the Proposal will have a significant impact on the Forest Red-tailed Black–Cockatoo (*Calyptorhynchus banksia naso*), Baudin's Black-Cockatoo (*Calyptorhynchus baudinii*) and Carnaby's Black-Cockatoo *(Calyptorhynchus latirostris)* an assessment against the Significant Impact Guidelines (DoE, 2013), as presented in Tables 1 and 2, was undertaken.

From this assessment, it is possible that the Proposal may have a significant impact on Black-Cockatoos and therefore a referral under the EPBC has been made.

TABLE 1
ASSESSMENT AGAINST SIGNIFICANT IMPACT CRITERIA FOR BLACK-COCKATOOS

SIGNIFICANT IMPACT CRITERIA	IMPACT OUTCOME
An action is likely to have a significant impact on an endangered or vulnerable species if there is real chance or possibility that it will.	
Lead to a long-term reduction in the size of a population	**Unlikely** – Although the habitat to be cleared provides foraging resources for Black-Cockatoos and is consistent with the definition of breeding habitat in accordance with the EPBC Act referral guidelines (DSEWPaC, 2012), substantial areas of high quality foraging and breeding habitat are located within the Dardanup Conservation Park, immediately adjoining the eastern and southern site boundaries. The presence of native vegetation of similar or better quality in secure tenure means there will be foraging resources and likely breeding trees for the species in perpetuity in the immediate locality of the site.
Reduce the area of occupancy of the species	**Minor –** The Proposal will reduce the area of occupancy for Black-Cockatoos within the local area by 7.4ha. The species are known to occur throughout the greater locality and the wider Swan Coastal Plain region. They are highly mobile and are able to move freely between sites for foraging and breeding. The site is immediately adjacent to the Dardanup Conservation Park which offers significant foraging and breeding habitat.
Fragment an existing population into two or more populations	**Unlikely** – The Proposal is unlikely to fragment the population into two or more populations. The species is highly mobile and the Proposal will not create any form of barrier that prevents the movement of the species across the landscape.
Adversely affect habitat critical to the survival of the species	**Possible** – The Proposal will affect 80 potential breeding trees, of which 17 contain hollows possibly suitable for use by Black-Cockatoos (with two of these showing evidence of use).There is significant foraging and breeding habitat located immediately adjacent to the Site in the Dardanup Conservation Park. The habitat located in the Dardanup Conservation Park contains native vegetation of similar or better quality in secure tenure meaning there will be foraging resources and breeding trees for the species in perpetuity in the immediate locality of the Site.
Disrupt the breeding cycle of a population or important population	**Minor** – Of the 80 jarrah and marri trees with DBH >50cm, 17 trees contained hollows potentially suitable for a Black-Cockatoo. Definitive evidence of past or current breeding activity by Black-Cockatoos is difficult to ascertain however it appears that two trees may have been utilised by Black-Cockatoos, as indicated by scratchings at the entrance of the hollows (Astron, 2014). Two of the other 17 hollows were observed to contain the introduced European honey bee (*Apis mellifera*) which restricts the usability by Black-Cockatoo species.
Modify, destroy, remove, isolate or decrease the availability or	**Unlikely** – The proposal will clear 7.4ha of foraging and potential breeding habitat for Black-Cockatoos, but not to the point that these

SIGNIFICANT IMPACT CRITERIA	IMPACT OUTCOME
quality of habitat to the extent that the species is likely to decline	species would decline. Substantial areas of high quality foraging and breeding habitat are located within the Dardanup Conservation Park immediately adjoining the eastern and southern Site boundaries.
Result in invasive species that are harmful to the species becoming established in the endangered or critically endangered species' habitat	**Unlikely**– Landfill projects increase the risk of attracting more feral predators such as foxes and feral cats which in turn could potentially predate on native species. As the site is currently an operating landfill, appropriate management measures such as fencing and daily covering is already in place. As such the expansion to the landfill is not likely to increase the number of feral predators that already exist in the proposal area. Cleanaway will continue to implement feral animal control procedures to manage the risks posed by feral predators
Introduce a disease that may cause the species to decline	**Unlikely** – Disease is not a known threat for Black-Cockatoos.
Interfere with the recovery of the species	**Unlikely** – The Proposal is unlikely to interfere substantially with the recovery of the three species of Black-Cockatoos, as it is unlikely to interfere with the recovery actions outlined in the recovery plans (DPaW, 2013, DEC, 2008).

TABLE 2
ASSESSMENT AGAINST SIGNIFICANT IMPACT CRITERIA FOR BLACK-COCKATOOS

ACTIONS LEADING TO A RISK OF SIGNIFICANT IMPACT	ASSESSMENT	COMMENT
Clearing of any known nesting tree	Risk of impact	Evidence of breeding activity by Black-Cockatoos is difficult to ascertain however Astron (2014) noted that two trees exhibited scratchings at the entrance of the hollows. A further 15 trees contained hollows potentially suitable for a Black-Cockatoo.
Clearing or degradation of any part of a vegetation community known to contain breeding habitat	Risk of impact	Removal of 80 potential breeding trees (DBH >50cm) of which 17 contained hollows potentially suitable for a Black Cockatoo. Two of these trees also showed evidence of use.
Clearing of more than 1 ha of quality foraging habitat	Risk of impact	Removal of 7.4ha of foraging and potential breeding habitat, of which at least half is considered to be in very good or very good to excellent condition.
Clearing or degradation (including pruning the top canopy) of a known night roosting site.	No impact	No known roosting sites within the proposal area.
Creating a gap of greater than 4km between patches of Black-Cockatoo	No impact	Large areas of Black-Cockatoo habitat is present immediately adjacent to the site (Dardanup

ACTIONS LEADING TO A RISK OF SIGNIFICANT IMPACT	ASSESSMENT	COMMENT
habitat (breeding, foraging or roosting		Conservation Park within the Boyanup State Forest).

ALTERNATIVES TO THE ACTION

Do Nothing

The alternative to undertaking this project is to not expand the existing operation. The 'do nothing' approach is not a feasible option as it will lead to a gap in the waste management sector in the southwest of Western Australia.

Alternative Location

Cleanaway considered utilising the western portion of the site which was recently cleared of a blue gum plantation. The topography of the Site slopes from approximately 115mAHD in the east, down to 50mAHD in the west (western portion of Site is within Swan Coastal Plain) where the blue gum plantation was located, and constructing a landfill on lower ground would result in an above ground landfill being much closer to the local groundwater table and prone to flood risk during storm events. An above ground landfill will require sourcing of soil from outside the Site to use for landfill daily cover and rehabilitation works which is not a sustainable practice.

Expanding and locating the landfill towards the east of the Site is considered best practice due to sustainable use of in-situ soil and lower risk of environmental impacts due to the depth to groundwater table being approximately 20m below base of expanded landfill. The material balance needed to excavate and cover the landfill would not be available if the landfill was expanded to the west instead of to the east as proposed. Locating landfill at another site is considered non-feasible due to various factors such as locality, local tourism potential, environmental dis-advantages and road network suitable for long haulage heavy vehicles.

Therefore the landfill is proposed to be expanded to the east requiring 7.4ha of native vegetation to be cleared.

Alternative Time frame

The current landfill is expected to be at capacity by the end of 2017 and progressive rehabilitation of completed landfill cells is expected to commence in 2016. Therefore, the clearing of native vegetation must be completed in 2016, and no alternative time frame is possible for the proposed action.

Alternative Activities

The clearing of native vegetation within the current landfill site is considered unavoidable. Alternative landfill layouts were examined to avoid disturbance to native vegetation. The proposed landfill layout represents best practice waste management and lowest risk to the environment.

Reason for Preferred

Although the Western Australian State Government has adopted a strategy aimed at progressing towards 'zero waste to landfill' by the year 2020 (WMB, 2004), it will be difficult to achieve this goal

without major investments in Alternative Waste Treatment (AWT) technologies that are capable of recovering resources from domestic and commercial sectors. It will involve major capital investments in the order of tens of millions of dollars and will also require sufficient market demand for recycled products. As a result, the implementation of AWT's will occur progressively over the next 15 to 20 years. The performance of the AWTs in achieving substantial waste diversion from landfill remains to be seen.

In the interim, there remains an ongoing need to ensure that there is sufficient landfill capacity to provide for the safe management of wastes that cannot be recovered from the waste stream and to cater for the increased population resulting in higher waste volume.

The need to expand the existing landfill site is predicated on the diminishing landfill capacity of the Banksia Road Putrescible landfill which is the one of two Class III landfill servicing the Perth Metropolitan area and the only one in southwest of Western Australia. The landfill accepts 300,000 tonnes/year and its current capacity is expected to be consumed by 2017.

MITIGATION MEASURES

Avoidance

Cleanaway has considered using the western portion of the site which was recently cleared of a blue gum plantation. The topography of the Site however slopes from approximately 115 mAHD in the east, down to 50 mAHD in the west (western portion of Site is within Swan Coastal Plain) where the blue gum plantation was located, and constructing a landfill on lower ground would result in an above ground landfill being much closer to the local groundwater table and prone to flood risk during storm events.

Above ground landfill will require sourcing of soil from outside the Site to use for daily landfill cover and rehabilitation works which is not a sustainable practice. Expanding and locating the landfill towards the east of the Site is considered best practice due to sustainable use of in-situ soil and lower risk of environmental impacts due to the depth to groundwater table being approximately 20m below base of expanded landfill. The material balance needed to excavate and cover the landfill would not be available if the landfill was expanded to the west instead of to the east as proposed. Locating landfill at another site is considered non-feasible due to various factors such as locality, local tourism potential, environmental disadvantages and road network suitable for long haulage heavy vehicles.

For the above reasons, the landfill is proposed to be expanded to the east requiring 7.4ha of native vegetation to be cleared. Native vegetation contained within the buffer between the site boundary and the landfill area will be retained.

On-Site Mitigation

The following actions will be implemented to avoid and mitigate impacts to native vegetation and EPBC listed fauna species potentially occurring within the Proposal area:

- Clearing will be undertaken outside of the Black-Cockatoo breeding season (i.e. no clearing will occur between August and November).

- During clearing operations an experienced fauna spotter will be employed to inspect logs and hollow trees (where possible) before clearing to reduce likelihood of injury to fauna. If feasible any fauna encountered will be relocated to retained suitable habitat.
- If contractors encounter injured fauna during clearing operations then the fauna spotter will be notified immediately and arrangements will be made for the welfare of the injured animal. Native fauna injured during clearing or normal site operations will be taken to a designated veterinary clinic or a DPAW nominated wildlife carer.
- Trees containing hollows or potential hollows will be felled outside of the species main breeding season. All hollows will be inspected or bumped using machinery to reduce the risk of felling trees with hollows that are occupied.
- All staff working on site will be made aware that native fauna is protected. Prior to clearing , clearing contractors will be properly inducted by the fauna spotter about the identification and protection of vegetation to be retained, vegetation to be cleared and the likely presence of fauna.
- Personnel working on the site will not be allowed to bring firearms, other weapons or pets onsite.

The following fauna management strategies will be implemented during and after the expansion of the Site's landfill:

- Traffic will be restricted to established roads and parking areas.
- Site traffic speed limits will be lowered to minimise fauna death on roads.
- Putrescible wastes will be covered daily with soil at the end of each day, minimising the potential for night time foraging by birds and feral/native animals.
- General housekeeping procedures such as litter removal at the perimeter of the Site will be maintained to discourage fauna from entering the site from the adjacent Dardanup Conservation Park.
- Application of odour control strategies to minimise fauna being attracted to the Site.
- Site environmental inductions will raise employee/visitor awareness in relation to conservation of fauna (particularly rare, threatened or vulnerable fauna) and their habitats.
- Direct contact with fauna will be avoided whenever possible.

The above management measures are designed to minimise direct and indirect impacts to Black-Cockatoos and their habitat.

On completion of the landfill operation, the waste cells will be capped and rehabilitated in accordance with an agreed strategy for post-landfill use of the site.

Proposed Offsets

Cleanaway is committed to achieving long-term conservation gains for the Forest Red-tailed Black-Cockatoo, Baudin's Cockatoo and Carnaby's Cockatoo, in response to the predicted impacts to foraging and potential breeding habitat in the area of the proposed landfill expansion. An offsets strategy if required will be developed in consultation with the Department of Environment, the Department of Environment Regulation and the Department of Parks and Wildlife.

CONSULTATION

The only public consultation completed to date was the advertising of the EPBC referral on the Department of Environment's website for 10 business days.

The Site, prior to use as a landfill underwent public consultation and since then has been classified as prescribed premises by the DER and hence allows utilisation of the entire Site for waste management activities subject to approval by the DER via licence amendment.

Cleanaway regularly consults with the Shire of Dardanup and relevant stakeholders during the daily operations at the Site.

ATTACHMENT 5

Assessment of Clearing against the Ten Clearing Principles

ASSESSMENT AGAINST TEN CLEARING PRINCIPLES

CLEARING PRINCIPLE	ASSESSMENT	IS THE CLEARING AT VARIANCE WITH THE PRINCIPLE?
Native vegetation should not be cleared if it comprises a high level of biodiversity.	Astron (2014) recorded 122 vascular plant taxa representing 80 genera from 35 plant families in the survey area. No threatened or priority listed taxa were recorded in the application area. Ten taxa were weed species. The species recorded are typical of the Jarrah forest and the diversity recorded is representative of the total diversity present with good seasonal conditions and sampling late in the spring season. The vegetation condition in the application area ranges from 'Degraded' to 'Very Good-Excellent' and 'Very Good for the majority of the vegetated area. Timber harvesting and clearing for tracks have impacted on vegetation condition in the application area. These impacts, along with frequent fires, have simplified the species diversity in comparison to the adjacent Dardanup Conservation Park (Astron, 2014). From a fauna perspective the habitat available in the application area ranges from 'Good' to 'Highly Degraded'. As a result of the degradation in the application area, the fauna assemblage is likely to be poor. Twenty five fauna species were recorded, including four conservation significant species. Of these, the three Black Cockatoo species were recorded. The application area contains habitat suitable for Black Cockatoo foraging and potentially Black cockatoo breeding. A total of 80 eucalypt trees (49 Marri and 39 Jarrah) with a diameter at breast height greater than 50cm were recorded on the site. Of these trees, 17 contained hollows of a suitable size for black cockatoo breeding. Two hollows displayed evidence of scratchings at their entrances and two other hollows contained European bees. As the application area borders the Dardanup Conservation Park, it is unlikely that the application area is necessary for the maintenance or survival of any of the conservation significant species as breeding and foraging resources will be contained in secure reserves.	The proposed clearing **may be at variance** with this principle.
Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary	The Level 1 fauna assessment by Astron (2014) identified one fauna habitat type in the application area. This habitat was comprised of *Jarrah-Marri Woodland over Low Shrubs*	The proposed clearing **may be at variance**

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for the maintenance of, a significant habitat for fauna indigenous to Western Australia.	*and Sedges*. The habitat consisted of proteaceous and myrtaceous shrubs over a range of sedge species. The fauna habitat was considered by Astron (20145) to range from 'Good' to 'Highly Degraded'. Twenty five fauna species were recorded during the survey via direct observation or indirect evidence (e.g. scats, tracks, etc.). Of these, one reptile species, 22 bird species and two mammal species were recorded. Four conservation significant species, including all three Black Cockatoo species) and the Rainbow Bee-eater, were recorded. Eighty eucalypt trees (49 Marri and 31 Jarrah) with a diameter at breast height of greater than 50cm were recorded (Figure 4). Of these, 17 trees contained hollows of a suitable size for use by Black Cockatoos. Two trees exhibited evidence of Black Cockatoo use as indicated by scratchings at the entrance of a hollow. Two other hollow bearing trees contained an active bee hive. It is estimated that 20 trees containing hollows are located in the application area and as such will be removed if the application is approved. Evidence of chewed Marri and Jarrah nuts were found in the application area, indicative of black cockatoo foraging. Given the evidence that the site is being used by Black Cockatoo species for foraging and the potential suitability of habitat for breeding, a referral to the Commonwealth Department of Environment under the *Environment Protection and Biodiversity Conservation Act 1999* has been lodged. If the referral is deemed a controlled action, the applicant has a preference for the project to be assessed under the Bilateral Agreement between the State and Federal Governments.	with this principle.
Native vegetation should not be cleared if it includes, or is necessary for the continued	The flora and vegetation survey conducted by Astron (2014) did not identify any conservation significant flora (Threatened of Priority species) in the application area despite	The proposed clearing **is not at variance** with

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existence of, rare flora.	good seasonal conditions and intensive searches.	this principle.
Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.	The flora and vegetation survey identified one threatened ecological community (TEC) and one Priority Ecological Community (PEC) as occurring within a 10km radius of the application area. The *Claypans of the Swan Coastal Plain* TEC is not present in the application area as no claypans are present. Although the application area partially falls within the buffer of the *Dardanup Jarrah and Mountain Marri woodland on laterite (Whicher Scarp woodlands of coloured sands and lateritic community C5)* PEC, the vegetation in the application area was not considered representative of this community due to the absence of *Corymbia haematoxylon* which is present in the PEC. Astron (2014) mapped two eucalypt vegetation communities in the application area. Neither of these communities was considered to be representative of a TEC or PEC.	The proposed clearing **is not at variance** with this principle.
Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.	The application area is located within the Southwest Botanical Province as mapped by Beard (1990). The remnant vegetation is mapped as two units. The most prevalent unit in the application area is Unit 1185: *Medium woodland: Jarrah, Marri and Blackbutt* and Unit 27: *Low woodland; paperbark.* There is 88.51% of the original extent of Unit 1185 (Chapman System) remaining and 75.42% of the original extent of Unit 27 (Chapman System) remaining. The forest areas of southwest Western Australia were mapped at a finer scale within '*Vegetation of the Darling System'* (Heddle et al. 1980) and the area of remnant vegetation is mapped as half Jarrahwood Complex and half Kingia Complex. Forest area vegetation complex mapping was further refined as part of the Regional Forest Agreement (Mattiske and Havel 1998) and the same area is mapped as Kingia Complex with a small portion of	The proposed clearing **is not at variance** with this principle.

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	Jalbaragup and Whicher Scarp (Heddle et al. 1980) vegetation complexes as defined for the forest region. According to Astron (2014) the vegetation complex mapping of the area (Mattiske & Havel 1998) and the pre-European extent (DAFWA 2013) were assessed as having sufficient percentages remaining such that the proposed clearing will not significantly impact local or State vegetation complex representation.	
Native vegetation should not be cleared if it is growing in, or association with, an environment associated with a watercourse or wetland.	No wetlands are present in the application area.	The proposed clearing **is not at variance** with this principle.
Native vegetation should not be cleared if the clearing of native vegetation is likely to cause appreciable land degradation.	The dominant soils are lateritic gravels consisting of up to 5m or more of ironstone gravels in a yellow sandy matrix, and related lateritic podzolic soils with ironstone gravels in a sandy surface horizon overlying mottled yellow-brown clay sub-soil. Some granite boulders may protrude through the laterite mantle and hard-setting loamy soils to deep loams can be found within valleys (Beard, 1990). The lateritic soils in the application area may be subject to erosion if surface water flows are not managed. Surface water flows can be managed to prevent erosion from occurring.	The proposed clearing **is not at variance** with this principle.
Native vegetation should not be cleared if the clearing of the native vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.	The Dardanup Conservation Park (Crown Reserve 46403) is located directly east of the application area. The application area abuts the Conservation Park and therefore potentially could impact upon the vegetation within the reserve. A 30m buffer is required from the landfill footprint for the provision of services and a firebreak. It is estimated that there is approximately a 50m buffer between the application area and the Dardanup Conservation Park. This buffer is also required to contain a fire break for fire management. Fencing between the Conservation Area and the landfill site will be maintained throughout the life of the project. The buffer from the landfill be will be actively managed by	The proposed clearing **may be at variance** with this principle.

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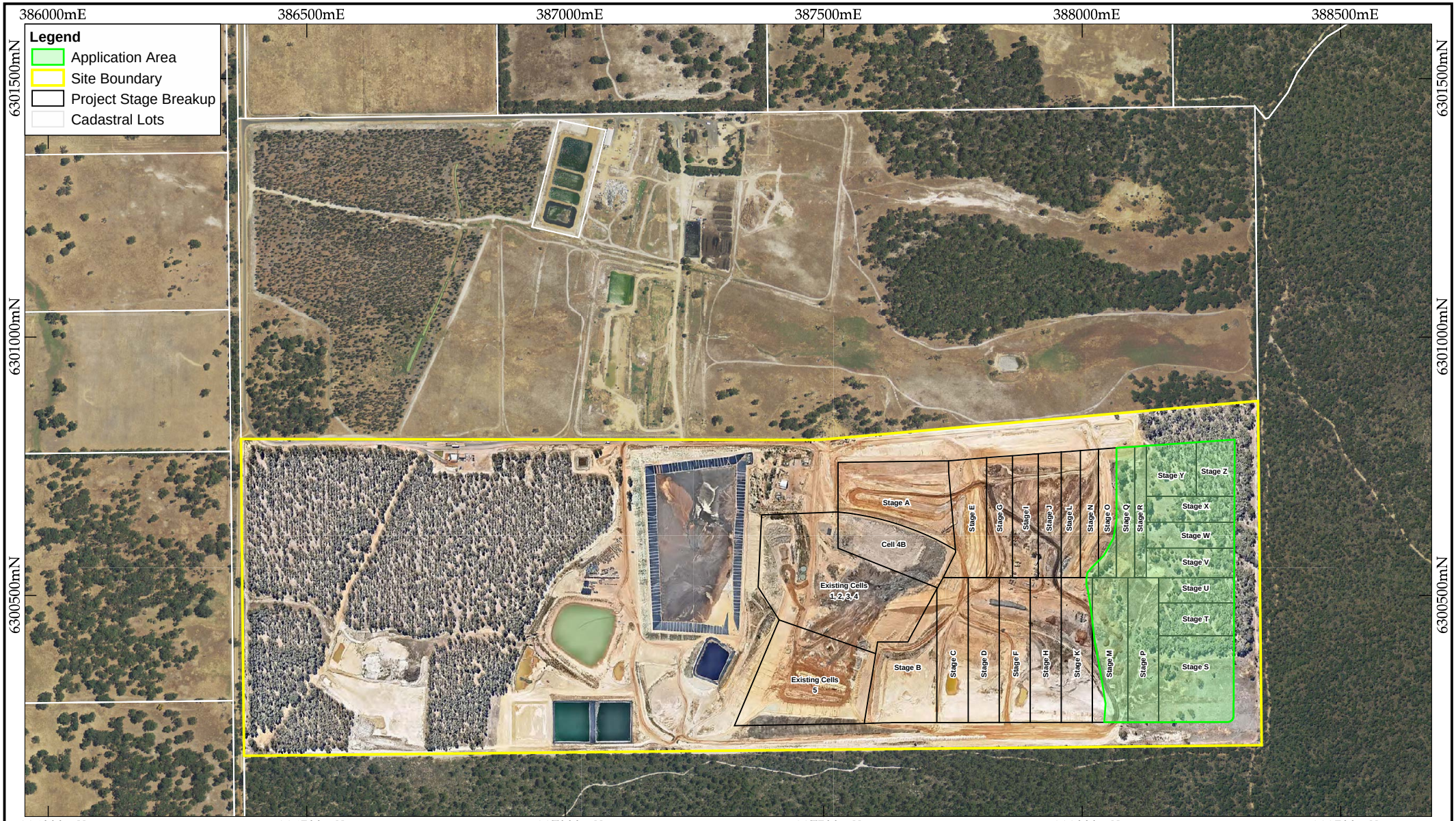
	Transpacific to prevent the spread of weeds from the landfill site.	
Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.	The removal of native vegetation on the site will not adversely impact groundwater or surface water resources in close proximity to the site. The clearing of vegetation in the application area is unlikely to contribute to nutrient enrichment of surface and/or groundwater bodies. The landfill operation will be conducted in accordance with its licence conditions.	The proposed clearing **is not at variance** with this principle.
Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.	The removal of native vegetation on the site may result in an increase in groundwater recharge; however this is unlikely lead to any significant impacts on surrounding land, particularly given the relatively small area proposed to be cleared.	The proposed clearing **is not at variance** with this principle.

FIGURE 1

Application Area



Notes:
Imagery: Landgate (2015), Nearmap (2015)

Client:
TRANSPACIFIC CLEANAWAY

0 200m
Scale 1:10,000
MGA94 (Zone 50)
CAD Ref: g2349_VCA_f001.dgn
Date: March 2015 | Rev: A | A4

Aurora environmental
Author: C Dorrington | AE Ref: TRC/2015/003
Drawn: CAD Resources ~ www.cadresources.com.au
Tel: (08) 9246 3242 ~ Fax: (08) 9246 3202

Lot 2 on Diagram 65861, Banksia Road, Crooked Brook

Vegetation Clearing Application

Application Area

Figure: **1**