



Forrestfield Airport Link

Matters of National Environmental Significance Report

Prepared for
Public Transport Authority
by Strategen

May 2015



STRATEGEN
environmental consultants

Forrestfield Airport Link

Matters of National Environmental Significance Report

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May 2015

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Client: Public Transport Authority

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1. Proponent and project description

1.1 The proponent

The Proponent for the Forrestfield-Airport Link (FAL) is the Public Transport Authority of Western Australia (PTA). The PTA is the Government agency that is responsible for the planning, delivery and management of public transport in WA.

Proponent details:

Public Transport Authority
ABN: 61 850 109 576
PO Box 8125
Perth Business Centre 6849

Key contact:

Paul Monaghan
A/Environmental Manager
Public Transport Authority
T: 9326 3927
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1.2 Project description

The FAL (the Project) forms an integral component of Perth's long term public transport network and is designed to meet the existing and future public transport demand. The proposed rail line will provide improved connectivity between the eastern suburbs, aviation hubs and the Perth Central Business District, as well as providing a viable alternative to traditional car travel between these destinations.

The Project comprises an approximately 9 km extension of the Perth rail network from east of Bayswater Station on the existing Perth to Midland line to the eastern suburb of Forrestfield (Figure 1-1). The majority of the rail line will be constructed underground within two bored tunnels. The proposed alignment traverses State and Commonwealth Land and generally follows Tonkin Highway and Brearley Avenue before crossing under Perth Airport and surfacing to the east at the Forrestfield Station.

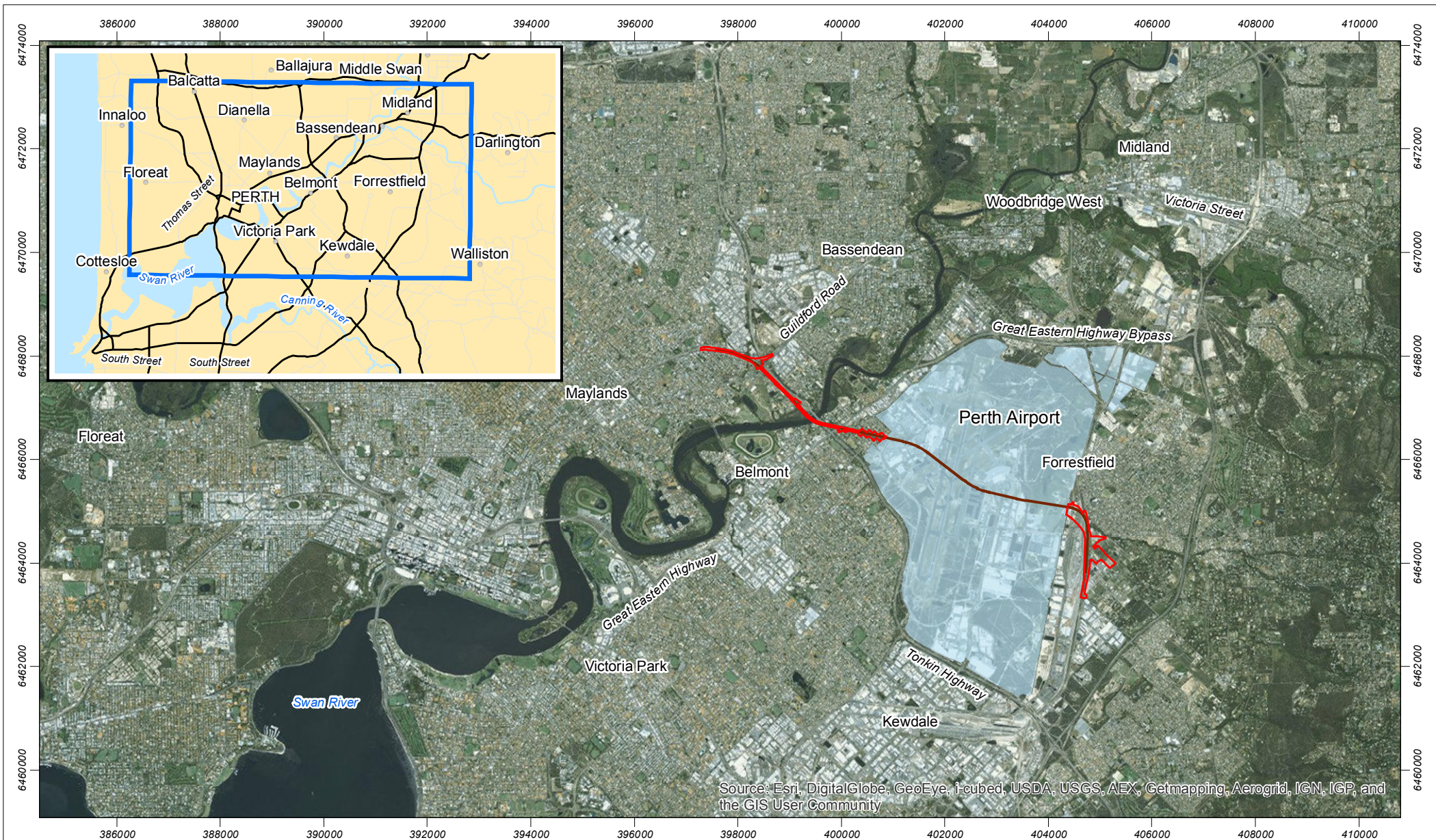
The Project will provide three new stations which will service Perth's eastern suburbs and Perth Airport (Figure 1-2). Car parking, bus, pedestrian, taxi and cycle access facilities will be provided at Airport West and Forrestfield Stations. The Forrestfield Station also includes a Train Stabling Facility which is a minor maintenance depot where the trains are parked overnight and cleaned.

Infrastructure to allow for safe egress from the tunnels will also be constructed along the alignment; specifically Emergency Egress Shafts, which link the tunnels to the surface and Cross Passages which provide an underground link between the two tunnels. Ancillary works will also be required to facilitate successful delivery of the Project including relocation of underground services and amendments to the road network in the vicinity of the Project area.

Table 1-1: Stations associated with the Project

Station	Location
Airport West	Located outside the western boundary of the airport within the Brearley Avenue Road reserve on State land. This station will have below ground platforms with the station access at the surface similar to the Esplanade Station in Perth.
Consolidated Airport Station	Located at the current International Terminal on Commonwealth land. This station will be underground similar to the Perth Underground Station in the CBD.
Forrestfield	Located adjacent to Dundas Road in High Wycombe on State land. This station will be at the existing ground level.

The component of the Project within Perth Airport is on Commonwealth Land and subject to environmental assessment and approval under the Commonwealth *Airports Act 1996* (Airports Act). The components of the Project, and the associated environmental impacts, on Commonwealth Land are not subject to assessment by the Western Australian Environmental Protection Authority (EPA) and are therefore not discussed in this report. The component of the Project that excludes Commonwealth Land and is subject to assessment by the EPA is referred to as the Proposal. Details of the Proposal are provided in Section 2.



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Figure 1-1: Project location

Scale 1:100,000 at A4
 0 0.5 1 1.5 2 km
 Coordinate System: GDA 1994 MGA Zone 50
 Note that positional errors may occur in some areas
 Date: 11/05/2015
 Author: JCrute
 Source: Aerial image: ESRI online approx. 2010. All other data: Client 2015.

- Legend**
- Forrestdale-Airport Link
 - Development Envelope
 - Commonwealth zoning

Note: The area of the Project within Commonwealth zoning does not form part of the Proposal which is subject to assessment by the EPA.

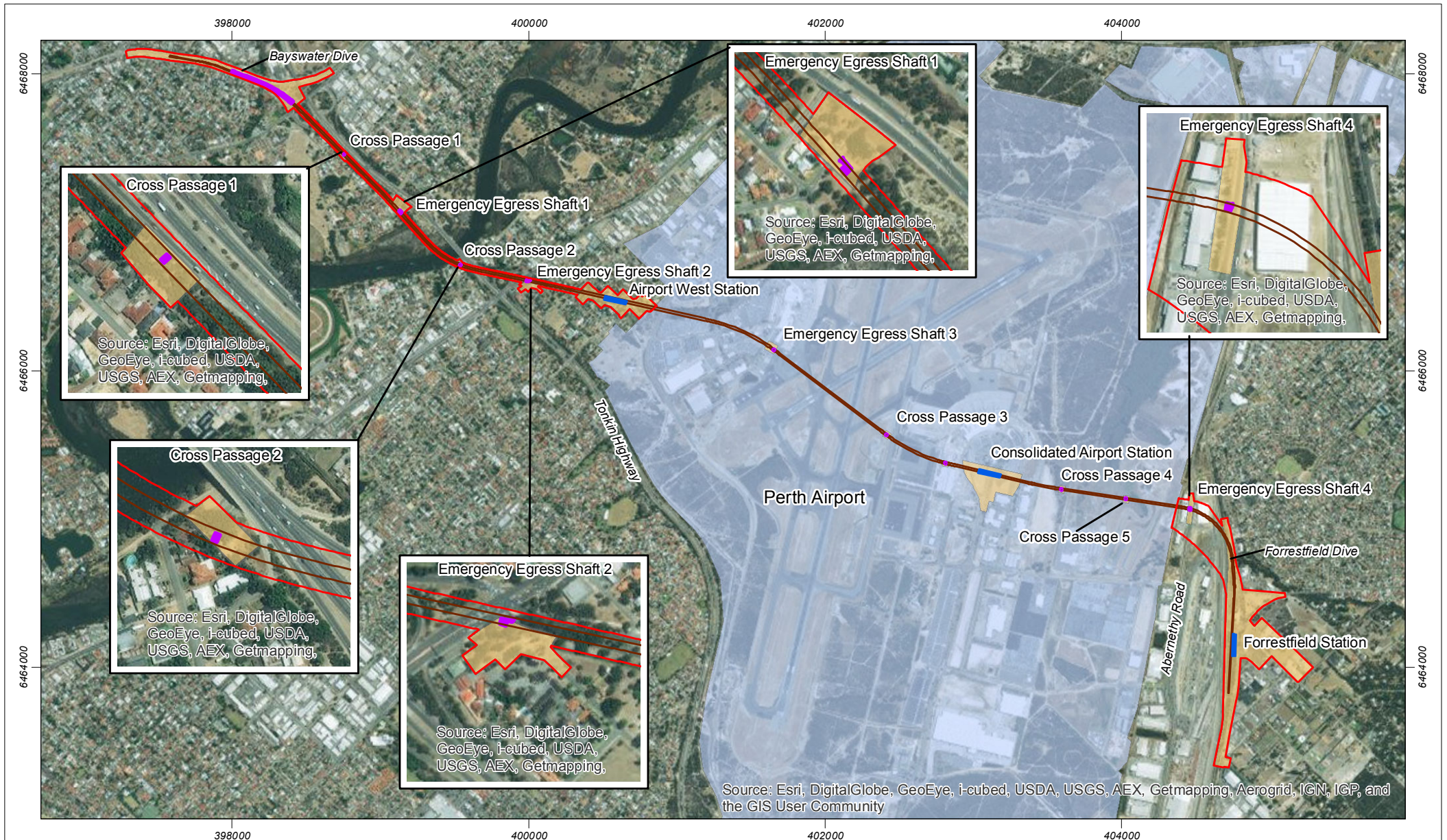


Figure 1-2: FAL Project concept design

Scale 1:35,000 at A4
 0 200 400 600 800 m
 Coordinate System: GDA 1994 MGA Zone 50
 Note that positional errors may occur in some areas
 Date: 11/05/2015
 Author: JCrute
 Source: Aerial image: ESRI online approx. 2010. All other data: Client 2015.

Legend

- Forrestfield-Airport Link
- Development Envelope
- Commonwealth zoning
- Structures
- Stations
- Surface disturbance

Note: The area of the Project within Commonwealth zoning does not form part of the Proposal which is subject to assessment by the EPA.

2. The Proposal

2.1 Key Proposal characteristics

The key characteristics of the Proposal have been described in accordance with *Environmental Assessment Guideline for Defining the Key Characteristics of a Proposal* (EAG1) (EPA 2012), which identifies how projects should be described under Part IV of the *Environmental Protection Act 1986* (EP Act).

As the majority of the Proposal is associated with tunnelling, the surface disturbance of the Proposal is limited to 46.3 ha within a Development Envelope of 65 ha. Of the 9 km of rail for the Project, approximately 5 km occurs within the Development Envelope. The key characteristics are provided in Table 2-1.

Table 2-1: Key proposal characteristics

Summary of the Proposal

Proposal title	Forrestfield-Airport Link (FAL)
Proponents name	Public Transport Authority
Short description	The Proposal involves an extension of the Perth rail network from the Bayswater Station/Midland line through to Forrestfield and provision of stations and associated rail infrastructure. The proposed infrastructure will comprise twin bored tunnels, structures and facilities including stations, car parks, cross passages, emergency egress shafts, signalling and telecommunication equipment as well as relocation of underground services and alterations to the road network.

Physical elements

Element	Location	Proposed extent
General Alignment	Figure 2-1	Above surface: Clearing of no more than 13.23 ha in good or better condition within a Development Envelope of 65 ha. Below surface: Approximately 5 km length of twin bored tunnels, spaced approximately 7 m apart.
Stations	Figure 2-1	The Proposal includes two stations: Airport West (underground) and Forrestfield Station.
Associated infrastructure	Figure 2-1	The Proposal will also include Dive Structures, Emergency Egress Shafts, Cross Passages, realignment of underground services, Car parks and realignment of Dundas Road.

Operational elements

Element	Location	Proposed extent
Excavating	Figure 2-1	Excavation of Dive Structures, Airport West Station, Emergency Egress Shafts, Cross Passages and excavation from within the tunnels.
Dewatering	Figure 2-1	Targeted dewatering at Dive Structures, Airport West Station and Emergency Egress Shafts with the majority of abstracted groundwater to be re-injected into the aquifer.

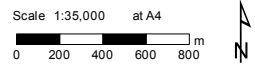
The location of the Development Envelope (approximately 65 ha) which is subject to assessment by the EPA is shown on Figure 2-1. The Development Envelope specifies the areas in which surface disturbance will take place as well as the alignment of the bored tunnels. The total area of surface disturbance is approximately 46.3 ha, which will require clearing of 13.23 ha of native vegetation in good or better condition. The areas of surface disturbance are associated with the stations, the Emergency Egress Shafts, Train Stabling Facility, Car parks and where the FAL connects to the existing Perth to Midland train line in Bayswater. Between these locations, the construction work will be fully underground associated with constructing the tunnels. Access to the construction areas will be via the existing road network or previously disturbed areas and tracks.

The Proposal is comparable to the city section of the Perth to Mandurah railway in that it comprises twin bored tunnels of a similar diameter which will be constructed at a similar depth to those in Perth.



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Figure 2-1: FAL Development Envelope



Scale 1:35,000 at A4
 Coordinate System: GDA 1994 MGA Zone 50
 Note that positional errors may occur in some areas
 Date: 11/05/2015
 Author: JCrute
 Source: Aerial image: ESRI online approx. 2010. All other data: Client 2015.

- Legend**
- Development Envelope
 - Commonwealth zoning
 - Surface disturbance

Note: The area of the Project within Commonwealth zoning does not form part of the Proposal which is subject to assessment by the EPA.

2.2 Environmental assessment

The Proposal is being assessed under the WA EP Act and the Australian Government *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The Proposal was referred to the Environmental Protection Authority under s 38 of the EP Act on 14 November 2014. The EPA determined an Assessment on Proponent Information (API) (Category A) level of assessment for the Proposal on 8 April 2015.

The Proposal was referred to the Australian Government Department of the Environment (DotE) under the EPBC Act on 2 December 2014. Following a public consultation period DotE determined that the Proposal has the potential to affect Matters of National Environmental Significance (MNES) and is 'a controlled action' under s 75 of the EPBC Act on the 30 January 2015, with the controlling provisions being listed threatened species and communities (s 18 and s 18A of the Act).

Following the commencement of the Bilateral Agreement between the Commonwealth of Australia and Western Australia (under s 45 of the EPBC Act relating to Environment Impact Assessment) on 1 January 2015, the EPA is authorised to assess proposals with an API (Category A) level of assessment on behalf of the DotE. PTA applied to DotE for the EPA assessment of this Proposal to be authorised by DotE, which was accepted on 15 April 2015 by DotE.

The Office of the EPA (OEPA) prepared a Scoping Guideline (Appendix 1) identifying environmental factors required to be assessed in the API document. The Scoping Guideline was endorsed by DotE and provided to PTA on 28 April 2015.

The Scoping Guideline identifies that DotE must consider environmental impacts on the Commonwealth Airport land component of the Project separately through the Major Development Plan process under the Airports Act. The Scoping Guideline also identified that the API (Category A) process must include a MNES document (i.e. this document) for public comment of at least 14 calendar days.

The assessment contained within this report includes two assessment areas; the Western Area and Forrestfield Area (i.e. excluding the airport land), as presented on Figure 2-1.

2.3 Purpose of this document

This document has been prepared in accordance with the EPA *Environmental Assessment Guideline 14: Preparation of an API – Category A Environmental Review Document* (EAG14) (EPA 2015) to fulfil the requirements of the MNES document. This document has been structured to include the requirements identified in Section 6 of EAG14, as follows:

- a description of the action that has been or is proposed to be referred to the Commonwealth under the EPBC Act
- to the extent practicable, any feasible alternatives to the proposed action
- a concise description and assessment of the likely significant impacts of the action on MNES in the same format as described in section 5 of EAG14
- possible mitigation measures.

The assessment of the likely significant impacts on MNES is contained in Table 3-2, which includes the environmental objective for the key factors in accordance with *Environmental Assessment Guideline 8: Environment Principles, Factors and Objectives* (EAG8) (EPA 2013). In accordance with the Scoping Guideline, after the public comment period is completed the API document will then be finalised and submitted to the EPA for assessment.

The API document will include an assessment of all environmental factors identified in the Scoping Guidance as well as:

- confirmation that the environmental review document relating to MNES only is the same as advertised for public comment (i.e. this document) for the purpose of an assessment under the Bilateral Agreement
- a written response to any submissions received during the public comment period that summarises and describes how the issues raised in the submissions have been taken into account
- a summary of the outcome of consultation on MNES if the proposal is being assessed under the Bilateral Agreement.

2.4 Alternative options

A detailed assessment of the route determined the most appropriate station locations, the catchments that will be served, the most efficient way to connect those catchments to the Perth CBD, and the capacity for future extension. Route planning and importantly the construction methodology for the FAL was also guided by the key environmental and heritage values identified by the PTA, including vegetation clearing, noise and vibration, and surface water within the Western Area.

During the later stages of the design process, attention focused on three route alignment options to find the best option to accommodate existing road layouts and future upgrades, to minimise impact on landowners and traffic as well as minimise environmental and heritage impacts. The eastern portion of these alignments through and beyond Perth Airport was the same. A summary of these options is provided below in Table 2-2 and Figure 2-2.

Table 2-2: The alternative route alignments considered during the design process

Option	Description
Elevated Option (Option 1)	A combination of elevated and at grade rail running to the north of Tonkin Highway entering a subterranean section on Brearley Avenue and then into Commonwealth land. A new bridge would be required to cross the Swan River.
Partially Subterranean Option (Option 2)	A combination of at grade and subterranean rail running to the south of Tonkin Highway, with a crossing under Tonkin Highway and then into Commonwealth land. The subterranean sections would be excavated from the surface. A new bridge would be required to cross the Swan River.
Entirely Subterranean Option (Option 3)	An entirely subterranean rail option crossing under the Swan River and Brearley Avenue and then into Commonwealth land. The subterranean sections would be excavated below ground using a tunnel boring machine.

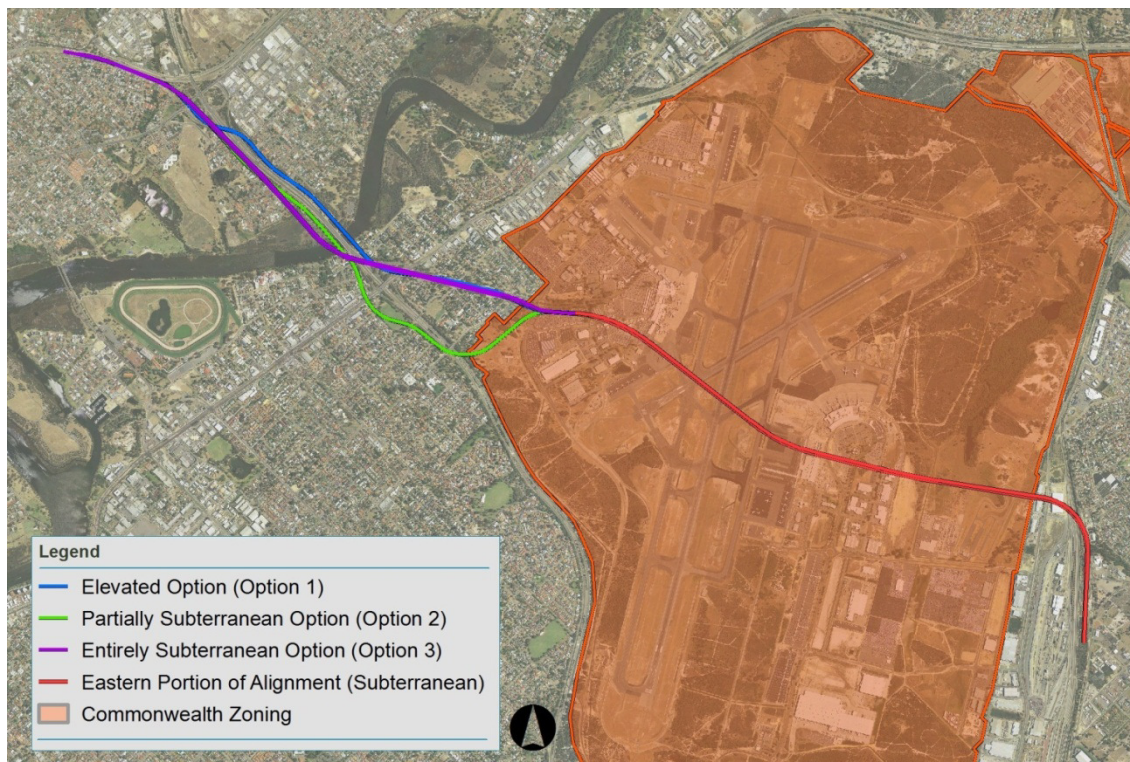


Figure 2-2: Forrestfield-Airport Link Alignment Options

An evaluation of these options was undertaken which included an assessment of the social, environmental and economic impact of each option within the Western Area. The assessment was based on the data collected during the planning phase of the Project. The results of this assessment is summarised in Table 2-3.

Table 2-3: Potential impacts alternative option considered

Potential Impacts	Alignment Options		
	Elevated option (Option 1)	Partially Subterranean Option (Option 2)	Entirely Subterranean Option (Option 3)
Black Cockatoo habitat	<ul style="list-style-type: none"> Clearing 20 potential habitat trees Clearing 4.58 ha potential foraging habitat 	<ul style="list-style-type: none"> Clearing 53 potential habitat trees Clearing 6.59 ha potential foraging habitat 	<ul style="list-style-type: none"> Clearing 15 potential habitat trees Clearing 3.75 ha potential foraging habitat
Water rat habitat	<ul style="list-style-type: none"> Impacts to 0.06 ha potential water rat habitat 	<ul style="list-style-type: none"> Impacts to 0.05 ha potential water rat habitat 	<ul style="list-style-type: none"> No impacts to potential water rat habitat
Subtropical and Temperate Coastal Saltmarsh TEC	<ul style="list-style-type: none"> Clearing required within TEC 	<ul style="list-style-type: none"> Clearing required within TEC 	<ul style="list-style-type: none"> No clearing required within TEC
Noise	<ul style="list-style-type: none"> Impacts to 5 sensitive receptors (exceedance to noise target criteria) 	<ul style="list-style-type: none"> Impacts to 13 sensitive receptors (exceedance of noise target criteria) Impacts to 3 sensitive receptors (exceedance of noise limit criteria) 	<ul style="list-style-type: none"> Impacts to one sensitive receptor (exceedance of noise target criteria)
Vibration	<ul style="list-style-type: none"> No vibration impacts 	<ul style="list-style-type: none"> Potential ground borne regenerated noise exceedances at 12 houses 	<ul style="list-style-type: none"> No vibration impacts

Potential Impacts	Alignment Options		
	Elevated option (Option 1)	Partially Subterranean Option (Option 2)	Entirely Subterranean Option (Option 3)
Surface water	<ul style="list-style-type: none"> Construction within the Swan River and clearing of riparian vegetation 	<ul style="list-style-type: none"> Construction within the Swan River and clearing of riparian vegetation 	<ul style="list-style-type: none"> No physical impacts to the Swan River (e.g. disturbance of bed or banks)
Acid Sulfate Soils and dewatering	<ul style="list-style-type: none"> Limited excavation and dewatering required 	<ul style="list-style-type: none"> High level of dewatering required which may expose potential Acid Sulfate Soils Large amounts of excavated material which may require treatment 	<ul style="list-style-type: none"> Some dewatering required which might expose potential Acid Sulfate Soils Large amounts of excavated material which may require treatment
Land acquisition	<ul style="list-style-type: none"> 13 properties (8 landowners) 	<ul style="list-style-type: none"> 27 properties (22 landowners) 	<ul style="list-style-type: none"> 13 properties (8 landowners)
Property values, ongoing costs, disruption to road users	<ul style="list-style-type: none"> Significant disruption to road users over an extended period The proximity of the proposed infrastructure is likely to reduce adjacent property value 	<ul style="list-style-type: none"> Significant disruption to road users over an extended period The proximity of the proposed infrastructure is likely to reduce adjacent property value 	<ul style="list-style-type: none"> Few impacts to surrounding properties Minimal disruption to road users due to the bored tunnel construction methodology

The final alignment and construction methodology of tunnelling throughout (Option 3) was chosen in part to minimise potential environmental, social and economic impacts. The concept design for this option was subsequently modified during the final stages of the design process to further avoid significant environmental and heritage impacts.

Within the Forrestfield Area the design was modified to further avoid:

- disturbance of the Poison Gully Creek bushland, which contains threatened flora (12 *Conospermum undulatum* plants) and Black Cockatoo habitat
- disturbance of 3.51 ha of an Endangered Threatened Ecological Community located adjacent to the station.

3. Matters of National Environmental Significance

The referral of the Proposal identified the potential to affect the following MNES:

- Threatened Ecological Community (TEC) SCP20c
- habitat for Black Cockatoo species (Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksia* subsp. *naso*), Baudin's Cockatoo (*Calyptorhynchus baudinii*) and Carnaby's Cockatoo (*Calyptorhynchus latirostris*)
- occurrences of Wavy-leaved Smokebush (*Conospermum undulatum*).

In accordance with the Scoping Guidance this document only provides an assessment on MNES. All other potential environmental impacts identified in the Scoping Guidance will be assessed in the API document.

3.1 Threatened ecological communities

At the time of the Referral of the Proposal, initial flora surveys identified the potential to affect floristic community types (FCT) listed as either State Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs), some of which are also Ecological Communities listed as MNES and covered under the EPBC Act. The referral was based on the results of the 2013 flora survey (GHD 2014), studies by Brian Morgan (2014) and a site visit by the WA Department of Parks and Wildlife (Parks and Wildlife) that identified the potential TEC SCP20c/SCP3c/SCP20a and SCP20b in the Forrestfield area. As a measure of precaution the referral conservatively predicted clearing of TEC SCP20c, which carries the highest level of protection and is listed under the EPBC Act as Endangered.

Following referral of the Proposal, additional more detailed surveys were conducted by Brian Morgan in 2014 of the area within the proposed footprint of the Forrestfield station (2015a) and of the remnant native vegetation immediately east of Dundas Road that will not be directly affected by the Proposal (2015b). These detailed flora surveys identified the potential for TECs SCP20c/SCP3c/SCP20a and SCP20b to occur. However, the report concluded that further statistical analysis was required due to the high number of weed species which had the potential to affect the statistical analysis.

A review of the detailed flora survey reports (Morgan 2015a, 2015b) was undertaken by Parks and Wildlife. Parks and Wildlife confirmed that the vegetation study was consistent with recommended methods while also noting that the vegetation present is complex and could present a number of FCTs. As such, Parks and Wildlife agreed with the recommendation for further statistical analysis of data with the removal of weed taxa from all datasets and the inclusion of supplementary data collected by Parks and Wildlife

Following provision of supplementary data from Parks and Wildlife further statistical analysis was undertaken (Morgan 2105c, 2015d) in accordance with Parks and Wildlife methods. The FCT present in Forrestfield was reclassified from SCP 20c to SCP 20a (Table 3-1 and shown in Figure 3-1). Importantly, while SCP20a is listed as Endangered under State legislation (and therefore will still be subject to assessment under the API (Category A) process) it is not listed under the EPBC Act. The reports detailing the further statistical analysis have yet to be received by Parks and Wildlife.

While the additional statistical analysis resolved three of the four areas assessed to SCP20a, one site north of the footprint was determined to be a combination of SCP20a/21c, SCP20a/21b and SCP?3c. There remains some uncertainty over SCP3c, this area was associated with the presence of Poison Gully Creek. The presence of SCP3c along Poison Gully Creek is outside of the Development Envelope, which limits the potential for the Proposal to affect this Ecological Community.

A summary of the TECs in the Forrestfield area based on the most recent data is provided in Table 3-1.

Table 3-1: TECs found in the Forrestfield area

TEC	Description	Status		Size present (ha)	Clearing
		State	EPBC Act		
SCP3c	<i>Eucalyptus calophylla</i> – <i>Xanthorrhoea preissii</i> woodlands and shrublands, Swan Coastal Plain	Critically endangered	Endangered	1.22	
SCP20a	<i>Banksia attenuata</i> woodland over species rich dense shrublands' (Swan Coastal Plain)	Endangered		4.55	3.35
SCP 20a/21c	<i>Banksia attenuata</i> woodland over species rich dense shrublands (Swan Coastal Plain) / Low lying <i>Banksia attenuata</i> woodlands or shrublands (Community type 2lc), Priority 3			0.73	
SCP20a /20b	<i>Banksia attenuata</i> woodland over species rich dense shrublands (Swan Coastal Plain) / <i>Banksia attenuata</i> and/or <i>E. marginata</i> woodlands of the eastern side of the Swan Coastal Plain (Swan Coastal Plain)	Endangered		0.16	



Figure 3-1: Location of TECs at Forreestfield

Scale 1:10,000 at A4



Coordinate System: GDA 1994 MGA Zone 50
 Note that positional errors may occur in some areas
 Date: 11/05/2015
 Author: JCrute
 Source: Aerial image: ESRI online, approx. 2010.
 All other data: Client 2015.

Legend

- Forrestfield-Airport Link
- Development Envelope
- Structures
- Stations

- Surface disturbance
- Commonwealth zoning

Threatened Ecological Community

- SCP 20a/20b
- SCP 20a/21c
- SCP20a
- ?3c

Note: Areas of SCP20a were previously recorded as SCP20c



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3.2 Assessment of impacts to Matters of National Environmental Significance

Table 3-2 provides an assessment of the impacts of the Proposal to the MNES in accordance with Table 6 and Appendix 1 of EAG14 as identified in the Scoping Guideline.

Table 3-2: Assessment of impacts to Matters of National Environmental Significance

Inherent Impact	Environmental Aspect	Mitigation actions to address residual impacts	Proposed regulatory mechanisms for ensuring mitigation	Outcome to demonstrate that proposal meets EPA objective
Flora and vegetation – <i>To maintain representation, diversity, viability and ecological function at the species, population and community level.</i>				
<p>Context</p> <ul style="list-style-type: none"> Clearing of approximately 13.23 ha of remnant vegetation in good or better condition <p>Key Survey Findings</p> <ul style="list-style-type: none"> Two Ecological Communities listed under the EPBC Act occur in the vicinity of the Proposal: <ul style="list-style-type: none"> 1.22 ha of SCP3c (Endangered) 3.16 ha of Subtropical and Temperate Coastal Saltmarsh (Vulnerable) One species of flora listed under the EPBC Act occur in the vicinity of the Proposal: <ul style="list-style-type: none"> 37 individuals <i>Conospermum undulatum</i> within 11 locations (Vulnerable) <p>Impacts</p> <ul style="list-style-type: none"> Clearing of 25 individuals of <i>Conospermum undulatum</i> within 6 locations (none of these individuals are listed in the recovery plan for the species) 	Clearing of native vegetation	<p>Avoidance</p> <ul style="list-style-type: none"> During the early design phases the PTA revised the footprint to avoid direct impacts to: <ul style="list-style-type: none"> 12 <i>Conospermum undulatum</i> plants 1.22 ha of TEC SCP3c selecting a bored tunnel construction method to avoid direct impacts to 3.16 ha of TEC Subtropical and Temperate Coastal Saltmarsh <p>Minimisation</p> <ul style="list-style-type: none"> Preparation and implementation of a Construction Environmental Management Plan (CEMP) to manage impacts during construction. Key actions during construction to be included will be: <ul style="list-style-type: none"> interface treatments including fencing and set backs management of access design of construction sites to ensure no machinery is parked near significant vegetation significant vegetation will be clearly marked on all construction plans as 'no go zones' surface water and drainage controls to ensure no contaminated run off (sediment, oil etc.) hygiene measures minimise groundwater drawdown as far as reasonably practicable through methods such as re-injection of abstracted groundwater, use-of diaphragm walls for deeper excavations, use of wet working techniques (as applicable), and effective groundwater level and quality monitoring via a network of bores to limit impacts to significant vegetation clearly mark the location of TEC vegetation and <i>Conospermum undulatum</i> to be retained through clear construction plans, flagging plants, fencing and signage design of construction sites to ensure no machinery is parked near vegetation to reduce fire risk Key actions post construction will include: <ul style="list-style-type: none"> interface treatments including permanent fencing management of access management of surface water from the car park at Forrestfield Station 	<ul style="list-style-type: none"> Future Ministerial Statement under EP Act Existing legislative requirement to obtain a licence to take flora for clearing of <i>Conospermum undulatum</i> 	<p>Proposal has been designed and would be managed to avoid or minimise impact on vegetation and flora.</p> <p>The Proposal can be managed to meet the EPA objective for Flora and Vegetation.</p>
Terrestrial Fauna - <i>To maintain representation, diversity, viability and ecological function at the species, population and assemblage level.</i>				
<p>Key Survey Findings</p> <ul style="list-style-type: none"> 112.6 ha of Black Cockatoo habitat within 10 km of the Proposal 21.2 ha of Black Cockatoo habitat within the immediate vicinity of the Proposal <p>Impacts</p> <ul style="list-style-type: none"> Clearing of approximately 3.56 ha of potential Black Cockatoo Clearing of 15 habitat trees (10 high priority, 4 medium priority and 1 low priority), which does not contain any confirmed breeding trees 	Clearing of native terrestrial fauna habitat	<p>Avoidance</p> <ul style="list-style-type: none"> Selecting the alignment and a bored tunnel construction method avoided direct impacts to 17.7 ha of Black Cockatoo habitat (including 70 habitat trees). <p>Minimisation</p> <ul style="list-style-type: none"> Preparation and implementation of a Construction Environmental Management Plan (CEMP) to manage impacts during construction. Key actions during construction to be included will be: <ul style="list-style-type: none"> interface treatments including fencing and set backs management of access design of construction sites to ensure no machinery is parked near significant vegetation significant vegetation will be clearly marked on all construction plans as 'no go zones' surface water and drainage controls to ensure no contaminated run off (sediment, oil etc.) hygiene measures minimise groundwater drawdown as far as reasonably practicable through methods such as re-injection of abstracted groundwater, use-of diaphragm walls for deeper excavations, use of wet working techniques (as applicable), and effective groundwater level and quality monitoring via a network of bores to limit impacts to significant vegetation clearly mark the location black Cockatoo habitat trees to be retained through clear construction plans, flagging plants, fencing and signage design of construction sites to ensure no machinery is parked near vegetation to reduce fire risk Key actions post construction will include: <ul style="list-style-type: none"> interface treatments including permanent fencing management of access management of surface water from the car park at Forrestfield Station 	<ul style="list-style-type: none"> Future Ministerial Statement under EP Act 	<p>Proposal has been designed and would be managed to avoid or minimise impact on terrestrial fauna.</p> <p>Clearing of Black Cockatoo habitat is unlikely to have a significant environmental impact based on the area of habitat within the immediate vicinity of the Proposal being retained (17.7 ha and 70 habitat trees).</p> <p>The Proposal can be managed to meet the EPA objective for terrestrial fauna.</p>

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4. Conclusion

The Proposal will not have a significant impact on any MNES. No Ecological Communities listed under the EPBC Act will be cleared as a result of the Proposal. While 25 individuals of *Conospermum undulatum* will be cleared this is not expected to have a significant impact on the species in terms of its distribution or extent. In addition these individuals were not listed in the recovery plan for the species. Clearing within the alignment has been avoided where possible and impacts during construction will be minimised through the implementation of a CEMP.

The Proposal will clear 3.56 ha of potential Black Cockatoo habitat, including 15 habitat trees (although no known breeding trees). The clearing within the alignment has been minimised with 17.7 ha of potential Black Cockatoo habitat retained within the alignment including 70 Black Cockatoo habitat trees. In addition there is 112.6 ha of similar habitat within 10 km.

Based on this assessment no significant impacts to MNES are expected. The next stage of the assessment is to complete the API document, which will include responses relevant to this document as well as providing an assessment to the environmental issues identified in the Scoping Guidance but not subject to the EPBC Act.

5. References

- Brian Morgan 2014, A level 1 flora and vegetation survey of the Bayswater foreshore site.
- Brian Morgan 2015a, Forrestfield-Airport Link project Survey of floristic community types east of Dundas Road. RPS Group.
- Brian Morgan 2015b, Forrestfield-Airport Link targeted survey of vegetation floristic community types in High Wycombe. RPS Group.
- Brian Morgan 2015c, Forrestfield-Airport Link project Survey of floristic community types east of Dundas Road, addendum report. RPS Group.
- Brian Morgan 2015d, Forrestfield-Airport Link targeted survey of vegetation floristic community types in High Wycombe, addendum report. RPS Group.
- Environmental Protection Authority 2012, Environmental Assessment Guideline 1: Defining the key characteristics of a proposal, Environmental Protection Authority, Western Australia.
- Environmental Protection Authority 2013, Environmental Assessment Guideline 8: Environment Principles, Factors and Objectives, Environmental Protection Authority, Western Australia.
- Environmental Protection Authority 2015, Environmental Assessment Guideline 14 for preparation of an API – category A environmental review document, Environmental Protection Authority, Western Australia.
- GHD 2014, *Forrestfield Airport Link - Environmental Investigation*

Appendix 1

Scoping Guidance

EPA PREPARED SCOPING GUIDELINE

PROPOSAL: Forrestdfield Airport Link
LOCALITY: Forrestdfield - Bayswater
PROPONENT: Public Transport Authority
DECISION: Assessment on Proponent Information (Category A)
(Assessment No 2048)
PROCEDURE: EPA Prepared Scoping Guideline

The Environmental Protection Authority (EPA) has set the level of assessment on the above proposal as Assessment on Proponent Information (API) - Category A.

The proponent is required to consolidate existing and new information to prepare an environmental review document in accordance with this scoping guideline. All technical reports utilised which were submitted as part of the referral documentation should also be provided (as appendices).

The structure of the environmental review document is required to be prepared in accordance with EPA's Environmental Assessment Guideline No.14, *Preparation of an API-A Environmental Review Document*, January 2015 (EAG No.14).

Proposal

The Public Transport Authority of Western Australia (PTA) proposes to develop a 9 kilometre extension of the rail network from Bayswater to Forrestdfield, via the Perth Airport. Approximately 8 kilometres of the rail would be constructed utilising twin bored tunnels. The proposal also involves the development of two new stations; Airport West Station, and the Forrestdfield Station as well as emergency egress shafts and cross passages.

The EPA is only assessing the environmental impacts of the proposal on State land.

The environmental review document should describe the proposal in accordance with the EPA's Environmental Assessment Guideline No.1, *Defining the Key Characteristics of a Proposal*.

Preliminary Key Environmental Factors

The EPA has identified the following preliminary key environmental factors that should be addressed. In addition the environmental principles from EPA's Environmental Assessment Guideline No.8, *Environmental Principles, Factors and Objectives* will also need to be addressed in the environmental review document.

1. Hydrological Processes

The EPA's environmental objective for this factor is to:

- *maintain the quantity and hydrological regimes of groundwater and surface water so that existing and potential uses, including ecosystem maintenance, are protected.*

The key aspect with regard to this environmental factor is the proposed dewatering and recharge activities during construction.

Specific information required

- The EPA is aware that the proponent is preparing further detailed geotechnical hydrogeological investigative reports and modelling relating to the prediction of impacts on the hydrology of the site. This updated information shall form part of the environmental review document.

2. Flora and vegetation

The EPA's environmental objective for this factor is to:

- *maintain the representation, diversity, viability and ecological functions at the species, population and community level.*

The key environmental aspects relating to this factor are from direct clearing during construction and indirect impacts from dewatering activities. Of particular note to the EPA are the predicted impacts, direct and indirect upon the Threatened Ecological Community (TEC) Swan Coastal Plain (SCP) 20c and the potential clearing of individuals the Declared Rare Flora (DRF) *Conospermum undulatum*.

Specific information required:

- Describe and assess the extent of any potential direct and indirect impacts as a result of both construction and operational elements of the proposal on flora and vegetation or ecological communities including those protected under the *Wildlife Conservation Act 1950* and the *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act).
- Identify the extent and quality of the TEC SCP 20c for which the proposal is predicted to have direct and indirect impacts.
- Describe any proposal design modifications that maximise avoidance of the TEC SCP 20c 'Community 2' impacted by the proposal.
- Identify management and mitigation measures. For potential impacts SCP 20c, the environmental review document should have regard to the *Interim Recovery Plan, Eastern Shrublands and Woodlands* SCP 20c, 2000-2003, Val English and John Blyth, January 2000, or if superseded, the latest plan.

3. Inland Waters Environmental Quality

The EPA's environmental objective for this factor is to:

- *maintain the quality of groundwater and surface water, sediment and biota so that the environmental values, both ecological and social, are protected.*

The key environmental aspect relating to this factor is the potential impacts to water quality during construction through the disturbance/oxidation of acid sulphate soils or re-mobilisation contaminants through groundwater dewatering or recharge activities.

Specific information required:

- The EPA is aware that the proponent is preparing further detailed geotechnical hydrogeological investigative reports and modelling relating to the prediction of impacts on water quality. This updated information shall form part of the environmental review document.

4. Offsets

The EPA's environmental objective for this factor is to:

- *counterbalance any significant residual environmental impacts or uncertainty through the application of offsets.*

The proposal has the potential for significant residual impacts upon Flora and vegetation.

Specific information required:

- Formulate an appropriate offset strategy for significant residual impacts that would satisfy both the requirements of the State under the *Environmental Protection Act 1986* and the Department of the Environment (DotE) under the EPBC Act.
- Prepare the offset strategy with regard to the *WA Environmental Offsets Guidelines, August 2014* in accordance the principles of the EPBC Act Environmental Offsets Policy.

Matters of National Environmental Significance

The DotE made a decision that the proposed action of implementing the proposal is likely to have a significant impact on the following matters protected by the EPBC Act;

- Listed threatened species and communities (sections 18 & 18A).

The EPA has advised that the Bilateral Agreement between the Commonwealth and Western Australia (*Agreement between the Commonwealth of Australia and Western Australia under section 45 of the EPBC Act Relating to Environmental Impact Assessment*) is applicable and that the component of the proposed action on State

land will be assessed by the EPA in a manner consistent with the Agreement. The DotE must consider environmental impacts on the Commonwealth Airport land component of the proposed action separately through the Major Development Plan process under the Commonwealth *Airports Act 1996*.

For assessments under the Bilateral Agreement, Matters of National Environmental Significance (MNES) must be addressed in the assessment table of the environmental review document under the relevant preliminary key environmental factors, in the context of the relevant EPA factors and objectives.

The Bilateral Agreement also requires that the proponent release their draft "assessment documentation" providing information on the likely significant impacts of the proposal on MNES for public comment for at least 14 calendar days. In the context of an EPA assessment, draft "assessment documentation" is the relevant extract or section in the draft Environmental Review document that considers issues that either directly or indirectly have the potential to impact on MNES.

For the purpose of advertising for a 14-day public comment period, this section is to be prepared as a 'stand-alone' section in accordance with Section 6 of the EPA's EAG No.14. This section must consider all of the relevant Commonwealth guidelines, policies and plans in addition to those of the State.

Specific information required:

- A description of the action that has been referred to the Commonwealth under the EPBC Act.
- To the extent practicable, any feasible alternatives to the proposed action.
- A concise description and assessment of the likely significant impacts of the action on MNES in the same format as Section 5 from the EPA's EAG No.14.
- Confirmation that the part of the environmental review document relating to MNES only is the same as was advertised for public comment for the purpose of an assessment under the Bilateral Agreement.
- A written response in the form of a table to any submissions received during the public comment period that summarises and describes how the issues raised (if any) during submissions have been taken into account.
- A summary of the outcome of consultation undertaken regarding MNES.

Other Environmental Factors

In addition to the key preliminary environmental factors listed above, the following other environmental factors are to be addressed in the environmental review document consistent with the guidance in Section 7 of EAG No.14;

- Amenity (noise, vibration & light);
- Heritage; and
- Terrestrial fauna (conservation significant).

Consultation

As a minimum, the following government agencies are to be consulted during the preparation of the draft environmental review document;

- Department of Water
- Department of Environmental Regulation
- Department of Parks and Wildlife

The outcomes of this consultation should be presented in the final environmental review document as outlined in EPA's EAG No.14.

Target Timeframe for the Assessment

Level of Assessment set as API:	13 April 2015
API Scoping Guideline issued:	28 April 2015
Proponent submits MNES document for advertising	07 May 2015
Advertising of MNES document	11 - 25 May 2015
Proponent submits draft environmental review:	15 May 2015
Proponent submits final environmental review	29 May 2015
EPA considers draft report (within 7 weeks from receipt of <u>acceptable</u> information):	18 June 2015
EPA finalises report for Minister (including consultations on conditions) (4 weeks)*:	15 July 2015
Appeal period closes (2 weeks):	3 August 2015

* Should the EPA require additional information, the report would be finalised 4 weeks from receipt of that information.