APPENDIX 3

A level 1 flora and vegetation survey of the Bayswater foreshore site (Brian Morgan, 2014)

Included as a separate hard copy report

APPENDIX 15

Preliminary Dewatering Assessment; Forrestfield Airport Link and Addendum No 1 (Golder Associates, 2014a) and (Golder Associates, 2014b)

Included as a separate hard copy report

Monaghan, Paul

From: English, Val <Val.English@DPaW.wa.gov.au>
Sent: Wednesday, 2 April 2014 9:44 AM
To: Monaghan, Paul
Cc: Jones, Anthea
Subject: Rail Link survey
Attachments: AirportRail_VE_JPCmmnts_02042014.docx; PerthAirportRailWest27032014.jpg; PerthAirportRailEast27032014.jpg

Categories: ARL

Hi Paul

Attached – preliminary comments regarding floristic community types present in areas surveyed with you last Thursday, and map of point locations of observations.

Regards

Val English
Principal Ecologist
Species and Communities Branch
Parks and Wildlife
Ph (08) 9334 0409

Airport Rail Alignment
V. English and J. Pryde preliminary comments
01/04/2014

The best way to determine floristic community types in this part of the Swan Coastal Plain is to complete appropriate statistical analysis of comprehensive species lists from permanently marked quadrats that have been scored at least twice. Quadrats should be established in vegetation in best condition and not in ecotones. Comprehensive quadrat data should ideally be compared statistically to the full species lists for all quadrats from Gibson *et al*. (1994) "A floristic survey of the southern Swan Coastal Plain".

As appropriate analysis was not available for lands in High Wycombe and Perth Airport that are proposed for the airport rail link, a brief survey was undertaken by DPaW staff (with PTA) in specific areas on 27 March 2014. Soil and landform units and observations of substrate, combinations of key species and overall species composition were utilised to seek to clarify the floristic community types present. Attached maps indicate FCTs that are considered to occur based on floristic composition and other data collected during DPaW's brief survey.

Site 3; North end rail siding survey area, GPS points 5, 6, 7, 8
Combination of taxa, in particular *Adenanthos cygnorum, Scaevola canescens, Anigozanthos manglesii, Lomandra sericea, Dasypogon obliquifolius* on loamy sand with laterite pebbles indicates closest affinity to FCT20c. FCT20c confirmed at Ibis Place bushland about 350m SE.

Site 4; Central rail siding survey area, GPS point 12
Combination of taxa, in particular *Eremaea pauciflora, Mesomelaena pseudostygia, Anigozanthos manglesii, Cyathochaeta avenacea, Xylomelum occidentale, Scholtzia involucrata, Mesomelaena tetragona* on loamy sand on Southern River complex indicative of FCT20b.

Site 5: Central rail siding survey area, GPS points 13, 14
Combination of taxa, in particular *Banksia menziesii, Mesomelaena pseudostygia, Anigozanthos manglesii, Conospermum undulatum* on loamy sand on Southern River complex indicative of FCT20a.

Site 6: Southern rail siding survey area, GPS points 15, 16, 17, 18

Combination of taxa, in particular *Corymbia calophylla, Eucalyptus marginata, Cyathochaeta avenacea, Patersonia occidentalis, Mesomelaena pseudostygia,* , *Lambertia multiflora* var. *darlingensis*, *Adenanthos cygnorum, Scaevola canescens, Anigozanthos manglesii, Alexgeorgia nitens,* on grey loamy sand on Southern River complex indicative of transitional zone FCT20a/20c.

Site 8: Perth Airport Dunreath Drive GPS points 23, 24, 25, 26

Combination of taxa in particular *Corymbia calophylla, Eucalyptus marginata, Melaleuca preissiana, Xanthorrhoea preissii, Phlebocarya ciliata, Bossiaea eriocarpa, Cyathochaeta avenacea, Patersonia occidentalis, Burchardia congesta* on grey Bassendean sands indicative of FCT21c or 4. FCT21c is a P3

community, and FCT4 has no special status however species richness may be insufficient to support analysis that would clarify the FCT present.

Legend

- IRIS_Network_Main_Roads_Aug2011
- PerthAirportRailPts_27032014_VE

N

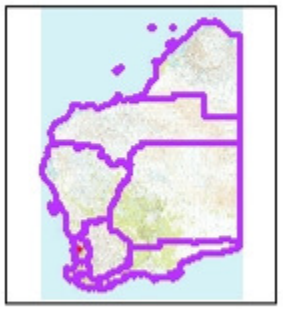
(A4)

1:7,500

0 50 100 200 300 400

Metres

Projection: Universal Transverse Mercator
MGA Zone 50. Datum: GDA94



Produced by the Department of Parks and Wildlife

Produced at 3:35pm, on April 1, 2014

Legend

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- PerthAirportRailPts_27032014_VE

N

(A4)

1:5,000

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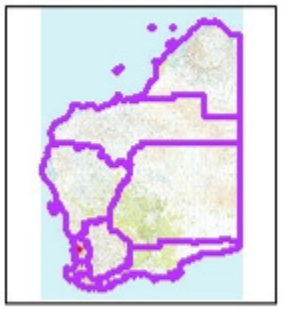
Metres

Projection: Universal Transverse Mercator
MGA Zone 50. Datum: GDA94



Produced by the Department of Parks and Wildlife

Graticule shown at 6 seconds intervals
Grid shown at 250 metre intervals

Roads and tracks on land managed by DPaW may contain unmarked hazards and their surface condition is variable. Exercise caution and drive to conditions on all roads.

Produced at 3:31pm, on April 1, 2014

Species	Status		Habitat	Likelihood of occurring along alignment
	WC Act	EPBC Act		
Conospermum undulatum (Wavy leaved smokebush)	Threatened	Vulnerable	Grey or yellow-orange clayey sand	Identified on site
Caladenia huegelii (Grand Spider Orchid)	Threatened	Endangered	Grey or brown sand, clay loam	Unlikely
Andersonia gracilis (Slender Andersonia)	Threatened	Endangered	White/grey sand, sandy clay, gravelly loam. Winter-wet areas, near swamps	Unlikely
Grevillea curviloba subsp. incurva (Narrow curved leaf grevillea)	Threatened	Endangered	Sand, sandy loam. Winter-wet heath	Unlikely
Macarthuria keigheryi	Threatened	Endangered	White or grey sand	Unlikely
Dwarf Green Kangaroo Paw (*Anigozanthos viridis subsp. Terraspectans*)	Threatened	Vulnerable	Grey sand, clay loam. Winter-wet depressions.	Unlikely
Summer Honeypot (*Banksia mimica*)	Threatened	Endangered	White or grey sand over laterite, sandy loam.	Unlikely
Swamp Starflower (*Calytrix breviseta subsp. Breviseta*)	Threatened	Endangered	Sandy clay. Swampy flats.	Unlikely
Centrolepis caespitosa	Priority 4	Endangered	White sand, clay. Salt flats, wet areas	Unlikely
Gingin Wax (*Chamelaucium* sp. Gingin)	Threatened	Endangered		Unlikely
Muchea Bell (*Darwinia foetida*)	Threatened	Critically Endangered		Unlikely
Dwarf Bee-orchid (*Diuris micrantha*)	Threatened	Vulnerable	Brown loamy clay. Winter-wet swamps, in shallow water.	Unlikely
Purdie's Donkey-orchid (*Diuris purdiei*)	Threatened	Endangered	Grey-black sand, moist. Winter-wet swamps	Unlikely
Glossy-leafed Hammer-orchid (*Drakaea elastica*)	Threatened	Endangered	White or grey sand. Low-lying situations adjoining winter-wet swamps	Unlikely
Dwarf Hammer-orchid (*Drakaea micrantha*)	Threatened	Vulnerable	White-grey sand	Unlikely
Baby Blue Orchid (*Epiblema grandiflorum* var. *cyaneum*)		Endangered		Unlikely
Cadda Road Mallee (*Eucalyptus balanites*)	Threatened	Endangered		Unlikely
Beaked Lepidosperma (*Lepidosperma rostratum*)	Threatened	Endangered	brown. Peaty sand, clay	Unlikely
Selena's Synaphea (*Synaphea* sp. Fairbridge Farm)	Threatened	Critically Endangered	Near winter-wet flats, in low woodland with weedy grasses.	Unlikely
Thelymitra manginii K.Dixon & Batty ms.	Threatened	Endangered	Granite	Unlikely
Star Sun-orchid (*Thelymitra stellata*)	Threatened	Endangered	Sand, gravel, lateritic loam	Unlikely
Bolboschoenus medianus	Priority 1		Mud. In water and on river banks	Unlikely

Boronia humifusa	Threatened		Gravelly clay loam over laterite. Jarrah-marri open forest	Unlikely
*Byblis gigantea (*Rainbow Plant)	Priority 3		Sandy-peat swamps. Seasonally wet areas	Unlikely
Cyathochaeta teretifolia	Priority 3		Grey sand, sandy clay. Swamps, creek edges	Unlikely
Dampiera triloba	Priority 1			Unlikely
Haemodorum loratum	Priority 3		Grey or yellow sand, gravel	Unlikely
Halgania corymbosa	Priority 3		Gravelly soils, soils over granite.	Unlikely
Hydrocotyle lemnoides (Aquatic pennywort)	Priority 4		Swamps	Unlikely
Hydrocotyle striata	Priority 1			Unlikely
Hypocalymma sp Cataby	Priority 2		Grey sand	Unlikely
Isopogon drummondii	Priority 3		White, grey or yellow sand, often over laterite	Unlikely
Jacksonia sericea (Waldjumi)	Priority 4		Calcareous and sandy soils	Unlikely
*Lasiopetalum bracteatum (*Helena velvet bush)	Priority 4		Along drainage lines, creeks, gullies, granite outcrops	Unlikely
Lepyrodia curvescens	Priority 2		Sand, laterite. Seasonally inundated swampland	Unlikely
Melaleuca viminalis	Priority 2			Unlikely
Platysace ramosissima	Priority 3		Sandy soils	Unlikely
Schoenus griffinianus	Priority 3		White sand	Unlikely
Schoenus pennisetis	Priority 1		Grey or peaty sand, sandy clay. Swamps, winter-wet depressions	Unlikely
*Thelymitra stellata (*Star Sun Orchid)q	Threatened		Sand, gravel, lateritic loam	Unlikely
Thysanotus anceps	Priority 3		White or grey sand, lateritic gravel, laterite	Unlikely
Vertocordia lindleyi subsp. *Lindleyi*	Priority 4		Sand, sandy clay. Winter wet depressions	Unlikely

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MEMORANDUM

TO:	Public Transport Authority		
ATTENTION:	Rebecca Dawson / Paul Monaghan		
FROM	Brian Morgan / Giles Glasson		
DATE:	03 November 2014	**OUR REF:**	11323906
SUBJECT:	Spring Field Survey - Interim Findings		

This memorandum supersedes the correspondence dated 31 October 2014.

Brian Morgan (botanist) undertook the spring field survey component of the Targeted Threatened Ecological Community (TEC) Survey across the four project areas, in High Wycombe and Forrestfield for the Forrestfield - Airport Link project, between 2 and 18 October 2014. An additional site visit was undertaken on the weekend of 25 – 26 October to confirm the number of *Conospermum undulatum* plants in Area 2 (Figure 1).

TEC Survey

Sixteen survey quadrats were established across the site. Table 1 identifies the quadrat distribution across the four projects areas.

Table 1: Location and Numbers of Quadrats Established

Area	Location	Size (ha)	Number of Quadrats
1	Part of 206 Dundas Road, High Wycombe	0.75	2
2	Part of Lot 15531 on Plan 43224 and 400 Dundas Road, Forrestfield	1.75	4
3	Part of 195 Dundas Road, High Wycombe	3.0	5
4	Part of 11 and 21 Ibis Road, High Wycombe	3.5	5

Some plant specimens collected during the field survey required further identification to determine their identity. Identification of these individuals will allow for the survey data from the spring field survey to be finalised and will assist in determining the floristic composition of the existing vegetation of the project areas.

Threatened Species

C. undulatum plants were opportunistically observed by the botanist whilst traversing the project areas[1]. It was noted that some of these plants had been flagged with yellow tape. It was confirmed with the PTA that the flagged individuals had been identified during a previous spring survey by GHD in 2013. The PTA had flagged some of these individuals identified by GHD to avoid disturbance during a geotechnical site investigation.

[1] Opportunistic observations during the spring field survey do not constitute a targeted search for Threatened Flora species.

The location of the *C.undulatum* individuals was recorded by the botanist are presented in Table 2.

Table 2: Locations and number of *C. undulatum* plants recorded during the 2014 Spring Field Survey

Area	Location (datum GDA94).		Number of Plants Recorded in 2014	Recorded by GHD in 2013
	Easting	Northing		
2	404725	6463910	1	Yes
2	404712	6463882	4	No
2	404712	6463914	6	No
3	404897	6464731	1	Yes
3	404930	6464671	1	Yes
3	404912	6464702	4	Yes
		Total	17	

The locations of *C. undulatum* individuals recorded across the four project areas during the 2014 spring field survey were compared to the locations of *C. undulatum* individuals recorded during the previous survey of the project areas by GHD in 2013 (Table 2). Informed by the location[2] and number of the *C.undulatum* individuals recorded by the botanist when compared to those individuals recorded by GHD the following points have been concluded:

- Within Area 2 there were 10 *C. undulatum* individuals recorded by the botanist that had not been previously identified by GHD.
- Within Area 3 there were no new recordings of *C. undulatum* individuals by the botanist.

The records obtained from the field efforts of the opportunistic observation and the GHD survey are presented in Figure 1 as a combined dataset to show the location of *C. undulatum* recordings across the four project areas.

Figure 1 shows that 12 individuals have been recorded in Area 3 during the 2013 and 2014 spring surveys. A threatened flora search was undertaken of the Department of Parks and Wildlife's (DPaW) *Threatened and Priority Flora* database, *WA Herbarium* database, and the *Threatened and Priority Flora Species List* which is inclusive of the four project areas on 19 September 2014. The *Threatened and Priority Flora* database search results identified that 14 *C. undulatum* individuals were recorded in Area 3 in 2008. No additional Threatened or Priority flora species or records of *C. undulatum* were identified by the DPaW databases within the four project areas.

Approximately six other taxa were collected during the spring field survey, which were considered to be of potential interest. These specimens were fast tracked for identification at the Western Australian Herbarium to determine their identity and hence their conservation status. The identification of these specimens determined that they were not of conservation significance.

[2] RPS assumes the location of the GHD recordings represents the actual location of the *C. undulatum* individuals and not a generic location for a specific project area.

The plant specimens collected during the spring field survey that require further identification (as noted on the previous page) are not anticipated to be Threatened species, as most are broadly familiar to the botanist.

Final Survey Timing

The final survey is planned to be undertaken in mid to late November with the quadrats being searched for late flowering taxa not recorded during by the spring field survey, such as some species of native grasses. Following the final survey, plant identifications and survey data will be finalised with an analysis of the combined survey data being undertaken to assess the likely Floristic Community Types present within the four project areas.

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Job Number: 11323906
Doc Number: 006
Date: 31.10.14
Scale: 1:5,000 @ A3
Created by: MR
Source: Cadastre - Landgate, 2014 Orthophoto - Landgate, 2013 RPS 2013 Threatened Flora - GDH, 2014, DPaW, 2014, B Morgan 2013, 2014 & Spring Field 2014

GDA 1994 MGA Zone 50

0 50 100 200 m

Figure 1

Recordings of *Conospermum undulatum* in the Project Area

Species	Status		Habitat	Likelihood of occurrence along the alignment (in State land)
	WC Act	EPBC Act		
MAMMALS				
Chuditch *(Dayurus geoffroii*)		Vulnerable	Chuditch are known to have occupied a wide range of habitats from woodlands, dry sclerophyll (leafy) forests, riparian vegetation, beaches and deserts (DEC, 2009). The Chuditch now has a patchy distribution through the *Eucalyptus marginata* (Jarrah) forest and mixed *Eucalyptus diversicolor* (Karri) / *Corymbia calophylla* (Marri) / Jarrah forest of south-west Western Australia. In Jarrah forest, Chuditch populations occur in both moist, densely vegetated, steeply sloping forest and drier, open, gently sloping forest	Unlikely – habitat present along the alignment is too small and isolated to provide suitable habitat.
Western Ringtail Possum (*Pseudocheirus occidentalis*)		Vulnerable	Western Ringtail Possums occur in and near coastal Peppermint Tree (*Agonis flexuosa*) forest and Tuart (*Eucalyptus gomphocephala*) dominated forest with a Peppermint Tree understorey	Unlikely - The Western Ringtail Possum is locally extinct in the area (Bamford 2014)
Water rat (*Hydromys chrysogaster*)	Priority 4		The distribution of this species is patchy on the Swan Coastal Plain, with records from Ellenbrook, Yellagonga Regional Park and Medina. It occupies habitats in the vicinity of permanent water (both fresh and brackish). Woody debris, rock ledges and wetland islands are likely to be important areas for feeding and refuge.	Unlikely – the proposed alignment does not traverse any areas which may provide suitable habitat.
Quenda (*Isoodon obesulus* subsp. *Fusciventer)*	Priority 5		The Quenda usually inhabits dense shrubland and understorey, often associated with wetlands.	Likely – was observed along the alignment during the fauna survey undertaken by GHD. There is potential habitat present in the Forrestfield area
Southern brush tailed Phascogale (*Phascagale tapoatafa* subsp. *Tapoatafa*)	Vulnerable		In southwest Western Australia Brush-tailed Phascogale have been observed in dry sclerophyll forests and open woodlands that contain hollow-bearing trees.	Unlikely – habitat present along the alignment is too small and isolated to provide suitable habitat
Western Brush Wallaby (*Macropus irma*)	Priority 4		The Western Brush Wallaby prefers open forest or woodland in which it favours open, seasonally wet flats with low grasses and open scrubby thickets (Strahan 2008)	Unlikely – habitat present along the alignment is too small and isolated to provide suitable habitat
BIRDS				
Forest Red tailed Black Cockatoo (*Calyptorhynchus banksia* subsp. n*aso*)		Vulnerable	Eucalypt forests. Feeds on seeding *Corymbia calophylla* (Marri), *Eucalyptus marginata* (Jarrah), *Eucalyptus todtiana* (Blackbutt), *Eucalyptus diversicolor* (Karri), *Allocasuarina fraseriana* (Sheoak) and *Persoonia micranthera* (Snottygobble) (Johnstone & Storr, 1998). This subspecies occurs in the humid and subhumid south west, mainly in hilly interior, north to Gingin (formerly to Dandaragan)	Likely – two individuals were observed foraging adjacent to the alignment in Poison Gully Creek.

			and east to Mt Helena (formerly to Toodyay), Christmas Tree Well, North Bannister (formerly to Wandering), Mt Saddleback (formerly to Kojonup), Rocky Gully and the upper King River. It is endemic to Western Australia (Johnstone & Storr, 1998).	
Baudin's Black Cockatoo (*Calyptorhynchus baudinii*)		Vulnerable	Baudin's Black-Cockatoo occurs in forests dominated by Marri (*Corymbia calophylla*) and *Eucalyptus* species, especially Karri (*E. diversicolor*) and Jarrah (*E. marginata*). However, it also occurs in woodlands of Wandoo (*E. wandoo*), Blackbutt (*E. patens*), Flooded Gum (*E. rudis*), Yate (*E. cornuta*)	Possible – potential habitat present on site, however the alignment is outside the usual range of this species.
Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*)		Endangered	Woodlands and scrubs of semiarid interior of Western Australia, in non-breeding season wandering in flocks to coastal areas, especially pine plantations. Food includes seeds of Banksia species, Dryandra species, Hakea species, Eucalyptus species, Grevillea species and Pinus species; also fruiting almonds (Johnstone & Storr, 1998). Occurs in south-west north to lower Murchison and east to Nabawa, Wilroy, Waddi Forest, Manmanning, Durokoppin, Lake Cronin and just east of Condingup. Endemic to Western Australia (Johnstone & Storr, 1998).	Present – foraging evidence present in remnant vegetation along the alignment and birds were recorded flying over the alignment.
Australasian Bittern (*Botaurus poiciloptilus*)		Endangered	Inhabits vegetated wetlands	Unlikely – the proposed alignment does not impact wetland habitat suitable for this species, however it may occasionally be found along the Swan River
Malleefowl (*Leipoa ocellata*)		Vulnerable	Malleefowl are known to occur in shrublands and low woodlands that are dominated by mallee vegetation and eucalypt or native pine vegetation such as *Callitris* woodlands, acacia shrublands, Broombush *Melaleuca uncinata* vegetation or coastal heathlands	Unlikely – habitat present along the alignment is too small and isolated to provide suitable habitat
Australian Painted Snipe (*Rostratula australis*)		Endangered	The Australian Painted Snipe prefers shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans. The Australian Painted Snipe feeds on vegetation, seeds, insects, worms and molluscs, crustaceans and other invertebrates	Unlikely – the proposed alignment does not impact wetland habitat suitable for this species, however it may occasionally be found along the Swan River
Fairy tern (*Sterna nereis* subsp. *nereis*		Vulnerable	The Fairy Tern nests on sheltered sandy beaches, spits and banks above the high tide line and below vegetation. It has been found in embayments of a variety of habitats including offshore, estuarine or lacustrine (lake) islands, wetlands and mainland coastline.	Unlikely – there is no suitable habitat for this species along the proposed alignment.
Fork tailed Swift (*Apus pacificus*)		Marine, Migratory	Fork-tailed Swifts are vagrant, aerial species that migrate to Australia in winter months. The species breeds in the Himalayas, Siberia and Japan. Preferred habitats include mountains and human habitations, usually near water (BirdForum 2010).	Unlikely – this species is mainly aerial. It is not considered likely that any significant habitat is present on site.

White bellied sea eagle (*Haliaeetus leaucogaster*)		Migratory	This species is normally seen perched high in a tree, or soaring over waterways and adjacent land. Birds form permanent pairs that inhabit territories throughout the year (Australian Museum 2007). The White-bellied Sea-Eagle feeds mainly off aquatic animals, such as fish, turtles and sea snakes, but it takes birds and mammals as well (Australian Museum 2007).	Unlikely – this species may be occasionally seen along the Swan River, however it is considered unlikely that there is any significant habitat present along the alignment.
Rainbow Bee eater (*Merops ornatus*)		Migratory	The Rainbow Bee-eater is most often found in open forests, woodlands and shrublands, and cleared areas, usually near water. It can be found on farmland with remnant vegetation and in orchards and vineyards. It will use disturbed sites such as quarries, cuttings and mines to build its nesting tunnels (Australian Museum 2007).	Unlikely – no birds were identified during the survey and most of the alignment has been developed, reducing the area of potential habitat available to this species along the alignment.
Great Egret (*Ardea alba*)		Migratory	Prefer shallow water, particularly when foraging, but may be seen on any watered area, including damp grasslands (Australian Museum 2007). The Great Egret usually feeds on molluscs, amphibians, aquatic insects, small reptiles, crustaceans and occasionally other small animals, but fish make up the bulk of its diet	Unlikely – the proposed alignment does not impact wetland habitat suitable for this species, however it may occasionally be found along the Swan River
Cattle Egret (*Ardea ibis*)		Migratory	Found in grasslands, woodlands and wetlands, and is not common in arid areas. It also uses pastures and croplands, especially where drainage is poor (Australian Museum 2007). The Cattle Egret prefers grasshoppers, especially during breeding season, but eats many other invertebrates. Cattle Egret pairs are monogamous for the breeding season, and they breed in colonies, usually with other water birds. Their shallow platform nests are made in wetland areas in trees and bushes, usually as high as possible.	Unlikely – the proposed alignment does not impact wetland habitat suitable for this species, however it may occasionally be found along the Swan River
Bush Stone curlew (*Burhinus grallarius*)	Priority 4		The Bush Stone-curlew inhabits lightly timbered open woodlands (DEC 2008) and dense Acacia shrublands.	Unlikely – any suitable habitat present along the alignment is too small and isolated to provide suitable habitat
Australian Black Bittern (*Ixobrychus flavicollis* subsp. *australis*)	Priority 3		This species nests and roosts in trees and dense vegetation associated with wetlands.	Unlikely – the proposed alignment does not impact wetland habitat suitable for this species, however it may occasionally be found along the Swan River
Australian Little Bittern (*Ixobrychus minutus* subsp. *dubius*)	Priority 4		This species occurs in the south west of Western Australia, in the Kimberly and along the east coast of Australia	Unlikely – the proposed alignment does not impact wetland habitat suitable for this species, however it may occasionally be found along the Swan River
REPTILES				
Perth lined Skink (*Lerista lineata*)	Priority 3		This species is restricted to pale sands supporting heathlands and shrublands, particularly in association with Banksias.	Unlikely - A targeted search was undertaken by GHD and no skinks

				were identified.
Black striped Snake (*Neelaps calanotos*)	Priority 3		This species has been recorded from coastal dunes, sandplains with heath and banksia woodlands.	Unlikely – no individuals were identified during the survey and most of the alignment has been developed, reducing the area of potential habitat available to this species along the alignment.
Carpet Python (*Morelia spilota* subsp. *Imbricata*)	Other specially protected fauna		This subspecies has been recorded in semi-arid coastal and inland habitats consisting of Banksia woodland, eucalypt woodlands, and grasslands.	Unlikely – no individuals were identified during the survey and most of the alignment has been developed, reducing the area of potential habitat available to this species along the alignment.
INSECTS				
Graceful Sun Moth (*Synemon gratiosa*)	Priority 4		The Graceful Sun Moth was formerly Endangered under the EPBC Act, however has now been delisted and is only listed as a Priority 4 under the WC Act. It occurs in Banksia woodland where *Lomandra hermaphrodita* is present.	Unlikely – *Lomandra hermaphrodita* was not identified on site during flora surveys