Attachment 2 – The PTA's response to key issues raised in public submissions.

Flora and Vegetation	The final list of significant residual impacts to environmental values for
	The final list of significant residual impacts to environmental values for
1. To respond to public comments regarding environmentalThe impacts at the proposed Ranford Road Station (no. 67, 68, bo 76, 88, 89, 95, 97, 105 and 118), please provide any furtherThe bo At anformation and/or clarification about other potential layouts that the can further minimise impacts to native vegetation and releaseThe release	both of the Ranford Road Station layout design options is provided in Attachment 7 – Ranford Road Station report (PTA, 2019b). In summary, the PTA propose to construct Option 1 as it retains a larger amount of emnant vegetation with longer term viability due to the following:
It is recommended that the response to this comment provide a well-reasoned response to the specific recommendations in this comment.	<ul> <li>Reduced native vegetation clearing overall (4.06 ha, versus 5.33 ha in Option 2).</li> <li>Reduced clearing of Bush Forever Site 388 (3.34 ha, versus 4.56 ha in Option 2).</li> <li>Increased viability of remaining native vegetation due to larger size of the retained native vegetation (2.38 ha, versus 1.07 ha in Option 2).</li> <li>No fragmentation of the 2.59 ha retained vegetation remnant as it is adjacent to, and maintains connectivity to Bush Forever Site 388.</li> <li>Reduced native vegetation clearing of suitable and supporting Caladenia huegelii habitat (3.20 ha, versus 4.56 ha in Option 2).</li> <li>Reduced clearing of Conservation Category Wetlands UFI 6911 and UFI 13332 (3.20 ha, versus 4.56 ha in Option 2), and avoidance of clearing Conservation Category Wetland UFI 6912.</li> <li>Reduced risk of further spread of dieback by minimising the project footprint, and retaining the vegetation remnant outside of the proposal's development envelope.</li> </ul>

## Attachment 2 – PTA Response to Public Comments

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	potential direct and indirect impacts to native vegetation at the Ranford Road Station site.
Terrestrial Fauna	
<ol> <li>To respond to the public comments about native bees (no. 20, 89), please provide any further information and/or clarification about whether any surveys for native bees were undertaken for the proposal.</li> <li>If not, set out the key considerations for not undertaking surveys for native bees.</li> <li>EPA Services recommends that the response to this comment refer to the EPA's Technical Guidance - Terrestrial fauna surveys, where relevant and appropriate.</li> </ol>	The Swan Coastal Plain (SCP) has six native bee species of conservation concern (DBCA 2019) ranging from Critically Endangered to Priority 3. Invertebrate Solutions (2019) conducted a desktop habitat assessment (included as Attachment 6) which included an assessment of the likelihood the six identified native bee species occur within the TCL proposal development envelope and where present, potential significant impacts from the proposal. Two of the identified native bee species ( <i>Leioproctus contrarius</i> and <i>Leioproctus douglasiellus</i> ) had no habitat present within the development envelope based upon their floristic associations (Invertebrate Solutions 2019, GHD 2019). Three identified native bee species ( <i>Hesperocolletes douglasi</i> <i>Leioproctus (Glossurocolletes) bilobatus</i> and <i>Neopasiphae simplicio</i> ) were determined to have a Low likelihood of occurrence within the development envelope when considering the known distributions records of the species and the historical nature of many of these species' records on the SCP. <i>Hylaeus globuliferus</i> (Priority 3) was determined to have a Moderate likelihood of occurrence within the proposal development envelope and due to the species' widespread distribution and the small amount of potential habitat to be impacted, no significant impacts to this species are anticipated.
	be managed through standard construction management measures such

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	as weed control. The PTA therefore proposes to adopt a risk based approach in accordance with Technical Guidance – Sampling of Short Range Endemic Invertebrate Fauna (EPA 2016), without conducting a field survey for short range endemic species (SREs). The PTA will ensure that the recommended SRE management measures are incorporated into the construction contractor's Construction Environmental Management Plan (CEMP). Please refer to Attachment 6 SRE Desktop Habitat Assessment Report (Invertebrate Solutions) for further information.
<ol> <li>In light of the public comments about records of honey possums (no. 88, 95, and 97) in Ken Hurst Park and Jandakot Airport Bushland, please provide any further information and/or clarification about the likely impacts of the proposal on foraging habitats and the viability of the local population of the honey possum.</li> </ol>	The PTA conducted a desktop impact assessment, provided below, to assess potential impacts from the proposal to the local Honey Possum population referred to in the public comments.
It is recommended that your response have regard to the potential cumulative impacts from the combined impacts of Ranford Road Station and the Jandakot Link road.	Background The Honey Possum ( <i>Tarsipes rostratus</i> ) is endemic to the south-west of Western Australia and is known to occur at Ken Hurst Park (Bush Forever Site 245, Waters 2014) and Jandakot Airport Bushland (Bush Forever Site 388, NACMS 2016) where it is considered of local significance. However the species is not currently listed under State or Federal environmental legislation. The species persists in a few larger bushland remnants on the Swan Coastal Plain (Government of Western Australia, 2000). This small marsupial is found in Banksia woodlands, sandplain heaths and low open woodlands, feeding on nectar and pollen (Van Dyck and Strahan, 2008). As it relies on a year-round supply of flowering plants, the Honey Possum requires large, well-connected areas of bushland so it can move between areas in flower.

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	Bradshaw and Bradshaw (2002) found that the mean area used by Honey Possums was 0.54 ha (0.79 ha for males and 0.14 ha for females, determined by radio-tracking) with males travelling up to 500 m in a day. The Honey Possum is known to roam widely to forage on flowering plants, and therefore is likely to disperse throughout Ken Hurst Park and Jandakot Airport Bushland.
	As noted in the public comments, the Honey Possum was recorded as a single specimen during a fauna survey in 2014 within Lot 500 Ranford Road (Bush Forever Site 388), adjacent to the proposed Ranford Road Station (NACMS 2016).
	Local Habitat
	For the purposes of assessing potential impacts to the local habitat of the Honey Possum, impacts are assessed with reference to the 'local area' of potential Honey Possum habitat in the following and presented in <b>Figure 1</b> :
	<ul> <li>North-eastern portion of Jandakot Airport Bushland Bush Forever Site 388 – approximately 651 ha)</li> </ul>
	<ul> <li>Ken Hurst Park Bush Forever Site 245 – 58 ha</li> </ul>
	Caladenia Grove Reserve (approximately 4.5 ha)
	Therefore a total area of 713.5 ha has been used for local habitat.
	Ranford Road Station Clearing Impacts
	It is estimated at the Ranford Road Station site, the implementation of the
	TCL proposal will remove approximately 4.27 ha of suitable Honey

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	Possum habitat. Outside of the development envelope, there is estimated to be 710 ha of suitable habitat for the Honey Possum in the local area (as per above definition). Therefore, the TCL proposal will clear approximately 0.6 % of suitable Honey Possum habitat in the local area ( <b>Figure 1</b> ). This loss of habitat is unlikely to significantly impact the viability of the local population of the Honey Possum due to the availability of habitat outside the development envelope.
	Ranford Road Station Fragmentation Impacts
	The PTA has minimised the Ranford Road Station footprint as much as practicable, however, there is the potential for construction of the Station to present an additional barrier to the movement of Honey Possums between Jandakot Airport Bushland and Caladenia Grove Reserve ( <b>Figure 1</b> ). Currently, the Ranford Road dual carriageway may be a substantial deterrent to Honey Possum individuals moving between these two areas.
	There is the potential that the Honey Possum may utilise the habitat within Caladenia Grove Reserve for foraging and dispersal, however this habitat is isolated within the fenced reserve and fragmented from other areas of habitat by the Ranford Road dual carriageway. It is not known whether the Honey Possum occurs within the Reserve.
	As the remaining habitat adjacent to Ranford Road Station in Jandakot Airport Bushland is still connected to the broader local habitat through to Ken Hurst Park, the construction of the Station is unlikely to result in a significant fragmentation impact on the local Honey Possum population.
	Ken Hurst Park Fragmentation Impacts

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	The existing freight railway corridor intersects Ken Hurst Park, and it is possible that Honey Possum individuals can currently disperse between the northern and southern sides of the Park (due to gaps in fences). Currently freight trains pass through the corridor approximately 18 times during the day and 6 times per night. The construction and operation of the new adjacent passenger railway will present an additional barrier to the movement of Honey Possums through the corridor due to the:
	<ul> <li>Presence of additional passenger trains within the corridor travelling at an increased speed and frequency.</li> </ul>
	<ul> <li>Construction of a new fence either side of the corridor to prevent unauthorised corridor access.</li> </ul>
	This additional barrier is likely to fragment the local Honey Possum population and further limit the existing genetic connectivity presented by the freight corridor. There will be an approximate 20 ha patch of habitat in Ken Hurst Park remaining north of the rail corridor following construction of the proposal ( <b>Figure 1</b> ).
	This habitat is connected to the broader patch between Roe Highway and the rail corridor, which is approximately 40 ha in area. The construction of the proposal is therefore likely to reduce the carrying capacity of this patch of habitat, however not to the extent that the species is likely to decline. The remaining availability of habitat south of the railway corridor in the local area is considered adequate for the local population to persist and therefore the fragmentation is unlikely to be of significance to the local population.
	The PTA is cognisant that improvements to fencing along the railway at the boundary of Ken Hurst Park may change the way the Honey Possum moves through the landscape. The PTA will install chain mesh security fencing along the boundary of Ken Hurst Park, which has 50 mm size

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	spacing which some smaller individuals may be able to fit through. Therefore the rail corridor boundary fencing may restrict movement of some Honey Possum individuals, however there is still the potential for individuals to climb over the fence. As Honey Possums are mostly nocturnal it is anticipated that they would be more likely to cross the railway corridor at night when there are fewer train movements.
	<u>Cumulative Project Impacts</u> The City of Canning proposes to construct the Jandakot Eastern Link Road from Ranford Road to Johnston Road, Canning Vale. The alignment of the road was reserved under Metropolitan Regional Scheme
	(MRS) Amendment 1312/57. If both the TCL proposal and the Jandakot Eastern Link Road are constructed this would remove further suitable habitat for the Honey Possum ( <b>Figure 1</b> ). The cumulative loss of Honey Possum habitat is not considered to be significant due to the remaining availability of suitable habitat in the local area and that this loss is unlikely to significantly impact the viability of the local population of the species.
	Construction of the Jandakot Eastern Link Road is likely to sever local habitat connectivity and fragment a patch of suitable Honey Possum habitat to the south of the road alignment, approximately 17 ha in area ( <b>Figure 1</b> ). Based on the average home range (0.54 ha) of the Honey Possum (Bradshaw and Bradshaw 2002), and requirement for dispersal to forage on flowering plants, the fragmentation impact from the
	construction of the Jandakot Eastern Link Road in addition to the fragmentation from construction of the TCL Proposal could potentially result in limited genetic connectivity between the two remaining habitat areas, and could result in two distinct populations. These two populations would be north and south of the Jandakot Eastern Link Road. Should the

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	Jandakot Eastern Link Road not be constructed, the fragmentation impact from construction of the TCL Proposal is unlikely to be of significance in isolation.
<ol> <li>A number of public comments have raised issues relating to the proposal impacting on fauna movement as a result of the construction of fauna exclusion fencing.</li> <li>Please provide any information relating to fauna movement between areas of remnant native vegetation adjacent to the proposal (particularly Ken Hurst Park) and how it may be impacted following construction of the proposal.</li> <li>It is recommended that your response to this comment has consideration for the current situation along the freight corridor and the potential lack of barriers to fauna movement.</li> </ol>	The current fencing along the freight rail corridor is variable, with some areas fully fenced to restrict human access, some areas fenced with fauna exclusion fencing, some areas with low fencing and areas without fencing. There is currently one main area within the TCL proposal development envelope where remnant native vegetation occurs on either side of the freight rail corridor. This is located adjacent to Ken Hurst Park (Bush Forever Site 245) and the northern boundary of Jandakot Airport Bushland (Bush Forever Site 388). This area is shown in <b>Figure 1</b> . In this area the current fencing condition and connectivity is variable and would limit the ability for ground-dwelling fauna to move across the rail corridor to some extent. The TCL Proposal includes improvements to fencing along the entire length of the alignment, and at the above location the following fencing specifications will be installed along railway corridor boundary with adjacent bushland: Chain mesh Aloo mm height So mm aperture Buried fauna fence and fence skirt (see <b>Plate 1</b> attached) <u>Medium/Large Ground-dwelling Fauna</u> Installation of the new fencing in this area will therefore create an

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	additional barrier to the movement of medium to large ground-dwelling fauna, such as Quenda and Western Grey Kangaroos.
	Installation of new fencing may further fragment the local populations of these larger species and further limit the genetic connectivity. There is existing fragmentation and associated reduced genetic connectivity due to the freight railway corridor and current operation of freight trains passing through the corridor approximately 18 times during the day and 6 times per night. Therefore, it is likely that the local populations of these larger ground-dwelling species would be adapted to avoiding crossing the rail corridor and dispersing and utilising the habitat on the northern and southern sides of the corridor.
	The operation of the new passenger railway will present an additional barrier to the movement of larger ground dwelling fauna and there will be patches of habitat over 40 ha both north and south of the railway corridor following construction of the proposal. The construction and operation of the proposal is therefore likely to reduce the carrying capacity of the northern patch of habitat, however not to the extent that a fauna species is likely to decline. The remaining availability of habitat south of the railway corridor in the local area is considered adequate for the local populations to persist and therefore the fragmentation is unlikely to be of significance to the local populations.
	Arboreal and Small Ground-dwelling Fauna
	Arboreal species (e.g. the Honey Possum) and small ground-dwelling species (e.g. snakes, lizards and frogs) may still be able to move across the railway corridor with the new fencing installed. Currently, freight trains

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	pass through the corridor approximately 18 times during the day and 6 times per night. The construction and operation of the new passenger railway will present an additional barrier to the movement of ground dwelling fauna should they navigate through the fence, due to the increased movement of passenger trains within the corridor. This additional barrier may further fragment local populations of these species, however based on the level of existing fragmentation from the freight corridor this is unlikely to be of significance to the local populations.
Offsets	
<ol> <li>To respond to the public comment about environmental offsets (no. 36), please provide any further information and clarification as to how the proposed environmental offsets for the clearing of Threatened Ecological Communities, wetlands and Threatened fauna habitats can be considered as environmental offsets, if the proposed offset sites are already protected and management is already being applied.</li> </ol>	Further information and clarification as to how the proposed environmental offsets for the clearing of Threatened Ecological Communities, wetlands and Threatened fauna habitats meet the requirements of the WA Environmental Offsets Policy is provided in Attachment 9 – Offsets Additional Information Report.
The response to this comment should be couched in the context of the WA Environmental Offsets Policy and Guidelines, where relevant and appropriate.	

## **References**

Bradshaw, S.D. and Bradshaw, F.J. (2002) Short-term movements and habitat use of the marsupial honey possum *(Tarsipes rostratus)* Journal of Zoology Volume 258, Issue 3, November 2002.

Department of Biodiversity Parks and Attractions (DBCA). (2019). Wildlife Conservation (Specially Protected Fauna) Notice 2019. <u>https://www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-animals</u>

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Government of Western Australia (2000) Bush Forever, available at: https://www.planning.wa.gov.au/publications/5911.aspx.

Invertebrate Solutions (2019). Conservation Significant and Short Range Endemic invertebrate desktop habitat assessment Thornlie-Cockburn Link Proposal, Perth, Western Australia. Technical memorandum to the Public Transport Authority, June 2019.

Natural Area Consulting Management Services (NACMS) (2016) Ranford Road Bushland Flora and Fauna Report. Unpublished report prepared for City of Canning.

Waters, A (2014) *Ken Hurst Park Strategic Management Plan 2014-2019,* Woodgis Environmental Assessment and Management for the City of Melville, Perth.

Figure 1: Suitable Honey Possum Habitat – Local Context





Plate 1: Indicative rail corridor boundary fencing. Left to right – standard, fauna fence mesh buried and fauna fence with mesh buried and apron.