



Catalina Residential Development Assessment Documentation – Further Information

Prepared for
SEWPaC

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Catalina Residential Development Further Assessment Information

PREPARED FOR Tamala Park Regional Council

PROJECT NO 11PERFED-0007

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1 Introduction

The Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) on 25 January 2010 provided their decision and approach based on the submitted referral documentation, to assess the proposed Catalina Residential Development on 'Preliminary Documentation'.

The following documentation sets out the request by the Department, via email per Melinda Pearce, 4 February 2010 (Attached, see **Appendix 1**), for further information required to complete the assessment in relation to EPBC Referral: 2010/5785.

1.1 PUBLIC NOTIFICATION PERIOD AND SUBMISSIONS

Following the public notification period of 7 February 2010 to 7 March 2010, a total of zero (0) submissions were received in relation to the Catalina Residential Development. Accordingly the remainder of this report deals exclusively with the additional information requested by the Department of Sustainability, Environment, Water, Population and Communities.

1.2 SEWPAC REQUEST FOR FURTHER INFORMATION

The following email correspondence covers the further information requested by SEWPaC to enable/assist during the assessment phase for the Catalina development. Original correspondence is attached in **Appendix 1**.

Melinda Pearce (email correspondence)

As discussed, during the comment period, we would appreciate if you could provide us with responses to the following (to assist us during the assessment period):

- Your referral includes measures to avoid or reduce impacts to Carnaby's Black Cockatoos through retaining and replanting vegetation on site and acquiring a parcel of land as an offset. While I note the general information you have provided about this parcel of land, we will require specific information on the offset site to be able to complete our assessment of your proposed action. We therefore ask you provide further information as follows:
 - Details of the parcel of land to be acquired as an offset for clearing black cockatoo foraging habitat including:
 - the size and location of the site
 - the vegetation present on the site
 - the price of the land
 - the quality of the black cockatoo habitat on the site, and
 - the tenure and who will maintain responsibility of the site.
 - Details of conversations with WA DEC, including any details of funding arrangements.
- Please confirm whether *Phytophthora cinnamomi* (plant root pathogen or 'dieback') has been recorded on this site or nearby. This plant disease is lethal to many native plant species and may result in severe impacts to fauna reliant on these for food or shelter. If there are positive records of this pathogen, please provide management and containment plans for this site to prevent its spread.

- Your referral indicates that there are 57 trees with a DBH greater than 500mm. A woodland stand with more than three trees with a DBH greater than 500mm has previously been considered to constitute breeding habitat for black cockatoos.
 - Please clarify the total areas to be cleared in terms of breeding and/or foraging habitat.
 - Please clarify mitigation strategies for the removal of large trees, particularly if they contain hollows.
- Please provide details of the rehabilitation to occur on site. This should include the species to be used, the planting density and ratio of species. Please also provide details of what monitoring will occur to ensure survival of these plants.
- The referral notes that vegetation to be retained may be fenced. Please provide details of the conservation management of these areas and the arrangement to maintain these in perpetuity.
- The referral notes that the Western Australian Planning Commission has approved the rezoning of the site to “Urban Deferred” with conditions. The Department notes that one of the conditions of this approval is an environmental management plan, including: proposals for revegetation, management of remnant vegetation and retention of good quality remnant vegetation. Please provide the aforementioned plan and management measures to better allow us to assess the potential impacts of the proposed action.
- Please provide details of any other infrastructure proposed for the project site i.e. roads.
- Please provide details of the density of the proposed housing and details of the type of commercial and business developments within the site.
- Please provide an update on the status of the state planning process i.e. the Local Structure Planning and any conditions placed on the project site in terms of environmental outcomes.

Each of the above items are covered in the following sections.

2 Proposed Offset Site

SEWPaC

Your referral includes measures to avoid or reduce impacts to Carnaby's Black Cockatoos through retaining and replanting vegetation on site and acquiring a parcel of land as an offset. While I note the general information you have provided about this parcel of land, we will require specific information on the offset site to be able to complete our assessment of your proposed action. We therefore ask you provide further information as follows:

- *Details of the parcel of land to be acquired as an offset for clearing black cockatoo foraging habitat including:*
 - *the size and location of the site*
 - *the vegetation present on the site*
 - *the price of the land*
 - *the quality of the black cockatoo habitat on the site, and*
 - *the tenure and who will maintain responsibility of the site.*
- *Details of conversations with WA DEC, including any details of funding arrangements.*

Response

Discussions and arrangements with WA DEC in relation to the acquisition of a suitable parcel of land for offsetting impacts (offsite) to Carnaby's Black-Cockatoo are near completion and are to be finalised by DEC upon conditional approval. Purchase of offset lands (by DEC) will follow the criteria outlined in the Mitigation and Offsets Management Plan (Page 13), with DEC having defined the requirements further to meet the needs of the agency.

General arrangements as supplied by Alex Errington of the 'DEC Land Tenure Project' are as follow:

- The consolidated property will be at least 420 ha in area containing a mix of habitat features typical of the area.
- The site will be chosen from several available parcels north of Gingin (approximately 65km north east of the Catalina site), within the "area of interest" marked on **Figure 1** below.
- Final property selection is expected to take place following SEWPaC approval. The site selection will be finalised and purchased by DEC, with the intention of securing the lands as a Nature Reserve, and consequently managed as such in perpetuity by DEC. Tamala Park Regional Council will reimburse DEC for the cost of acquisition.
- Based on similar previous agreements for the purchase of offset lands in the area it is expected the purchase price will be within the range of \$300,000 - \$400,000.

- The Catalina site contains habitat varying from *degraded* to *good* (Syrinx Env). The site acquired by DEC will contain vegetation which has equivalent habitat values to that of the Catalina development for the Carnaby's Black-Cockatoo on the Swan Coastal Plain.

WA DEC has previously procured (at least) eight properties in the Gingin area for proponents requiring offset sites as part of an EPBC Act approval process. Funding will be provided to the DEC following the commencement of development of the Catalina project. This course of action has been endorsed by SEWPaC on each occasion, with the general outcome ensuring improved recovery and protection of habitat (and the species) following unavoidable impacts to habitat due to urban expansion in the Perth metropolitan region.

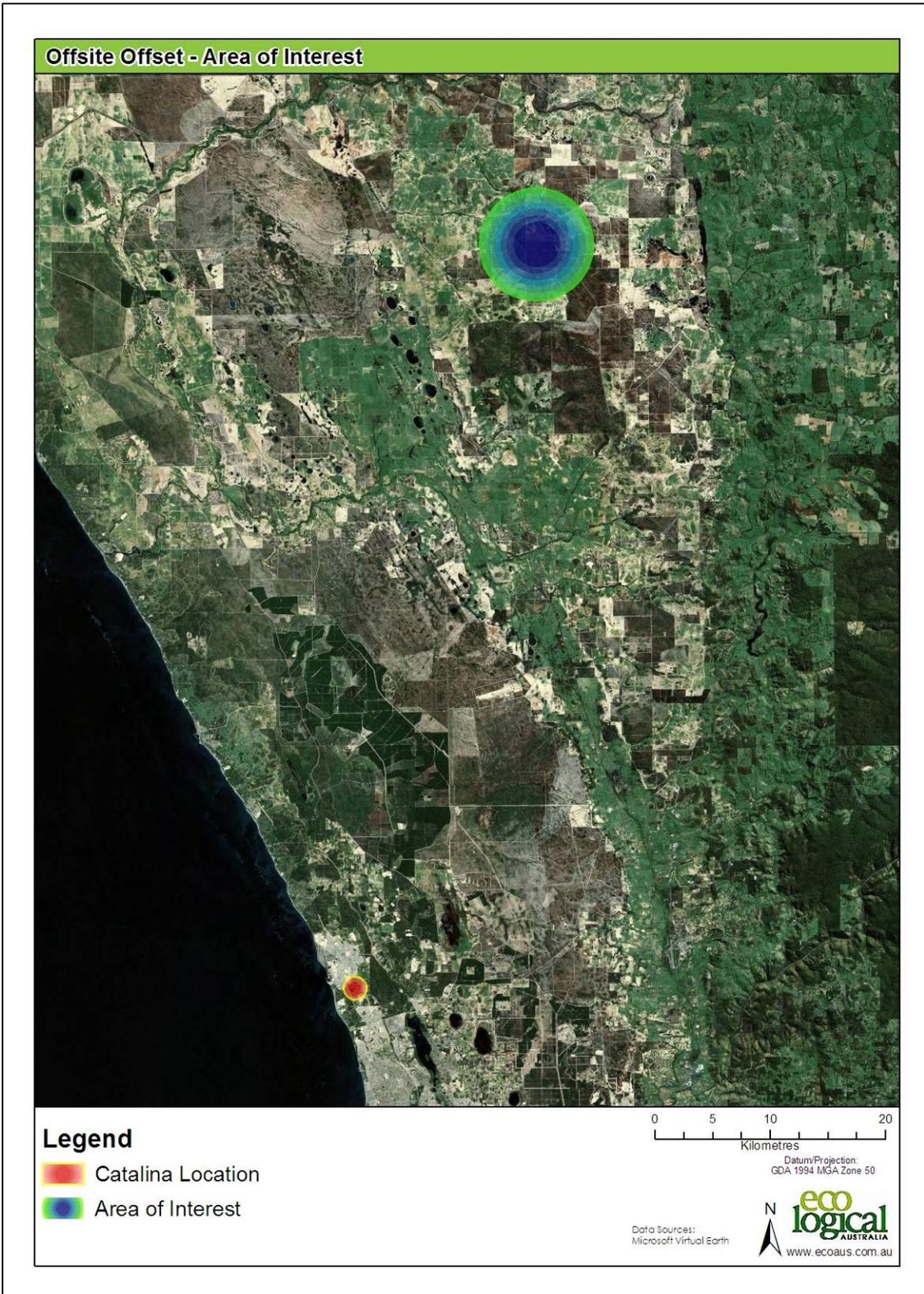


Figure 1: Offset site locations.

3 Presence of Dieback

SEWPaC

Please confirm whether *Phytophthora cinnamomi* (plant root pathogen or 'dieback') has been recorded on this site or nearby. This plant disease is lethal to many native plant species and may result in severe impacts to fauna reliant on these for food or shelter. If there are positive records of this pathogen, please provide management and containment plans for this site to prevent its spread.

Response

Phytophthora cinnamomi is a soil borne pathogen belonging to the water mould group (*Oomycetes*) and is the only disease listed as a key threatening process at a national scale.

To date no evidence exists of *Phytophthora* dieback on site. Pinjar Reserve is the only reserve managed within City of Wanneroo that has dieback present (CoW, 2008). As such the City of Wanneroo is taking all preventative measures it can to decrease the risk of other bushland areas being affected by the disease.

Syrinx Environmental carried out a level 2 flora/vegetation survey and prepared a report (May 2010 – attached with original referral documentation) for the Catalina site, which includes an analysis of vegetation condition. Findings revealed no evidence of dieback or responses to plant pathogens in general (including *Phytophthora spp*).

Phytophthora is unlikely to express as dieback disease in the study area due to its well drained and alkaline soils, however hygiene measures used to control *Phytophthora* can also be useful in restricting the introduction of weeds and disease in general.

As there is no practical large-scale cure for *Phytophthora* dieback, prevention of infection is the primary means of defence. This involves preventing movement of infected soil, plant matter and water into uninfected areas, and careful placement of tracks so that they do not cross between infected and uninfected areas. *P. cinnamomi* can be readily spread in the landscape through the movement of soil (e.g. on earthmoving machinery, vehicle tyres or boots), plant material and water that is infested with this pathogen. A risk exists that during the subdivision and development, machinery used to clear the vegetation may be contaminated from previous work on an infested site. As *Phytophthora* dieback cannot be eradicated, preventative management is recommended in an attempt to limit its spread.

Further, Syrinx Environmental have prepared a draft Environmental Management Plan for the site, which includes proposed management and actions for the mitigation of impacts relating to dieback.

Management of Phytophthora Dieback

- All machinery used on site should be washed down at an appropriate facility before any works on site are started. This will not need to be a regular practice if the same machinery remains on site during works, but will have to be implemented in all instances where machinery is used outside the development site area.
- Construction of paths and swales needs to be planned carefully to avoid water ponding in areas of vegetation, as waterlogged conditions are favourable for the growth of *P. cinnamomi*.

- Any imported soil (if required) and fill is to be certified dieback-free.

Actions

For proposed actions relating to the management of dieback, refer to EMP Key Management Actions Table (Table 2) **Actions: 6.1 – 6.6** [attached]

Monitoring of Phytophthora dieback is covered in **section 18.5.3** (pg 71) of the attached EMP covering in general

4 Breeding Habitat – Carnaby’s Black-Cockatoo

SEWPaC

Your referral indicates that there are 57 trees with a DBH greater than 500mm. A woodland stand with more than three trees with a DBH greater than 500mm has previously been considered to constitute breeding habitat for black cockatoos.

- Please clarify the total areas to be cleared in terms of breeding and/or foraging habitat.
- Please clarify mitigation strategies for the removal of trees, particularly if they contain hollows.

Response

Syrinx Environmental have described the patch of vegetation containing the aforementioned potential breeding/roosting trees as follows:

Vegetation Type 7:

Eucalyptus gomphocephala and *E. marginata* Woodland over *Banksia attenuata* Low Open Woodland over *Xanthorrhoea preissii* / *X. brunonis*, *Hakea lissocarpa* Shrubland over *Hibbertia hypericoides*, *Gompholobium tomentosum* Low Shrubland over Mixed Very Open Grassland / Mixed Very Open Herbland / *Mesomelaena pseudostygia* Open Sedgeland.

Tingay and Associates (1999): *Banksia* Woodland over *Hakea lissocarpa*, *Acacia rostellifera*, *Dryandra sessilis* and *X. preissii*; and Jarrah, Tuart and Coastal Blackbutt (*E. todtiana*) with occasional *Banksia* over parkland cleared.

Vegetation Condition: Good - Degraded

This vegetation type is typified by tall remnant trees predominantly Tuart and Jarrah interspersed with *Banksia* and *Allocasuarina* species. This vegetation type is patchy with localised areas of *Banksia* or *Eucalyptus* dominance; however the patches are too small to warrant the delineation of two different vegetation communities. This community is outlined as a large area on the eastern edge of Lot 9504 Marmion Ave (Figure 13) with both Degraded and Good condition vegetation. The area of bushland adjacent to the railway line is the best example of this vegetation community on site and is in good condition.

The remainder of the habitat on site is considered to constitute that of only feeding/foraging habitat.

Given the above SEWPaC supplied description in relation to what constitutes potential breeding habitat, it is estimated that of the total habitat area (72.5 ha) proposed to be cleared in the referral documentation, 11.0 ha of this habitat could be considered a combination of both foraging and *potential breeding* habitat (containing trees of >500mm DBH), a further 2.1 ha (16%) of this habitat is to be conserved in Public Open Space (**Figure 2** Below). Accordingly, offset sites being considered would consist of a suitable mix of both foraging and what constitutes *potential breeding* habitat which aims to achieve a suitable like for like scenario (**section 2** further discusses current offset scenarios).

All trees proposed for removal are to be checked for hollows and/or presence of fauna prior to clearing.



Figure 2: Areas of Potential Breeding and Foraging Habitat within the Eastern Cell

5 Proposed Revegetation & Protection

SEWPaC

Please provide details of the rehabilitation to occur on site. This should include the species to be used, the planting density and ratio of species. Please also provide details of what monitoring will occur to ensure survival of these plants.

Response

The Environmental Management Plan recently prepared for the Catalina site (attached) provides for the rehabilitation and revegetation of open spaces on site. Section 12, pages 49 – 54 covers vegetation enhancement and protection for the Catalina site.

Actions required for Vegetation Enhancement and Protection are covered within sections 3.1 – 3.16 of the Key Management Actions Table (Pages 79 & 80). The following Actions are pertinent to the provision of revegetation requirements and monitoring:

- *Action 3.4:* requires the preparation and implementation of a 'Revegetation Plan' prior to construction on site. This plan will be provided to SEWPaC upon finalising and prior to implementation on site.
- *Action 3.5:* provides for the use of local native species of local provenance
- *Actions 3.12 – 3.16:* cover the baseline surveys and monitoring program to be established for the site

Suitable species will be chosen depending on stock availability from the local native species list in **Attachment XX**. Densities and ratios for species to be planted on site will be detailed within the above mentioned 'Revegetation Plan' which is currently being developed.

SEWPaC

The referral notes that vegetation to be retained may be fenced. Please provide details of the conservation management of these areas and the arrangement to maintain these in perpetuity.

Response

Details of the proposed management of conservation areas and their security in perpetuity are discussed below.

On Site Mitigation

TPRC are proposing several mitigation measures to maximise the potential for the site to continue to be utilised by Carnaby's Black-Cockatoos during and following development at Catalina. Implementation of mitigation measures will span the life of the development, from specific habitat protection at project clearing inception through to the ongoing management of dedicated habitat areas in Public Open Space (POS).

Habitat Avoidance and Mitigation of Impacts

Of the 85.8 ha of Carnaby's Black-Cockatoo habitat at Tamala Park, 13.3 ha (15.5%) will be retained and managed to ensure the site remains a viable and functioning stepping-stone between the Western Offset (within Bush Forever 322 site to the west) and the Neerabup National Park and Bush Forever to the east of Catalina. The Carnaby's Black-Cockatoo habitat being retained comprises the vast majority of high quality vegetation at Catalina; specifically two large areas of POS in the west of the Central cell (see Figure 1). Additionally, this equates to the integrity of some of the larger patches of existing Carnaby's Black-Cockatoo habitat on site being maintained and protected.

The areas that have been designated for residential development have been selected to avoid and minimise impacts to Carnaby's Black-Cockatoo habitat where possible. The following principles were followed in selecting development land:

- Where possible, avoid species habitat by maximising use of degraded areas characterised by grazed exotic pasture.
- Avoid fragmenting and minimising impacts to large good quality patches of native vegetation and/or Carnaby's Black-Cockatoo habitat.
- Avoid loss where possible of good quality Carnaby's Black-Cockatoo habitat.

As a result, the areas proposed for development occupy land which is (where possible) largely comprised of exotic/degraded lands. Where impacts to Carnaby's Black-Cockatoo habitat could not be avoided, impacts to the more fragmented patches or boundary areas of Carnaby's Black-Cockatoo habitat were favoured, while high quality areas were prioritised for retention (e.g. POS within the Central Cell). Any loss is typically comprised of the more fragmented patches or boundary areas of Carnaby's Black-Cockatoo habitat on site.

On Site Retention and Habitat Conservation

TPRC worked with Syrinx Environmental to define key areas for protection and mitigation in relation to the development of the site structure plan. This section of the Offsets Plan contains the results of that work.

Two large areas of remnant bushland have been specifically chosen, following several levels of environmental survey and assessment, to be protected in perpetuity for the ongoing recovery of the Carnaby's Black-Cockatoo (western POS of the Central Cell). These areas of bushland contain good to very good condition habitat for the species. The 11.6 ha of bushland area will be protected through provisions in the Town Planning Scheme for a condition at subdivision requiring the POS to be ceded to the Crown free of cost and vested in the City of Wanneroo as a local reserve for the purpose of conservation. A Conservation Management Plan will be prepared by TPRC also as a condition of subdivision, which would then guide the City's ongoing management of the area. This in combination with a specified reserve purpose of conservation would provide a formal, ongoing protection mechanism for the bushland under the City's Town Planning Scheme.

The retention of a representative area of high quality vegetation, which will also serve as a key feeding ground for Carnaby's Black-Cockatoo on site, was a key consideration in determining the location of POS areas.

Management and Maintenance in Perpetuity of Public Open Space

Management is to be undertaken by TPRC during inception and development stages. Following completion, management and maintenance of the open space areas is to be undertaken by the City of Wanneroo.

Management and Maintenance in Perpetuity of Western Offset

Following completion, management and maintenance of the Western Offset site is to be transferred over to DEC/Conservation Commission for the purpose of conservation.

EMP (Syrinx) Strategies for fencing where/if required

Fence all areas requiring protection during construction works or to prevent unauthorised access over the long term. Fencing will prevent or control public access to the conservation areas both during the construction and occupancy stages of the development.

- Prior to undertaking works on site, all remnant bushland areas planned to be retained within the site, and those immediately abutting the site, must be protected via installation of temporary/permanent fencing. Where appropriate, hard walling may be used where gradients are more suited. A clear understanding of the boundaries of the adjacent the Bush Forever boundaries is to be passed on to contractors, and the management of bushland impacts included within their Construction Management Plan.
- Fence bushland and rehabilitation areas where the possibility of trampling exists e.g. narrow bands of bushland or corners along walk or cycle pathways to reduce 'edge effects'. Where cycleways extends through the bushland area, bollards should be used to prevent unauthorised vehicle access.

Place fencing appropriately to direct fauna to the underpasses or culverts connecting to larger areas of vegetation.

- All fencing to be installed must comply with City of Wanneroo requirements/specifications, or be rehabilitation type fencing such as ring-lock fence at a minimum along the eastern boundary of the conservation area and along the boundary with the Bush Forever sites to the south of the proposed development. A plan showing the indicative location of fencing is shown in Figure 15. Please note that the proposed infrastructure location (e.g. paths and boardwalks in the BCA) in this figure is indicative only and will be elaborated on in more detail in the further management plans for the conservation area.

6 Environmental Management Plan

SEWPaC

The referral notes that the Western Australian Planning Commission has approved the rezoning of the site to “Urban Deferred” with conditions. The Department notes that one of the conditions of this approval is an environmental management plan, including: proposals for revegetation, management of remnant vegetation and retention of good quality remnant vegetation. Please provide the aforementioned plan and management measures to better allow us to assess the potential impacts of the proposed action.

Response

The Environmental Management Plan (final) prepared for the Catalina site is attached (**Appendix 2**) as requested.

Management measures for onsite vegetation are also discussed/covered above in **Section 5**

7 Catalina Development Planning

7.1 PROJECT INFRASTRUCTURE

SEWPaC

Please provide details of any other infrastructure proposed for the project site i.e. roads.

Response

The Local Structure Plan provides for neighbourhood connector roads to service the site from Marmion Avenue, Neerabup Road and Connolly Drive. There is also provision for a significant social, pedestrian, cycle link running east to west across the site from the existing train station precinct to the western precinct and foreshore.

There is a planned pedestrian underpass from the eastern precinct to the train station and also controlled pedestrian crossings at Neerabup Road and Marmion Avenue.

Other infrastructure to be constructed would be internal/residential access roads, drainage swales, underground power, water, gas and sewer. Refer to **Attachment XX (Appendix XX)** for current indicative Structure Plan.

7.2 PROPOSED HOUSING DENSITY

SEWPaC

Please provide details of the density of the proposed housing

Response

Housing densities proposed under the Local Structure Plan across the site range from R30/60 to R60/80. Typically the R30/60 zone would have lot sizes ranging from 230m² to 500m² and be predominantly single residential with some larger group dwelling sites for diversity and affordability. The R60/80 zone would range from 160m² single residential sites to larger 3000-5000m² sites for multiple dwellings.

A breakdown of Western Australian R-Codes is provided (**Appendix XX**)

7.3 PROPOSED COMMERCIAL DEVELOPMENTS

SEWPaC

Please provide details of the type of commercial and business developments within the site

Response

The Local Structure Plan provides for 3,950m² of retail floor space across the site but predominantly clustered in the eastern neighbourhood activity centre. It is proposed that retail floor space will be distributed as follows:

- 250m² of retail floor space in the western precinct

- 400m² of retail floor space in the central precinct
- 3,300m² of retail floor space in the eastern precinct

The economic activation report prepared as part of the LSP identifies this retail development as being limited to convenience retailing in support of the existing retail service centre (Clarkson District Centre).

7.4 LOCAL STRUCTURE PLAN STATUS

SEWPaC

Please provide an update on the status of the state planning process i.e. the Local Structure Planning and any conditions placed on the project site in terms of environmental outcomes.

Response

The Tamala Park Local Structure Plan is completed and is currently lodged with the WA Department of Planning for assessment and approval. It is anticipated that formal approval of the LSP will be received in March/April 2011.

In relation to any conditional environmental outcomes, it is anticipated that following approval of the LSP that any subsequent application for approval to subdivide will attract subdivision conditions requiring preparation of at least (but not limited to) the following:

- Fire Management Plan
- Urban Water Management Plan
- Landscape Management Plan (for biodiversity areas)
- Dust & Noise Management Plan

8 Attachments

Species	Common Name
Family: Casuarinaceae	
<i>Allocasuarina fraseriana</i>	Sheoak
<i>Casuarina cunninghamiana</i> *	River Sheoak
Family: Mimosaceae	
<i>Acacia saligna</i>	Orange Wattle bark
Family: Moraceae	
<i>Ficus spp.*</i>	Fig tree
Family: Myrtaceae	
<i>Agonis flexuosa</i>	Peppermint Tree
<i>Callistemon viminalis</i> *	Bottlebrush
<i>Corymbia calophylla</i>	Marri
<i>Corymbia ficifolia</i>	Red Flowering Gum
<i>Eucalyptus citriodora</i>	Lemon-scented gum 9
<i>Eucalyptus gomphocephala</i>	Tuart
<i>Eucalyptus marginata</i>	Jarrah
<i>Eucalyptus salmonophloia</i>	Salmon gum
<i>Eucalyptus totidiana</i>	Coastal Blackbutt
<i>Eucalyptus wandoo</i>	Wandoo
Family: Proteaceae	
<i>Banksia ashbyi</i>	Ashby's Banksia
<i>Banksia attenuata</i>	Slender Banksia
<i>Banksia fraseri</i>	---
<i>Banksia grandis</i>	Bull Banksia
<i>Banksia ilicifolia</i>	Holly Banksia
<i>Banksia littoralis</i>	Swamp Banksia
<i>Banksia menziesii</i>	Firewood Banksia
<i>Banksia nivea</i>	Couch Honeypot
<i>Banksia nobilis</i>	Golden Dryandra
<i>Banksia prionotes</i>	Acorn Banksia
<i>Banksia prolata</i>	Tree Banksia
<i>Banksia sessilis</i>	Parrot bush
<i>Banksia splendida</i>	Shaggy Dryandra
<i>Banksia tricuspis</i>	Pine Banksia
<i>Banksia undata</i>	Urchin Dryandra
<i>Banksia verticillata</i>	Albany Banksia
<i>Grevillea armigera</i>	Prickly Toothbrush
<i>Grevillea hookeriana</i>	Red Tooth Brushes
<i>Grevillea paniculata</i>	Kerosene Bush
<i>Grevillea paradoxa</i>	Bottlebrush Grevillea
<i>Grevillea petrophiloides</i>	Pink Poker
<i>Hakea auriculata</i>	---
<i>Hakea circumalata</i>	---
<i>Hakea conchifolia</i>	Shell-leaved Hakea
<i>Hakea cyclocarpa</i>	Ramshorn

<i>Hakea falcata</i>	---
<i>Hakea gilbertii</i>	---
<i>Hakea incrassata</i> Golfball	Hakea
<i>Hakea laurina</i>	Pin-cushion Hakea
<i>Hakea lissocarpha</i>	Honeybush
<i>Hakea multilinea</i>	Grass leaf Hakea
<i>Hakea obliqua</i>	Needles and Cork
<i>Hakea pandanica</i>	---
<i>Hakea prostrata</i>	Harsh Hakea
<i>Hakea ruscifolia</i>	Candle Hakea
<i>Hakea scoparia</i> ---	
<i>Hakea sulcata</i>	Furrowed Hakea
<i>Hakea trifurcata</i>	Two-leaved Hakea
<i>Hakea undulata</i>	Wavy-leaved Hakea
<i>Hakea varia</i>	Variable-leaved Hakea
<i>Isopogon scabriusculus</i>	---
<i>Lambertia multiflora</i>	Flowered Honeysuckle
<i>Macadamia integrifolia</i> *	Macadamia
<i>Persoonia longifolia</i>	Snottygobble

Family: Xanthorrhoeaceae

<i>Xanthorrhoea preissii</i>	Grass tree
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