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Garden Street Extension

Construction Environmental Management Plan

Prepared for

City of Gosnells

November 2023

people planet professional

Document Reference	Revision	Prepared by	Reviewed by	Admin Review	Submitted to Client	
					Copies	Date
5413AA_Rev0	Internal Draft	N. Pfaff	A O'Brien	-	-	01/06/2023
5413AA_Rev1	Client Draft	M. Swift	K. Fox	LI	1x electronic	25/08/2023
5413AA_Rev2	Final	N. Pfaff	K. Fox	LI	1 x electronic	23/11/2023

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Executive Summary

This Construction Management Plan (CEMP) has been prepared to outline the City of Gosnells ('the City') approach to managing environmental impacts throughout the construction process of the Garden Street Extension ('the Proposal') as per Table 1 below.

Table 1: Summary and purpose of this CEMP.

Proponent name	Garden Street Extension, Southern River ('the Proposal'). City of Gosnells.
Ministerial Statement number	N/A
Purpose of the CEMP	The purpose of the Construction Environmental Management Plan (CEMP) is to support the City of Gosnells ('the City') in minimising the duration, intensity, and/or extent of impacts to the key environmental factors during construction of the Proposal. This CEMP has been prepared to support the Garden Street Extension, Southern River Section 38 Environmental Protection Act Referral Supporting Document. The CEMP outlines the management actions, management targets, monitoring and contingency actions relating to the construction of Garden Street Extension, to comply with environmental approvals and any relevant environmental legislation. The objective of this CEMP is to ensure best practice and/or appropriate environmental management practices are applied throughout the Proposal. In addition, this CEMP describes how the City will minimise the environmental risks and achieve environmental outcomes on the Proposal by providing a structured approach to ensure appropriate environmental control measures are implemented.
Key environmental factor/s, outcome/s and/or objectives	This CEMP has been developed with relevant information and management strategies for key environmental issues relating to the following: **Flora and Vegetation:** • To protect flora and vegetation so that biological diversity and ecological integrity are maintained. **Inland Waters:** • To maintain the hydrological regimes and quality of groundwater and surface water so that environmental values are protected. **Terrestrial Fauna:** • To protect terrestrial fauna so that biological diversity and ecological integrity are maintained.
Condition clauses	Controlled Action (EPBC 2016/7735) – note that the clearing area has reduced to 2.04 ha since the EPBC approval was issued: 1. For the protection of the EPBC Act listed species, the approval holder must not clear more than 4.58 hectares within the Proposal. 2. To mitigate and manage impacts to EPBC Act listed species, the approval holder must comply with and implement the Revegetation

	Management Plan, Landscape Management Plan and Environmental Management Plan. 3. Prior to the commencement of the action to install three artificial nesting hollows within 3 km of the Proposal: a) each artificial nesting hollow installed under condition 3 must be monitored and maintained in accordance with relevant artificial hollow guidance for the life of the approval, with maintenance actions, if required, undertaken outside of the breeding season and before the commencement of the next breeding season. Ministerial Statement: Approval Pending
Key components in the CEMP	The key provisions in this management plan are detailed in Section 2. These include objective based actions which will be applied at relevant stages of the Proposal.
Proposed construction date	Subject to approval, construction is due to commence as soon as possible during summer when the water table is at its lowest. Completion date is expected to be 18 months from the commencement of construction, with operational phase and project life in perpetuity.
EMP required pre-construction?	Yes ☒ No ☐

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1 Context, Scope, and Rationale

1.1 Proposal

The City of Gosnells (The City) is undertaking an extension of Garden Street between Harpenden Street and Holmes Street which involves the construction of an 840m section of a dual lane road (two lanes each direction; the Proposal). The Proposal is located predominantly within the suburb of Southern River, approximately 17km south-east of Perth Central Business District (CBD).

The Proposal consists of a 2.65 ha Development Envelope and comprises no more than 2.04 ha of native vegetation clearing. The proposed works include the following:

Road Design

- 14m wide open grade asphalt carriageway (not including median).
- 2m wide median island.
- Side slope of 3% falling towards road verges on either side in areas outside the wetland.
- Two gross pollutant traps to capture first flush prior to discharge into the wetland.
- Installation of three culverts to provide safe linkages between fauna habitat and to maintain connection of the wetland.
- All road batters will be vegetated with locally native nutrient retention species.

Construction Elements

- Road infrastructure located within the Development Envelope:
  - Earth fill.
  - Pavement.
  - Asphalt surfacing.
  - Median island street lighting.
  - Safety barriers.
  - Signs.
  - Landscaping of batters with native nutrient stripping plants.
- Pavement construction will require waterbind to achieve compaction. Potable water will be supplied from nearby hydrants using a standpipe.

Operational Elements

- Kerbing to direct water through two gross pollutant traps (to capture first flush) prior to discharge to the wetland through two multibox culverts.
- Outside the wetland area, stormwater will enter side entry gullies and discharge to the existing stormwater network through pipes under the road.

The overall site layout is as presented in Figure 1.

1.2 Purpose and Objectives

This CEMP has been prepared to outline and describe how the City will, during the construction of Garden Street extension Proposal, comply with environmental approvals and any relevant environmental legislation. The objective is to ensure best practice and/or appropriate environmental management practices are applied throughout the Proposal. In addition, this CEMP describes how the City will minimise the environmental risks and achieve environmental outcomes on the Proposal by providing a structured approach to ensure appropriate environmental control measures are implemented.

The contents of this CEMP apply to all of the City's project employees, contractors, subcontractors, consultants, advisors and visitors, and areas controlled by the Contractor relating to the Proposal.

The CEMP has been prepared in accordance with the 'Instructions on how to prepare *Environmental Protection Act 1986* Part IV Environmental Management Plans' (EPA 2021) and using the EPA's Environmental Management Plans template.

1.3 Key environmental factors

This CEMP has been developed with relevant information and management strategies for key environmental issues relating to the following key environmental factors:

- Flora and Vegetation
- Terrestrial Fauna
- Inland Waters
- Social Surroundings.

Details for each environmental factor is outlined in Table 1.

A separate Revegetation and Post Development Management and Monitoring Plan has been prepared.

Table 2: Key Environmental Factors, their Significance and Relationship to the Proposal Activity.

EPA Factor	Environmental value	Proposal Activity	Significance
Flora and Vegetation	Clearing of up to 2.04 ha of native vegetation which consists of the following overlapping flora and vegetation values: • 1.87 ha in good or better condition. • Up to 0.45 ha of native vegetation associated with a CCW. • Up to 1.2 ha of native vegetation within a Bush Forever Site No. 125. • Up to 1.58 ha of SCP23a - Central *Banksia attenuata – Banksia menziesii* woodlands of the Swan Coastal Plain TEC. • Loss of significant flora individuals specifically: ○ Up to seven individuals of *Jacksonia gracillima* (P3) ○ Up to three individuals of *Styphelia filifolia* (P3).	Clearing of native vegetation. Works including excavation, soil disturbance, compaction, movement, and stockpiling. Construction of permanent infrastructure and alteration of landscape. Operation and movement of plant, machinery, and vehicles during construction (including generation of dust and noise emissions). Discharge of water for the purpose of dust suppression where and when required.	Direct clearing impacts: • Loss of Priority flora due to clearing. • Loss of up to 1.87 ha native vegetation in good or better condition. • Loss of up to 1.58 ha of Banksia Woodlands of SCP TEC. • Loss of up to 0.45 ha of remnant vegetation associated with CCW. • Loss of up to 1.2 ha of native vegetation within Bush Forever Site 125. • Loss of up to 2.04 ha native vegetation. Indirect impacts associated with the Proposal are not expected to be significant: • Potential introduction/spread of dieback (*Phytophthora cinnamomi*) and weeds. • Potential alteration of vegetation structure and floristic composition in adjacent and /or surrounding areas via changes to surface water drainage patterns and alteration of fire regimes. • Increased dust deposition temporarily during construction. • Fragmentation.

EPA Factor	Environmental value	Proposal Activity	Significance
Terrestrial Fauna	• Direct impacts from the Proposal include loss of 2.04 ha of fauna habitat, which consists of the following overlapping fauna habitat values: ○ 1.59 ha of Banksia Woodland consisting of Carnaby's and Forest Red-tailed Black Cockatoos foraging and potential roosting habitat ○ 0.45 ha of low-quality foraging habitat consisting of Melaleuca Thicket for the Carnaby's Cockatoo ○ 0.9 ha of potential SRE habitat ○ 1.2 ha of potentially suitable habitat for two Threatened bee species (*Leioproctus douglasiellus* and *Neopasiphae simplicior*) comprised of Melaleuca thicket (0.3 ha) and Banksia Woodland (0.9 ha) ○ 2.04ha of highly suitable *Isoodon fusciventer* (Quenda) [P4].	Clearing of native vegetation. Works including excavation, soil disturbance, compaction, movement, and stockpiling. Construction of permanent infrastructure and alteration of landscape. Operation and movement of plant. machinery and vehicles during construction (including generation of dust and noise emissions). Discharge of water for the purpose of dust suppression where and when required.	Direct clearing impacts: • Potential fauna death during construction and from increased traffic • Migration of fauna to other areas Indirect impacts associated with the Proposal are not expected to be significant. • Loss of ecological connectivity. • Potential degradation of habitats from edge effects and habitat modification. • Potential introduction/spread of dieback (Phytophthora cinnamomi) and weeds. • Potential Altered fauna behaviours due to noise, lighting, and human presence. • Potential predation and competition from introduced, and other problem animals.
Inland Waters	0.45ha of native vegetation associated with a CCW.	Clearing of native vegetation. Works including excavation, soil disturbance, compaction, movement, and stockpiling. Construction of permanent infrastructure and alteration of landscape.	Direct impacts: • Loss of 0.45 ha of native vegetation associated with a CCW. • Changes to hydrological regimes due to alterations of surface drainage patterns.

EPA Factor	Environmental value	Proposal Activity	Significance
		Operation and movement of plant, machinery, and vehicles during construction (including generation of dust and noise emissions). Discharge of water for the purpose of dust suppression where and when required.	Indirect impacts associated with the Proposal are not expected to be significant: • Potential erosion and sedimentation. • Potential contamination of surface and/or groundwater due to accidental fuel/chemical spills and contaminated stormwater runoff.
Social Surroundings	Residential land users adjacent to the development. Potential unidentified cultural heritage.	Construction and permanent road infrastructure and alteration of landscape Operation and movement of plant, machinery, and vehicles during construction, including generation of noise and dust emissions and vibration. Disturbance of or damage to unidentified sites of cultural heritage value.	Direct impacts: • Noise, dust, and vibration impacts to nearby residential properties during construction. • Visual impacts to adjacent residential properties during the construction. • Potential impacts to unexpected cultural heritage during construction, however, there are no confirmed heritage sites within the Proposal.

1.4 Condition requirements

State

The Proposal is currently being assessed under Section 38, Part IV of the *Environmental Protection Act 1984* (EP Act). This CEMP supports the referral of the Proposal to the Environmental Protection Authority (EPA) under Part IV of the EP Act.

Federal

The Proposal was deemed to be a Controlled Action (EPBC 2016/7735) and approval for the Proposal subject to conditions was received on 25 October 2018 and is valid until 31 December 2030. The EPBC Approval is contained in Appendix A.

Condition requirements include (but are not limited to the following):

1. For the protection of the EPBC Act listed species, the approval holder must not clear more than 4.58 hectares within the Proposal.
2. To mitigate and manage impacts to EPBC Act listed species, the approval holder must comply with and implement the Revegetation Management Plan, Landscape Management Plan and Environmental Management Plan.
3. Prior to the commencement of the action install three artificial nesting hollows within 3km of the Proposal:
    a. each artificial nesting hollow installed under condition three must be monitored and maintained in accordance with relevant artificial hollow guidance for the life of the approval, with maintenance actions, if required, undertaken outside of the breeding season and before the commencement of the next breeding season.

Note that the clearing area has reduced to 2.04 ha since the EPBC approval was issued, so the 4.58 ha clearing limit has been reduced. It is noted that offset sites were put forward as part of the EPBC Act approval, which will need revising (along with the associated management plans) upon the Proposal being approved by the State, to ensure consistency between the State and Federal approvals.

1.5 Rationale and approach

This CEMP addresses potential impacts to key environmental factors that were determined as being relevant to the construction aspects of the Proposal. This CEMP adopts management provisions to achieve the environmental objectives for each key environmental factor, based on consideration of:

- Survey and study findings.
- Key assumptions and uncertainties.
- Avoidance measures.

- Environmental outcome or management objectives.
- Objective-based management objectives.
- Rationale for choice of provisions.

1.5.1 Survey and Study Findings

Table 2 presents the surveys and studies relevant to the Proposal, which have been considered in developing this CEMP. Details of the survey/study findings are presented in the Section 38 Referral Supporting Document.

Table 3: Surveys and Studies relevant to the Proposal

Survey	Survey Scope	Findings
Flora and Vegetation		
Vegetation and Declared Rare and Priority Flora Assessment – Garden Street Extension Woodman Environmental Consulting Pty Ltd (2004)	Detailed survey undertaken in October 2003 covering the Garden Street Road reserve plus 5 m either side of boundary.	Survey recorded: • 114 vascular plant species. • Seven weed species (no Weeds of National Significance (WoNS) or Declared Pests). • Six plant communities identified. • Vegetation in Excellent to Good condition. • Bush Forever Site 125 – vegetation in Excellent to Very Good condition. • No priority or threatened flora species recorded. • No Threatened Ecological Communities (TEC) identified.
Ecological Assessment of Sutherlands Bushland ENV Australia (2010)	Desktop searches undertaken in September 2009 and field survey undertaken in October 2009	Survey recorded: • 97 flora taxa. • 16 weed species (no WoNS or Declared Pests). • Seven vegetation units identified including SCPS3, SCP4 and SCP21C. • Vegetation in Excellent to Completely Degraded condition. • SCP21C which is representative of a P3 PEC was not recorded within Bush Forever Site 125. • No priority or threatened flora species recorded.

Survey	Survey Scope	Findings
Targeted Flora Survey – Garden St Extension and Widening, Southern River 360 Environmental (2014)	Targeted survey for *Drakaea elastica* and *Caladenia huegelii* undertaken on 5 August and 23 September 2014, covering 6.8ha including proposed extension footprint plus 10m buffer.	Survey did not record any species listed as Threatened pursuant to the EPBC Act or the Wildlife Conservation Act. 4 individuals of *Jacksonia gracillima* (P3) were recorded during the survey.
Holmes Street Bushland North – Phytophthora Dieback occurrence assessment Glevan Consulting (2015)	Dieback assessment undertaken from 4 to 30 November 2015 covering 50.6 ha Holmes Street Bushland North.	The majority (84%) of the Holmes Street Bushland North study area was observed to be infested with Dieback. The majority of the infested area is associated with low-lying water gaining sites, with the highest levels of expression present on the interface between the water gaining sites and the Banksia Woodland.
Phytophthora dieback mapping in the City of Gosnells (2019)	*Phytophthora* dieback occurrence mapping fieldwork conducted between the 1st of September 2019 and the 5th of September 2019 comprising reserves located within the City of Gosnells.	Two areas of *Phytophthora* dieback uninfested vegetation comprising approximately 1.4 ha (southwest corner of Sutherlands Park) and approximately 0.2 ha (northeast corner of Sutherlands Park) were identified within the approximate 22 ha *Phytophthora* dieback infested reserve.
Phytophthora Pathogen Management – City of Gosnells Reserves Mapping and Treatment (2023)	*Phytophthora* dieback occurrence survey and treatment program covering 46.7 ha of five City of Gosnells reserves, including Sutherlands Park.	Phytophthora dieback treatments were applied to infested vegetation and buffers along active disease edges using both stem injection and foliar spray where treatment areas focused on susceptible species dependant on species and tree size. The two uninfested areas located in the Sutherlands Park were identified as significantly smaller in comparison to previous 2019 mapping of the area.
Garden Street, Southern River Targeted Conservation Significant Species Survey PGV Environmental (2016)	Targeted survey for 6 Matters of National Environmental Significance (MNES) flora species undertaken in September 2016.	Survey did not identify any records of targeted species.

Survey	Survey Scope	Findings
Holmes Street Bushland North: Revegetation and Weed Management Plan Natural Area Consulting Management Services (2016)	Level 2 flora survey undertaken in October 2015 covering 53.6 ha of Holmes Street Bushland North including Bush Forever Site 125.	Survey recorded: • 170 vascular plant species. • 46 weed species including one WoNS (*Asparagus asparagoides*). • 12 vegetation types identified. • Vegetation in Excellent to Completely Degraded condition. • Bush Forever Site 125. • One priority flora species recorded - *Jacksonia gracillima* (P3). • No TEC or Priority Ecological Communities (PEC) identified.
Floristic Analysis Report – Garden Street Wetlands RPS Australia West Pty Ltd (2018)	Multivariate analysis of floristic survey data from five quadrats located in wetland vegetation at Garden Street site.	The five Garden Street test quadrats had the greatest affinity (based on their floristic composition) to the Southern SCP quadrats assigned to FCTS02, FCT13, FCTS03, FCT05 and FCT04. None of these quadrats were identified as having a similarity with any of the Claypans of the SCP FCTs (7, 8, 9, 10a and 117).
Garden Street Extension Ecological Survey Biologic (2023)	Detailed flora survey undertaken on 16-17 September and 10-11 November 2020 covering 4.65 ha. Updated in 2022 based on revised Development Envelope.	Survey recorded: • 186 vascular plant species. • 33 weed species including one WoNS (Asparagus asparagoides). • Two priority flora species recorded - *Jacksonia gracillima* (P3), *Styphelia filifolia* (P3). • Five vegetation types identified. • Two vegetation types representative of SCP23a which is a component of the Banksia Dominated woodlands of the Swan Coastal Plain TEC. • Vegetation in Excellent to Completely Degraded condition. • Bush Forever Site 125 recorded within survey area. • Vegetation associated with a CCW recorded within survey area.

Survey	Survey Scope	Findings
Terrestrial Fauna		
Biological Environmental Survey – Report to City of Gosnells Biologic Environmental Survey Pty Ltd (2023)	Two phase (Spring 2020) detailed and targeted flora and vegetation survey, and a single season (Spring 2020) Basic terrestrial vertebrate fauna survey and black cockatoo habitat assessment.	The survey recorded: • A total of 41 vertebrate fauna species. • Three conservation significant species which included Carnaby's cockatoo, forest red-tailed black cockatoo and quenda. • Three broad fauna habitats were mapped within the Development Envelope which include banksia woodland, Melaleuca thicket and cleared land.
Short-range endemic and significant invertebrate desktop assessment for the Garden Street Extension Proposal Phoenix Environmental Sciences (2023)	Desktop review and likelihood assessment for short range endemic (SRE) and significant invertebrate fauna.	The desktop review recorded the following in within the desktop search area (within 40km of the Development Envelope): • A total of 62 taxa from ten invertebrate groups. • No SREs have been recorded in the Development Envelope however 12 may potentially occur in the Development Envelope. • 10 Threatened or Priority species: ○ Mygalomorph spiders ○ 7 Insects ○ 1 Springtail. • 0.95 ha of potential SRE habitat in the 'Other Regional Roads' MRS boundary (Banksia woodland in Excellent condition). • 0.45 ha of Melaleuca thicket in the 'Other Regional Roads' MRS boundary may provide suitable habitat for two species of Threatened bees (*Leioproctus douglasiellus* and *Neopasiphae simplicolor*).

Survey	Survey Scope	Findings
Native Bee Survey of Proposed Garden Street Extension, Southern River, Perth WA Spineless Wonders (2017)	A 20-hour targeted native bee survey was conducted from 15-17 March 2017	The survey recorded eleven native bee species, however none of these had formal conservation status listing.
Targeted Conservation Significant Species Survey – Garden Street, Southern River PGV Environmental (2016)	Targeted survey for one Matters of National Environmental Significance (MNES) fauna species undertaken in September 2016	Survey did not identify any records of targeted species.
Australasian Bittern Survey Terrestrial Ecosystems (2016)	A two-night survey for the Australasian Bittern undertaken from 18:00- 20:00pm on 17 October 2016 and 18:20-20:00pm on 18 October 2016.	The survey did not record any Australasian Bitterns during the two-night survey period.
Fauna Management Plan Holmes Street Bushland North Natural Area Consulting Management Services (2016)	Desktop fauna survey of Holmes Street Bushland North (HSBN) area Basic terrestrial vertebrate fauna survey and invertebrate trapping undertaken from 2-6 November 2015 and a night survey undertaken on 15 December 2015	The survey recorded the following: • Majority of habitat is in good or better condition. • One conservation significant mammal (Southern Brown Bandicoot) was recorded. • Two conservation significant bird species recorded (Carnaby's Black Cockatoo and Rainbow Bee-eater).
Black Cockatoo Assessment – Garden Street Extension Terrestrial Ecosystems (2014)	The Development Envelope was assessed for breeding and foraging habitats for 3 species of black cockatoo (Carnaby's Black Cockatoo, Forest Red-tailed Black Cockatoo and Baudin's Black Cockatoo) on 30 September 2014.	The assessment recorded the following: • Four major fauna habitat types were present, one of which (Banksia Woodland) provides foraging habitat for black cockatoos. • Within 2 km of the Proposal there are multiple Bush Forever sites that contain habitat suitable for black cockatoo foraging. • No suitable nesting sites identified.

Survey	Survey Scope	Findings
		• Unlikely to contain significant roosting habitat for black cockatoos. • Abundance of Southern Brown Bandicoots were observed.
Ecological Assessment of Sutherlands Parks Bushland – City of Gosnells ENV Australia (2010)	The bushland on Lots 1, 1596, 1647, 1646 and 1645 Balfour Street and Lot 1595 Gay Street was assessed using the Perth Biodiversity Project's Natural Area Initial Assessment (NAIA) templates including undertaking a desktop assessment, field assessment A and B, the NAIA summary and final report on 15 October 2009.	The assessment recorded the following: • Eight bird species, including the Forest Red-tailed Black Cockatoo • One reptile species. • One introduced fauna species.
Inland Waters		
Hydrology Study and Impact Assessment, Garden Street Extension, Gosnells Urbaqua Land and Water Solution, 2022	The report has been prepared to address the EPA's Environmental Factor Guideline: Inland Waters aligned to the Part B of the EPA referral. The assessment aimed to understand and appropriately manage the potential of the Proposal to cause detrimental impacts to the hydrology of the wetland within the Development Envelope. Water balance modelling of the wetland and hydrological modelling of the proposed roadway drainage system was undertaken. The aim of the water balance modelling is to provide baseline understanding of the annual and interannual variability of the wetland system so that connectivity between different parts of the wetland system can be maintained, and the potential impacts of lost storage within the wetland system can be minimised.	The study concluded: • Post development flow rates from Garden Street are relatively small, will have minimal effect on wetland hydrology and are not expected to cause substantial erosion effects. Vegetation planting proposed on the batters will provide sufficient stability on the banks to manage erosion effects resulting from the expected flow velocities. • The compaction expected as part of road construction is not expected to significantly influence groundwater levels and/or flow. • Following construction of the road, evapotranspiration from the wetland will be reduced by approximately 2%, following planting of batters which is considered unlikely to significantly alter local groundwater levels in the CCW. • Any physical disturbance within vegetated portions of the wetland has the potential to impact on its biodiversity values and as such should be minimised.

Survey	Survey Scope	Findings
Sutherlands Park Groundwater monitoring 2020- 21 Urbaqua Lands Water Solutions, 2021	The groundwater monitoring program included the installation of groundwater level loggers in eight (8) bores at the site including five (5) newly installed bores and two (2) groundwater quality sampling events. Reference groundwater levels were also recorded from a nearby DWER monitoring bore (T75). The groundwater data was collected with the intention of understanding the wetland connectivity, including water levels in different areas of the wetland. The program was designed to be able to capture spring peak and autumn minimum groundwater levels and quality. The information from the groundwater monitoring program will assist with modelling the impact of constructing the Garden Street extension through Sutherlands Park Wetland.	The results from the groundwater monitoring program at the Garden St wetland suggest a very low level of connectivity between the surface water and groundwater at the site. Any observations of surface water at the site historically were likely related to direct rainfall and runoff from the surrounding areas rather than an expression of groundwater.
Hydrology of the northern section of the Garden Street Extension Urbaqua Lands Water Solutions, 2021	The report was prepared to characterise the hydrology in the wetland of the northern section of the proposed Garden Street Extension. The hydrology of the area has been assessed to determine whether the area features regular waterlogging and inundation typical of a wetland system. The report summarised groundwater conditions onsite from various data sources, surface water catchments and recommendations for further investigations.	The surface water catchment area of the Proposal is directly recharged by relatively small residential areas that are anticipated to feature retention of frequent rainfall events on lots based on the requirements of the Southern River Integrated Land and Water Management Plan. The surface water runoff is not considered to be a driving factor in the local inundation. Shallow groundwater limits infiltration in the wetland, and runoff contributes to the waterlogging and inundation. The survey recommended additional groundwater monitoring to assist with revised groundwater modelling.

Survey	Survey Scope	Findings
Garden Street Extension, Ground Water Monitoring Cardno, 2018	The groundwater monitoring assessment was to monitor groundwater to ascertain levels prior to construction of the road. The scope of work included a 9-month groundwater level monitoring and preparation of a technical memorandum letter report.	Groundwater levels recorded during the monitoring period are sufficient should construction proceed to detailed design for assessment of groundwater interaction. Dewatering or any other groundwater disturbance should not be allowed to cause the lowering of the water level in a water body with environmental value (including a CCW) and should not lower the water level by more than 10cm next to the body.
Report on Preliminary Acid Sulphate Soil and Groundwater Investigation – Proposed Garden Street Extension Between Harpenden and Balfour streets, Huntingdale Douglas Partners, 2018	A preliminary acid sulphate soil and groundwater investigation between chainages 0m to 850m of the proposed road alignment for the Garden Street Extension in Huntingdale was undertake in December 2017	Acid sulphate soils (ASS) were identified in the silty sand profiles at three locations, and it is noted that the anticipated maximum extent of the proposed excavations in the vicinity of these locations are not anticipated to intersect the silty sand profiles comprising ASS. Therefore, the management of ASS is not deemed to be warranted. Groundwater levels were recorded between 19.863m AHD and 20.097m AHD in December 2017. Provided excavations are completed during the dry season in summer, dewatering will not be required.
Social Surroundings		
Traffic Noise Assessment, Garden Street Extension, Gosnells, WSP, 2022	The study was commissioned to undertake a transportation noise impact assessment of the Proposal. The study included: • Noise monitoring of existing acoustic conditions • Discussion on acoustic criteria • Calculation of noise emissions from the vehicles traveling along Garden Stret • Assessment of the predicted noise levels • Provide comment on possible noise mitigation options.	The study concluded: • The assessment for the design determined that predicted noise levels at adjacent noise sensitive receivers exceeded the Western Australian Planning Commission (WAPC) State Planning Policy 5.4 Road and Rail Noise (SPP5.4) noise level criteria. • With the proposed noise mitigation measure of kerb side noise walls in place, compliance with the SPP5.4 criteria is achieved at all receivers.

Survey	Survey Scope	Findings
Peer Review of Traffic Noise Assessment, Garden Street Extension, Gosnells, Herring Storer Acoustics, 2023	The City commissioned Herring Storer Acoustics to carry out a peer review of the Traffic Noise Assessment previously conducted by WSP Australia. The scope included considering: • Whether the Proposal meets SPP5.4 • If noise mitigating treatments will be required, and what sufficient treatments are available other than 3.5 m noise walls. • Identify any gaps in existing report.	The review of the Traffic Noise Assessment concluded: • Given the extensive nature of noise walls proposed in the WSP traffic noise assessment report (extent and height), the City had the findings of the WSP traffic noise assessment peer reviewed by Herring Storer (2023). • Herring Storer (2023) identified that based on Garden Street being modelled to have a daily traffic count of >23,000 by 2041 it meets the new road criteria in SPP5.4. • Implementation of 2.4 m noise walls would achieve the criteria noise levels at receivers for the existing road duplication. For receivers in the extension part of the Proposal, walls at 3 m would meet the upgrade criteria of 60 dB(A) but would be 2 dB above the new road criteria of 55 dB(A).

1.5.2 Key Assumptions and Uncertainties

The Proposal has been comprehensively surveyed under commissioning by the City to ensure confidence in the predicted and identified occurrences of conservation significance species and the vegetation, fauna, and inland characteristics.

The information provided in this CEMP relies on the accuracy and adequacy from the numerous field surveys and methods provided in the investigations. These surveys have been completed in compliance with EPA and Department of Climate Change, Energy, the Environment and Water (DCCEEW) requirements.

It is assumed that the surveys and assessments have adequately:

- Identified the flora, vegetation, fauna, and inland waters conservation values present within the Development Envelope.
- Mapped and understood respective the local and regional scale of surroundings to ensure potential direct and indirect impacts are accurately determined for the Proposal.
- The surveys undertaken to date have accurately reported the distributions and status of conservation significant species.
- Those conditions experienced during the survey and assessments were ideal for recording species appropriately, unless specified otherwise.
- That applicable surveys and assessments have been completed as per relevant technical guidance methodologies.

Key uncertainties include:

- Cumulative impacts to fauna and fauna habitats resulting from Third-Party operations which may be conservative and may not represent the most accurate levels of disturbance.
- The adaptive management processes adopted by this CEMP (Section 3) allows for management actions and monitoring to be revised as new information becomes available.

1.5.3 Avoidance and Mitigation Measures

The Proposal has been minimised through Proposal optimisation to reduce the total extent of clearing required in respect to high values of flora and vegetation, fauna habitats, inland waters, and social surroundings. Key avoidance measures include:

- The City's original road design proposed to clear the full 'Other Regional Roads' reservation (4.8ha in size). The proposed Development Envelope has significantly reduced since the original clearing permit application that was withdrawn (reduced by 40%), which included:

- Narrowing the road with respect to shoulder and median width to reduce the clearing footprint.
- Removing rock pitching on steep embankments and instead planting all batters with local native nutrient stripping species to reduce water quality impacts.
- Removing the footpaths and on road cycle lanes to reduce the clearing footprint. Alternative cycle and pedestrian routes will instead be located via Homes Street.

- All laydowns, stockpiles and access tracks will be constructed within existing cleared areas of the Development Envelope, with no native vegetation to be cleared for temporary works. Engineering plans have designated two existing cleared areas outside of the wetland area to be used for laydown.
- The Proposal will avoid locations of potential tree hollows which are critical to the survival of threatened species. The one potential Black Cockatoo breeding tree identified is outside of the Development Envelope and has been retained in the design.
- Clearing land/fauna habitat outside the proposed Development Envelope will not be undertaken.
- Construction will be undertaken in summer during periods of low rainfall to avoid dispersal of sediment and construction materials into the wetland. No dewatering will occur for the Proposal.

1.5.4 Rational for choice of provisions

This CEMP adopts provisions based on industry standard practices for avoidance, minimisation, and rehabilitation of environmental impacts during construction.

The provisions reflect the duration of construction activities presented in Section 1.1 and the nature of impacts posed by construction activities included in Table 3.

Table 4: Rational for provisions of environmental factors

Environmental Factor	Environmental Aspect	Management Provisions [1]	Rationale for Provisions
Flora and Vegetation	Hygiene Management	Objective-based	The biodiversity of an area can be significantly impacted by weeds due to their ability to outcompete native species and eventually dominate the area. Objective-based hygiene provisions have been specified to prevent any new weed species or spread of dieback (*Phytophthora cinnamomi*) on site and prevent or minimise the spread of existing weed or spread of dieback (*Phytophthora cinnamomi*) populations.
Flora and Vegetation Fauna	Land Disturbance – Vegetation Clearing	Objective-based Outcome-based	Provisions have been adopted for land clearing as inadvertent clearing beyond the respective boundary may lead to illegal clearing reducing flora and vegetation population sizes and fauna habitats. Land clearing is required to be managed effectively and have the commitment from senior construction management for strict control of ground disturbances as well as objective and outcome-based provisions to ensure clearing does not extend beyond target limits.
Flora and Vegetation Fauna Inland Waters	Land Disturbance – Inland Waters	Objective-based Outcome-based	Objective and Outcome-based provisions have been specified as the proposed clearing has potential to alter inland water regimes impacting fauna habitat and increase pollution levels within the Proposal area and surroundings. The change in surface water flow may also impact groundwater recharge. Potential impacts on soil erosion and sedimentation deposits have the potential to impact water quality. Management measures have been adopted to manage and mitigate the potential changes and impacts to inland waters.
Flora and Vegetation Fauna Inland Waters	Waste Management	Objective-based	Incorrect waste disposal throughout the construction phase of the Proposal has the potential to contaminate soils, surface water, groundwater, air, and affect fauna species within the area. Objective-based provisions have been specified.

[1] Outcome based provisions includes monitoring and evaluating measurable outcomes and are typically driven by trigger and threshold criteria. Objective based provisions focus on monitoring and management actions, where specific trigger or threshold criteria may not be appropriate for the circumstances.

Environmental Factor	Environmental Aspect	Management Provisions [1]	Rationale for Provisions
Flora and Vegetation Fauna Social Surroundings	Construction Activities – Dust, Noise, Vibration and Light Management	Objective-based	Objective-based provisions have been specified for construction activities to have potential vibration, light, and noise emissions. In addition, mobile equipment can impact on the amenity and environment of surrounding areas. Dust emissions during construction can have negative impacts on the environment by reducing photosynthesis requirements of impacted flora. Dust emissions can also negatively impact on the amenity of adjoining residents.
Flora and Vegetation Fauna Inland Waters	Hydrocarbon and Hazardous Materials	Objective-based	Hydrocarbon and chemical spills have the potential to contaminate soil, surface water and groundwater, and pose risk to human health and environment.
Flora and Vegetation Fauna	Fire Prevention and Response	Objective-based	The Proposal clearing could alter fire regimes through a change in structure and composition of vegetation and may be caused by construction activities. Bushfires presents a significant safety issue to construction sites. Objective-based provisions have been adopted to manage fire prevention and response.
Fauna	Direct fauna mortality or injury from clearing activities/machinery strike	Objective-based	Objective-based provisions have been adopted for direct fauna mortality from clearing activities/machinery strike as whilst interactions between machinery and fauna can be minimised, they cannot entirely be avoided. Management measures have been adopted.

2 Management Plan Components

This CEMP has been prepared following the EPA (2021) *Instructions on how to prepare Environmental Protection Act 1986 Part IV Environmental Management Plans*. The CEMP includes the following:

- Outcome based provisions includes monitoring and evaluating measurable outcomes and are typically driven by trigger and threshold criteria
- Objective based provisions focuses on monitoring and management actions, where specific trigger or threshold criteria may not be appropriate for the circumstances.

2.1 Outcome-based provisions

Table 5, 6 and 7 relate directly to Outcome-based provisions regarding the three key environmental factors:

- Flora and Vegetation
- Fauna
- Inland Waters.

Table 5: Flora and Vegetation - Outcome-based provisions

EPA Objective: ***To protect flora and vegetation so that biological diversity and ecological integrity are maintained.***

Key Environmental values:

- **Native vegetation communities, and the flora they support.**
- **Priority Flora populations.**

Key impacts and risks:

- **Direct clearing impacts:**
  - **Loss of Priority flora due to clearing.**
  - **Loss of up to 2.04ha native vegetation.**
- **Indirect impacts associated with the Proposal are not expected to be significant.**
  - **Potential introduction/spread of dieback (*Phytophthora cinnamomi*) and weeds**
  - **Potential alteration of vegetation structure and floristic composition in adjacent and /or surrounding areas via changes to surface water drainage patterns and alteration of fire regimes.**
  - **Increased dust deposition.**
  - **Fragmentation.**

Trigger Criteria Threshold Criteria	Response Actions: Trigger level actions Threshold contingency actions	Monitoring	Timing / frequency of monitoring	Reporting
Trigger criteria: Clearing within 2m of the pegged Development Envelope boundary **Threshold criteria:** Clearing more than	**Trigger level action:** • Review proposed future clearing areas to ensure threshold is not exceeded.	• Review of proposed and approved clearing areas: ○ Visual inspection of the Development Envelope to	• Prior to clearing activities and fortnightly during construction.	• Maintain clearing register that includes date, location of clearing. • Notify regulator within 7 days of an

Trigger Criteria Threshold Criteria	Response Actions: Trigger level actions Threshold contingency actions	Monitoring	Timing / frequency of monitoring	Reporting
• 2.04 ha of native vegetation which consists of the following overlapping flora and vegetation values: ○ 1.87 ha in good or better condition ○ Up to 0.45 ha of native vegetation associated with a CCW ○ Up to 1.2 ha of native vegetation within a Bush Forever Site No. 125. ○ Up to 1.58 ha of SCP23a - Central *Banksia attenuata – Banksia menziesii* woodlands of the Swan Coastal Plain TEC • Loss of significant flora individuals specifically: ○ Up to seven individuals of *Jacksonia gracillima* (P3) ○ Up to three individuals of *Styphelia filifolia* (P3).	**Threshold contingency action:** • Immediately cease clearing activities. • Externally report as an incident to the regulator. • Initiate investigation into threshold breach. • Critical review of Proposal planning, assessment, and implementation. • Rehabilitation of accidental disturbances. • Undertake weed control in surrounding vegetation if it is showing signs of weed encroachment from the construction project.	ensure that clearing boundaries have been clearly marked. Visual inspection of vegetation bordering the Development Envelope to ensure there has not been any destruction or degradation of nearby vegetation.		exceedance being identified.

Table 6: Terrestrial Fauna - Outcome-based provisions

EPA Objective: *To protect terrestrial fauna so that biological diversity and ecological integrity are maintained.*

Environmental values:

- 1.59ha of Banksia Woodland consisting of Carnaby's and Forest Red-tailed Black Cockatoos foraging and roosting habitat
- 0.45 ha of low-quality foraging habitat consisting of Melaleuca Thicket for the Carnaby's Cockatoo
- 0.9 ha of potential SRE habitat within Banksia Woodland
- 1.2 ha of suitable habitat for two Threatened bee species (Leioproctus douglasiellus and Neopasiphae simplicior) comprised of Melaleuca thicket (0.3 ha) and Banksia Woodland (0.9 ha)
- 2.04ha of highly suitable Isoodon fusciventer (Quenda) [P4] habitat

Key impacts and risks:

- Direct clearing impacts:
    - Clearing of up to 2.04ha native vegetation
    - Potential fauna death during construction and from increased traffic.
    - Migration of fauna to other areas.
- Indirect impacts associated with the Proposal are not expected to be significant.
    - Loss of ecological connectivity.
    - Potential degradation of habitats from edge effects and habitat modification.
    - Potential introduction/spread of dieback (*Phytophthora cinnamomi*) and weeds.
    - Potential altered fauna behaviours due to noise, lighting, and human presence.
    - Potential predation and competition from introduced and other problem animals.

Trigger criteria Threshold criteria	Response actions: Trigger level actions Threshold contingency actions	Monitoring	Timing / frequency of monitoring	Reporting
Trigger criteria: Clearing within 2m of the pegged Development Envelope boundary **Threshold criteria:** Clearing more than • 2.04 ha of fauna habitat, which consists of the following overlapping fauna habitat values: ○ 1.59 ha of Banksia Woodland consisting of Carnaby's and Forest Red-tailed Black Cockatoos foraging and potential roosting habitat ○ 0.45 ha of low-quality foraging habitat consisting of Melaleuca Thicket for the Carnaby's Cockatoo. ○ 0.9 ha of potential SRE habitat ○ 1.2 ha of potentially suitable habitat for two Threatened bee species (*Leioproctus douglasiellus* and *Neopasiphae simplicior*) comprised of *Melaleuca thicket* (0.3 ha) and *Banksia* Woodland (0.9 ha)	**Trigger level action:** • Review proposed future clearing areas to ensure threshold is not exceeded. **Threshold contingency action:** • Immediately cease clearing activities. • Externally report as an incident to the regulator. • Initiate investigation into threshold breach. • Critical review of Proposal planning, assessment, and implementation. • Rehabilitation of accidental disturbances. • Undertake weed control in surrounding vegetation if it is showing signs of weed encroachment from the construction project.	• Review of proposed and approved clearing areas. • Visual inspection of the Development Envelope to ensure that clearing boundaries have been clearly marked. • Visual inspection of vegetation bordering the Development Envelope to ensure there has not been any destruction or degradation of nearby vegetation.	• Prior to clearing activities and fortnightly during construction.	• Maintain clearing register that includes date, location of clearing. • Notify regulator within 7 days of an exceedance being identified.

Trigger criteria Threshold criteria	Response actions: Trigger level actions Threshold contingency actions	Monitoring	Timing / frequency of monitoring	Reporting
○ 2.04ha of highly suitable *Isoodon fusciventer* (Quenda) [P4] • 0.3 ha of *Melaleuca thicket* which is subjected to inundation is considered potential habitat for both bee species. ○ 2.04ha of highly suitable *Isoodon fusciventer* (Quenda) [P4] habitat.				

Table 7: Inland Waters - Outcome-based provisions

EPA Objective: ***To maintain the hydrological regimes and quality of groundwater and surface water so that environmental values are protected.***

Environmental values:

- **0.45ha of native vegetation associated with a CCW.**

Key impacts and risks:

- **Direct impacts:**
  - **Loss of 0.45ha of native vegetation associated with a CCW.**
  - **Changes to hydrological regimes due to alterations of surface drainage patterns.**
- **Indirect impacts associated with the Proposal are not expected to be significant.**
  - **Potential erosion and sedimentation due to discharge of water for the purpose of dust suppression where and when required.**
  - **Potential contamination of surface and/or groundwater due to accidental fuel/chemical spills and contaminated stormwater runoff.**

Trigger criteria Threshold criteria	Response actions: Trigger level actions Threshold contingency actions	Monitoring	Timing / frequency of monitoring	Reporting
Trigger criteria: Clearing within 2m of the pegged Development Envelope boundary **Threshold criteria:** Clearing more than 0.45ha of native vegetation associated with a CCW.	**Trigger level action:** • Review proposed future clearing areas to ensure threshold is not exceeded. **Threshold contingency action:** • Immediately cease clearing activities • Externally report as an incident to the regulator. • Initiate investigation into threshold breach.	• Review of proposed and approved clearing areas. • Visual inspection of the Development Envelope to ensure that clearing boundaries have been clearly marked prior to clearing.	• Prior to clearing activities and fortnightly during clearing activities.	• Maintain clearing register that includes date, location of clearing. • Notify regulator within 7 days of an exceedance being identified.

Trigger criteria Threshold criteria	Response actions: Trigger level actions Threshold contingency actions	Monitoring	Timing / frequency of monitoring	Reporting
	• Critical review of Proposal planning, assessment, and implementation. • Rehabilitation of accidental disturbances. • Undertake weed control in surrounding vegetation if it is showing signs of weed encroachment from the construction project.	• Visual inspection of vegetation bordering the Development Envelope to ensure there has not been any destruction or degradation of nearby vegetation.		

2.2 Objective-based provisions

Tables 8, 9, 10 and 11 relate to Objective-based provisions regarding the four key environmental factors:

- Flora and Vegetation
- Terrestrial Fauna
- Inland Waters
- Social Surroundings.

Table 8: Flora and Vegetation - Objective-based provisions

EPA Objective: ***To protect flora and vegetation so that biological diversity and ecological integrity are maintained.***

Environmental values:

- **Native vegetation communities, and the flora they support.**
- **Priority Flora populations.**

Key impacts and risks:

- **Direct clearing impacts:**
  - **Loss of Priority flora due to clearing.**
  - **Loss of up to 2.04ha native vegetation.**
- **Indirect impacts associated with the Proposal are not expected to be significant.**
  - **Potential introduction/spread of dieback (*Phytophthora cinnamomi*) and weeds.**
  - **Potential alteration of vegetation structure and floristic composition in adjacent and /or surrounding areas via changes to surface water drainage patterns and alteration of fire regimes.**
  - **Increased dust deposition.**
  - **Fragmentation.**

Management Targets	Management Actions	Monitoring	Timing / frequency of monitoring	Reporting
• No clearing outside of the Development Envelope and the total clearing (ha) should not exceed the approved limit.	• Prior to clearing undertake a baseline spring flora and vegetation survey and weed survey to provide baseline information to be compared against in post-development monitoring. This will include establishing monitoring quadrat locations and photo reference point locations. The aim will be to establish at least 3 randomly selected quadrats (10x10m) per vegetation type in	• Review of approved clearing areas. • Visual inspection of vegetation bordering the Development Envelope to ensure there has not been any destruction or	• Monthly weed monitoring during construction. • Visual site inspection prior to clearing activities and fortnightly during clearing activities.	• Maintain clearing register that includes date, location of clearing. • Record of clearing parameters associated with the management targets.

Management Targets	Management Actions	Monitoring	Timing / frequency of monitoring	Reporting
• Cleared vegetation and topsoil are managed appropriately to ensure future rehabilitation success. • Weeds are managed. • Bushfire risk is managed. • Dieback is managed.	the future 50 m monitoring area outside the Development Envelope (only in areas under the City's management) to ensure they are representative of the vegetation units present (i.e. 15 quadrats). Quadrats will be placed on both sides of the road to adequately assess potential impacts from the new road. • Inductions for all personnel and contractors on land disturbance, vegetation clearing, and management targets identified including: ○ Clearing boundaries. ○ Requirements of the CEMP. ○ Significant vegetation and flora locations to be protected outside the Development Envelope. ○ Vehicle hygiene requirements. ○ All vehicles to be cleaned prior to entering the site to ensure they do not contain soil residue or vegetative material. • The use of GPS coordinates to establish, survey and clearly demarcate clearing areas, including fences, signage as required, the use of star pickets or flagging tape. • All associated infrastructure for the Proposal will be contained within the Development Envelope. All vehicles to stay on clearly	degradation of nearby vegetation. • Visual inspection of the Development Envelope to ensure that clearing boundaries have been clearly marked. • Weeds will be monitored monthly via visual inspection on-site and around the perimeter of the site. Weed spraying will be conducted as needed to prevent weed dispersal from the site into adjacent vegetated areas during construction.		• Documentation confirming all personnel have completed a site induction and essential Toolbox Talks prior to the commencement of works. • Visual inspection of the Development Envelope to ensure that clearing boundaries have been clearly marked. • Monitoring remnant and adjacent vegetation for weeds. • Records (written and photographic) will be kept of native vegetation clearing and weed management including: ○ Date/Location/ and size of the area that was cleared.

Management Targets	Management Actions	Monitoring	Timing / frequency of monitoring	Reporting
	designated access tracks and adhere to speed limits. • Trees to be removed will be felled in such a way as to avoid falling into and damaging adjacent vegetation to be retained. • No piling of vegetation into bushland areas to be retained within the Bush Forever site. • WoNS and environmental weeds will be treated according to the weed control management outlined by Weeds Australia. • Undertake weed control in surrounding vegetation if it is showing signs of weed encroachment from the construction project. • Dieback protectable areas within and adjacent to the Development Envelope will be identified, mapped, and managed in accordance with DBCA Management Guidelines. • All cleared vegetation / timber will be stockpiled and mulched and used for onsite landscaping where practicable. • All personnel will be notified that vehicles and equipment are restricted to the Development Envelope only and existing cleared areas to be used for laydown. Vehicles and equipment are not permitted to enter adjacent vegetated areas.			○ Date and observations of weed monitoring. ○ Date/location and weed treatment applied.

Management Targets	Management Actions	Monitoring	Timing / frequency of monitoring	Reporting
	• If fill is needed for the construction, it must be certified clean fill. • No smoking or fires will be permitted on the site. • Fire extinguishers will be fitted to all mobile plant equipment. • Machinery or equipment will be parked in designated places only, not to be parked/placed on the ground where there is long grass exists. • During operations, infrastructure or assets will be regularly maintained to reduce the likelihood of faults or incidents that may cause ignition to surrounding vegetation. • Comply with local council fire prevention measures i.e. comply with requirements on Total Fire Ban days.			

Table 9: Terrestrial Fauna - Objective-based provisions

EPA Objective: ***To protect terrestrial fauna so that biological diversity and ecological integrity are maintained.***

Environmental values:

- **1.59ha of Banksia Woodland consisting of Carnaby's and Forest Red-tailed Black Cockatoos foraging and roosting habitat**
- **0.45 ha of low-quality foraging habitat consisting of Melaleuca Thicket for the Carnaby's Cockatoo**
- **0.9 ha of potential SRE habitat within Banksia Woodland**
- **1.2 ha of suitable habitat for two Threatened bee species (Leioproctus douglasiellus and Neopasiphae simplicior) comprised of Melaleuca thicket (0.3 ha) and Banksia Woodland (0.9 ha)**
- **0.3 ha of Melaleuca thicket which is subjected to inundation is considered potential habitat for both bee species.**

2.04ha of highly suitable *Isoodon fusciventer* (Quenda) [P4] habitat Key impacts and risks:

Key Risks:

- **Direct clearing impacts:**
  - **Clearing of up to 2.04ha native vegetation**
  - **Potential fauna death during construction and from increased traffic**
  - **Migration of fauna to other areas.**
- **Indirect impacts associated with the Proposal are not expected to be significant.**
  - **Loss of ecological connectivity.**
  - **Potential degradation of habitats from edge effects and habitat modification.**
  - **Potential introduction/spread of dieback (*Phytophthora cinnamomi*) and weeds.**
  - **Potential altered fauna behaviours due to noise, lighting, and human presence.**
  - **Predation and competition from introduced and other problem animals.**

Management Target	Management Actions	Monitoring	Timing / frequency of monitoring	Reporting
• Minimise fragmentation of habitat, limiting fauna access and movement. • Minimise fauna injuries and fatalities from vehicle/ machinery strikes, fence collision and trenching. • Minimise species disturbance associated with noise, vibration, or light. • All laydowns, stockpiles and access tracks will be constructed within the existing cleared areas of the Development Envelope, with no native vegetation	• Inductions for all staff and contractors involved in clearing and ground disturbance activities will include information on potential impacts to fauna, management measures, handling, and reporting requirements. • Installation of LED directional lighting to ensure no light spill on adjoining bushlands. • All associated infrastructure for the Proposal will be contained within the Development Envelope. • Pre-clearing trapping and relocation of fauna will occur within one week of clearing commencing by a suitably qualified fauna specialist. A fauna spotter will be present on-site during clearing of fauna habitat. • Clearing is to be undertaken in one direction to give fauna and opportunity to escape into the existing vegetation to be retained in the adjoining Bush Forever site. • The one Black Cockatoo potential breeding tree identified outside of	• Review of proposed and approved clearing areas. • Visual inspection of the Development Envelope to ensure that clearing boundaries have been clearly marked. • Visual inspection to identify injured fauna. • Daily monitoring of trenches (in the morning) for trapped fauna. Regular inspections of construction area for appropriate use of waste disposal facilities.	• Prior to clearing activities and fortnightly during clearing activities. • Checking trenches daily (in the morning)	• Maintain records of observed and injured fauna species in proximity of the area and where fauna species were taken to an animal rehabilitation centre, and whether they were rehabilitated or euthanised. • Records will be kept with inclusions of date, location, and observations.

Management Target	Management Actions	Monitoring	Timing / frequency of monitoring	Reporting
to be cleared for temporary works. • Food wastes and water to be appropriately contained. • Outside bins to be secured to prohibit access by animals.	the Development Envelope will be clearly marked to be avoided. If clearing is to occur during the peak breeding season for the Carnaby's and Red-tail Black Cockatoo, this tree will be inspected by a suitability qualified fauna specialist to determine if any hollows are currently being used by Black Cockatoo. If any hollows are identified as being used, a 5 m diameter exclusion zone will be established around the tree until nestlings have been confirmed by a Zoologist to have successfully left the nest. • Prior to felling, trees will be 'tapped' by the excavator bucket (or other clearing equipment apparatus) to provide an opportunity for animals to escape. • If fauna is injured as part of clearing works, the fauna spotter will rescue the injured animal and take it to an animal rehabilitation centre. In the event of fauna requiring euthanasia or rehabilitation as a result of the clearing for the Proposal, the City			

Management Target	Management Actions	Monitoring	Timing / frequency of monitoring	Reporting
	will fund the cost for the organisation the euthanize or rehabilitate the animal. • All vehicles to stay on clearly designated access tracks and adhere to speed limits. • All excavations, temporary drains, and trenches to be backfilled as soon as practicable. Trenches are to be inspected each morning for any trapped fauna.			
Three artificial nesting hollows to be installed within 3km of the Development Envelope.	• The provision of three nesting hollows will be appointed to suitable trees appropriately defined for Black Cockatoo species Department of Biodiversity, Conservation and Attractions. (2023). Fauna Notes – Artificial hollows for black cockatoos.	• Nesting hollows must be monitored and maintained in accordance with Department of Biodiversity, Conservation and Attractions. (2023). Fauna Notes – Artificial hollows for black cockatoos.	• Prior to commencement of construction. • To be monitored annually between August and September for activity and maintenance requirements as per DBCA guidance.	• Register and/or records will be kept with inclusions of date, location, and observations.

Table 10: Inland Waters - Objective-based provisions

EPA Objective: ***To maintain the hydrological regimes and quality of groundwater and surface water so that environmental values are protected.***

Environmental values:

- **0.45ha of native vegetation associated with a CCW.**

Key Risks:

- **Direct impacts:**
  - **Loss of 0.45ha of native vegetation associated with a CCW.**
  - **Changes to hydrological regimes due to alterations of surface drainage patterns.**
- **Indirect impacts associated with the Proposal are not expected to be significant.**
  - **Potential erosion and sedimentation due to discharge of water for the purpose of dust suppression where and when required.**
  - **Potential contamination of surface and/or groundwater due to accidental fuel/chemical spills and contaminated stormwater runoff.**

Management Target	Management Actions	Monitoring	Timing / frequency of monitoring	Reporting
• No damage to the CCW outside of the Development Envelope, arising from construction works. • No groundwater abstracted for construction purposes.	• Construction works within the CCW to be completed and permanent erosion protection / stabilisation provided as soon as practicable. • Vehicle movements to be restricted to designated access tracks. • Construction works will be undertaken during summer when	• Review of proposed and approved clearing areas. • Visual inspection of the Development Envelope within the wetland boundary to ensure that clearing boundaries have been clearly marked. • Visual inspection of temporary sediment and	• Prior to clearing activities and fortnightly during clearing activities. • Daily weather observations.	• Maintain clearing register that includes date, location of clearing. • Record of clearing parameters associated with the management targets. • Minor spills (<100L) to be recorded. • Major spills (>100L) to be reported as in incident

Management Target	Management Actions	Monitoring	Timing / frequency of monitoring	Reporting
• No long-term impacts to inland waters (e.g. physical and chemicals parameters and vegetation health) • No contamination of soil and land from fuel, oil and chemical materials, and any waste storage.	the wetland is dry (lowest groundwater level). • The use of GPS coordinates to establish, survey and clearly demarcate clearing areas, including fences, signage as required, the use of star pickets or flagging tape. • Minimise clearing extent where possible e.g. trimming of vegetation by hand using sterile equipment where only a portion of vegetation is affected by works. • Observers and spotters to be used when working near sensitive areas e.g., Priority flora, Inland Waters, vegetation associated with CCWs. • Vehicles, plant, and equipment to be restricted within the clearing limits and maintained to manufacturers specifications. • Construction will be undertaken during summer to avoid dispersal of sediment and construction materials into the wetland and to prevent the need to dewater.	erosion protection measures. • Monitoring of weather (rainfall).Site inspections to ensure if any fuel, oil, and chemical materials are stored on site that are stored and used correctly within bunded storage areas.		within 48hrs of occurrence to the regulator.

Management Target	Management Actions	Monitoring	Timing / frequency of monitoring	Reporting
	• Engineering plans have designated two existing cleared areas outside of the wetland area to be used for laydown. • Sediment fencing will be provided along the edge of the construction area to provide protection from wind and water borne sediment and construction materials. • Fill batters will be covered with geotextile until vegetation has been planted to prevent mobilisation of sediment. • Temporary stockpiles will be located outside the wetland and contained by sediment fencing.			

Table 11: Social Surroundings - Objective-based provisions

EPA Objective: ***To protect social surroundings from significant harm***

Environmental values:

- **Adjacent residential land users**

Key impacts and risks:

- **Direct impacts:**
  - **Noise impacts to nearby residential properties**
  - **Visual impacts to adjacent residential properties**
  - **Potential disturbance of or damage to unidentified sites of cultural heritage value.**

Management Target	Management Actions	Monitoring	Timing / frequency of monitoring	Reporting
Avoid disturbance to unexpected Aboriginal artefacts	• Induct personnel on their responsibilities and actions to be taken in the unlikely scenario where unexpected Aboriginal artefacts are uncovered during excavations or ground disturbance works. • Promptly stop all works and notify the Department of Planning, Lands and Heritage (DPLH) in the event of an unexpected artefact or heritage find. The DPLH will advise when work can commence. • Promptly notify the police if human remains are found.	• Visual inspection of ground disturbing works and excavation for presence of artefacts.	• Prior to and during ground disturbing works.	• Maintain records of any Aboriginal Heritage finds and communicate promptly with DPLH.

Management Target	Management Actions	Monitoring	Timing / frequency of monitoring	Reporting
Operation and movement of plant. machinery and vehicles during construction (including generation of dust, vibration, and noise emissions)	• Dust control will be completed mainly via water carts as required during construction activities and avoiding works (e.g. stripping, excavation, etc.) during dry and windy conditions. • Cleared and exposed areas are to be stabilised and revegetated as soon as practicable. • Inductions for all staff and contractors involved in the construction activities will including information regarding appropriate working hours. • Construction hours will be in accordance with the Environmental Protection (Noise) Regulations 1997. • Vehicle /plant regularly maintained to ensure noise minimisation.	• Site inspection	• Fortnightly during construction.	• Maintain records of inspections and complaints

3 Adaptive management and review of the Management Plan

The adaptive management approach aims to reduce impacts of the Proposal by monitoring, reporting, and implementing change (where required). This document applies the principles of adaptive management through monitoring, corrective actions and implementing changes. The adaptive management approach involves adjusting management and mitigation measures to meet the outcomes and objectives based on what is learned from the:

- Evaluation and observations during the construction phase of the Proposal.
- Review of key assumptions and uncertainties.
- Re-evaluation of construction activities and impacts.
- External and internal changes during the construction phase of the Proposal.

3.1 Management of Change

In the event there is a change in equipment, or materials used for construction, procedures, processes or roles and responsibilities during the construction phase the following should be written in a management of change document:

- Reasons for change – Why is it needed and what are the beneficial outcomes of the change?
- Determine the scope – Who will the change impact, what policies and processes will it impact?
- Who is responsible for the change?
    - How will this change be communicated to employees, contractor(s), and other stakeholders?

3.2 Environmental Inspections

The City will undertake fortnightly inspections of all Proposal work areas and activities during construction of the Proposal in line with this CEMP. These inspections will be specific to the work area and include relevant environmental aspects such as, but not limited to:

- Hazardous and waste materials storage and handling, if any.
- Dust emissions management.
- Land clearing and rehabilitation.
- Trench management.
- Stormwater management.
- Spills, leaks, and contaminated ground.
- Topsoil management.

- Environmental incidents and corrective action close out.

3.3 Audits

Regular inspections and audits are required to ensure appropriate implementation of the management measures outlined in this plan. To ensure the management measures are being adequately implemented and comply with relevant management measures. Environmental commitments outlined within this CEMP will be audited prior to construction commencing to ensure processes for compliance with the CEMP and environmental approval conditions are in place; at the completion of construction to ensure previous non-conformances have been closed out and quarterly during construction. Inspection and audit results will be used to re-evaluate the identified risks and address them accordingly. Results of audits including identification of nonconformances, corrective actions and how they were addressed are provided in annual Environmental Reports.

3.4 CEMP Review

This CEMP will be technically reviewed to incorporate any updates required to ensure the proposed CEMP commitments remain relevant to addressing the key risks and meeting the EPA objectives. A review of the CEMP will be undertaken by a suitability qualified professional in the following scenarios:

- A major change to the road infrastructure
- Identification of a new risk pathway or potential impact of significance and/or
- As required by a regulating authority.

A Revegetation and Post Development Management and Monitoring Plan has been prepared (360 Environmental, 2023) that addresses monitoring and review of Proposal activities and management measures following construction.

4 Stakeholder Consultation

4.1 Key Stakeholders

The key main stakeholders for the Proposal area:

- Environmental Protection Authority (EPA).
- Department of Water and Environmental Regulation (DWER).
- Department of Biodiversity Conservation and Attractions (DBCA).
- Department of Planning, Lands and Heritage (DPLH).
- Local Community.

4.2 Stakeholder Engagement Process

Table 13 summarises the strategy for consultation with each key stakeholder to date.

Table 13: Stakeholder engagement strategy

Stakeholder	Engagement Description	Timing
Department of Water and Environmental Regulation (EPA Services)	Pre-NVCP application discussions via phone and email.	June 2015
DWER	NVCP application discussions.	January 2015 – onwards
Local Community	Public display notices in the State Library, City of Gosnells Civic Centre and local libraries, the West Australian and local newspaper.	January 2017 July-August 2018
DPLH	Discussions regarding the clearing permit application and proposed road design.	May 2019 – onwards
DBCA	Discussions regarding CCW potential impacts.	June 2020 – onwards
EPA	Submission of s.38 referral document	October 2022

4.3 Stakeholder Consultation Outcomes

Table 14 summarises the results of stakeholder consultation to date. Consultation outcomes detailed below include local residents and regulatory bodies, excluding comments submitted to regulators during the submission of other approvals (NVCP, EPBC).

Table 14: Stakeholder Outcomes

Stakeholder	Date	Issues /topics raised	Proponent response / outcome
DWER	Jan 2015	Clearing permit.	The City applied for a clearing permit through the Department of Environment Regulation. At a meeting in January 2015, Department officers advised that, due to the complexity of the proposal, the City should engage with the Office of the Environmental Protection Authority to discuss self-referral under section 38 of the Environmental Protection Act as a parallel process to the clearing permit application.
EPA	4-Jun-2015	Clearing Permit.	Phone conversation and email correspondence.
Resident (280 m west of Development Envelope)	29-Apr-2016	Proposal update Congestion/speeding Request for extension to be prioritised.	Proponent advised that congestion/speeding issue is currently being investigated and that plans are being developed and approvals and funding will be sought.
Public Display and Notices – State library, CoG Civic Centre, and libraries, West Australian and Comment News	17-18 Jan 2017	EPBC Referral (EBPC 2016/7735).	12 submissions received.
Resident	11-Feb-2018	Development of bushland.	Proponent advised that query was forwarded to the appropriate team (Infrastructure Directorate) for a response.
Resident (Directly adjacent to northern section of Development Envelope)	7-Mar-2018	Request for confirmation regarding proposed extension Concerns raised over the busy road during peak hours.	Proponent confirmed that extension is planned and that they are currently awaiting the approvals.
Public Display and Notices – State library, CoG Civic	31-Jul-2018	EPBC Referral (EBPC 2016/7735).	Advertising of submissions received and further referral documentation.

Stakeholder	Date	Issues /topics raised	Proponent response / outcome
Centre, and libraries, West Australian and Comment News			
Resident	14-Aug-2018	Proposal update Delivery times.	Not available.
MLA	6-Sep-2018	Delivery times Clarification of Proposal components.	Proponent provided clarification on requested components of Proposal and advised unable to provide timeframes as still going through environmental approvals process.
DWER	13-Nov-2018	Clearing permit CPS 8021/1.	Meeting with DWER officers.
Resident (260 m south of Development Envelope)	9-Feb-2019	Proposal update Public transport extension query Seeking advice on local issues.	Not available.
Office of the Appeals Convenor	16-Apr-2019	Proponent querying appeals made by local governments.	Discussion with Appeals Convenor regarding overturning appeals and local government appeals.
DPLH	May 2019	Clearing permit and proposed road design.	Offering support to the City with clearing application.
MLA on behalf of Resident (Directly adjacent to Development Envelope)	14-May-2019	Bushfire Management compliance issue relating to bushland in the Development Envelope.	
DWER and DPLH	18-Oct-2019	Clearing permit.	As Garden Street is a blue road in the MRS, the DPLH assisted the City in discussion about best way forward regarding clearing permit.
DWER and DPLH	19-Nov-2019	Clearing permit.	Follow up to previous meeting.

Stakeholder	Date	Issues /topics raised	Proponent response / outcome
			City advised that it would be referring the Proposal under S38 in accordance with EPAs requirements and ensuring impacts are minimised as much as possible.
DBCA	23-June-2020	CCW impacts.	Ongoing discussion around potential impacts and mitigation measures.
Resident (Directly adjacent to Development Envelope)	12-Jun-2020	Bushfire mitigation works in Bush Forever to improve saleability of properties. Proposal update.	Proponent acknowledged request for bushfire mitigation work but advised firebreak cannot be realigned in Bush Forever. Provided Proposal update.
Resident (Directly adjacent to Development Envelope)	19-Jun-2020	Proposal update.	Proponent provided response regarding current status of Proposal.
DBCA/Urbaqua	23-Jun-2020	Hydrology Study and Impact Assessment – DBCA's advice provided on clearing permit.	DBCA provided advice regarding the Departments inputs to the clearing permit process.
Resident	13-Jul-2020	Local safety issues regarding footpaths.	Proponent provided response acknowledging issue and that Proposal should help alleviate some of these issues.
Resident	20-Aug-2020	Proposal update.	Proponent advised that clearing permit application was not successful, and City will be seeking approval from State government to progress Proposal.
DWER/Urbaqua	26-Aug-2020	Hydrology Study and Impact Assessment – technical information requirements (bore locations).	Advice provided from DWER regarding monitoring bore locations.
Resident (Directly adjacent to Development Envelope)	18-Sep-2020	Proposal update Road safety issues.	Proponent advised that Proposal is being progressed. Advised that the City previously provided response regarding safety issue.

Stakeholder	Date	Issues /topics raised	Proponent response / outcome
MLA (440 m southwest of Development Envelope)	23-Mar-2021	Proposal update Concept Plan.	Proponent provided an update of approvals being sought and a copy of the most recent concept plan.
Resident (Directly adjacent to Development Envelope)	11-Nov-2021	Request for Proposal update Request for clarification on bushfire mitigation in Bush Forever.	Not available.
Resident	1-Feb-2022 9-Mar-2022	Proposal update and request for commencement to be made a priority. Requesting reply to previous query.	Proponent provided an update of approvals being sought and advised that an application will be lodged in the second half of 2022. Proponent advised that a response has been sent.
Resident	7-Jul-2022	Request for roundabout to be included in proposed extension raised with Main Roads.	Main Roads forwarded enquiry on to the City.
Resident	13-Jul-2022	Delivery times.	Proponent advised that query was forwarded to the City's Road Safety Team for a response.
Resident	20-Sept-2022	Inquiry about when construction will commence	Proponents provide an update of approvals being sought and expected start date.
Minister of Environment, Climate Action – Hon Reece Whitby	6-Oct-2022	Adoption of the City of Gosnells Transport Position Statement Inquiring if the minister could provide any support in relation to the extension of Garden Street	The minister responded on 28 October 2022.
Minister of Environment, Climate Action – Hon Reece Whitby	28-Oct- 2022	Response to correspondence dated 6 October 2022 from the Mayor of Gosnells	The minister advised the Mayor to liaise with DWER regarding referring the proposal

Stakeholder	Date	Issues /topics raised	Proponent response / outcome
Minister of Transport- Rita Saffioti	6-Oct- 2022	Submitting the City's Transport Position Statement Inquiring if the minister could provide any support in relation to the extension of Garden Street	Responded on 30 March 2023.
Resident	20-Mar-2023	Timeline	Not available
Minister of Transport- Rita Saffioti	30-Mar-2023	Response to the Mayors correspondence	The Minister informed Mayor of the upcoming State Proposal and corrected road zoning mentioned in the City's Transport Position Statement and that Garden Street remains under the City's control.

5 Changes to an Environmental Management Plan table

Complexity of changes	Minor revisions ☐	Moderate revisions ☐		Major revisions ☐	
Number of Key Environmental Factors ☐	One	2-3 ☐		> 3 ☐	
Date revision submitted to EPA: DD/MM/YYYY					
Proponent's operational requirement timeframe for approval of revisionReason for Timeframe:		< One Month ☐	< Six Months ☐	> Six Months ☐	None ☐

Item no.	EMP section no.	EMP page no.	Summary of change	Reason for change
1.				
2.				
3.				

6 Glossary

Abbreviation	Definition
AHD	Australian Height Datum
ASS	Acid Sulphate Soils
CCW	Conservation Category Wetland
CEMP	Construction Environmental Management Plan
CBD	Central Business District
Cth	Commonwealth
DBCA	Department of Biodiversity, Conservation and Attractions
DECCEEW	Department of Climate Change, Energy, the Environment and Water
DWER	Department of Water and Environmental Regulation
DPLH	Department of Planning, Lands and Heritage
EMP	Environmental Management Plan
EP Act	Environmental Protection Act
EPA	Environment Protection Authority
EPBC	Environment Protection and Biodiversity Conservation
P3	Priority 3
P4	Priority 4
Ha	Hectare
HSBN	Holmes Street Bushland North
m	Metre
mm	Millimetre
MNES	Matters of National Environmental Significance
NAIA	Natural Area Initial Assessment
NVCP	Native Vegetation Clearing Permit
PEC	Priority Ecological Community
SLR	SLR Consulting
SRE	Short Range Endemic
TEC	Threatened Ecological Communities
WoNS	Weeds of National Significance

7 Limitations

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In the preparation of this report, 360 Environmental has relied upon documents, information, data, and analyses ('client's information') provided by the client and other individuals and entities. In most cases where client's information has been relied upon, such reliance has been indicated in this report. Unless expressly set out in this report, 360 Environmental has not verified that the client's information is accurate, exhaustive, or current and the validity and accuracy of any aspect of the report including, or based upon, any part of the client's information is contingent upon the accuracy, exhaustiveness, and currency of the client's information. 360 Environmental shall not be liable to the client or any other person in connection with any invalid or inaccurate aspect of this report where that invalidity or inaccuracy arose because the client's information was not accurate, exhaustive, and current or arose because of any information or condition that was concealed, withheld, misrepresented, or otherwise not fully disclosed or available to 360 Environmental.

Aspects of this report, including the opinions, conclusions, and recommendations it contains, are based on the results of the investigation, sampling and testing set out in the contract and otherwise in accordance with normal practices and standards. The investigation, sampling and testing are designed to produce results that represent a reasonable interpretation of the general conditions of the site that is the subject of this report. However, due to the characteristics of the site, including natural variations in site conditions, the results of the investigation, sampling and testing may not accurately represent the actual state of the whole site at all points.

It is important to recognise that site conditions, including the extent and concentration of contaminants, can change with time. This is particularly relevant if this report, including the data, opinions, conclusions, and recommendations it contains, are to be used a considerable time after it was prepared. In these circumstances, further investigation of the site may be necessary.

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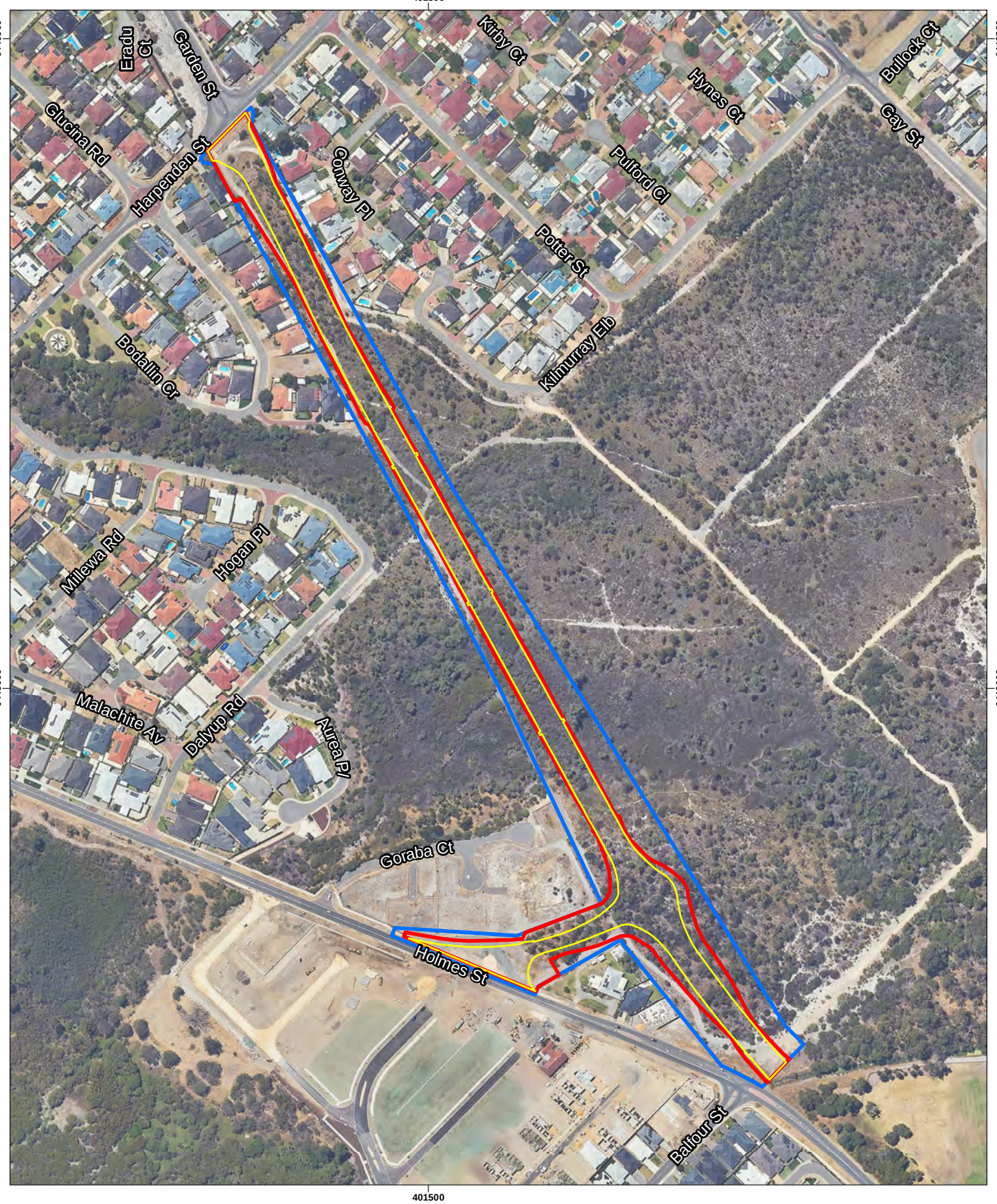
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Figures



Legend

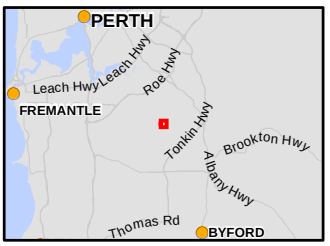
- Development Footprint (1.95 ha)
- Development Envelope (2.65 ha)
- Garden Street Extension Study Area - Metropolitan Region Scheme Boundary

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- NOTE THAT POSITION ERRORS CAN BE >5M IN SOME AREAS

LOCALITY MAP



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City of Gosnells

Garden Street Extension, Southern River

Management Plan

Figure 1

Location and Development Envelope

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Legend

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- Development Envelope (2.65 ha)
- Garden Street Extension Study Area - Metropolitan Region Scheme Boundary
- Insignificant Trib

Geomorphic Wetlands Swan Coastal Plain DBCA_019

- Conservation
- Resource Enhancement
- Multiple Use
- Not

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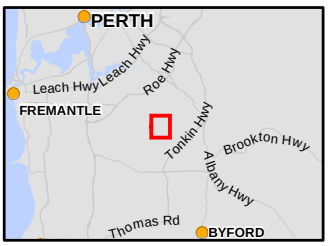
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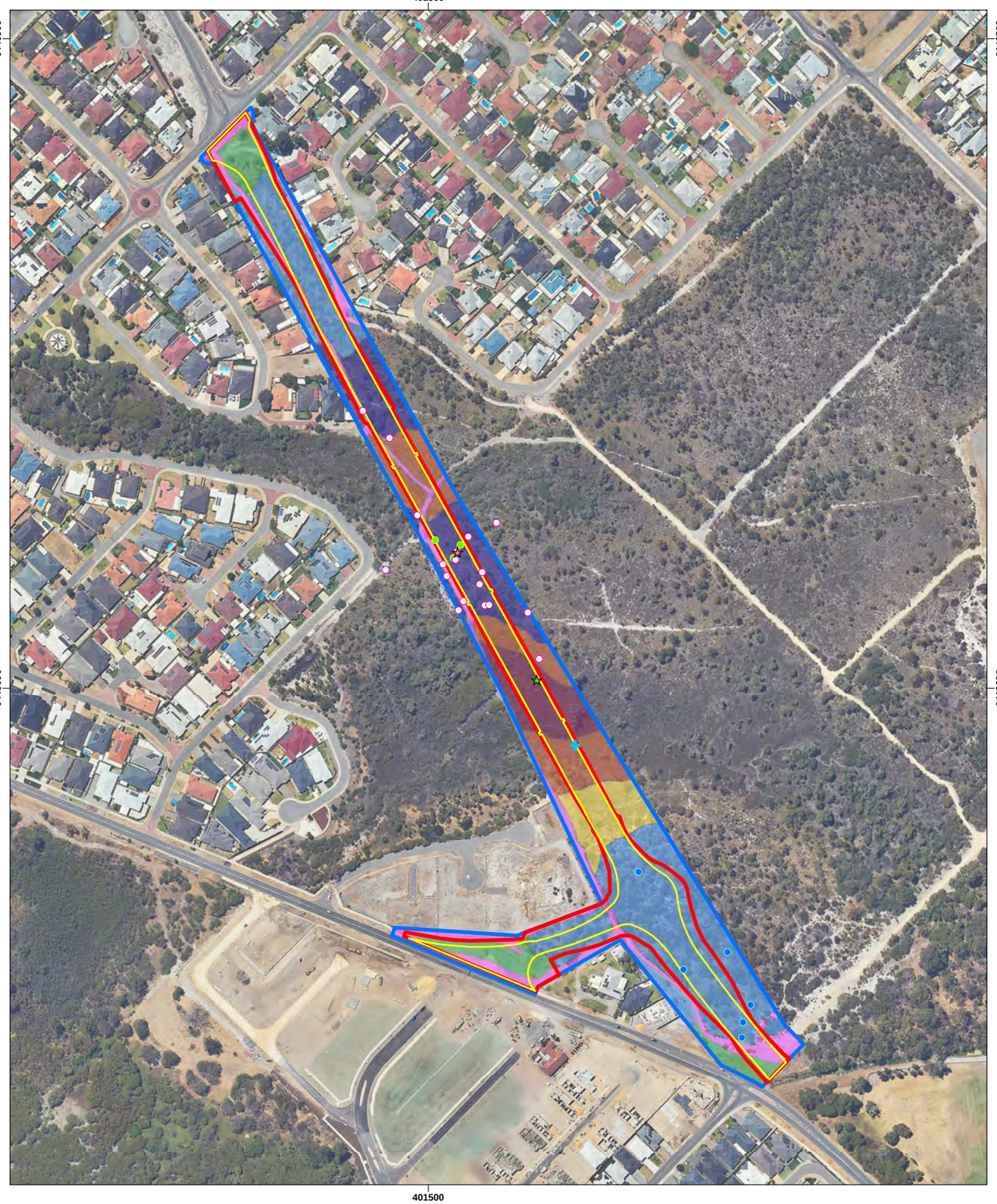
Garden Street Extension, Southern River

Management Plan

Figure 2
Wetlands and Hydrology

K:\Projects\9.0 APP\5413 City of Gosnells ERD\May2023_Figure Request for 5413 Garden Street Extension Southern River\5413 Fig 4 Wetlands.mxd

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- Development Envelope (2.65 ha)
- Garden Street Extension Study Area - Metropolitan Region Scheme Boundary

Vegetation Unit (Biologic, 2023)

- Adc Epp PcDea
- BaBmEt Kg Xp PcDbDa
- Mep MerHavPef Hya LsLelLepg
- BaBmAlf Adc HhStlAlh DeaBcDb
- Mep AdcKgAdo RcAaPef Hya SceHye
- Parkland Cleared
- Cleared

Flora Records (Biologic, 2023)

- **Asparagus asparagoides*
- *Jacksonia gracillima* (P3)
- *Styphelia filifolia* (P3)

Flora of other significance

RH - Range Extension

- *Gastrolobium acutum*

Flora of other significance

LH - Locality Hole

- *Goodenia pulchella subsp. Coastal Plain B (L.W. Sage 2336)*
- *Lepidosperma sp. Margaret River (B.J. Lepschi 1841)*

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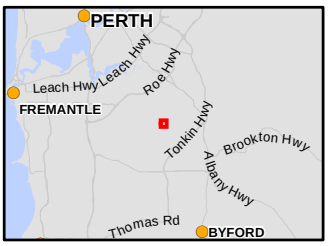
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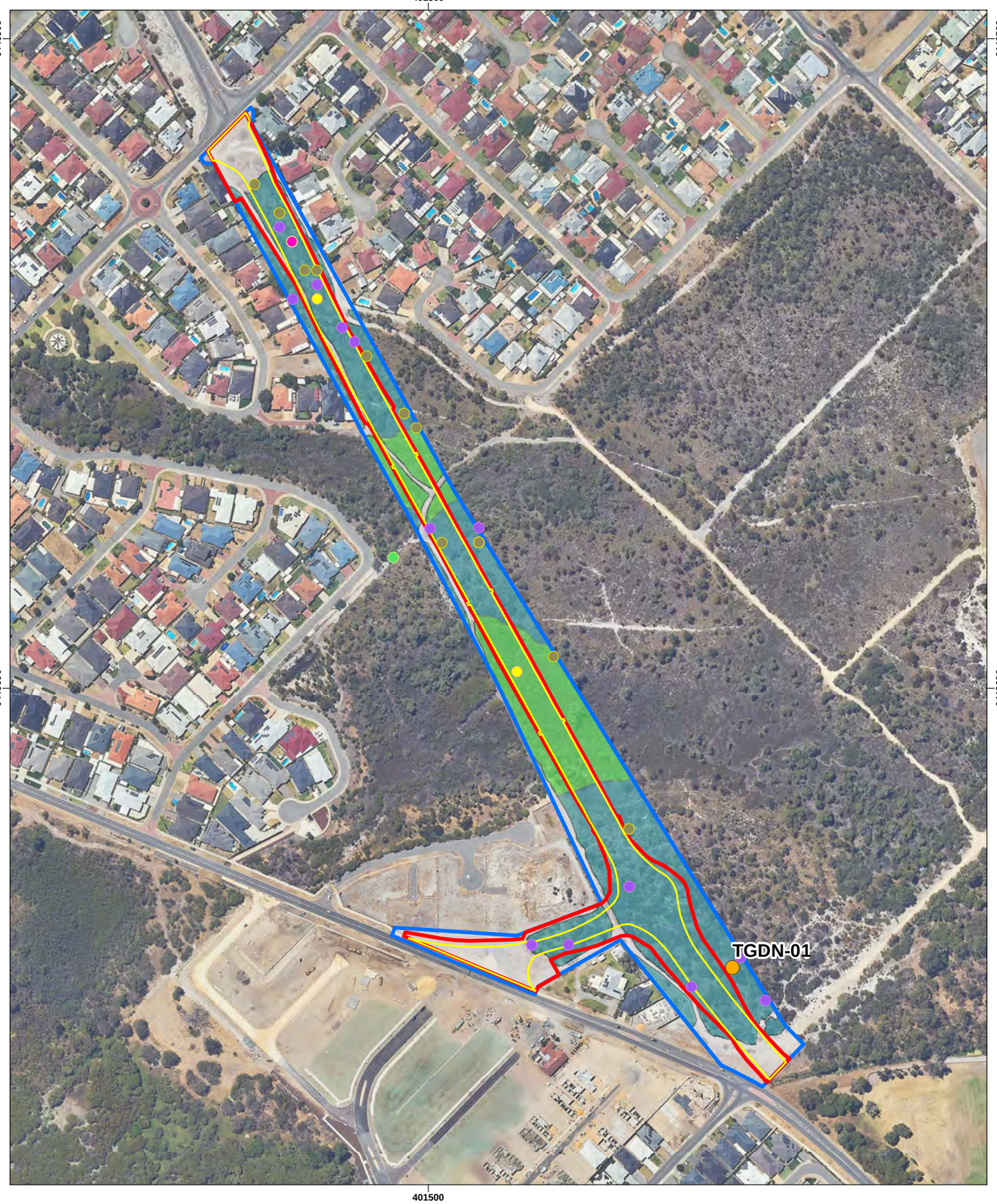
Garden Street Extension, Southern River

Management Plan

Figure 3
Vegetation and Flora

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Legend

- Development Footprint (1.95 ha)
- Development Envelope (2.65 ha)
- Garden Street Extension Study Area - Metropolitan Region Scheme Boundary

Potential Breeding Tree (Biologic, 2023)

- Jarrah (*Eucalyptus marginata*)

Fauna Habitat (Biologic, 2023)

- Banksia Woodland
- Melaleuca Thicket
- Cleared

Fauna Records (Biologic, 2023)

- Carnaby's Cockatoo - Foraging Evidence
- Carnaby's Cockatoo - Individual (alive)
- Forest Red-tailed Cockatoo - Individual (alive)
- Quenda - Digging
- Quenda - Individual (alive)

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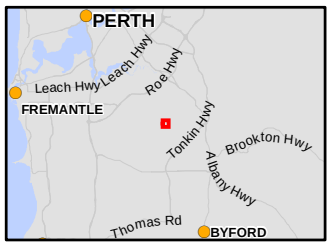
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City of Gosnells

Garden Street Extension, Southern River

Management Plan

Figure 4
Fauna Habitat

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Appendices

Appendix A
Garden Street Extension, Southern River
EPBC (2016/7735) Referral

Approval

Garden Street road extension, Huntingdale, City of Gosnells, Western Australia (EPBC 2016/7735)

This decision is made under sections 130(1) and 133 of the *Environment Protection and Biodiversity Conservation Act 1999*.

Proposed action

person to whom the approval is granted	City of Gosnells
proponent's ABN	ABN: 18 374 412 891
proposed action	To extend Garden Street in the suburb of Huntingdale, east Perth, in a south-westerly direction to join Holmes Street, and widen Holmes Street at the junction of Holmes and Garden Street [See EPBC Act referral 2016/7735].

Approval decision

Controlling Provision	Decision
Listed threatened species and communities (sections 18 & 18A)	Approved

conditions of approval This approval is subject to the conditions specified below.

expiry date of approval

This approval has effect until 31 December 2030.

Decision-maker

name and position	Gregory Manning Assistant Secretary Assessments (WA, SA, NT) and Post Approvals Branch
signature	
date of decision	25/10/18

Conditions attached to the approval

1. For the protection of the **EPBC Act listed species**, the approval holder must not **clear** more than 4.58 hectares within the **project area**.

2. To mitigate and manage impacts to **EPBC Act listed species**, the approval holder must comply with and implement the **Revegetation Management Plan, Landscape Management Plan** and **Environmental Management Plan**.

3. Prior to the **commencement** of the action install three artificial nesting hollows within 3 km of the **project area**

   (a) each artificial nesting hollow installed under condition 3 must be monitored and maintained in accordance with relevant **artificial hollow guidance** for the life of the approval, with maintenance actions, if required, undertaken outside of the **breeding season** and before the commencement of the next **breeding season**.

4. Within 30 days after the **commencement** of the action, the **approval holder** must advise the **Department** in writing of the actual date of **commencement**.

5. The approval holder must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the management plans, and make them available upon request to the **Department**. Such records may be subject to audit by the **Department** or an independent auditor in accordance with section 458 of the **EPBC Act**, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the **Department's** website. The results of audits may also be publicised through the general media.

6. Upon the direction of the **Minister**, the approval holder must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the **Minister**. The independent auditor must be approved by the **Minister** prior to the commencement of the audit. Audit criteria must be agreed to by the **Minister** and the audit report must address the criteria to the satisfaction of the **Minister**.

7. The approval holder may choose to revise a management plan approved by the **Minister** under condition 2 without submitting it for approval under section 143A of the **EPBC Act**, if the taking of the action in accordance with the revised plan would not be likely to have a **new or increased impact**. If the approval holder makes this choice they must:

   i. notify the **Department** in writing that the approved plan has been revised and provide the **Department** with an electronic copy of the revised plan;
   ii. implement the revised plan from the date that the plan is submitted to the **Department**; and
   iii. for the life of this approval, maintain a record of the reasons the approval holder considers that taking the action in accordance with the revised plan would not be likely to have a **new or increased impact**.

7A. The approval holder may revoke their choice under condition 7 at any time by notice to the **Department**. If the approval holder revokes the choice to implement a revised plan, without approval under section 143A of the EPBC Act, the plan approved by the **Minister** must be implemented.

7B. If the **Minister** gives a notice to the approval holder that the **Minister** is satisfied that the taking of the action in accordance with the revised plan would be likely to have a **new or increased impact**, then:

i. Condition 7 does not apply, or ceases to apply, in relation to the revised plan; and
ii. The approval holder must implement the plan approved by the **Minister**.

To avoid any doubt, this condition does not affect any operation of conditions 7, 7A and 7B in the period before the day the notice is given.

At the time of giving the notice the **Minister** may also notify that for a specified period of time that condition 7 does not apply for one or more specified plans required under the approval.

7C. Conditions 7, 7A and 7B are not intended to limit the operation of section 143A of the **EPBC Act** which allows the approval holder to submit a revised plan to the **Minister** for approval.

8. Unless otherwise agreed to in writing by the **Minister**, the approval holder must publish all management plans referred to in these conditions of approval on their website. Each management plan must be published on the website within one (1) month of being approved by the **Minister** or being submitted under condition 7.i.

9. If, at any time after five (5) years from the date of this approval, the approval holder has not substantially **commenced** the action, then the approval holder must not substantially **commence** the action without the written agreement of the **Minister**.

Definitions

Artificial hollow guidance means WA Department of Parks and Wildlife publications *"How to monitor and maintain artificial hollows for Carnaby's cockatoo"* (2015), or as otherwise updated from time to time.

Breeding season for the **Carnaby's Black Cockatoo** is the period between 1 July and 28 February of any year.

Carnaby's Black Cockatoo is the **EPBC Act** listed Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*).

Clearing/clear/cleared means the cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting or burning of native vegetation.

Commencement/commence/commenced means the clearing of any vegetation or construction of any infrastructure, excluding fences and signage, associated with the proposed action.

Department ('s) is the Australian Government Department or any other agency administering the EPBC Act.

Environmental Management Plan means the plan submitted with the final preliminary documentation entitled *Environmental Management Plan*, dated 12 December 2017, version number 6, authored by PGV Environmental; or as revised under these conditions.

EPBC Act is the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

EPBC Act listed species means the **EPBC Act** listed King Spider-orchid (*Caladenia huegelii*), Purdie's Donkey-orchid (*Diuris purdiei*) and Carnaby's Black-Cockatoo (*Calyptorhynchus latirostris*).

Landscape Management Plan means the plan submitted with the final preliminary documentation entitled *Landscape Management Plan*, dated 12 December 2017, version number 6, authored by PGV Environmental; or as revised under these conditions.

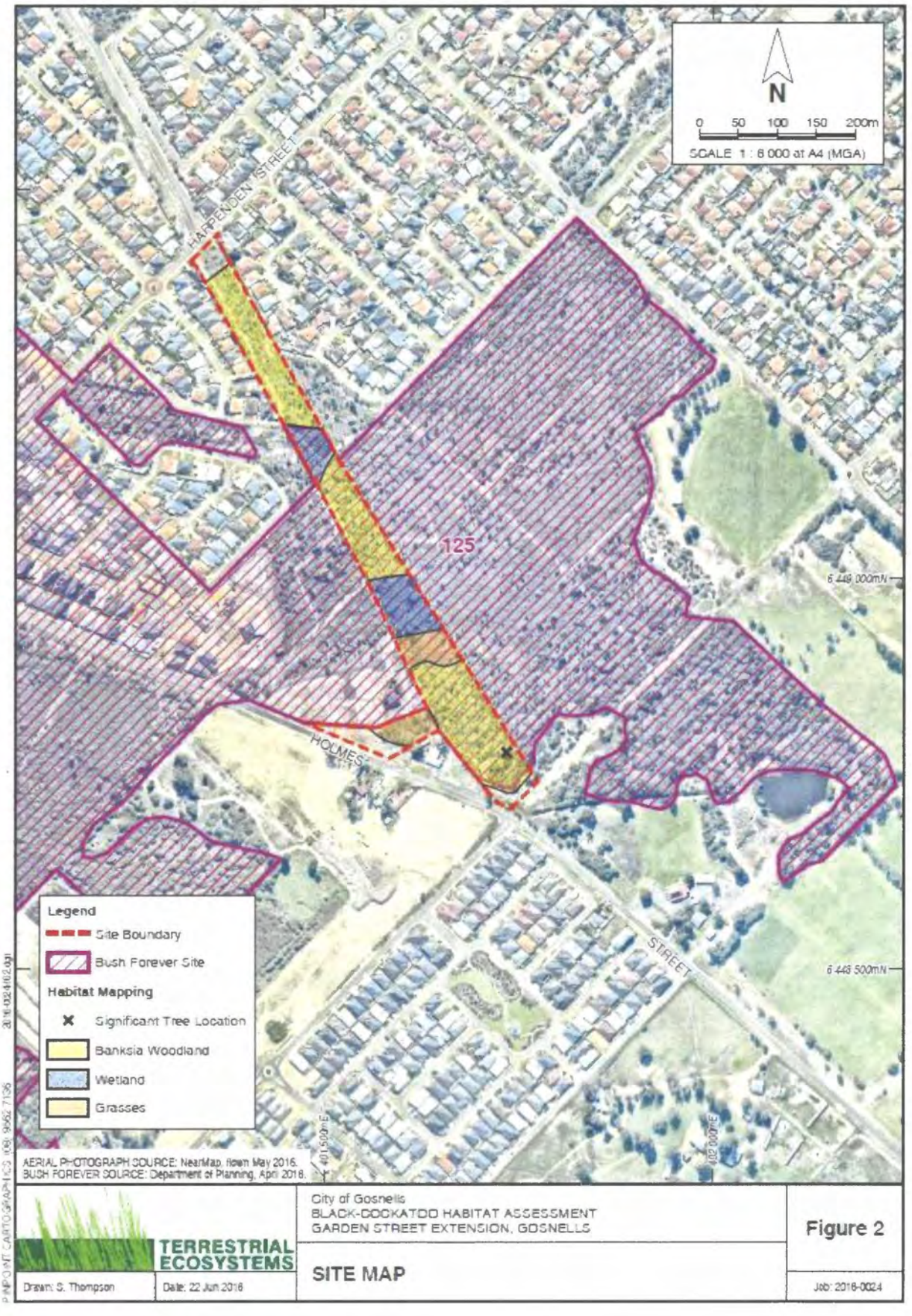
Minister means the Minister administering the EPBC Act and includes a delegate of the Minister.

New or increased impact means a new or increased impact on any matter protected by the controlling provisions for the action, when compared to the plan that has been approved by the **Minister**.

Project Area is the area shown in Attachment A, where it is depicted as 'Site Boundary', and marked with a red hashed line.

Revegetation Management Plan means the plan submitted with the final preliminary documentation entitled *Revegetation Management Plan* dated 14 March 2018, version number 7, authored by PGV Environmental; or as revised under these conditions.

Attachment A



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