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# **Perth Airport Precinct Northern Access: Annual Project Sustainability Report 2023**

Prepared by Greater Connect Alliance

This annual report covers the period of the 2023 Financial Year. No previous annual sustainability reports have been prepared for the project for project. As requested, this report has been produced using the MRWA Annual Sustainability Report template.

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## Disclaimer

All information was true and accurate at the date of publication. Data is subject to change pending audits, verifications, and reviews.

# Abbreviations and Acronyms

Term	Definition
AHRA	Aboriginal Heritage Risk Assessment
CEMP	Construction Environmental Management Plan
CO <sub>2</sub>	Carbon Dioxide
DCCEEW	Department of Climate Change, Energy, the Environment and Water
EIA	Environmental Impact Assessment
EPA	Environmental Protection Authority
EPBC	Environmental Protection and Biodiversity Conservation
GCA	Great Connect Alliance
GEHB	Great Eastern Highway Bypass
GHG	Greenhouse Gases
GRI	Global Reporting Initiative
GSR	Grade Separated Roundabout
IS	Infrastructure Sustainability
ISC	Infrastructure Sustainability Council
KSI	Killed or Serious Injury
LISC	Environmental Low Impact Screening Checklist
Materiality	Quality of being relevant or significant
MNES	Matters of National Environmental Significance
MRWA	Main Roads Western Australia
MUW	Multiple Use Wetland
OSOM	Over-Sized Over-Mass
PAPL	Perth Airport Pty Ltd
PAPNA	Perth Airport Precinct Northern Access
PSP	Principal Shared Path
PEC	Priority Ecological Community
PEcA	Preliminary Ecological Assessment
PEMP	Project Environmental Management Plan
RAV	Restricted Access Vehicle
RCP	Representative Concentration Pathway
REW	Resource Enhancement Wetland
RIWI	Rights and Water Irrigation
SPP	State Planning Policy
TEC	Threatened Ecological Community
WA	Western Australia
WAPC	Western Australian Planning Commission

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# About this Report

## Purpose

This report has been prepared by the Greater Connect Alliance (GCA) project team (a consortium comprising Laing O’Rourke, AECOM, and Arcadis), on behalf of Main Roads WA to record the combined annual sustainability progress for the Perth Airport Northern Access (PAPNA) project (the Project).

This report forms part of Main Roads’ annual sustainability reporting and will ultimately be integrated into Main Roads WA’s publicly available Annual Sustainability Report. This report content is prepared in accordance with the Global Reporting Initiative (GRI) principles, summarising the sustainability initiatives and potential environmental, social, and economic impacts of the Project. Material topics reported have been determined through a materiality assessment that aligns with GRI and the Infrastructure Sustainability Council (ISC). The Project is aligned with version 2.0 of the IS Planning Rating scheme.

This annual report covers the period from June 2022 to June 2023. No previous annual sustainability reports have been prepared for the project.

## Highlights

The Project is currently in the Develop phase of the Main Roads project planning approach, culminating in preparing a 15% Concept Design and aligning with the IS v2.0 Planning Rating delivery. Key Sustainability highlights are mentioned in Table 1.

*Table 1 Sustainability Topics and Highlights*

Sustainability topic	Highlight
Climate resilience	<ul style="list-style-type: none"> <li>The Alliance conducted a Climate Change Risk and Adaptation Workshop to assess the direct and indirect climate and natural hazard risks on the Perth Airport Precinct Northern Access project and to propose treatment options using the AS 5334 risk rating process.</li> <li>A Climate Change Risk and Adaptation Report was produced, which outlines the assessment and identifies adaptation options to mitigate the impact of climate change on the infrastructure asset.</li> </ul>
Consultation and Engagement	<ul style="list-style-type: none"> <li>The Project aims to create a new interchange that connects Roe Highway and Tonkin Highway, serving the industrial areas and the Perth Airport. The project has therefore engaged with 88 stakeholders who are affected by or interested in the road network.</li> <li>The Project has had three phases of engagement: raising public awareness and understanding, gathering feedback to inform planning and development, and presenting concept designs and impact assessments to validate feedback.</li> <li>The Project conducted an online survey to identify the community’s views and issues. The main themes that emerged were maintaining local access, environmental heritage and protection, and pedestrian and cyclist access.</li> </ul>

# Project Overview

## Locality and Scope

The 363-hectare Airport North Precinct is being developed as a mix of industrial, commercial, warehouse, storage, and logistics land uses. The existing network’s capacity needs improving to ensure ongoing efficiency of the network for journeys to and from the new development and for all other road users.

GCA has been engaged to undertake:

- Planning and development for the new grade-separated interchange of Great Eastern Highway Bypass and Kalamunda Road.
- Planning, development, and construction of the new Kalamunda Road Bridge over the freight rail line.

This Report only relates to the grade-separated interchange of Great Eastern Highway Bypass (GEHB) and Kalamunda Road (Referred as WP7 in Figure 1).

Adjacent to the east of the Project boundary is the Great Eastern Highway Bypass Interchanges (GEHBI) Project, defined by Work Packs 1, 2, 3a, 4, and 6 (Figure 1). The GCA consortium was originally formed to undertake works on the GEHBI Project. Since then, GCA has been awarded the contract to develop the initial design for the Project.

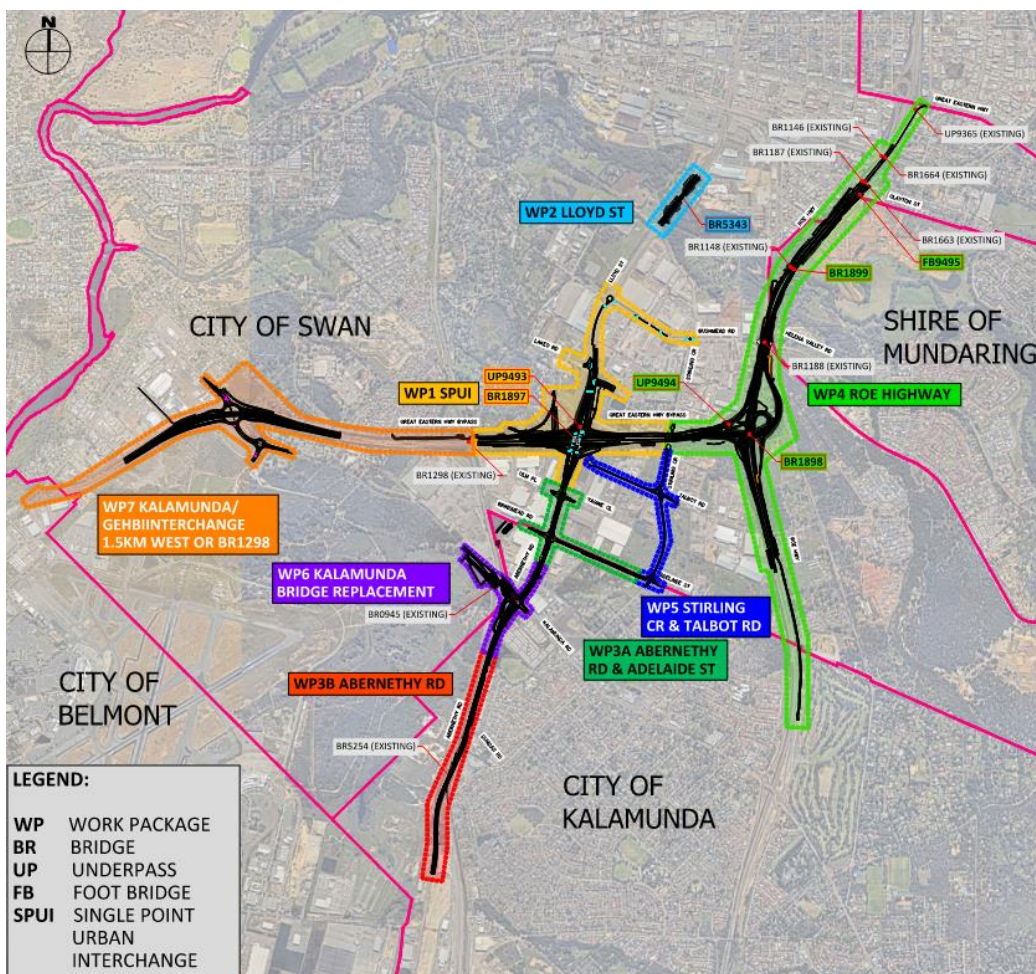


Figure 1 Proposed PAPNA upgrades in the context of the GEHBI network

The GEHB and Kalamunda Road Interchange upgrade should provide the following outcomes which align with the Project benefits:

- Improve connectivity and road safety for all road users.
- Reduce congestion, improve travel times, and allow for planned development and economic growth in the local area.
- Improve efficiency and network reliability including improving efficiency for heavy vehicles servicing Redcliffe, South Guildford, the broader Perth Airport, and Hazelmere / Forrestfield industrial areas,
- Improve freight productivity.
- Improve safety for pedestrians and cyclists.

The construction of a new grade separated interchange at the intersection of GEHB and Kalamunda Road will future proof the intersection's capacity including the proposed Airport North Development. The GEHB and Kalamunda Road Interchange design will also facilitate Over-Sized Over-Mass (OSOM) and Restricted Access Vehicle (RAV) network movements along Kalamunda Road to support existing freight business operations and the proposed Perth Airport North development, integrated with the wider GEHBI precinct network solutions.

The upgrade of this intersection is closely integrated with the Perth Airport Pty Ltd proposed Perth Airport North Development, including realignment of the adjacent section of Kalamunda Road and a new roundabout to connect into the Airport North Development to the west of Guildford Cemetery, as well as the additional proposed upgrades to Kalamunda Road to the south-east of the Perth Airport North Development to replace the existing rail bridge 0945 and upgrade the Abernethy Road intersection.

### **Value and Funding**

While the IS boundary for the Project only includes WP7, the funding for the Project also includes WP6, which forms part of the GEHBI Project IS boundary located to the east. The combined funding for WP6 and WP7 amounts to \$170 million for State and Federal Governments.

The funding has been allocated to achieve the 15% design phase for the Project. There are currently no funding commitments for construction beyond this phase.

The project website can be accessed via the following link <https://www.mainroads.wa.gov.au/great-eastern-hwy-bypass-kalamunda-rd/>

### **Project Timeline**

GCA was awarded the contract in July 2021, with all planning works related to the Assess, Select, and Develop phases to be finalised by 2023. Figure 2 provides a summary of key project dates and milestones for the Project and highlights the timing of the Planning Rating registration and other key sustainability activities to date.





Figure 2 Project dates and key sustainability activities to date

# Project Governance

## Approach to Sustainability in Project Development

GCA is committed to designing and building the Project in a way that optimises environmental, social, and economic outcomes for current and future generations. To achieve this commitment, GCA has a dedicated sustainability team which drives sustainable practices across all aspects of the Project and implement appropriate strategies and management plans to achieve sustainability goals. Documents created to assist in the management of sustainability include, but are not limited to: Sustainability Management Plan, Resource Efficiency Strategy, Resource Efficiency Action Plan, Climate Adaptation Action Plan, and Energy Modelling. GCA's commitments to sustainability can be read in GCA's Sustainability Policy (Appendix 5 – GCA Sustainability policy).

GCA's sustainability strategy for the Project has been developed with consideration to ISC's Infrastructure Sustainability rating tools, specifically version 2.0 for Planning. The rating tool provides an independently verified list of credits that represent specific sustainability topics for inclusion and assessment by the project team and are targeted to achieve points that determine the Project's sustainability performance throughout the Planning phase of the Project. The project has adopted a 'minimum sustainability target' of 20 points under the ISC Planning Rating, with the aim of ensuring an IS "Bronze" Rating.

Activities that supported initial sustainability priorities for the project were established and undertaken following Project award, including a materiality assessment, preliminary SMP, Risk and Opportunities Register, and Opportunities Workshop. An indicative IS credit pathway was developed prior to formal registration of the Planning Rating to guide activities and preparation of documentation. Focus topics were selected to guide the Project in its next stages through targeting the following key aspects:

- Integrated Sustainability
- Project Risk and Opportunity Identification
- Climate Risk and Adaptation
- Emissions Reduction
- Inclusive community and stakeholder engagement
- Environmental management
- Resource efficiency

## Material Sustainability Issues

A materiality assessment was undertaken for the Project in line with ISC v2.0 Planning requirements. Two workshops were held in March 2022 with Main Roads and GCA multidisciplinary participants, to identify key sustainability focus topics.

Following the workshops, the materiality assessment was socialised with all external stakeholders as an agenda item in regular stakeholder meetings. Key external stakeholders (City of Swan, City of Kalamunda, Perth Airport Pty Ltd) were presented with the outcomes of GCA's assessment and allowed to provide input and influence outcomes. Likewise, GCA consulted the client's Sustainability Representative in April 2022 to review the materiality outcomes and provide feedback on the next steps to be followed.

Each of the 39 credits within the ISC framework represent a focus topic for sustainability and are assigned a default score – the purpose of the materiality assessment process was to increase or reduce these default credit scores based on the values held by key internal and external stakeholders. Once this process was completed, the final materiality scores were assessed by a verifier from ISC and in some

cases adjusted, before being approved in June 2023. Overall, the credits assigned the highest materiality scores (given a score of 3 or 4) are outlined in Table 2.

*Table 2 Material sustainability issues based on materiality assessment*

IS Theme	IS Credit	Materiality
Governance	Con-2 Urban and Landscape Context	High
	Res-2 Climate and Natural Hazards	High
Environment	Ene-1 Energy Efficiency	Very High
	Ene-2 Energy Renewables	Very High
	Env-1 Receiving Water Quality	Very High
	Env-2 Noise	Very High
	Eco-1 Ecological Assessment	High
	Rso-1 Resource Efficiency Strategy	High
	Rso-4 Resource Recovery	High
Social	Sta-1 Stakeholder Engagement Plan	Very High
	Sta-2 Stakeholder Engagement Implementation	Very High
	Her-1 Heritage	Very High

The Project applied the materiality assessment outcomes to select the most relevant credits for achieving the 'minimum sustainability target'. The Project's rationale was to use the materiality assessment data to identify a feasible credit pathway that responds to the stakeholder interests and attainability. The targeted credits are outlined in Table 3.

*Table 3 IS Credit Assessment Pathway*

IS Credit	Materiality	Target Level	Target Points
Con-2 Urban and Landscape Context	High	1	0.61
Lea-1 Integrating Sustainability	Standard	1	1.14
Lea-2 Risk and Opportunities	Standard	2	1.01
Res-2 Climate and Natural Hazards	High	2	1.32
Ene-1 Energy Efficiency	Very High	1	3.43
Env-2 Noise	Very High	1	1.14
Eco-1 Ecological Assessment	Very High	2	2.29
Rso-1 Resource Efficiency Strategy	High	1	0.95
Rso-4 Resource Recovery	High	2	5.08
Sta-1 Stakeholder Engagement Plan	Very High	3	5.15
Sta-2 Stakeholder Engagement Implementation	Very High	2	3.43
<b>Total</b>			<b>25.6</b>

Based on the materiality assessment and the credit assessment pathway, GCA developed five (5) focus topics for the definition of objectives and targets, noting the intent is to provide as useful an approach to the future delivery of this project as possible within the available timeframe.

*Table 4 Alignment of Focus Credits against the five key Focus Topics*

Focus Topic	Focus Credits
Climate Resilience	Eco-1, Res-2
Consultation and Engagement	Sta-1, Sta-2
Energy	Ene-1, Ene-2
Efficient Resources	Rso-1, Rso-4, Ene-1
Environmental Responsibility	Env-2, Eco-1

### Sustainability Targets

Once key material issues to the Project were identified, the sustainability team continued to work one-on-one with the credit leaders to develop revised sustainability focus topics, objectives, and SMART sustainability targets. Appendix 1 – Sustainability targets outlines the focus topics, objectives, and planning targets that have been agreed upon and provides current progress against the planning targets.

### Climate Change Assessment

GCA has committed to investigating risks posed by climate change and developing adaptation actions to improve resilience against climate change impacts. In alignment with this commitment, GCA has produced a Climate Change Risks and Adaptation Report which describes the climate change projections for the area, risks identified, treatment options, and other opportunities to reduce climate change risks.

### Projections, Risks, and Treatment Methods

A review of both historical data relating to natural hazard events, and of future climate projections for the asset location was also completed. Representative Concentration Pathways (RCP) are scenarios used in climate science to project how the Earth’s climate might change in the future based on different levels of greenhouse gas emissions. Climate projections were considered under RCP 8.5 conditions for 2030 and 2090. It is noted that current climate projections developed by the Bureau of Meteorology and CSIRO, only present up to and including the year 2090, where usually the assessment would be conducted for the entirety of the asset design life (100 years).

The extent of natural hazards considered for this project include:

- Extreme heat,
- Drought,
- Bushfire,
- Extreme rainfall and flooding,
- Storms,
- Increased concentrations of CO2.

Under the RCCP emissions scenario 8.5, the total rainfall from heavy rainfall events is projected to increase, time spent in drought is projected to increase, as is the duration and frequency of extreme droughts, and projections show a reduction in storminess, although global climate models predict that the intensity of storms will increase.

Specific outcomes of the modelled projections are shown in Table 5.

Table 5 Future climate projections for project site (Source: Bureau of Meteorology and CSIRO)

Climate Change in Australia Region		Southern and Southwestern Flatlands (West)				
		Baseline (1981-2010)	RCP4.5		RCP8.5	
			2030	2090	2030	2090
Climate Variables	Change in annual mean temperature (°C)	24.6	0.8	1.7	0.8	3.4
	Number of days over 35°C (annually)	28	36	43	-	63
	Number of days over 40°C (annually)	4	6.7	9.7	-	20
	Relative humidity (%)	-	-0.6	-1.2	-0.6	-2.2
	Change in annual rainfall (%)	784mm	-6	-12	-5	-18

Based on projections from BOM and CSIRO and historical weather events, GCA identified several potential climate change risks to the Project:

- **Bushfire** – reduced visibility from potential bushfire events in the surrounding areas, likely affecting visibility for motorists due to smoke haze. Further affecting road safety and increasing the chance of road incidents.

The project site sits in proximity to areas that are considered bushfire-prone areas (BPA) under the *Fire and Emergency Services Act 1998*. BPAs are identified by the presence of and proximity to bushfire-prone vegetation.

- **Extreme rainfall and flooding** – an increase in extreme rainfall and flooding events leading to the compromise of road stability. Further causing weakened verges and exceeding the capacity of drainage infrastructure, leading to dangerous driving conditions.

Forecasts for future climate patterns indicate a warming trend, contributing to heightened storm severity. While annual precipitation is projected to decline, the frequency of extreme rainfall events – characterised by a significantly heavy rainfall over a brief period in a specific region – is expected to increase. This increase in extreme rainfall can be attributed to a warmer atmosphere's capacity to hold more water vapour. Climate models express strong confidence in the intensification of heavy rainfall events.

- **Extreme heat** – the increased frequency of extreme heat days causing the deterioration of asphalt, potential degradation and malfunctioning of electrical infrastructure, and heat stress concerns for pedestrians and PSP users.

By 2030 it is projected there will be an increase of mean annual temperature by approximately 3.4°C under RCP8.5. Extreme heat days are also expected to increase, with approximately five times the

current number of days over 40°C projected by 2090. This projected increase in temperature is also related to an increased bushfire risk.

Heat can impact the road surface, with particularly busy roads at a greater risk of melting during extreme heat. Heat is also known to degrade electrical system components, steel structures and other infrastructure, potentially increasing maintenance costs or leading to interruptions for road users. The health and safety of road and PSP users will also be negatively affected by the projected increase in heat for the region.

Adaptation controls and treatment methods identified to combat high-rated risks include:

- Implementing accessible locations of grates over inlets and outlets to account for increased inundation from rain events
- Chemical and physical stabilisation of batters for rock and scour protection to reduce the impact of landslips from weakened verges
- Implement a more frequent inspection schedule to monitor wear and tear of system components and lighting

The existing adaptation measures to mitigate climate risks have been earmarked for implementation in the upcoming project phase. At Develop Phase completion, the envisioned adaptation actions have yet to be factored in. All adaptation strategies and interventions designed to alleviate climate-related risks will be comprehensively outlined in the Sustainability Recommendation Report, forming an integral part of the documentation to be transferred for the project's subsequent phase.

# Economic Aspects



Photo: GCA Site images

## Economic context

The construction of a new grade separated interchange at the intersection of GEHB and Kalamunda Road will future proof the intersection's capacity including the proposed Airport North Development. The GEHB and Kalamunda Road Interchange design will also facilitate Over-Size Over-Mass and RAV network movements along Kalamunda Road to support existing freight business operations and the proposed Perth Airport North development, integrated with the wider GEHB precinct network solutions.

The GEHB and Kalamunda Road Interchange upgrade should provide the following outcomes which align with the Project and broader GEHB benefits:

- Improve connectivity and road safety for all road users
- Reduce congestion, improve travel times, and allow for planned development and economic growth in the local area
- Improve efficiency and network reliability including improving efficiency for heavy vehicles servicing Redcliffe, South Guildford, the broader Perth Airport, and Hazelmere / Forrestfield industrial areas,
- Improve freight productivity
- Improve safety for pedestrians and cyclists

A summary of economic performance and aspects for the Project are detailed in Table 6.

Table 6 Summary of Economic Aspects

ECONOMIC ASPECT	UNIT	TOTAL THIS PERIOD	TOTAL FOR PROJECT
Funding Received	\$	\$170M (PAPNA)	\$170M (PAPNA)
Indigenous Enterprises	#	0	0
Disability Enterprises	#	0	0
People Employed by Supply Chain <sup>1</sup>	#	80	80
Suppliers Engaged	#	0	0

1. People employed by supply chain defined as employees and subcontractors with on-site presence. Given PAPNA is currently in the planning phase, off-site supplier engagement (e.g., for materials) is not relevant for this reporting period.

### Key Economic Outcomes

The specific objectives which have guided the GEHB and Kalamunda Road Interchange option selection are:

- Provide capacity for the medium and long-term freight, commercial and passenger vehicle demand to support efficiency and productivity benefits and reduce congestion
- Facilitate an alternative OSOM and RAV route along Kalamunda Road towards Abernethy Road to avoid the existing height constraint (5.39m) at the Freight Rail Bridge No1298 over GEHB, integrated with the proposed upgrade of the Kalamunda Road rail bridge to allow for OSOM vehicles
- Improve road safety for all road users – targeting a Killed or Serious Injury (KSI) Crash Metric Reduction of 58.1% in 2041 based on the initial ROSMA assessment
- Provide for safe and efficient access for pedestrians and cyclists, supporting the proposed Long Term Cycle Network plan for GEHB and Kalamunda Road

### Greater Economic Development of Area

The Project includes the upgrade of the intersection between Abernethy Road and Kalamunda Road, and development of a new grade separated interchange of Great Eastern Highway Bypass and Kalamunda Road for the Perth Airport Northern Precinct. The overall development of the area and construction of new roads and interchanges will further stimulate economic growth in the area through the provision of jobs, greater opportunities for local suppliers, and improved accessibility for freight services and people commuting to the airport.

### Sustainable Transport

The Project has a significant focus around improving the extent of pedestrian and cycling facilities in the area to encourage the use of sustainable transport methods including cycling and the use of other small manned electric vehicles. In accordance with this aim, the Project includes the upgrade of paths for active transport along Great Eastern Highway Bypass as described:

- The new Principal Shared Path (PSP) will provide an east-west connection from the GSR. From the east, the PSP is extended along Great Eastern Highway Bypass from a PSP proposed by the GEHBI Project and traverses under the Kalamunda Road approach to the GSR to enable the continuation of the PSP westwards on Great Eastern Highway Bypass.
- A Shared Path will provide a north-south connection via an underpass to traverse through the GSR. This facilitates connections to the Guildford Cemetery, Queens Road Arboretum, and the Swan River.

The Project is expected to improve the efficiency of everyday travel for regular road users by reducing traffic congestion in the area.



## Options Assessment

The recommended interchange option for the GEHB and Kalamunda Road interchange identified from the 'Select Phase' during 2022 investigations is a Grade Separated Roundabout (GSR), with the GEHB corridor constructed on raised structures over Kalamunda Road. The GSR interchange solution was selected from a multi-staged Long List and Short List options assessment using a multi-Criteria Analysis process aligned with the Main Roads' Multi Criteria Analysis Process Guidelines developed by the Main Roads Road Planning & Development Branch.

The recommended GSR Concept Design includes the proposed Kalamunda Road and PAPNA roundabout whilst the Project Case Design excludes the PAPNA roundabout. The Ultimate Concept design solution provides access to the future Airport North development site and meets the three key design criteria:

- Criteria 1: Access to the surrounding properties, businesses and residents is to be maintained
- Criteria 2: Eliminate (or minimise) encroachment into the Airport Glides Paths
- Criteria 3: Eliminate (or minimise) penetration into the groundwater table

The Options Assessment Credit in the IS v2.0 Planning Rating (Ecn-1) requires consideration of alternatives to a grade separated interchange to resolve the problem. Strategic options that consider the impact of alternative land development proposals, traffic generation outcomes, freight distribution requirements, and more efficient use of existing infrastructure would form part of this preliminary options assessment. A strategic options assessment would need to demonstrate that a grade separated interchange was a positive project solution from environmental, social, and economic perspectives. A further assessment of grade-separated solutions (as completed to date) would be required to target the Ecn-1 credit. The strategic assessment was outside the defined scope of the Assess and Select phases and to the best of GCA's knowledge was not completed prior to this study commencing; therefore, the Ecn-1 credit could not be targeted as part of the IS Planning rating.

# Environmental Aspects



Photo: GCA Site images

## Summary

The Project is in the Planning phase and therefore all works to date have been desktop-based. As such, there has been no occurrence of vegetation clearing, out of office water usage, energy consumption, or generation of fuel emissions.

## Environmental context

The Project will include various upgrades and road works, primarily within South Guildford and the Perth Airport owned North Precinct land, approximately 11km east of Perth. Construction of the Project will impact environmental values including Banksia Woodland of the Swan Coastal Plain Threatened Ecological Community (TEC), Black Cockatoo Foraging Habitat, and two wetlands including one Resource Enhancement Wetland (REW, 9009) and one Multiple Use Wetland (MUW, 15264). No conservation significant Flora species are anticipated to be impacted by the Project based on desktop and field studies. Where possible, the Project is being designed to minimise the impact to environmental values. This includes design changes undertaken to minimise potential impacts to Banksia Woodlands TEC and native vegetation partly containing Black Cockatoo Habitat.

Key environmental legislation associated with the Project includes:

- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) - focuses on the protection of matters of national environmental significance (MNES)
- *Biodiversity Conservation Act 2016* (BC Act)
- *Environmental Protection Act 1986* (EP Act)
- *Rights in Water and Irrigation Act 1914* (RIWI Act)
- *Planning and Development Act 2005*
- *Biosecurity and Agriculture Management Act 2007*
- *Aboriginal Heritage Act 1972*
- *Aboriginal Cultural Heritage Act 2021*

The Project Environmental Impact Assessment identified the following impacts likely occurring from the Project:

- Six identified Aboriginal Heritage Sites, as identified in the Aboriginal Heritage Risk Assessment (AHRA) (Appendix 2 - List of Protected Areas Project interfaces)
- Threatened and Priority fauna species and habitat - inclusive of Black Cockatoo Foraging and potential Breeding Habitat (Appendix 3 - Protected fauna and flora species and habitat)
- Queens Road Arboretum REW (9009) and MUW (15264)
- Bush Forever Site 386 (Appendix 2 - List of Protected Areas Project interfaces)
- Commonwealth listed TEC - Banksia woodlands of the Swan Coastal Plain (Listed as Endangered under the EPBC Act) (Appendix 2 - List of Protected Areas Project interfaces)
- State listed Priority Ecological Community (PEC) - Central *Banksia attenuata* – *Banksia menziesii* woodlands, FCT 23a (Listed as Priority 3 under the BC Act) (Appendix 2 - List of Protected Areas Project interfaces)

Environmental outcomes for the Project are expected to at a minimum result in a no net-loss of ecological value based on ISC definitions in the v2.0 planning rating. At this stage, there is a commitment to looking into the possible opportunities of achieving a net gain over and above the offset requirements during detailed design. This would require all residual impacts to be mitigated or offset for the Project, and additional environmental value be added within the locality of the site or at other areas targeted for environmental improvements.

Relevant studies and actions undertaken during the planning and early design phases of the Project, in alignment with achieving this target, include:

- Biological surveys and development of the Biological Survey Report – to establish a baseline of environmental values and existing environment
- Environmental Impact Assessment – to define the extent of potential impacts to the local environment and outline proposed measures to avoid, minimise, and offset any residual impacts
- Preliminary Ecological Assessment (PEcA) – to describe the existing environment and potential impacts specific to ecology and highlight proposed opportunities and actions to enhance ecology, in alignment with the ISC Eco-1 Planning Credit.

The Project to-date has been subject to numerous discussions and proposed management actions to reduce impacts on the environment. Notably, intentional changes made to the concept design to reduce clearing in the planning and early design phase, has reduced the clearing of native vegetation by 4.36 ha, of which 1.17 ha was mapped as Banksia Woodlands TEC. Several workshops have also been conducted internally to raise ideas to enhance ecological value or benefit the environment, with all ideas being captured as opportunities within the Risk and Opportunity Register. The intent is for opportunities to be

further investigated, with some ideas implemented, in the later design or construction phases of the Project.

### **Environmental Management**

The following documents have been drafted in compliance with Main Roads' internal processes, legislative requirements or for the purpose of documenting and providing management strategies for the existing environment:

- Environmental Low Impact Screening Checklist (LISC) completed for the early proposal prepared in November 2021, updated March 2022
- Biological Survey Report, following a detailed flora, fauna, and vegetation assessments undertaken between 9 and 10 November 2021, updated as of June 2023
- Aboriginal Heritage Risk Assessment (AHRA), completed and submitted 17 November 2022
- Aboriginal Archaeological Heritage Survey Report, submitted in June 2023 following surveys conducted early 2023
- A Preliminary Site Investigation (PSI) report, prepared in May 2022 following two site inspections undertaken on 6 and 26 April 2022.
- Environmental Impact Assessment, update July 2023, pending further review.

Following the update of the EIA that is currently underway to capture changes to the biological survey report and design changes to minimise clearing, next steps for the Project will include assessing the extent of potential impacts to determine the approvals process that will need to be undertaken in compliance with State and Commonwealth legislation. Depending on the extent of the impacts, this may include:

- A Project Environmental Management Plan (PEMP) – to be prepared once more detailed design is available
- Referral of the Project to the Department of Climate Change, Energy, the Environment and Water (DCCEEW) – pending review of the updated EIA and associated impacts
- Development of a Part V clearing permit or referral under Part IV to the Environmental Protection Authority (EPA) – pending review of the updated EIA and associated impacts

### **Water Management**

Water management and efficiency is an essential part of the Project. WA water demand continues to increase with population growth and water scarcity is a growing concern amidst the effects felt by climate change. The Project aims to minimise overall water usage during construction and to avoid using potable water sources where possible.

A series of opportunities have been recorded for the Project that include integrating water sensitive designs as part of the Project where possible. Opportunities include stormwater and drainage designs that utilise the natural contours and hydrology of the land, to direct water to areas where water is needed such as the Queens Road Arboretum wetland. Given the Project is currently still in the early design phases, further internal consultation is required to extrapolate the best method of utilising water resources to benefit the surrounding environment.

### **Carbon Emissions & Energy**

The Project requires different sources of energy throughout its lifecycle, especially during the construction phase. The Western Australian Climate Policy has an aspiration of Net Zero emissions by 2050 and establishes priorities for WA to shift to a low carbon and climate resilient economy.

Road projects can generate emissions from various sources including vegetation clearing, construction

fuel use, electricity consumption and embodied energy of materials. Measuring these emissions can facilitate the identification of opportunities to prevent them and enhance the environmental performance of the project.

GCA has conducted preliminary estimations of energy requirements for the construction and operation phases. Given a high-level uncertainty and data availability for the modelling approach, third party verification is currently taking place. However, the identification of the main probable contributors to Scope 1 and Scope 2 emissions and the Scope 3 emissions from embodied carbon has informed opportunities to be identified.

Upon verification of the modelling approach, opportunities will be evaluated and assessed for consideration during design and construction phases, with an aim to earlier influence possible ways to avoid emissions. The sources anticipated to contribute most to the project’s carbon footprint are outlined in Figure 3. The chart does not include embodied emissions following IS Carbon & Energy Guidelines recommendations for IS v2.0 Planning Rating.

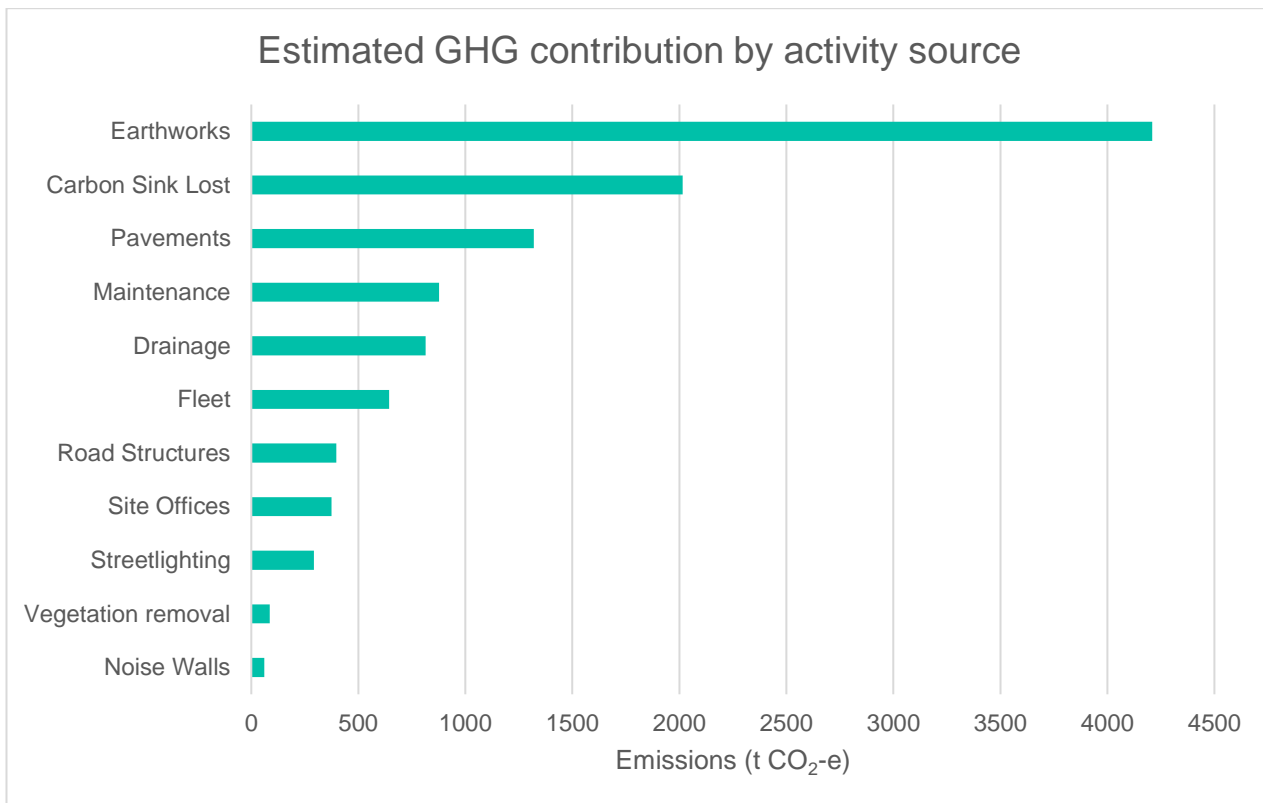


Figure 3 Preliminary carbon account contribution sources

### Materials & Recycling

Resource efficiency is a key aspect of the Project, which aims to maximise the value and minimise the environmental impact of the resources used during the construction phase. To achieve this, the project has engaged a multidisciplinary team of experts in various fields to conduct workshops and identify opportunities and targets for reducing resource consumption and waste generation throughout the project lifecycle.

GCA conducted a preliminary estimation of material to understand the potential of most significant impacts on the extraction of raw materials. Similar to the energy calculations, these estimations entail a certain level of uncertainty.

Based on the modelling approach, materials likely to be required include:

- Full depth asphalt
- Concrete
- Steel
- Embankment construction
- Aggregates

The workshops have considered various factors that influence resource efficiency, such as design, materials selection, procurement, and construction methods. Table 6 outlines a summary of the workshop discussion and the benefits of incorporating this topic from an early stage of the project.

*Table 7 Environmental and Economic Benefits of Alternative Materials in Road Construction*

Discussion Topic	Potential benefits
Crushed recycled concrete	Reduces the consumption of natural aggregates. Generates savings in energy and production costs. Improves drainage and reduces frost susceptibility
Low-carbon concrete	Reduces greenhouse gas emissions from concrete production. Enhances durability and resilience of roads. Lowers maintenance costs and extends service life
Reclaimed Asphalt Pavement	Reduces the need for virgin asphalt binder and aggregates. Conserves natural resources and energy. Improves pavement performance and quality
Low-carbon cement	Reduces greenhouse gas emissions from cement production. Utilizes industrial by-products such as fly ash and slag. Improves strength and durability of roads
Crumb Rubber	Recycles waste tires that would otherwise end up in landfills. Improves skid resistance and reduces noise levels. Increases fatigue resistance and reduces cracking
Crushed recycled glass	Improves drainage and reduces frost susceptibility. Enhances aesthetic appeal of roads
Excess site-won fill	Reduces the need for transporting materials to and from the site. Minimizes environmental impacts such as dust, noise, and fuel consumption. Utilizes locally available materials that are otherwise wasted

Based on the outcomes of the workshops, the project is finalising a Resource Efficiency Strategy and Action Plan that outlines the specific actions, responsibilities, timeframes, monitoring and reporting mechanisms, and expected benefits of implementing resource optimisation measures. The reports will provide a framework and guidance for achieving the resource efficiency targets and ensuring continuous improvement and best practice in resource management.

The implementation of the plan will contribute to the sustainability and performance of the Project, as well as to the broader social, economic, and environmental goals of the region. By optimising the use of resources and minimising waste during the construction phase, the project will reduce its environmental footprint, lower its costs, enhance its reputation, and create value for its stakeholders and the community.

## Noise

The criteria relevant to this project is provided in State Planning Policy No. 5.4 Road and Rail Noise (hereafter referred to as SPP 5.4) produced by the Western Australian Planning Commission (WAPC). SPP 5.4 is supported by the Road and Rail Noise Guidelines and the Department of Planning, Lands and Heritage mapping. The objectives of SPP 5.4 are to:

- Protect the community from unreasonable levels of transport noise
- Protect strategic and other significant freight transport corridors from incompatible urban encroachment
- Ensure transport infrastructure and land-use can mutually exist within urban corridors
- Ensure that noise impacts are addressed as early as possible in the planning process
- Encourage best practice noise mitigation design and construction standards

Great Eastern Highway Bypass is identified as a Strategic Freight and Major Traffic Route, whereas Kalamunda Road does not fall into either category. Noise modelling has concluded that the project will not result in increased noise levels. However, current investigations are occurring to achieve the outdoor noise targets by way of incorporating noise walls.

# Social Aspects



Photo: GCA Site images

A summary of key social aspects and performance for the Project are summarised in Table 8.

Table 8 Summary of Social Aspects

SOCIAL ASPECT	UNIT	TOTAL FOR THIS PERIOD	TOTAL FOR THE PROJECT
Stakeholders engaged	#	822	843
Stakeholder enquiries received	#	1	4
Heritage sites in project vicinity*	#	6	6
Length of Principal Shared Path (Addition/Refurbished)	km	15.4	15.4
Women in Workforce	%	25	25
Indigenous People in Workforce	%	1	1
Lost Time Injury Frequency Rate (LTIFR)	#	0	0
Hours of Training Undertaken	hrs	0	0
Development Employees and Apprentices on the Project	#	5	5

\*Heritage sites was determined during the Site Identification Archaeological Aboriginal Heritage Survey.



## Social context

The Project prioritised early engagement with stakeholders to achieve an asset that meets the expectations of the users. This new interchange will provide integral traffic routes for heavy vehicles, creating critical connection between Roe Highway and Tonkin Highway, servicing Perth Airport, Hazelmere, Forrestfield, and High Wycombe industrial areas. The surrounding stakeholders are integral to engage with as they reside next to, commute on and rely on the road network. To date, there are 88 stakeholders identified who have been engaged with in this early stage of the project, listed in Appendix 4 – List of Stakeholders to the project.

Throughout the planning and assessment process, Mains Roads identified three formal phases of engagement to capture input and feedback at key stages throughout the project:

**Phase 1:** Raising public awareness and understanding of the project and opportunities for early engagement

The phase focusses on raising public awareness and understanding of the project's rationale, purpose objectives and benefits. The main objective is to:

- Raise public awareness of the projects planning, development and approvals process
- Identify interested parties
- Inform public how to submit their opinions
- Support site investigations for project planning and design development

**Phase 2:** Public engagement to support project planning and development

Activities to support the planning process which aims to:

- Engage with affected landowners and tenants
- Gather community and stakeholder feedback on the project to inform the planning process
- Report back to stakeholders and the community on engagement activities and how their input will be used

**Phase 3:** Formal consultation process to validate feedback collected and considered in Phase 2 above

Communication and engagement activities which aims to:

- Present and explain concept designs and impact assessments to stakeholders
- Address how to provide formal feedback (if required)
- Report back to the community and stakeholders to inform them how their feedback was used

Since planning for this project began in October 2021, continual engagement with the community and stakeholders has been ongoing. Between the 24<sup>th</sup> June and 25<sup>th</sup> July 2022, respondents were given the chance to complete an online survey (MySay) to identify key sentiments about the project area, as well as overall local specific issues and opportunities. From this Feedback gathered during this consultation period, there were three key themes identified as being priority considerations for the community, they include:

- Maintain local access - maintaining access to Kalamunda Road via Barker Road and maintaining access to the Guildford Cemetery.
- Environmental heritage and protection – preservation of bushland, minimising removal of vegetation, replanting of shrubs & trees along the roadside, and protecting cultural heritage.

- Pedestrian and cyclist access - shared paths that keep cyclists and pedestrians separate from traffic (particularly heavy vehicles), extension of the shared path network along Kalamunda Road, and safe pedestrian crossings.

## Community & Stakeholder Engagement

Community and stakeholder engagement has continued through the planning phase and will continue through to the next stages of the project. Engagement and communication with stakeholders have been held in accordance with Main Roads' Stakeholder Engagement Plan (SEP), which outlines the ongoing communication that will take place as the project progresses. The SEP has been developed to achieve the following outcomes:

- Provide a framework in which to guide communications and engagement throughout planning and development
- To support a greater understanding of the stakeholder and community expectations and concerns
- Identification of who is using the road network

Stakeholder and community input and feedback received will help the project team understand key issues and existing conditions in the local area and inform decisions on the project design.

## Heritage

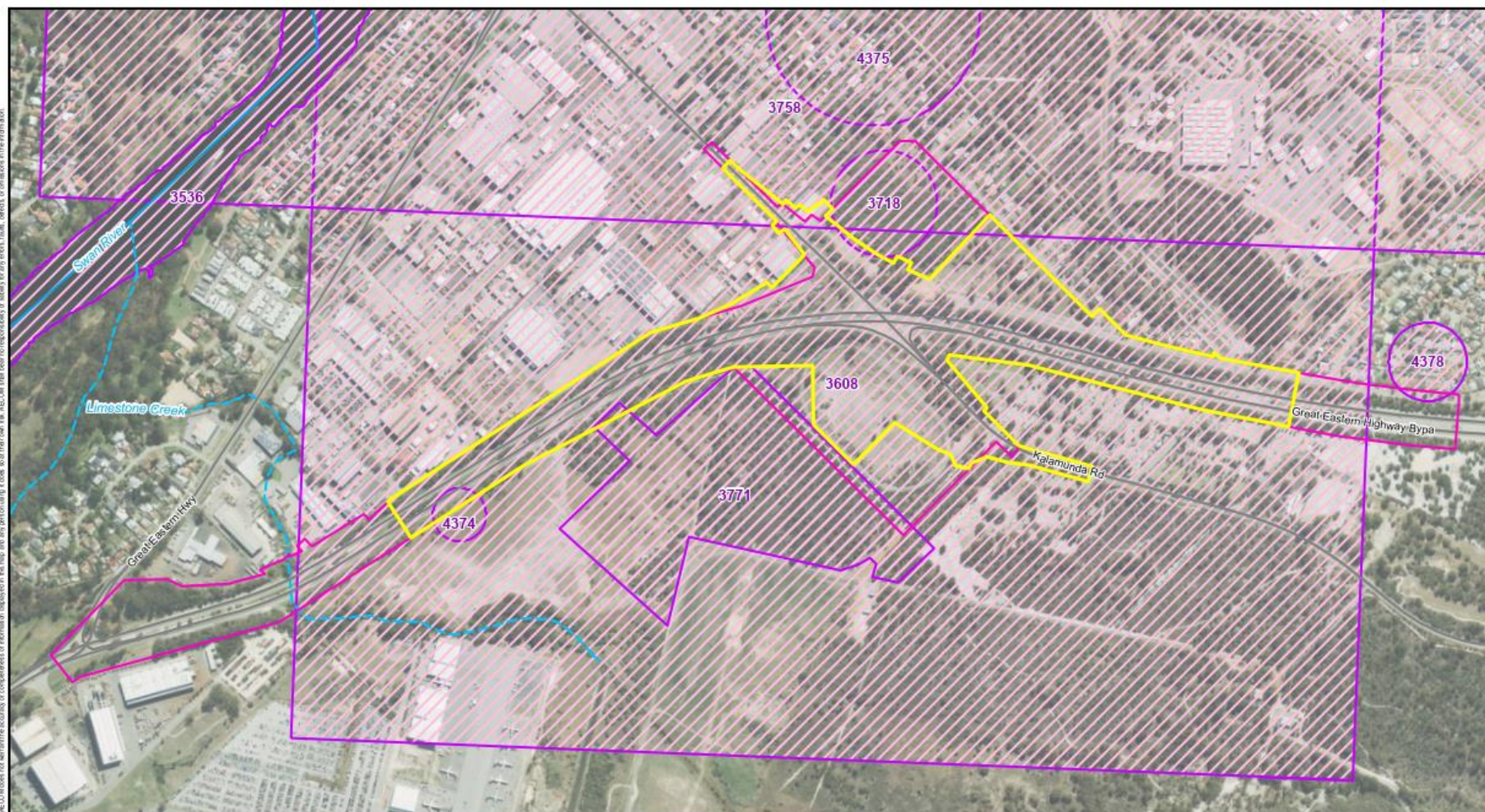
An AHRA, undertaken on 17 November 2022, revealed six registered Aboriginal Heritage sites containing ethnographic and/or archaeological aspects within a 250 m buffer of the Project Area. Of these, Site 3608, and Site 3718 fall within the Project Area. Project risk on Aboriginal Heritage was scored as medium. It was recommended consultation and ethnographic and archaeological surveys be undertaken.

An Aboriginal Heritage Survey was conducted by Brad Goode and Associates. Archival research identified five registered sites within the Survey Area consisting of Soldier Swamp (Site ID 3718), Helena River (Site ID 3758), Allawah Grove (Site ID 3771), Airport: Koojan Avenue (Site ID 4374), and Waterhall Road (Site ID 4378). The Aboriginal Heritage Survey Area and registered Aboriginal Sites are included in Figure 4. No Aboriginal archaeological materials were identified as a result of the archaeological survey (Brad Goode and Associates, 2023).

An ethnographic assessment is currently being planned to assess the sites identified within the AHRA that may contain ethnographic aspects. Additional assessment is required for both archaeological and ethnographic aspects to determine if an application for consent to disturb Aboriginal Heritage sites (s18 Notice or equivalent under the new legislation) is required. Prior to construction commencing, a Construction Environmental Management Plan (CEMP) or equivalent document will be drafted, outlining actions to be undertaken to avoid impacts on identified Aboriginal Heritage Sites and detailing Aboriginal Heritage Monitor programs and unexpected finds procedures.

The State Heritage Register (inherit database) and the City of Swan's Municipal Inventory indicated there is one registered non-indigenous heritage site within the Project Area, being the Guilford Cemetery (ID 4647). The Guildford Cemetery is located adjacent to the project boundary along GEHB. The site is included on the City of Swan's Municipal Inventory as 'Category 1 – exceptional significance to the locality'. The Heritage Place is shown on Figure 5.

The Project will be designed in consultation with the Guilford Cemetery management, with the aim to avoid all impacts to this site. Should any potential impacts arise, a Heritage Impact Statement would be prepared as a requirement of the Guildford-Mandoon Heritage Area Policy Statements (Part A), in accordance with the Department of Planning, Lands and Heritage publication 'Heritage Impact Statement: A Guide'.



PROJECT ID: 60657311  
 CREATED BY: FLETTN  
 APPROVED BY: EATONB  
 LAST MODIFIED: 21 AUG 2023

**Greater Connect ALLIANCE**

DATUM: GDA 1994 Perth Coastal Grid 1994  
 Scale: 1:10,000 (when printed at A4)  
 Scale bar: 0 50 100 150 Meters

Base Data: (2) Based on information provided by and with the permission of the Western Australian Land Information Authority trading as Landgate (2019), Geoscience Australia, Swinoga

**LEGEND**

- Project Area Boundary (22 June 2023)
- Aboriginal Heritage Survey Area
- Aboriginal Heritage Places (DPLH)

**Aboriginal Heritage Places**

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**MAIN ROADS WA**

**GREAT EASTERN HIGHWAY BYPASS INTERCHANGE PROJECT**

**Figure 5**

Project File: \\AUPERT\p\001.na.aecomet.com\local\Perth\Legacy\Projects\60657311\900\_CAD\_GIS\930\_ENV\_GIS\APPS\FIGURES\ENVIRONMENT\89\_MPT336\_PAPNA\_AborHerFig\89\_MPT336\_PAPNA\_AborHerFig.aprx (FlettN)  
 Layout: GEH01\_005\_AboriginalHeritage\_Ver1\_A4.L

A4 size

Figure 4 Aboriginal Heritage Survey Area and registered Aboriginal Sites

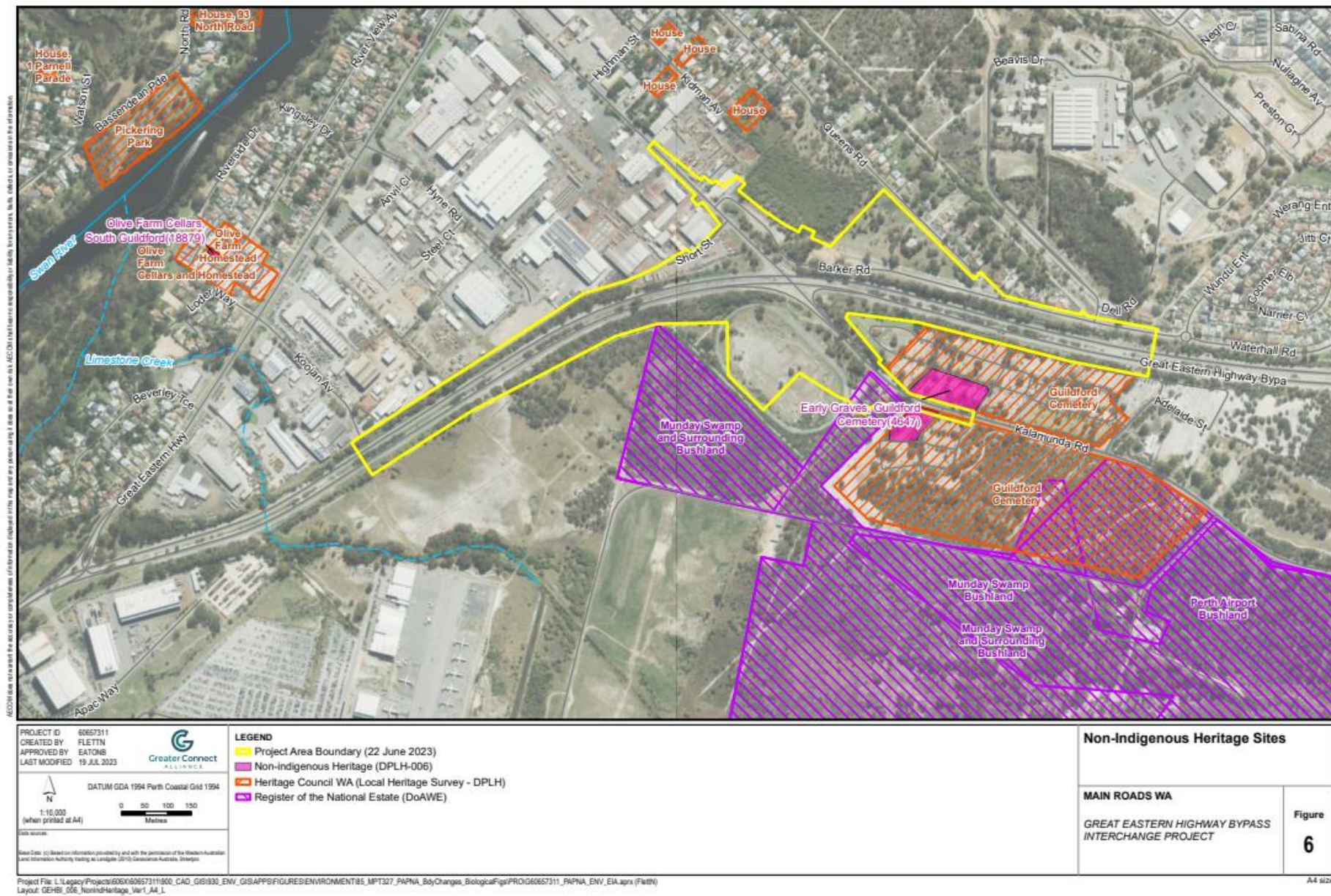


Figure 5 Registered non-indigenous heritage site

# Appendix 1 – Sustainability targets

Focus Area	Objectives	Planning Targets	Status
Consultation and Engagement	Demonstrate commitment and collaborative efforts to obtain sustainable outcomes embedding sustainability within the project objectives	Develop a decision-making framework and a methodology that guides all Project stages in recognising and evaluating opportunities.	<b>Complete ✓</b> The project has adopted GCA's decision-making framework. The tool has been trialled within the Climate Resilience mitigation identification process
		Create a register to capture negotiable and non-negotiable items for stakeholder input. The register must include further engagement for negotiable items and establish a monitoring system to capture progress against them	<b>On-Track →</b> The project has completed the Stakeholder Engagement Strategy which includes this register. The Strategy is under revision
		Investigate at least 2 opportunities to protect or enhance Aboriginal and historical heritage value on the project	<b>On-Track →</b> The Project conducted archaeological survey. Next stages of the survey are being conducted currently. Upon completion opportunities will be identified and assessed
Deliver Sustainable Infrastructure	Reduce and manage risks associated with the delivery of the ISC rating	Identify risks associated with sustainability material issues, including risks associated with the ISC pathway delivery	<b>On-Track →</b> We have identified the sustainability material issues that pose risks to the project, including those related to the ISC pathway delivery. Currently working on delivering focused aspects of the credit Pathway
Resource efficiency	Minimise and target efficient use of resources (materials, land) across the Project stages to reduce negative	Define overarching principles for resource efficiency, define a resource efficiency strategy and define a resource efficiency action plan to be handover to the next stage	<b>On-Track →</b> GCA has defined the overarching principles for resource efficiency and is developing a resource efficiency strategy and action plan

Focus Area	Objectives	Planning Targets	Status
	environmental impacts	Investigate at least 10 opportunities in alignment with MRWA Recycled and Sustainable Materials Reference Guide and previous workshops. Evaluate the opportunities with the multidisciplinary and include the conclusions in the opportunities register to be handed over into the next stage	<b>On-Track</b> → Opportunities to use recycled and sustainable materials are being assessed and evaluated
<b>Energy</b>	Minimise carbon emissions and target efficient use of energy sources	Complete an energy model in alignment with the Greenhouse Gas Assessment Workbook for Road Projects to guide the identification of 8 opportunities to reduce construction and operational-related emissions	<b>On-Track</b> → GCA modelled potential sources of GHG emissions, subject to third party verification.
		Based on the energy model development, evaluate the emission reduction potential for all identified opportunities and include the conclusions the opportunities register to be handed over into the next stage	<b>On-Track</b> → The project will estimate the reduction potential of carbon mitigation measures based on the model outcomes once verified
<b>Environmental responsibility and Climate Resilience</b>	Maximise opportunities to integrate resilience and adaptive capacity to climate-related hazards and enable no net loss to environmental conditions	Identify adaptation actions for all climate-related risks rated as high or above during workshops and create a monitoring program to track progress against actions for the project's next stage	<b>Complete</b> ✓ A Climate Change Risk and Adaptation Report was produced, which outlines the assessment and identifies adaptation options to mitigate the impact of climate change on the infrastructure asset
		Identify at least 3 opportunities through desktop research to protect or enhance significant ecological features (i.e., black cockatoo habitat OR threatened ecological communities). Evaluate the opportunities with the multidisciplinary team using SWOT and include the conclusions in the opportunities register to be handed over into the next stage	<b>On-Track</b> → The Project has identified all opportunities. Opportunities are being assessed by MRWA for endorsement

## Appendix 2 - List of Protected Areas Project interfaces

PROTECTED AREA	DETAILS	LOCALITY/ PROXIMITY	POTENTIAL IMPACT
<b>Environmental</b>			
<i>Commonwealth Listed</i>			
Banksia Woodlands of the Swan Coastal Plain TEC	Commonwealth listed TEC (Endangered) (state listed Priority Ecological Community, PEC).	South of Great Eastern Highway Bypass and Kalamunda Road	Approximately 1 ha, to be confirmed upon completion of the EIA update.
<i>State Listed</i>			
Central <i>Banksia attenuata</i> – <i>Banksia menziesii</i> woodlands	State listed Priority 3, FCT 23a	South of Kalamunda Road	Approximately 1 ha, to be confirmed upon completion of the EIA update.
Bush Forever Site 386	Bush Forever Site 386	South of Great Eastern Highway Bypass	Approximately 2.6 ha, to be confirmed upon completion of the EIA update.
<b>Heritage</b>			
Bridge Camps	Registered Aboriginal Heritage Site 3608	Intersects the Project Area	Potential disturbances include the use of heavy machinery for excavation, clearing, and the transportation of materials and fill. Aboriginal Heritage monitors will be present during ground disturbing works.
Soldier Swamp	Registered Aboriginal Heritage Site 3718	Intersects the Project Area	Potential disturbances include the use of heavy machinery for excavation, clearing, and the transportation of materials and fill. Aboriginal Heritage monitors will be present during ground disturbing works.
Helena River	Registered Aboriginal Heritage Site 3758	Was found within a 250 m buffer of the Project Area as part of the AHRA	Impacts are unlikely given the site is outside of the Project Area.
Allawah Grove	Registered Aboriginal Heritage Site 3771	Was found within a 250 m buffer of the Project Area as part of the AHRA	Impacts are unlikely given the site is outside of the Project Area.
Airport: Koojan Avenue	Registered Aboriginal Heritage Site 4374	Was found within a 250 m buffer of the Project Area as part of the AHRA	Impacts are unlikely given the site is outside of the Project Area.
Waterhall Road	Registered Aboriginal Heritage Site 4378	Was found within a 250 m buffer of the Project Area as part of the AHRA	Impacts are unlikely given the site is outside of the Project Area.
Guildford Cemetery	State Registered Heritage Site (non-indigenous)	Intersects the Project Area	The Project will be designed in consultation with the Guilford Cemetery management, with the aim to avoid all impacts to this site.

## Appendix 3 - Protected fauna and flora species and habitat

SPECIES	CONSERVATION SIGNIFICANCE CODE		POTENTIAL IMPACT
	FEDERAL	STATE	
<b>Fauna</b>			
<i>Calyptorhynchus banksii naso</i> (Forest Red-tailed Black Cockatoo)	VU	VU	Approximately 5 ha of Moderate Quality (4-6) and Moderate to High Quality (7) foraging habitat, to be confirmed upon completion of the EIA update.
<i>Calyptorhynchus baudinii</i> (Baudin's Black Cockatoo)	EN	EN	Approximately 5 ha of Moderate Quality (4-6) and Moderate to High Quality (7) foraging habitat, to be confirmed upon completion of the EIA update.
<i>Calyptorhynchus latirostris</i> (Carnaby's Black Cockatoo)	EN	EN	Approximately 5 ha of Moderate Quality (4-6) and Moderate to High Quality (7) foraging habitat, to be confirmed upon completion of the EIA update.
<i>Isoodon fusciventer</i> (Quenda)	-	Priority 4	TBC



## Appendix 4 – List of Stakeholders to the project

Category	Stakeholder/s	Relevance to project	Level of engagement required/tools
<b>Federal Government</b>	MPs: <ul style="list-style-type: none"> <li>Federal Minister for Infrastructure, Transport, Regional Development and Local Government, The Hon Catherine King MP</li> <li>Member for Hasluck, Tania Lawrence</li> </ul>	Providing funding.	Approval of project messaging and communication collateral. Individual briefings as required, or on request.
	Agencies: <ul style="list-style-type: none"> <li>Department of Infrastructure, Transport, Regional Development, Communications, and the Arts</li> </ul>	Perth Airport is on Commonwealth land leased to PAPL.	
<b>State Government</b>	MPs: <ul style="list-style-type: none"> <li>Minister for Transport Rita Saffioti MLA</li> </ul>	Providing funding. Supportive – as secondary funder.	Approval of project messaging and communication collateral. Individual briefings/briefing notes. Ministerial and media events. Project Updates.
	<ul style="list-style-type: none"> <li>Belmont MLA Cassie Rowe (LAB)</li> <li>Midland MLA Michelle Roberts (LAB)</li> </ul>	Political representatives of residents / business owners in project area.	Add local members to subscribers list for email updates. Provide copies of Project Updates as FYI.
	Agencies: <ul style="list-style-type: none"> <li>Department of Transport (DoT)</li> <li>Department of Planning, Lands and Heritage (DPLH)</li> <li>Public Transport Authority</li> <li>Department of Water and Environmental Regulation (DWER)</li> </ul>	Interface with state planning. Interest in Principal Shared Paths and impact of project on public bus routes and stops on Kalamunda Road. Responsibility for environmental issues and approvals.	Stakeholder workshops/risk workshops. Involve in discussions re. Airport land. Consult re path locations and connections. Refer for environmental and heritage approvals, as required.

Category	Stakeholder/s	Relevance to project	Level of engagement required/tools
	<ul style="list-style-type: none"> <li>Environmental Protection Authority (EPA)</li> <li>Department of Biodiversity, Conservation and Attractions (DBCA)</li> </ul>		
<b>Local Government</b>	<ul style="list-style-type: none"> <li>City of Swan</li> <li>City of Kalamunda</li> <li>City of Belmont</li> </ul>	<p>Project within City of Swan and bordered by City of Kalamunda and City of Belmont.</p> <p>Collaboration and engagement required to develop project concept and ensure interface with planned local road projects meets local needs.</p> <p>LGAs will have interest in, and input into, design/works on local roads, shared paths, landscaping and urban design framework and any impacts on Council managed parks, recreation grounds and facilities.</p> <p>Segregate industrial traffic from their nearby residential areas.</p> <p>Protection of facilities important to the local community.</p>	<p>Regular LGA meetings with technical officers (with individual LGAs and combined, as necessary).</p> <p>Seek feedback on identified community issues and any proposed mitigation strategies.</p> <p>Feedback on concept designs.</p> <p>Council briefings at key milestones, and on request.</p> <p>Ongoing collaboration to ensuring joint advocacy and alignment on messaging.</p>
<b>Perth Airport</b>	<ul style="list-style-type: none"> <li>Perth Airport Estate</li> <li>Perth Airport Pty Ltd</li> <li>Airport Building Controller Services</li> </ul>	<p>GEHB/Kalamunda Road intersection is located directly beneath the flight path of the main runway.</p> <p>Development of Airport North Precinct and impacts of new interchange on access, internal road network etc.</p> <p>Airport access for commuters during construction.</p> <p>RAV7 traffic to service the industrial, freight and logistics developments planned in Airport North.</p> <p>Ensure that the intersection does not constrain the proposed extension to the main runway.</p>	<p>Involve Perth Airport in meetings/discussions re. design options, access, and local road network.</p> <p>Structures will need to be designed to ensure the heights are restricted beneath the height limits set by flight contours.</p> <p>The interchange will also need to be designed to accommodate RAV7 traffic to service the industrial, freight and logistics developments planned in the PAPL Airport North Development.</p> <p>All building activity on Perth Airport land requires approval under the Commonwealth Airports Act 1996 (the Act).</p>

Category	Stakeholder/s	Relevance to project	Level of engagement required/tools
			Add PAPL to subscribers list for updates during planning, development, and construction.
<b>Cemetery</b>	<ul style="list-style-type: none"> <li>Metropolitan Cemeteries Board</li> <li>Guildford Cemetery</li> </ul>	<p>Protection of Guildford cemetery.</p> <p>Access for visitors during construction.</p> <p>Access to cemetery post construction.</p>	Will require consultation on design of interchange and any impacts on access, vegetation, and overall amenity.
<b>Utility providers</b>	<ul style="list-style-type: none"> <li>Atco Gas</li> <li>APA Gas</li> <li>Dampier Bunbury Pipeline</li> <li>Water Corporation</li> <li>Western Power</li> <li>Telstra</li> <li>NBN</li> <li>Optus</li> <li>Vocus</li> </ul>	Approves all access to/protection/relocation of services.	<p>Will require consultation as design is developed to identify high risk services and constraints.</p> <p>May require consultation on design of interchanges and local road treatments.</p> <p>Service relocations will require approval from relevant provider.</p>
<b>Freight rail</b>	<ul style="list-style-type: none"> <li>Arc Infrastructure</li> </ul>	<p>Freight rail line passing under Kalamunda Road.</p> <p>The Kalamunda Road bridge over the freight rail line is scheduled for replacement in 2023.</p>	Mandatory contact for all freight rail impacts and interfaces.
<b>Freight industry</b>	<ul style="list-style-type: none"> <li>Freight and Logistics Council of WA</li> <li>WA Road Transport Association</li> <li>Freight Operators</li> <li>Main Roads Heavy Vehicle Services (HVS)</li> </ul>	<p>Heavy vehicles including OSOM vehicles currently use the GEHB/Kalamunda Road intersection.</p> <p>Ensure design caters for high/wide loads to service heavy industrial businesses on Great Eastern Highway and Kalamunda Road.</p>	<p>May require consultation on design of interchanges and local road treatments.</p> <p>MRWA HVS to keep operators informed during construction.</p>
<b>Emergency Services</b>	<ul style="list-style-type: none"> <li>St John Ambulance</li> <li>Department of Fire &amp; Emergency Services</li> </ul>	Requires emergency access.	

Category	Stakeholder/s	Relevance to project	Level of engagement required/tools
	<ul style="list-style-type: none"> <li>WA Police</li> </ul>		
<b>Businesses (South Guildford/Redcliffe/Hazelmere)</b>	<ul style="list-style-type: none"> <li>Hazelmere Enterprise Area (incl. Abernethy Road Access User Group)</li> <li>Businesses on Great Eastern Highway</li> <li>Businesses on Kalamunda Road</li> <li>Businesses on Perth Airport land</li> <li>Development WA</li> </ul>	<p>Project is a catalyst for ongoing development and regeneration.</p> <p>Coordinated development and access for heavy vehicles.</p>	<p>Consult via meetings as required.</p> <p>Develop business-specific email list.</p> <p>General community awareness to seek feedback.</p> <p>Operator and leaseholder contact maintained.</p>
<b>Impacted Landowners (directly impacted by construction activities including traffic management)</b>	<ul style="list-style-type: none"> <li>Properties on Kalamunda Road both north and south of the GEHB</li> <li>WA Fuels</li> <li>Karma Holdings</li> <li>Cape Pty Ltd</li> <li>Bruce Avery Transport</li> <li>Direct Blast</li> <li>DKSH</li> <li>Titan Heavy Lift</li> <li>CAT Rentals/Westrac</li> <li>Guildford Cemetery</li> <li>Perth Airport</li> <li>Residents impacted by possible closure of Barker Road at intersection of Kalamunda Road</li> <li>City of Swan (Queens Road Arboretum &amp; BMX track)</li> </ul>	<p>Land required for road construction purposes.</p> <p>Business access changes.</p> <p>Potential access changes for businesses on Kalamunda Road.</p> <p>Access changes for residents with potential to result in unacceptable travel distance to Kalamunda Road if Barker Road closes.</p> <p>Potential PAPL lease boundary changes.</p> <p>Potential impacts on bus stops servicing Guildford Cemetery.</p> <p>Local community expectation that BMX track will be replaced in alternative location.</p>	<p>Land Acquisition Register (including schedule of possible required land takes).</p> <p>Traffic/access management plans.</p> <p>Early consultation.</p>
<b>Land-owners impacted by changes to leases or</b>	<ul style="list-style-type: none"> <li>Tribridge Holdings Pty Ltd &amp; Tradewinds Nominees – owner 3</li> </ul>	<p>N&amp;L Transport/Bruce Avery Transport (the tenant of 3 Kalamunda Rd) lease a portion of the adjoining land from Main Roads (Lot 22 Great Eastern</p>	<p>Keep Tribridge Holdings, N&amp;L Transport and Bruce Avery Transport informed of expected timing to terminate lease and any proposed</p>

Category	Stakeholder/s	Relevance to project	Level of engagement required/tools
<b>land acquisition outside of the MRS</b>	<p>Kalamunda Road (Lot 853) and 5 Kalamunda Road South Guildford</p> <ul style="list-style-type: none"> <li>Bruce Avery Transport/N&amp;L Transport – tenant at 3 Kalamunda Road (Lot 853), South Guildford</li> <li>Gallop Australia Sub PC Pty Ltd – owner 128-142 Great Eastern Highway South Guildford</li> <li>The CAT Rental Store – tenant of 128 Great Eastern Highway South Guildford</li> <li>Duporte Corporation Pty Ltd – owner of 4 Kalamunda Road and 6-16 Kalamunda Road, South Guildford</li> <li>Cape – business on 4 - 16 Kalamunda Road South Guildford</li> <li>Energy Holdings Group Pty Ltd – owner 2 Kalamunda Road South Guildford</li> <li>WA Fuels – business located on 2 Kalamunda Road South Guildford</li> </ul>	Highway). The lease expired in August 2017 and is currently operating under a Hold Over clause which provides for one month termination by either party.	permanent access changes. Consult on possible suitable solutions to maintain access for business operations. Full property acquisition may be required.
<b>Community/Sporting groups</b>	<ul style="list-style-type: none"> <li>WestCycle</li> <li>Barker Road BMX Track</li> </ul>	<p>PSP design/connections.</p> <p>Impact of project on BMX track (potential removal/relocation).</p>	<p>Consult on PSP designs, through DoT.</p> <p>Provide support to City of Swan during consultation regarding future of BMX track.</p>
<b>Environmental and community groups/representatives</b>	<ul style="list-style-type: none"> <li>Nature Reserves Preservation Group of Kalamunda</li> <li>South Guildford Community Association</li> <li>Woodbridge Ratepayers and Friends Association</li> </ul>	<p>Preservation of TECs and native vegetation on PAPL land and Kalamunda Road reserve.</p> <p>Preservation of the Barkers Road BMX Track and Queens Road Arboretum/Park.</p> <p>Revegetation.</p>	<p>Engage in concept design</p> <p>Inform of any EPBC Referral consultation</p> <p>Added to subscribers list.</p>

Category	Stakeholder/s	Relevance to project	Level of engagement required/tools
	<ul style="list-style-type: none"> <li>• Guildford Association</li> <li>• Friends of Woodbridge Bushland</li> <li>• South Guildford Association</li> <li>• Helena River Alliance</li> <li>• Swan Guildford Historical Society</li> </ul>	<p>Contamination.</p> <p>Traffic volumes through Guildford.</p> <p>Protection of the Helena River and floodplain.</p> <p>Preserve historic nature of Guildford.</p> <p>Noise (construction and operational)</p>	
<b>Heritage</b>	<ul style="list-style-type: none"> <li>• Southwest Aboriginal Land Council</li> <li>• Native Title Claims Group (Traditional Owners)</li> </ul>	<p>Traditional ownership.</p> <p>Places/sites of cultural importance.</p>	<p>Heritage surveys.</p> <p>Direct Engagement with relevant Elders.</p>
<b>Local residents and businesses</b>	<ul style="list-style-type: none"> <li>• Within prescribed locality</li> <li>• LGAs to provide contact details, as required</li> <li>• Palmer Barracks</li> </ul>	<p>Potential land acquisition.</p> <p>Access and construction impacts.</p> <p>Landscaping and noise walls.</p> <p>Property condition surveys.</p> <p>Impacts on local facilities such as BMX Track, Arboretum.</p> <p>Impacts on Public Transport.</p>	<p>Letters.</p> <p>Project updates.</p> <p>Drop-in sessions.</p> <p>Email subscriptions.</p> <p>Project webpage.</p> <p>Construction updates.</p> <p>Face to face meetings.</p>
<b>Road users</b>	<ul style="list-style-type: none"> <li>• Motorists</li> <li>• Cyclists</li> <li>• Pedestrians</li> <li>• People using mobility aids</li> </ul>	<p>Access and delays, travel times.</p> <p>PSP connections/detours.</p> <p>Mobility access.</p>	<p>Project updates.</p> <p>Travel map.</p> <p>Email subscriptions.</p> <p>Project webpage.</p>
<b>Nearby concurrent projects</b>	<ul style="list-style-type: none"> <li>• Tonkin GAP</li> <li>• Great Eastern Highway Bypass Interchanges project</li> <li>• Airport North Redevelopment</li> <li>• Replacement of Kalamunda Road bridge over the ARC rail line</li> <li>• Rosehill Waters residential development (South Guildford)</li> <li>• Local Government works</li> </ul>	<p>Coordination of activities and information.</p> <p>Information about construction activities, road closures, detours, and haulage routes.</p> <p>Referral of enquiries and complaints as appropriate.</p> <p>Minimising cumulative impacts.</p>	<p>Written correspondence, meetings, exchange of key contacts and progress updates as required.</p>

# Appendix 5 – GCA Sustainability policy

## Great Eastern Highway Bypass Interchanges Sustainability Policy



Sustainability is about maximising our environmental, economic, and socio-economic performance in the interests of the business, our stakeholders, and our planet.

Transport is essential to the development of Western Australia and plays a vital role in creating competitive economies and liveable, inclusive communities by enabling the movement of people and freight.

The Greater Alliance Connect Project is committed to developing a transport network that meets social, economic, and environmental needs and implementing a strategy which aims to create sustainable growth by meeting the economic, social, and environmental challenges of our rapidly changing world. We will expect to:

- Deliver a road-based transport system that improves community amenity, mobility and travel choice whilst reducing indirect environmental impacts.
- Develop appropriate responses and adaptations to meet the demands of our changing climate.
- Reduce our impact on the natural environment by focusing on emissions, pollution, waste, land use and resources.
- Develop and sustain a culture of sustainability within our organisation, our industry, and the community.
- Ensure high standards in governance by measuring and reporting our sustainability performance against our key sustainability aspects.
- Reduce the environmental footprint of our project.
- Engage with industry and apply sustainability clauses in our contracts for high impact goods and services, ensuring our supply chain is assessed and monitored for compliance against key sustainability risks and targets.
- Ensure key sustainability aspects are considered within all decisions.
- Utilising purposeful technologies to harness the benefits in operational efficiency that will help deliver quality and demonstrate conformity of products and services.
- Ensure that any major decisions to be made are engaged by the Responsible Decision Making framework. This is a decision-making philosophy that gives our people the ability to navigate, determine and act upon choices that reflect the values, duties, relationships, ethics and impacts of the business.

This will be achieved by:

- Enabling decision forums to consistently make more robust and sustainable decisions for future project works and activities
- Making ethical operations, transparency and consistency in decision making a basic requirement in a climate of increasing marketplace complexity and pace.
- Making collaboration with clients, supply chain, industry partners, research organisations and other stakeholders fundamental to how we develop and implement a sustainability strategy. We will aim to be as transparent in reporting on these strategic targets.

The Greater Connect Alliance is committed to ensuring that this policy is implemented in line with legislation, regulations, and codes of practice, by all employees and supply chain partners.

Approved By:

A handwritten signature in black ink, appearing to read 'Ewan Gee'.

**Ewan Gee**  
Director, Greater Connect Alliance

13 May 2022

Policy No: GEHBI-GCA-POL-A000-PM-00004\_1