



Perth Airport and Freight Access Project



Management Plan

Gateway WA Perth Airport and Freight Access Project

Rehabilitation & Landscape Management Plan – Project Wide

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Contents

1 INTRODUCTION	1
1.1 Terms and Definitions, Abbreviations and Acronyms	1
1.2 Project Scope and Background	1
1.3 Scope of the document	2
2 MANAGEMENT PLAN OBJECTIVES	2
3 BASELINE ECOLOGICAL INFORMATION	2
3.1 Existing Information.....	2
4 REHABILITATION PLANNING AND MANAGEMENT.....	4
4.1 Related Documents.....	4
4.2 Rehabilitation Planning.....	4
4.3 Rehabilitation Implementation.....	6
4.4 Success Criteria.....	6
4.5 Monitoring, Maintenance and Mitigation	7
4.6 Rehabilitation Timing.....	8
5 MANAGEMENT FRAMEWORK.....	8
5.1 Roles and Responsibilities.....	8
5.2 Training and Awareness.....	9
5.3 Control of Records.....	9
5.4 Environmental Incidents, Corrective Action and Preventative Action	9
5.5 Inspection and Audits.....	9
5.6 Communication.....	9
6 REFERENCES	9
APPENDIX A: FIGURES	11
APPENDIX B: BASELINE SITE SPECIES LIST	13

1 INTRODUCTION

1.1 Terms and Definitions, Abbreviations and Acronyms

1.1.1 Terms and Definitions

Term	Definition
Rehabilitation	Returning a site to landform and vegetation type similar to that which was previously occurring.
Landscaping	Implementing a plan of planting and hard treatments to create an altered, more managed, landscape to that previously existing.
Topsoil	Naturally occurring soil up to approximately 150mm below the natural ground surface.

1.1.2 Abbreviations and Acronyms

Abbreviation/Acronym	Definition
EPBC Act	Environmental Protection and Biodiversity Conservation Act, 1999
CEMP	Construction Environmental Management Plan
MRWA	Main Roads Western Australia
RLMP	Rehabilitation and Landscape Management Plan

1.2 Project Scope and Background

The Gateway WA Perth Airport and Freight Access Project (the 'Project') focuses largely on road upgrades and new construction on the section of Tonkin Highway between Great Eastern and Roe Highways, as well as part of Leach Highway from Orrong Road to Perth Airport. The Project area is located immediately south and west of the existing Perth Airport and includes development within Westralia Airports Corporation land (Figure 1, Appendix A). This Plan outlines the rehabilitation plan and management of all areas of the Gateway WA Project (Figure 2).

The following road and bridge works are proposed as part of the Project:

- Upgrade of Tonkin Highway between Great Eastern Highway and Roe Highway;
- Major freeway to freeway interchange at Leach Highway / Tonkin Highway;
- Planning for a new interchange at Tonkin Highway and Boud Avenue;
- Diamond, grade separated interchange at Tonkin Highway / Horrie Miller Drive /Kewdale Road;
- Upgraded intersection at Roe Highway / Tonkin Highway;
- Intersection upgrade at Leach Highway / Abernethy Road; and
- Upgraded and control of access along Leach Highway between Orrong Road and Tonkin Highway.

The design and construction of the Project will be undertaken by the Gateway WA Alliance (Gateway WA). Gateway WA is an Alliance between Main Roads Western Australia and its design and construction partners, Leighton Contractors, Georgiou, GHD, AECOM and BG&E.

The Alliance is responsible for the implementation of the Project and compliance with the Project's environmental conditions and management measures detailed in this RLMP.

1.3 Scope of the document

The Project was assessed under the EPBC Act (EPBC 2010/5384). Approval of the project was acquired in February 2013 and is subject to a number of conditions. This Rehabilitation Management Plan (RLMP) has been developed to address one of those conditions.

Specifically, the scope of this RLMP is to:

- Provide environmental management procedures that:
 - Aim to mitigate the environmental impacts of the Project as far as practically possible through rehabilitation;
 - Are in accordance with relevant legislation, standards and government guidelines;
 - Identify those responsible for implementation;
- Define a monitoring and maintenance program that assesses the outcomes of the implementation;
- Define contingency actions that will be implemented should rehabilitation not meet success criteria.

2 MANAGEMENT PLAN OBJECTIVES

This RLMP has been developed with the overall objectives of mitigating the impacts to the environment through rehabilitation measures. The RLMP will assist all parties involved in the Project to meet the following aims:

- Comply with the conditions of any Government approvals relating to the Project;
- Ensure that opportunities for rehabilitation are identified and planned prior to construction commencement;
- Ensure that rehabilitation works are carried out, results monitored and mitigation undertaken beyond Project practical completion.

In addition to the above general management objectives, other objectives relevant to rehabilitation on roads include:

- Minimise erosion within the unsealed sections of the Project area;
- Minimise and mitigate impacts on the environment by using mostly indigenous native vegetation species consistent with adjacent communities;
- Utilise topsoil and mulch materials resulting from Project clearing works where suitable;
- Minimise and mitigate impacts on the environment by minimising the risk of introduction and spread of weeds within the rehabilitation areas and into vegetated areas directly adjacent to the Project boundary;
- road and traffic safety-driven objectives:
 - provide for appropriate 'clear zone' from the edge line of the road based upon Austroads guideline;
 - provide for appropriate safe 'sightlines' at all intersections and interchanges based upon Austroads guidelines.
- resource management driven objectives:
 - minimise on-going roadside management costs and future maintenance costs.

3 BASELINE ECOLOGICAL INFORMATION

3.1 Existing Information

Detailed environmental investigations were undertaken for the development of Public Environment Review required for assessment under the EPBC Act (Gateway Vision 2012). The investigations were undertaken by qualified botanists and fauna specialists and identified and mapped the following:

- Vegetation type;
- Vegetation condition;
- Presence of any Threatened or State listed Priority flora species;
- Presence of any Threatened fauna species habitat;
- Location of listed wetlands.

Environmental constraints, vegetation type and vegetation condition figures are attached in Appendix A below.

The results of the baseline surveys are summarized below:

- Vegetation of the Perth Airport land consists primarily of mixed Banksia woodland, with occasional patches of scattered trees of Jarrah (*Eucalyptus marginata*), WA Christmas Tree (*Nuytsia floribunda*) and Marri (*Corymbia calophylla*);
- Small areas of seasonal wetland/dampland are present, with scattered trees of paperbark (*Melaleuca preissiana*) over heath and sedges;
- Much of Tonkin and Roe Highway includes cleared and planted or revegetated areas;
- The major vegetation complexes are both classified as 'Vulnerable' in terms of extent of vegetation remaining compared to pre-European extents (EPA, 2006) with a small portion of vegetation at the Roe Highway/Tonkin Highway intersection (5 ha) being classified as 'Endangered', under the State listing.

Vegetation condition

The vegetation condition in the Project area ranges from Completely Degraded to Excellent, with the majority of the already disturbed along Tonkin highway classed as being Degraded to Completely Degraded.

Much of the Project area has a weed infested understory, with limited native understorey remaining. Some areas of Banksia woodland within Perth Airport are in Excellent condition with an intact and diverse understorey and minimal weed invasion.

The majority of the Project area along Tonkin Highway is considered uninterpretable and unprotectable for the Dieback fungus, *Phytophthora cinnamomi*. Areas of vegetation in Very Good to Excellent condition are generally not dieback infected, and if they are of reasonable size, can potentially be protected from the disease. Dieback and weed hygiene measures are provided in the Construction Environmental Management Plan (CEMP).

Flora

A total of 290 plant taxa, comprising of 245 native species and 45 introduced (exotic) species were recorded in the Project area. Parts of the area proposed for the Leach Highway and Tonkin Highway interchange are considered to be of high biodiversity, whilst the area for the Tonkin Highway and Boud Avenue interchange options is considered to be of low to moderate biodiversity.

Threatened Flora Species

Two Threatened Flora species have been recorded within the Project area: *Conospermum undulatum* and *Macarthuria keigheryi*. *Conospermum undulatum* is listed as Vulnerable, and *Macarthuria keigheryi* is listed as Endangered under the EPBC Act (1999).

Wetlands

A number of mapped wetlands are present within and adjacent to the Project. Of these, only Runway Swamp, a small seasonal pan, which has been previously used for peat extraction, retains surface water at any time of the year. All other wetlands are damplands, with a seasonally high water table.

The permanently protected wetland/dampland areas adjacent to the Project will be monitored for water quality changes over the life of the Project and for 3-years following Practical Completion. Details are provided in the Surface and Groundwater Management Plan.

4 REHABILITATION PLANNING AND MANAGEMENT

4.1 Related Documents

A number of documents are relevant to, or related to this RLMP.

4.1.1 Main Roads Guidelines

- Main Roads Western Australia (2004) Environmental Guideline: Revegetation Planning and Techniques. Doc. No. 6707/031;
- Main Roads Western Australia (2005a) Environmental Guideline: Vegetation Control Doc. No. 6707/045;
- Main Roads Western Australia (2005b) Environmental Guideline: Vegetation Placement within the Road Reserve. Doc. No. 6707/022.

4.1.2 GatewayWA documents

- Construction Environmental Management Plan;
- Revegetation and Landscape Specification 304;
- Urban Design Plan;
- Monitoring Plan.

4.2 Rehabilitation Planning

The rehabilitation of the Project will be planned prior to construction commencement.

Planning will include actions to:

- Protect native vegetation remnants where possible;
- Salvage plant materials;
- Salvage of topsoil;
- Undertake weed control;
- Source relevant plant tubestock and seed.

4.2.1 Protection of Existing Vegetation

The design and construction of the project will aim to retain as much native vegetation and other trees and shrubs as possible. This includes trees with potential for Black Cockatoo nesting in the future. Management actions to retain vegetation are:

- An Internal Clearing Permit will be approval by the Environment and Relationships Managers (or their representatives) to ensure the applicable environmental and social aspects of the clearing are considered and managed. The Clearing Permits will ensure that the applicable external approval conditions are complied with.
- Clearing will not be undertaken any further than 4 m from the boundary of earthworks unless required for safety reasons, or no other practical means of access to the site is available.
- Mature trees, trees of significance, remnant vegetation and threatened flora and communities will be retained as far as practicable and clearly marked on site and on clearing plans.
- Fencing (temporary or otherwise) will be placed to delineate the project area from retained significant mature trees. Signage will also be in place on the ground to further notify workforce that moving beyond the fence line is not allowed. This fence shall be fauna proof, where necessary, and installed prior to, or immediately after, the completion of clearing works in the vicinity and is to be approved by the Environmental Manager prior to works continuing.

- Existing cleared areas, or areas which will be cleared for the permanent infrastructure, will be utilised for temporary construction purposes, such as tracks, offices, stockpiling and laydown areas.
- Vegetation will be pruned with a chainsaw in preference to clearing where practicable.
- Plant/machinery used for pushing and heaping operations will be fitted with root rakes or similar equipment and operated in a manner such that as little soil as possible is removed and heaped with the cleared vegetative material.
- Trees to be removed will be felled in a manner that they fall within the approved clearing area.
- Cleared vegetation will not be burned on site.

4.2.2 Plant Salvage

Where relevant, plants, or plant material, will be salvaged to be re-used directly in rehabilitation on areas of the Project.

Actions to salvage plant material are:

- Native plant seed collection or direct plant salvage will occur in suitable locations, where it is safe to do so;
- Suitable plant material salvage zones will be mapped, based on vegetation type and condition and marked on construction drawings;
- All suitable woody and shrubby vegetation which is cleared will be chipped to a size suitable for mulch and stockpiled for later re-use;
- Stockpiles will be monitored for weeds and sprayed where necessary.

4.2.3 Treatment of Topsoil

Suitable topsoil can be re-used directly for rehabilitation or can be mixed with other soils or mulches to create soils suitable for plant growth.

Gateway WA will undertake the following actions for topsoil:

- Suitable topsoil will be stripped to a depth of approximately 100mm and stored in windrows or heaps no greater than 2m high;
- Unsuitable topsoil will be stripped and stored for treatment and mixing.

4.2.4 Weed Control

A detailed assessment of weed presence will be undertaken prior to commencement of construction. This information is required in order to plan the removal and treatment of topsoil for potential re-use.

Weed control will be required prior to clearing in some areas of the Project in order to reduce weed propagules in topsoil, remnant vegetation and temporarily cleared areas.

Weed control will focus on significant weeds, and on perennial weeds which have potential to impact rehabilitation materials or rehabilitation success. Chemicals used will be selected to ensure minimal risk to adjacent native vegetation or damplands.

4.2.5 Tubestock Sourcing

Tubestock will be sourced from local nurseries which have a high level of dieback management and prevention. A detailed plan for tubestock requirements will be developed during construction, with sufficient time for suitable plant stock to be grown or sourced. A range of plant sizes will be required.

The selection of local native plant species will be drawn from the species list identified during Project baseline studies. A list of species which could be used as either seed or tubestock is attached at Appendix B. Additional, suitable, species from the Swan Coastal Plain may also be used, subject to constraints due to road safety requirements and habitat availability.

4.3 Rehabilitation Implementation

4.3.1 Rehabilitation Zones

Rehabilitation will be undertaken in conjunction with the development of the Urban Design Plan for hard and soft landscaping treatments. Zones for rehabilitation and landscaping will be developed and planned. Generally, the following zones will apply:

1. Tonkin Highway north – retention of native bushland and revegetation with suitable Swan Coastal Plain native plant species;
2. Tonkin Highway south – retention of native bushland with landscaped revegetation in accordance with the Urban Design Plan;
3. Tonkin Highway/Kewdale Road/Horrie Miller Drive intersection – landscaped zones in medians, road edges and drainage basins, using a mix of Swan Coastal Plain and other Western Australian native plant species.

Indicative landscape plans for Areas 1 – 5 area attached in Appendix A below.

4.3.2 Treatment of Zones

Zone 1 – Bushland regeneration

- Replacement of suitable topsoil or amended soil to a depth of approximately 100 mm;
- Placement of mulch from the clearing area to a depth of approximately 70 mm;
- Possible direct seeding of native plant species collected in the Project area;
- Planting of local native plant species, including species (*Banksia*, *Allocasuarina*, *Eucalyptus*) suitable for foraging and potential breeding for Black Cockatoo species (subject to safety distance limits);
- No artificial watering.

Zone 2 – Retention of native bushland with additional landscaping

- Replacement of suitable topsoil or amended soil to a depth of approximately 140 mm;
- Placement of mulch from the clearing area to a depth of approximately 70 mm;
- Planting of local native plant species, and other Western Australian species, including species (*Banksia*, *Allocasuarina*, *Eucalyptus*) suitable for foraging and potential breeding for Black Cockatoo species;
- Some artificial watering may be provided.

Zone 3 – Landscaped areas

- Replacement of suitable topsoil or amended soil to a depth of approximately 140 mm;
- Placement of mulch from the clearing area to a depth of approximately 70 mm;
- Planting of a range of Western Australian species which suit the requirements of the area and the Urban Design Plan;
- Some artificial watering may be provided.

4.4 Success Criteria

Success criteria will vary depending upon the required outcomes for the differing zones. The following criteria will be met:

Table 1 Indicative Success Criteria

Zone	Criteria
1 – Bushland regeneration	<ol style="list-style-type: none"> Soil erosion is controlled such that it does not impact bushland outside the Project area Weeds are controlled such that they do not significantly impede growth of native plant species or create an additional risk to adjacent bushland. Native plant density and diversity is similar to that previously occurring on the road reserve.
2 – Bushland and landscaping	<ol style="list-style-type: none"> Soil erosion is controlled such that it does not impact bushland, parkland or public amenities outside the Project area. Weeds are controlled such that they do not impede native plant growth. Native plant density and diversity is as per the landscape/urban design plan requirements.
3 - Landscaping	<ol style="list-style-type: none"> Soil erosion is controlled such that it does not impact bushland, parkland or public amenities outside the Project area. Weeds are controlled such that they do not impede plant growth and do not reduce the visual amenity of the planting. Plant density and diversity is as per the landscape/urban design plan requirements.

4.5 Monitoring, Maintenance and Mitigation

4.5.1 Monitoring

Monitoring of rehabilitation and landscape works will be undertaken following establishment up until the completion of the Gateway WA maintenance period (five years post practical completion). The frequency and type of monitoring in each area will depend on the type of landscaping implemented. A monitoring program for the Gateway WA Project will be developed during the construction phase.

Monitoring will be undertaken in Zones 1 and 2 focusing on the quality of the rehabilitated bushland, whilst monitoring in Zone 3 will focus on maintaining the visual amenity impact. Results will be used to determine the adequacy of the programmed maintenance works, such as weed control, and whether any changes will need to be made. In addition, this monitoring will drive the requirements for any additional plantings. Likely aspects to be monitored include:

Zones 1 and 2

- Species presence/abundance;
- Percentage vegetation cover;
- Vegetation condition/health rating;
- Evidence of excessive number of weeds;
- Evidence of erosion/compaction.

Zone 3

- Species presence/abundance as per design;
- Vegetation condition/health rating;
- Evidence of excessive number of weeds;
- Evidence of erosion/compaction.

4.5.2 Maintenance and Mitigation

Rehabilitation will be maintained for a minimum of three (5) years post-construction as per the Project contractual requirements. Maintenance will include:

- Control of erosion impacts using physical control measures and re-design of drainage outlets where required;
- Implementation of a herbicide program to mitigate any further impacts of weeds within the project boundaries;
- Undertake ongoing pest control if necessary;
- Maintain grassed recovery zone;
- Infill plant and apply additional seed as required, by the following planting season.

4.6 Rehabilitation Timing

Rehabilitation will occur as soon as practicable following completion of areas of construction. Timing of planting in Zones 1 and 2 will be partially dependent on seasonal constraints, with planting and seeding likely to occur in Autumn or early Winter. Where irrigation or watering is planned, timing of planting may be at different times of the year.

5 MANAGEMENT FRAMEWORK

5.1 Roles and Responsibilities

All personnel and contractors are responsible for the environmental performance of their activities and for complying with their general environmental duty. Furthermore, specific environmental roles have been detailed within the CEMP. The information provided below is specific to rehabilitation and landscape management and should be read as a supplement to that in the CEMP.

Main Roads Western Australia (MRWA)

MRWA will be responsible for the ongoing maintenance of the rehabilitation and landscape areas within the project areas at the completion of Gateway WA's contract (five years post practical completion).

Gateway WA

Alliance Director and Construction Manager

The Gateway WA Alliance Director will be responsible for the production of the overall design, implementation and maintenance of the rehabilitation and landscape works for the Project. The Construction Manager will be mostly responsible for the implementation of the rehabilitation and landscape works.

Environmental and Landscape Team

An appropriately qualified/experienced Project Environment Coordinator (herein referred to as Environment Coordinator) and Landscape Architect has been assigned to assist the Construction Manager and oversee the implementation of this RLMP. The relevant members of the Environmental and Landscape team will provide advice to the Supervisor to ensure ongoing compliance with the RLMP and will assist in monitoring and design of mitigation works, where necessary.

Landscaping Subcontractors

Landscaping subcontractors may include plant nurseries, chipping and mulching suppliers, seed suppliers and planting contractors. The relevant subcontractors will be required to fulfil the requirements of their contracts as agreed, and make good any breaches of contract.

All Staff

All persons associated with the project will be held accountable for compliance with their particular responsibilities under this RLMP.

5.2 Training and Awareness

Gateway WA will provide training as necessary to all personnel regarding their particular responsibilities as outlined within this RLMP. This will be conducted as detailed within the CEMP.

5.3 Control of Records

Typical record keeping and reporting procedures associated with projects include an appropriate and auditable record system. This will be maintained throughout the Project and will include rehabilitation and landscape design, as constructed and monitoring records. This will be done in line with the Gateway WA Document and Data Management Plan.

5.4 Environmental Incidents, Corrective Action and Preventative Action

Gateway WA will establish, implement and maintain an Incident and Improvement System to deal with actual and potential incidents and for taking corrective and preventive actions that arise from the Project.

The system will define requirements to:

- Identify and correct any associated non-conformity(ies) and take action(s) to mitigate their environmental impacts;
- Investigate incidents, determine their cause(s) and take action to prevent their recurrence;
- Evaluate the need for action(s) to prevent a similar incident and implement appropriate actions designed to avoid their occurrence;
- Record the results of corrective action(s) and preventive action(s) taken; and
- Review the effectiveness of corrective action(s) and preventive action(s).

5.5 Inspection and Audits

Environmental inspection and monitoring will be undertaken by Gateway WA to verify management of environmental risks and the compliance with the requirements of this RLMP. The Environmental Management Procedures in Section 7 of the CEMP incorporate an audit program to ensure that this occurs. Gateway WA will ensure this person will have the necessary competency, impartiality and objectivity in conducting these inspections. A record of these inspections will be maintained by the Alliance.

5.6 Communication

Authorities, stakeholders and communities will be consulted with on a regular basis throughout the design and construction of the Project. This will be managed as detailed within the CEMP and Stakeholder Engagement Management Plan.

SEWPAC will be consulted if any changes are made to this plan which significantly change the overall intent of the final product of the Project rehabilitation and Landscape works.

6 REFERENCES

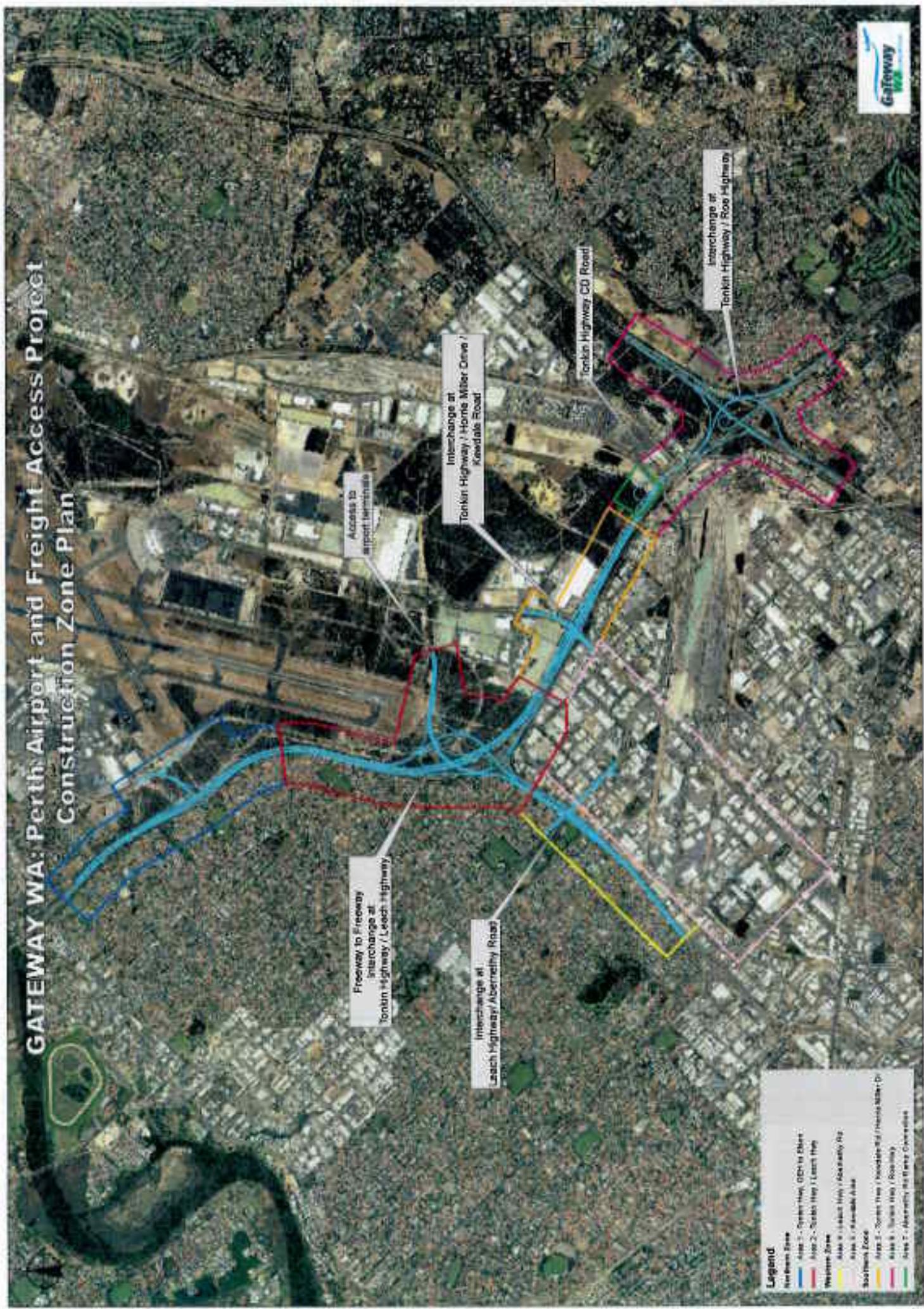
Gateway Vision (2012). Public Environment Report for the Perth Airport and Freight Access Project.

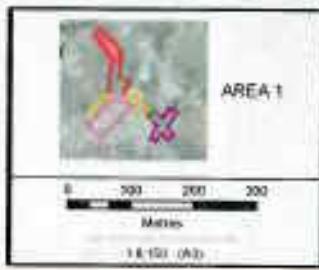
APPENDIX A: Figures

- Construction Zone Plan
- Ecological Constraints Maps
- Existing Vegetation Type and Condition
- Representative Landscape Design Drawings

GATEWAY WA Perth Airport and Freight Access Project

Construction Zone Plan





LEGEND

LANDSCAPE TYPE/LANDSCAPE

● Proposed Excavation

Perimeter/Route

Unrestored/Restored Areas

NSC Development Work Area

● Watercourse

● Restored/Unrestored

● GNS Main Catchment Boundary

● Super Land

● Wetland/Forest Edge

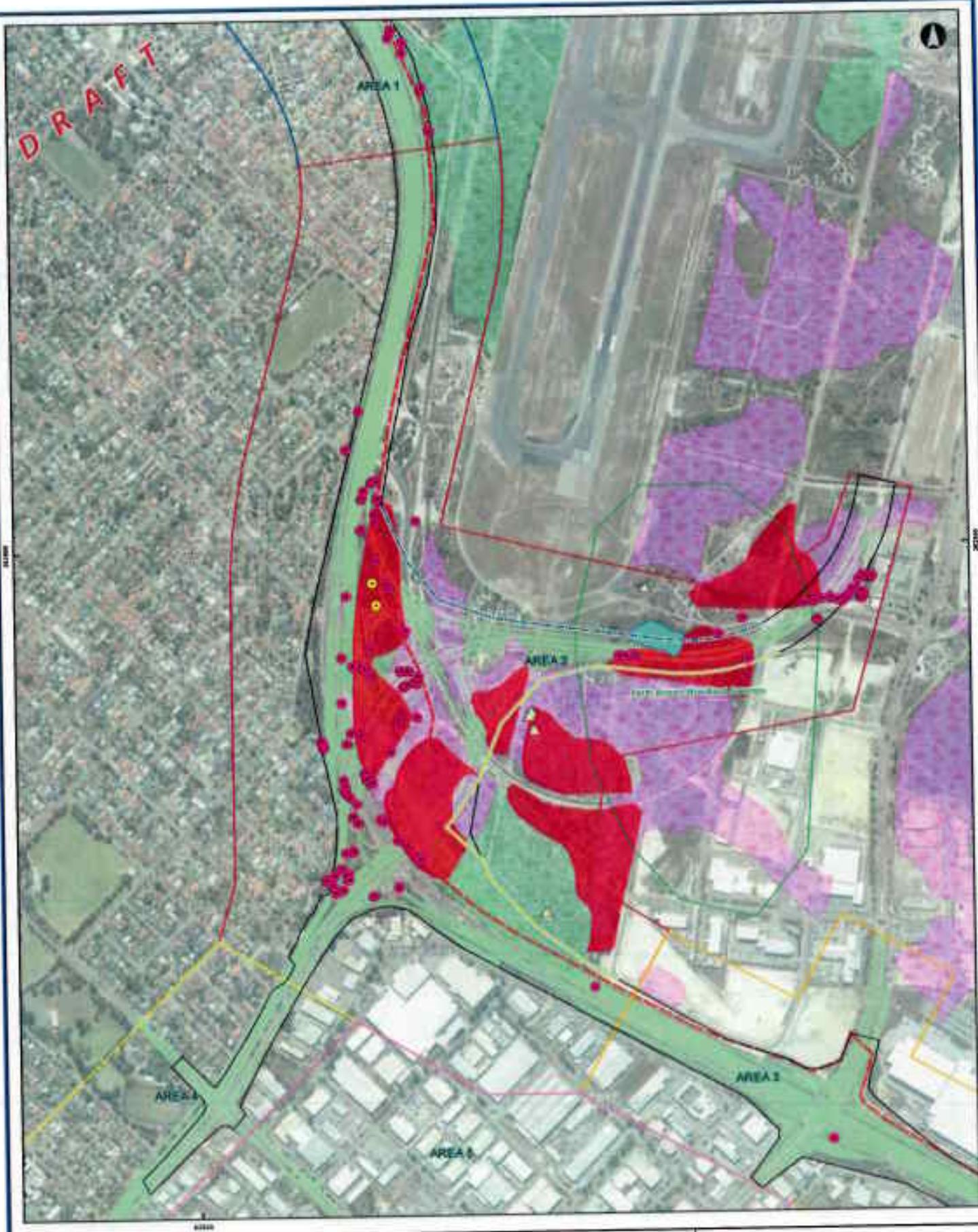
Environmental Constraints in Work Areas

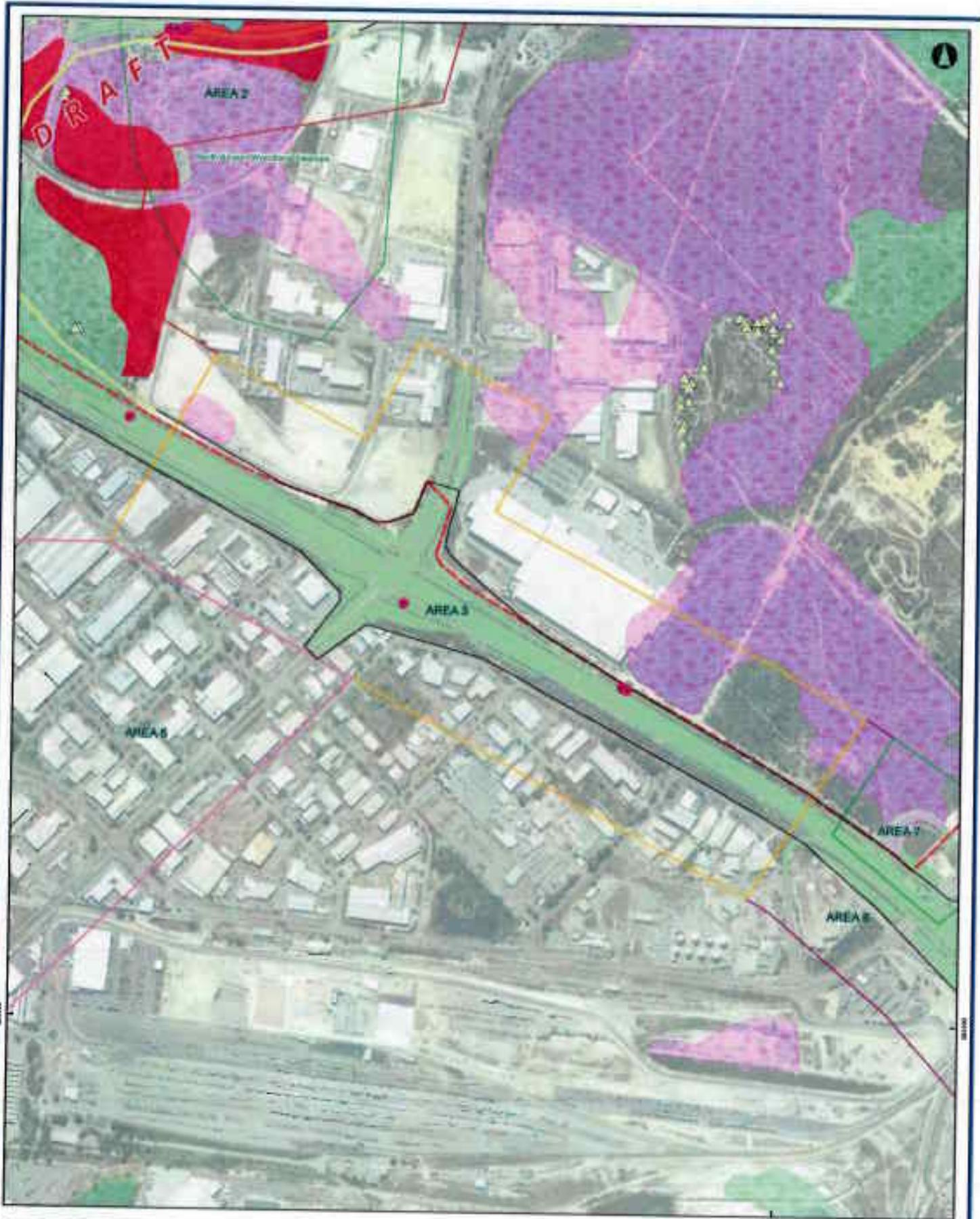
WORK AREA 1



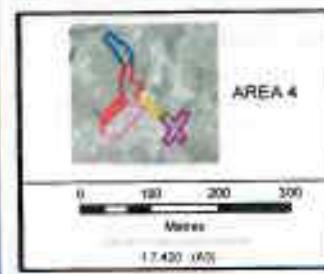
Gateway P/L - A detailed description of constraints will be provided in the Environmental Assessment Report. This map is preliminary and may not reflect the final environmental assessment.

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LEGEND	Environmental Constraints in Work Areas	
	WORK AREA 3	
 AREA 3 0 100 200 300 Meters 57790 5431	 <p>EBC Environmental Restraints</p> <ul style="list-style-type: none"> ● Vegetation ■ Residential Development ■ Tentative Building Areas ■ Tentative Construction Areas □ Watercourse □ Residential Area 	 <p>Environmental Constraints in Work Areas</p> <p>WORK AREA 3</p> <p><small>Gateway Ltd. does not accept liability for inaccuracy of information displayed in this map and does not accept responsibility for any damage resulting from its use. Gateway Ltd. holds no responsibility for any errors, faults or omissions in this map. All rights reserved. © 2008 Gateway Ltd.</small></p>



LEGEND:

NSW Environment Protection Authority

Planning Assessment Panel

GBC Environmental (NSW) Pty Ltd

Planning Assessment Panel

Proposed Land

Existing Land

Proposed Progression

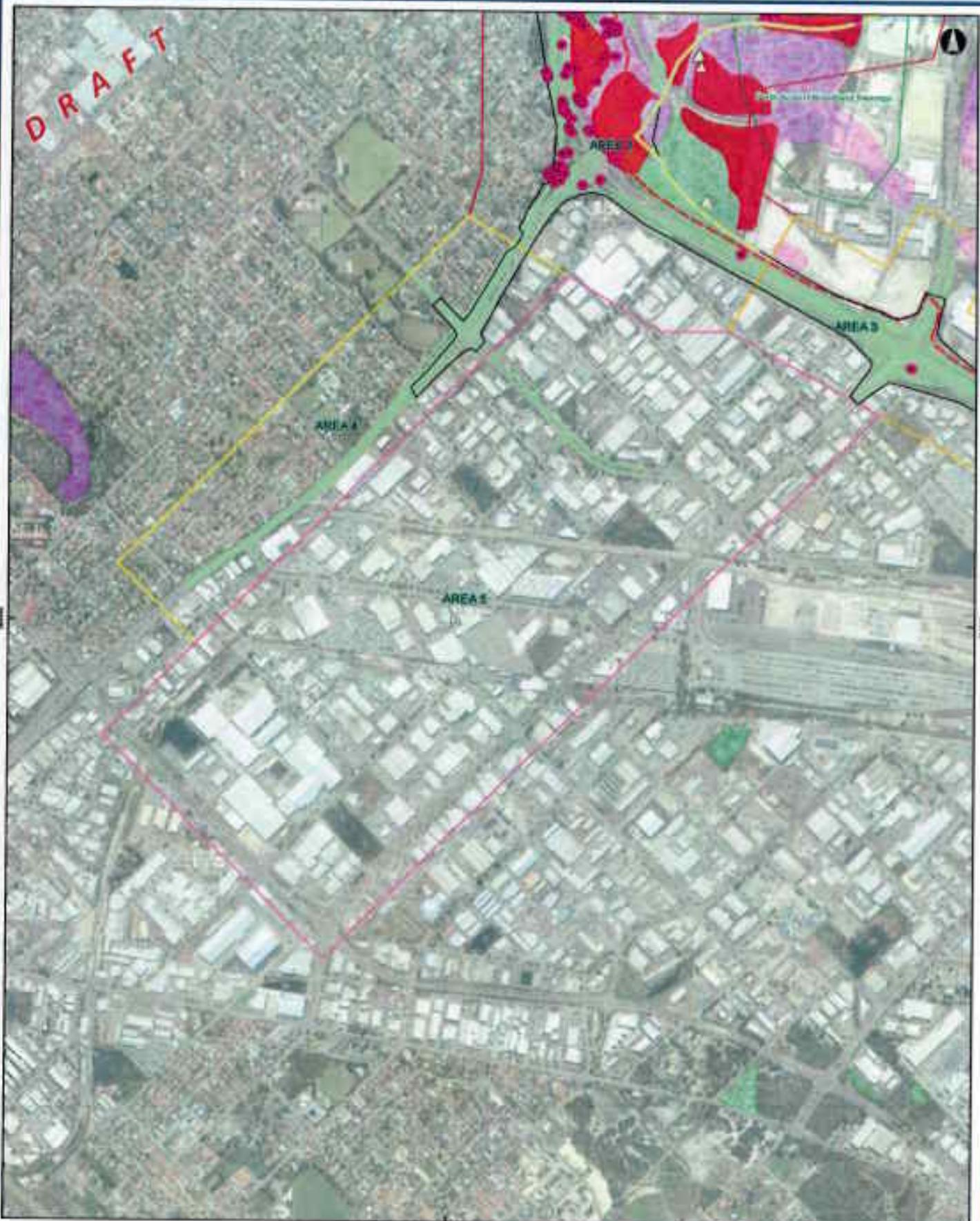
Environmental Constraints in Work Areas:

WORK AREA 4



Guidelines that must not be breached in developing and assessing proposals in this map and any permits issued under the relevant planning scheme. Lowercase letters are negotiable details or subject to any other rules, advice or directions of the relevant authority.

17.420 (X2)



WORK AREA	Environmental Constraints in Work Areas	
	WORK AREA 5	WORK AREA 1

LEGEND

Area Identification Points Locations	Permitting	NEC Development Standards
● Construction point	● State Permit	● Conservation
△ Construction point	● Resource Conservation	● Non-Indigenous Flora habitat
▲ Construction point	■ Recovery	● Import/Export
	■ Resource Enhancement	□ Elevation Protection
	■ Native Species	

WORK AREA 5

WORK AREA 1

Gateway

Gateway will allow the area and its partners to collaboratively coordinate development and environmental mitigation efforts of their projects. Gateway will also allow for transparency of information and better accountability in the long term.

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AREA 7	LEGEND	Environmental Constraints in Work Areas
		WORK AREA 7
 0 25 50 75 Meters E 2110 (R3)	<p>Legend:</p> <ul style="list-style-type: none">Green line: Construction boundariesPink area: WatercourseRed square: No-take zoneWhite box: Restricted operation	<p>Environmental Constraints in Work Areas</p> <p>WORK AREA 7</p> <p>Gateway</p> <p>Gateway is a registered trademark of the Port of Los Angeles. The Port of Los Angeles is the largest port in North America and one of the busiest in the world. Gateway is committed to environmental stewardship and safety for all who live, work, and play in the greater Los Angeles area.</p>



LEGEND

Vegetation Condition		
1 - Productive or healthy soil	4 - Good	Airport - Commonwealth Government Land
2 - Excellent	5 - Degraded	Preferred Road Option
3 - Very Good	6 - Completely Degraded	

Airport - Commonwealth Government Land
 Preferred Road Option

0 50 100 200 300 400 500
 Metres
 New Zealand Transverse Mercator
 Reference Datum: Geoid 1994 (1994)

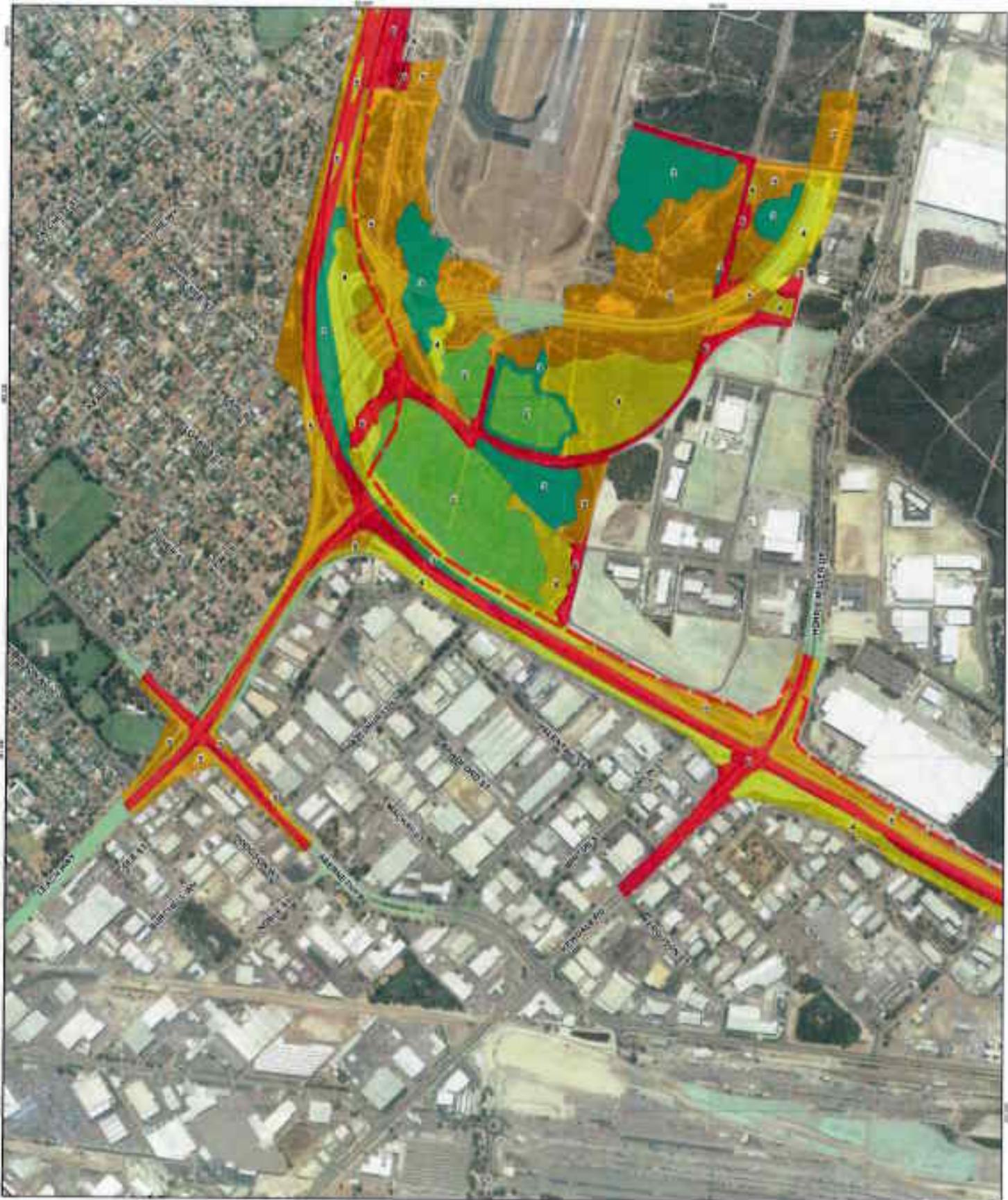


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Gateway WA
 Perth Airport and Freight Access Project

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 Revision: 0
 Date: 09 Dec 2011

Vegetation Condition



LEGEND

Vegetation Condition	
1 - Prime or nearly so	4 - Good
2 - Excellent	5 - Degraded
3 - Very Good	6 - Completely Degraded

Australian Commonwealth Government Land
Preferred Road Option

1:12,500 1:600 200 300 400 500
Metres



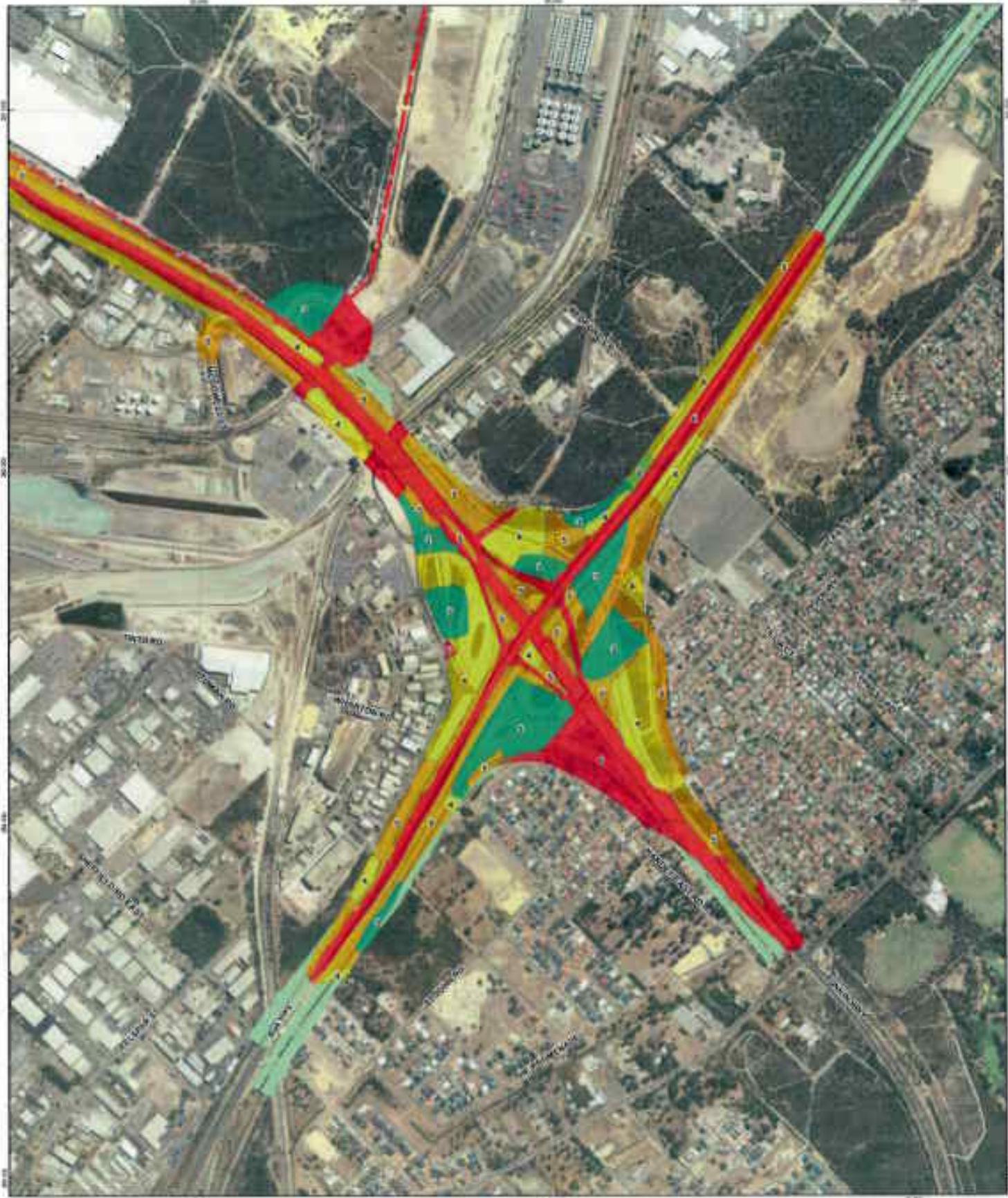
Map Production: Transport Western Australia
National Dataset: Geoscience Division of Australia
Grid: Perth Coastal Grid (PCCG)

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09 Dec 2011

Page 2 of 3
Figure 5



LEGEND

Vegetation Condition:	
1 - Prairie or scrubby soil	4 - Good
2 - Excellent	5 - Degraded
3 - Very Good	6 - Completely Degraded

L7 Asset - Commonwealth Government Land
Preferred Road Option

1:10,000 (1m AGL)
0 50 100 150 200 250 300 350 400 450
Metres
Map Projection: Transverse Mercator
National Grid - Geocentric Datum of Australia
Spherical Purkin Co-ord (UTM)



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Page 3 of 3
Figure 5

Vegetation Condition

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LEGENDA

- DEC Records Significant Plot**

 - (R) Declared Rate-Plus - Exhibit Data
 - Priority 1 - Priority Known True
 - Priority 3 - Priority Known True
 - Priority A - Rate True

BHQ - Desired Rate Plant
■ Contaminant removal
■ Macrobenthos density
■ Quality

 August-Dieterle
Gesellschaft mbH
Preferred Hotel Partner

Grid Vegetation Type

Hattaka vegetation Type

wet	green	62
-dry	blue	32
mixed	grey	64

Map Proportion: Transverse Mercator
 Horizontal Datum: North American Datum of 1983
 Grid: North American DGS PC-2004

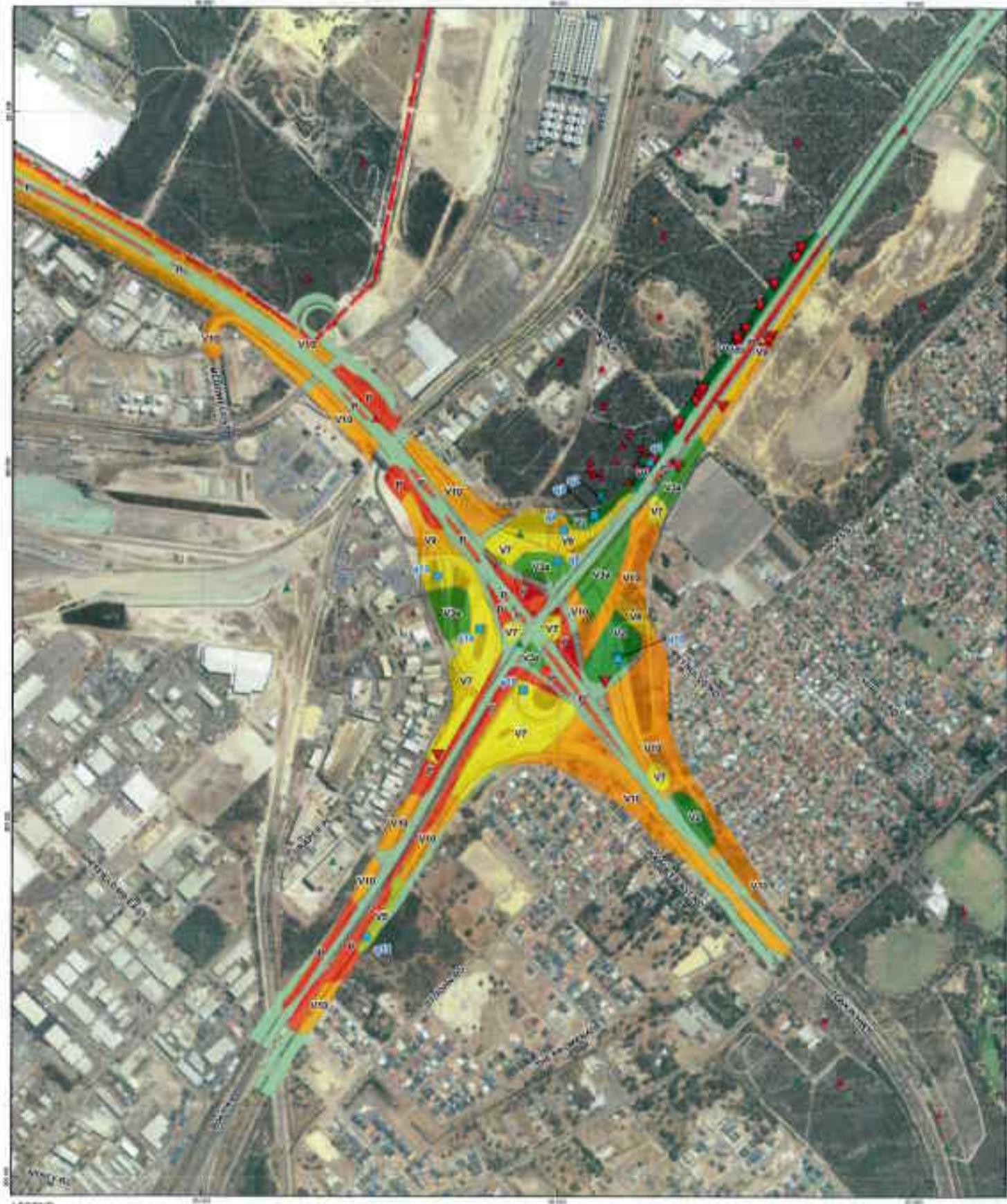


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Gateway WA
Port Airport and Freight Access Project

Job Number: 81-2587934
Revision: 0
Date: 04-Dec-2011

Page 2 of 3

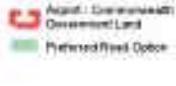


LEGEND

DCE Results Significant Share

- Priority 1 - Delisted Item Price - Extra Taxe
- Priority 2 - Priority Item Price - Extra Taxe
- Priority 3 - Priority Item Price - Basic Taxe
- Priority 4 - Basic Taxe

GHD - Declared Share Plan
 Correspondence
 Data Privacy Inquiry
 Feedback



SPATL Vegetation Type

V1	
V2	
V3	

Native Vegetation Type

Legend:

- HI (Highly Impacted)
- MI (Moderately Impacted)
- DI (Disturbed Areas)
- OW (Open Water)

HI: Highly Impacted
 MI: Moderately Impacted
 DI: Disturbed Areas
 OW: Open Water

HI: Degraded and highly modified communities

110,000 (at A\$1)
0 100 200 300 400 500
Metric
Mail Preference Telephone Number
Residential Doctor Government Doctor of Australia
Other Private Doctor (PCP)
Other Private Doctor (PCP)



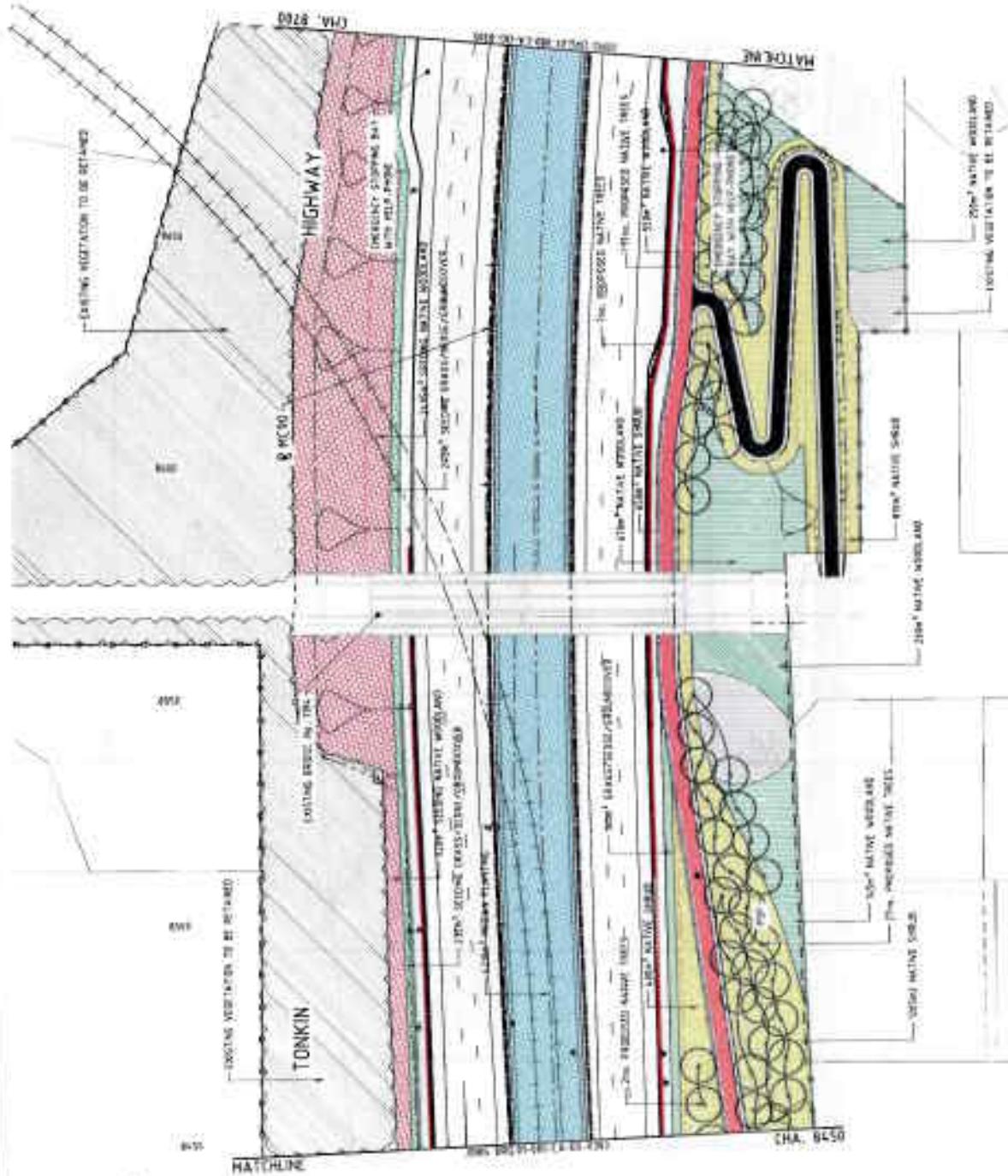
gatewayvision

Gateway WA
Perth Airport and Freight Access Project

Job Number: 81-2587534
Reason: 0
Date: 09 Dec 2011

Page 3 of 3

Figure 6



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177

UIC Standard
Ductal (46)
Haus Wert Punkt
Aus Welt Bild Spezial 100

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TESTIMONIALS

(00000000 101-1494)
00000000
00000000
PLATINUM

HELEN FLINT INC.
MILTON GREEN PLANTINC
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GATEWAY TO LEARNERS

STUDYING MFC = STUDYING MUSICAL FORMS
STUDYING MFC = STUDYING MUSICAL FORMS
STUDYING MFC = STUDYING MUSICAL FORMS

SUBJECT: BREAKAWAY BOARD
DATE: 05/07/2011
TIME: 10:00 AM
LOCATION: WALL
REC'D BY: [REDACTED]
RECORDED BY: [REDACTED]

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NOTE: *High Dividend Yield Stocks* are stocks with a high dividend yield.

TOP PLATE AND SIDE PLATES REFER TO THE
SCHEDULES ON DRAWINGS 1000-1000A.
LAMINATED REINFORCEMENT AND TIE RING
REFERS TO DRAWING 1000-1000B. ACTOR/ARM
WIRE BANDS REFER TO DRAWING 1000-
1000C. LIPSTICK ATTACHMENT REFER-

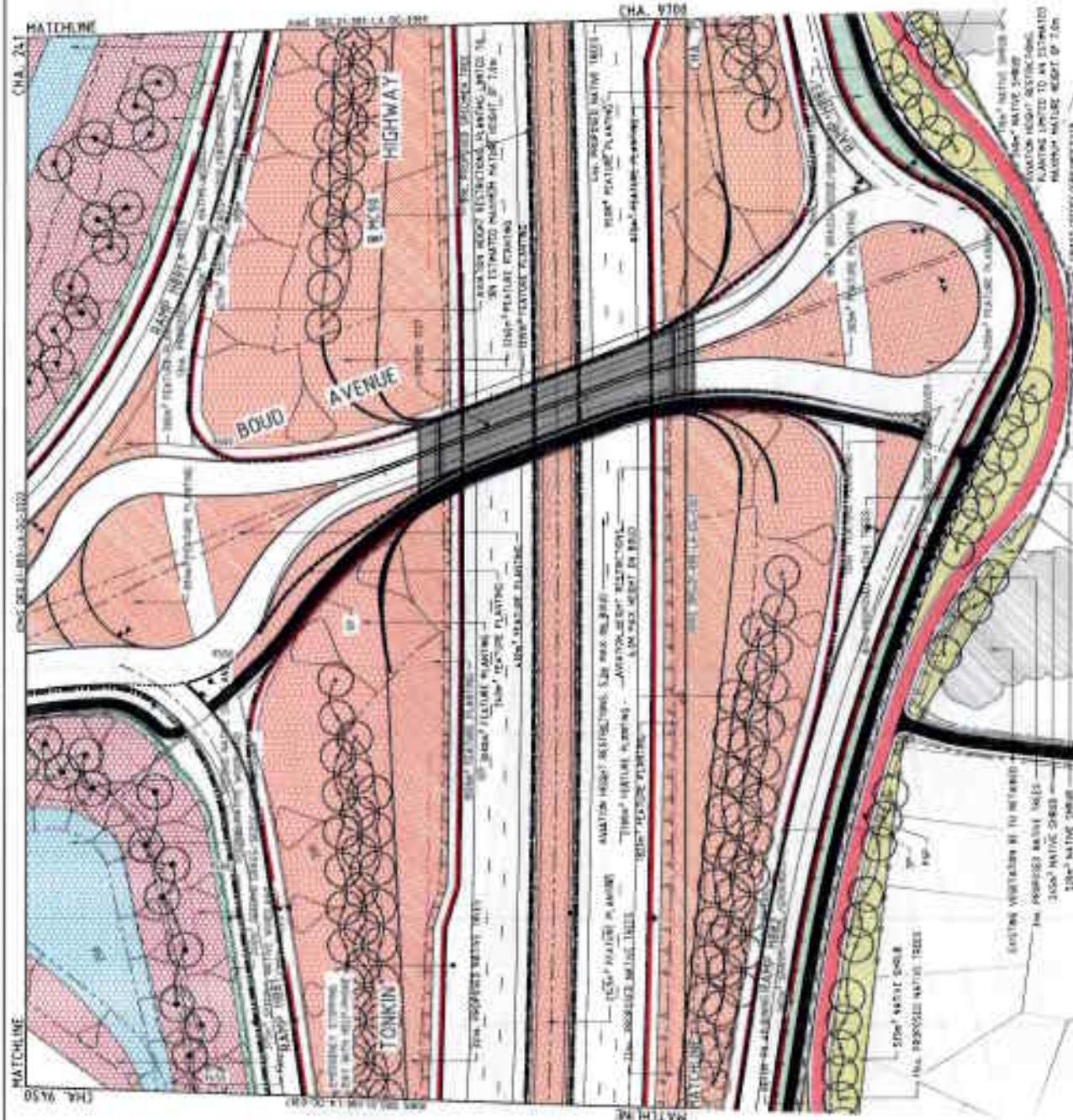
10064
BETTER TO DESIGNERS, SPARTANBURG, SOUTH CAROLINA
27 JULY 1941 AND 21 AUGUST 1941
400 UNITS LOCATED
PLANNED AREAS AND STREETS ARE FOR SPLENDID
SET-UP. INVESTIGATE ADDITIONAL.

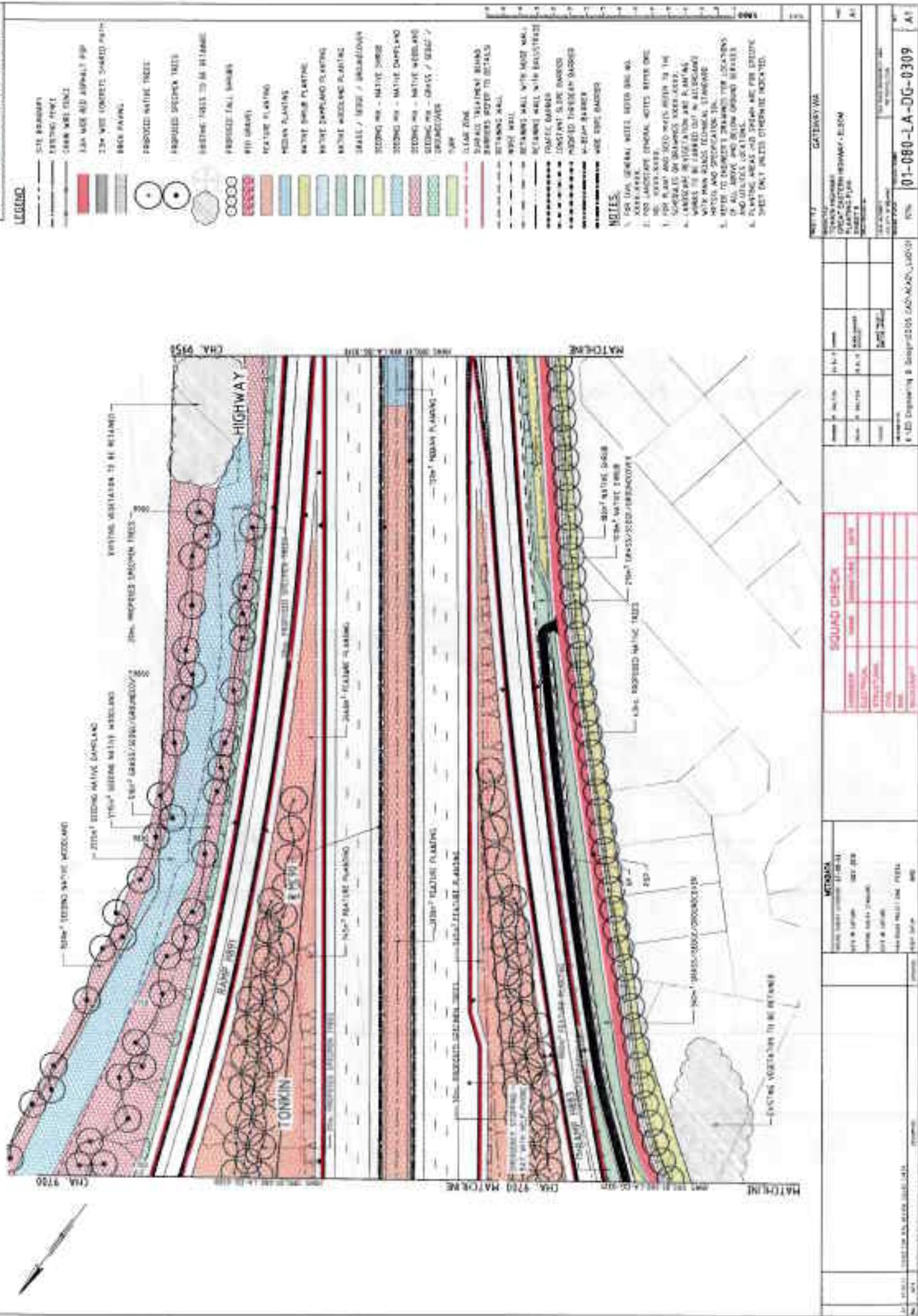
CATHERINE WILSON

BRIEFING PAPER

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230

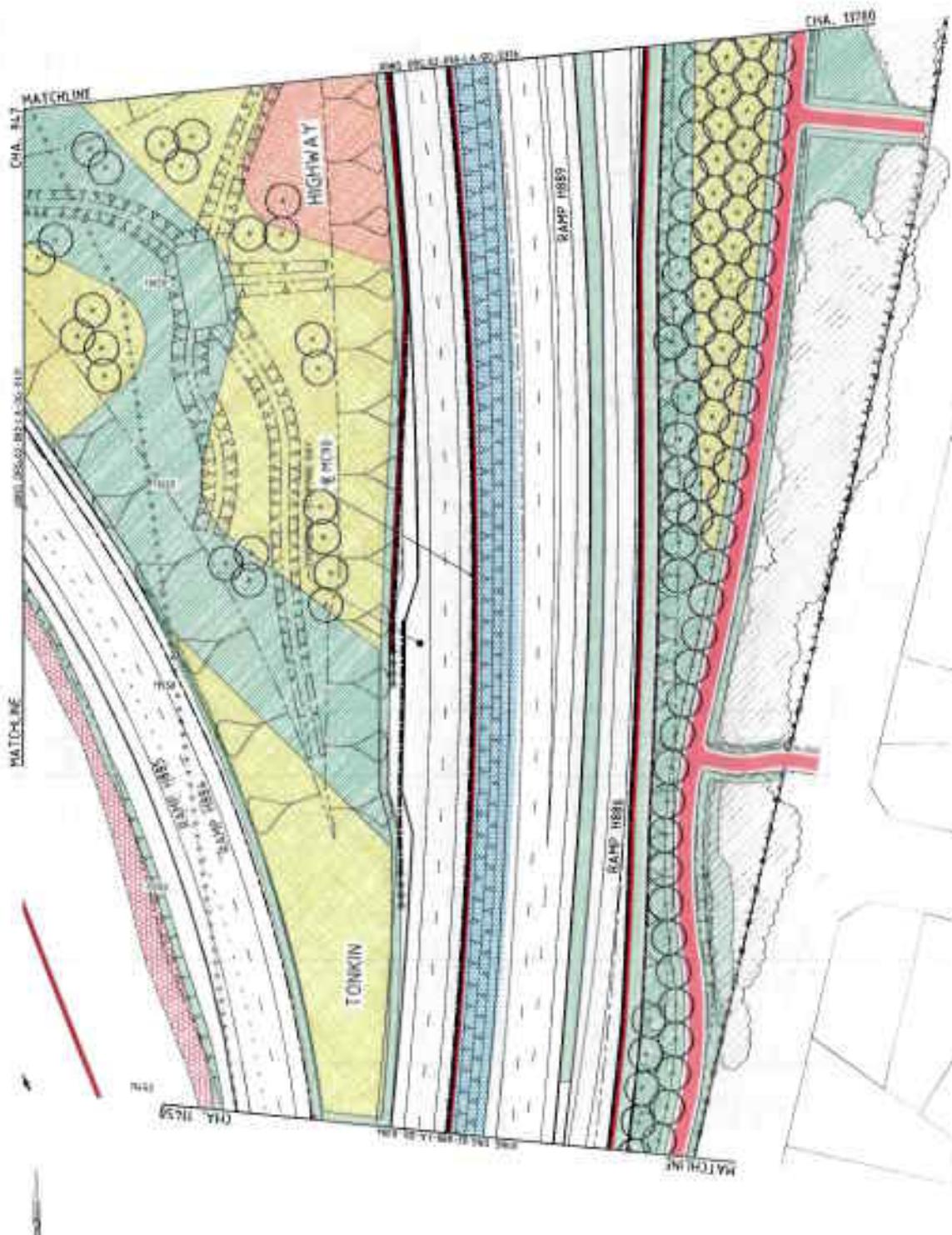
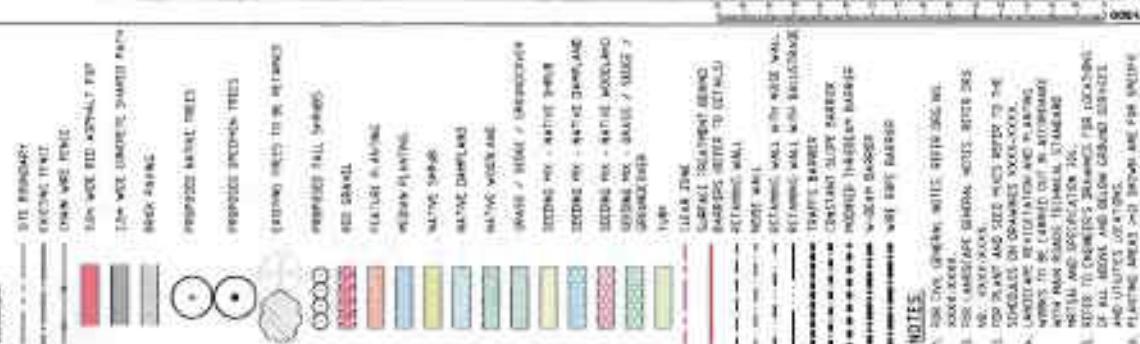




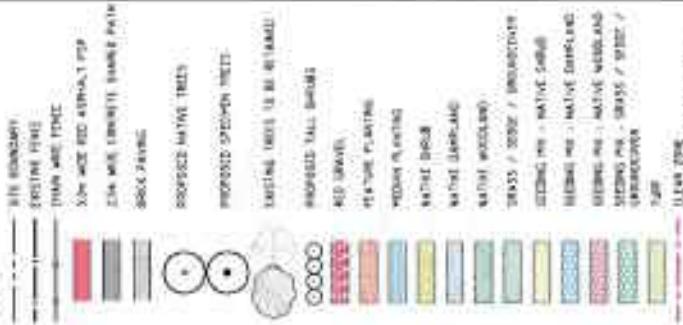


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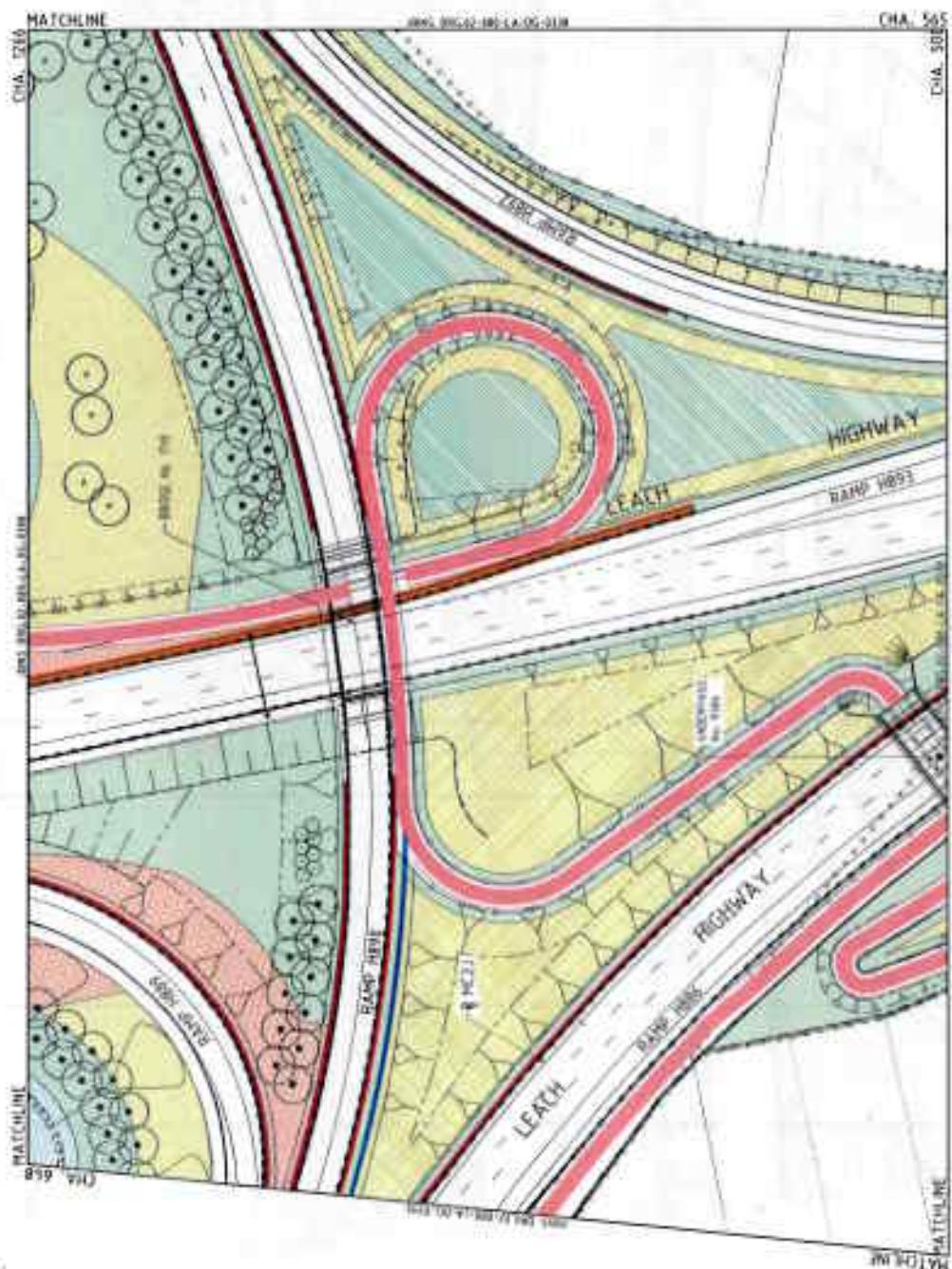


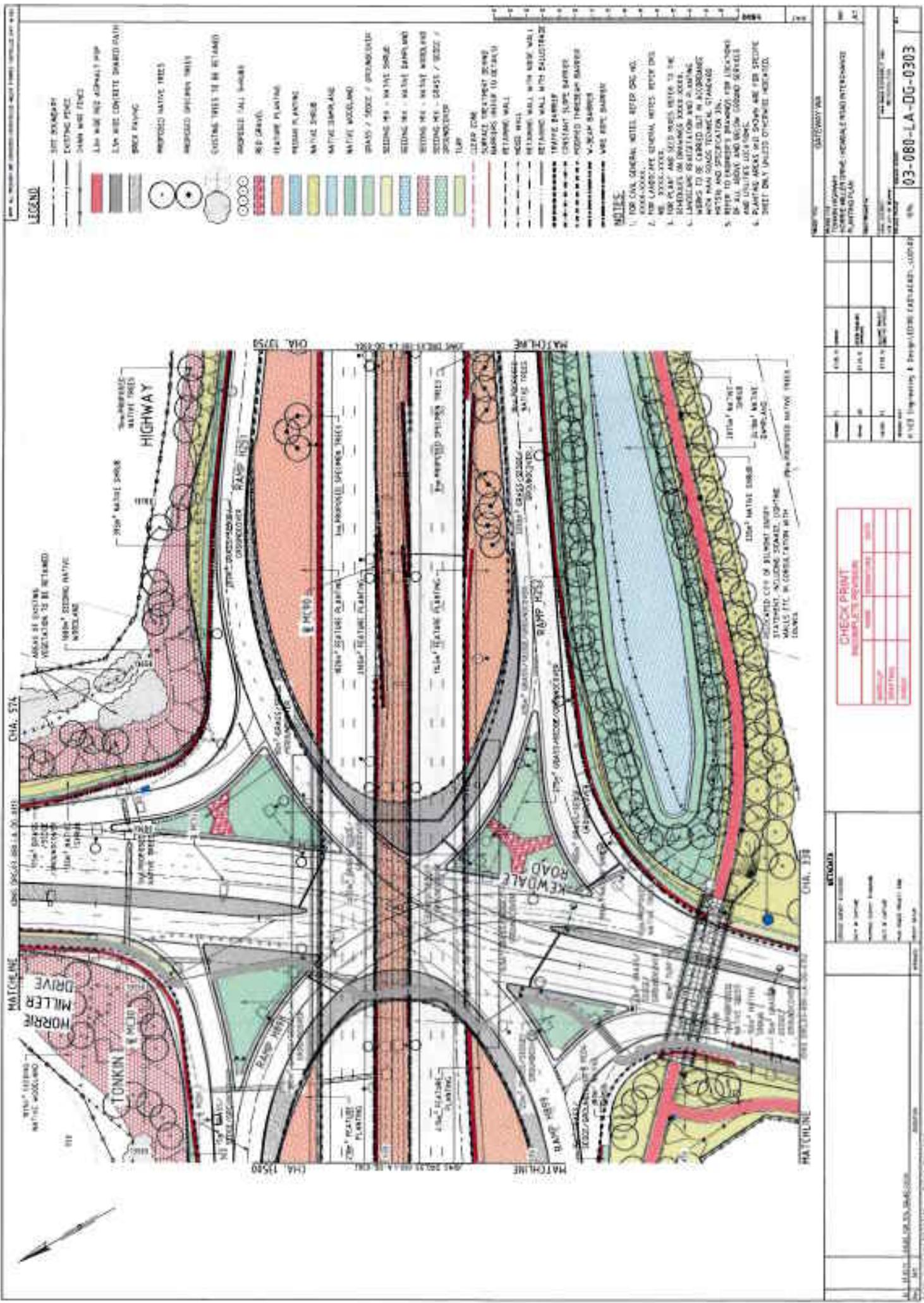
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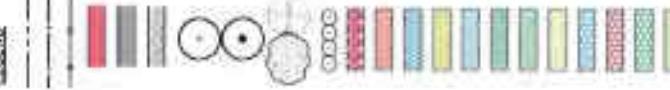
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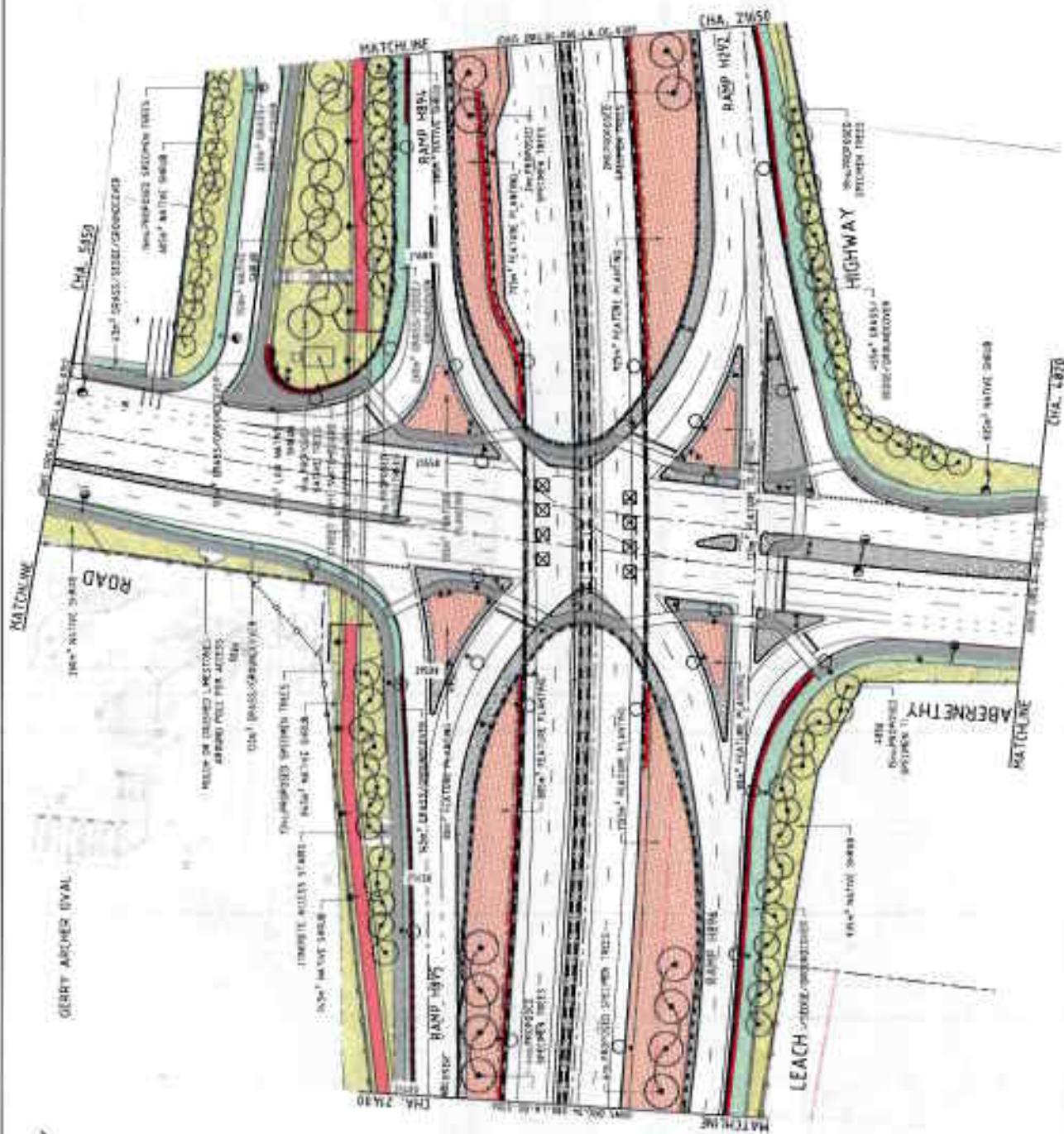


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04-080-LA-DG-0307	A1



BENEFITS		INTERVIEWER	
1.00	1.00	INTERVIEWER NUMBER: 1125-14	
1.00	1.00	INTERVIEWER NAME: PHILIP CO.	
1.00	1.00	INTERVIEWER ADDRESS: 1125-14	
1.00	1.00	INTERVIEWER PHONE: 442-1234	
1.00	1.00	INTERVIEWER DATE: 10/10/04	
1.00	1.00	INTERVIEWER TIME: 10:00 AM	
1.00	1.00	INTERVIEWER SIGNATURE: PHILIP CO.	
1.00	1.00	INTERVIEWER APPROVAL: PHILIP CO.	

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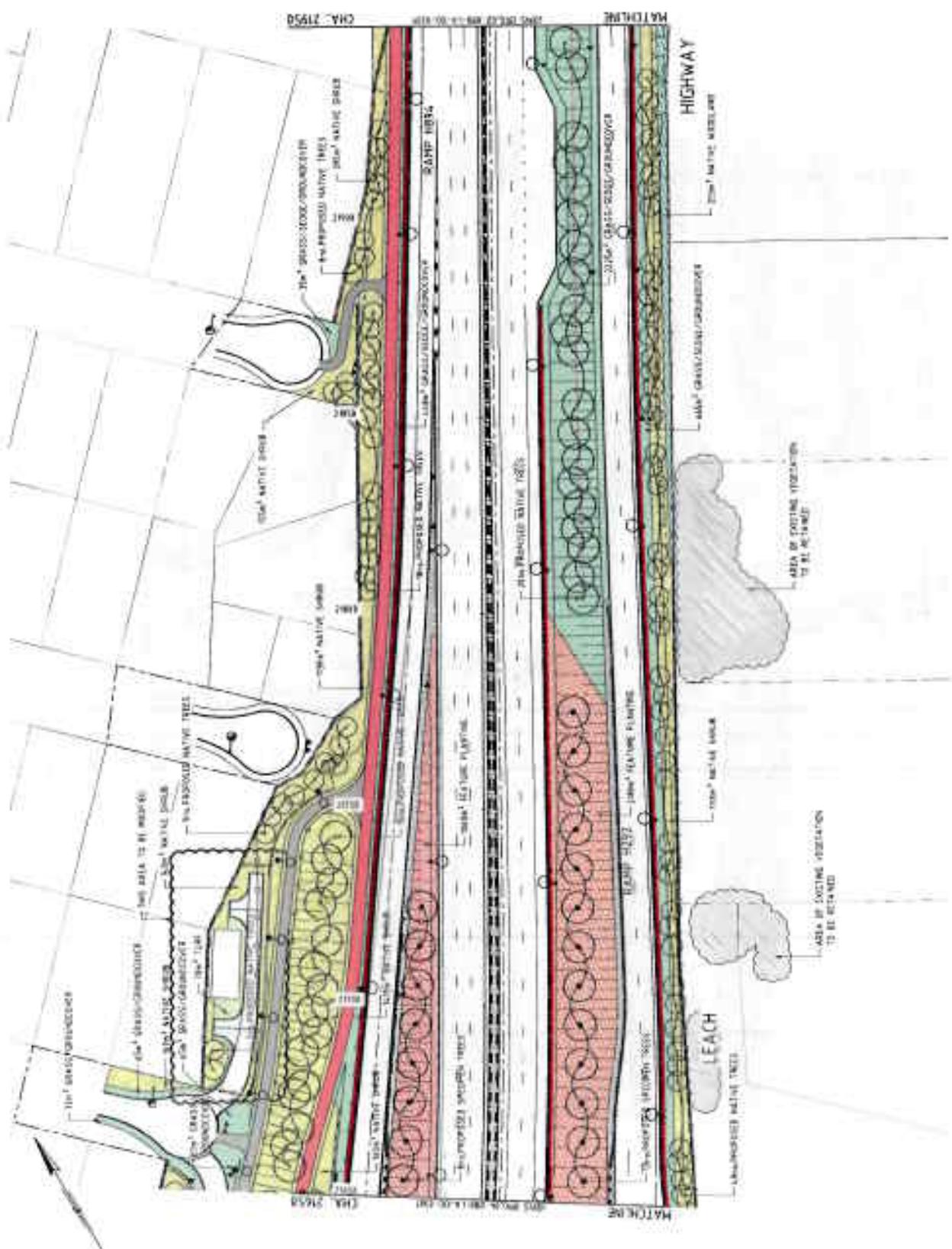
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23

198

CATALOGUE



APPENDIX B: Baseline Site Species List

Family	Name
Apiaceae	<i>Centella asiatica</i>
Apiaceae	<i>Platysace ramosissima</i>
Apiaceae	<i>Trachymene pilosa</i>
Asparagaceae	<i>Laxmannia ramosa</i>
Asparagaceae	<i>Laxmannia squarrosa</i>
Asparagaceae	<i>Lomandra caespitosa</i>
Asparagaceae	<i>Lomandra hermaphrodita</i>
Asparagaceae	<i>Lomandra praissii</i>
Asparagaceae	<i>Lomandra sericea</i>
Asparagaceae	<i>Thysanotus multiflorus</i>
Asparagaceae	<i>Thysanotus patersonii/manglesianus</i>
Asparagaceae	<i>Thysanotus thyrsoides</i>
Asteraceae	<i>Helichrysum luteoalbum</i>
Asteraceae	<i>Silowirus humifusus</i>
Asteraceae	<i>Trichocline spathulata</i>
Casuarinaceae	<i>Allocasuarina fraseriana</i>
Casuarinaceae	<i>Allocasuarina huegeli</i>
Casuarinaceae	<i>Allocasuarina humilis</i>
Celastraceae	<i>Tripterococcus brunonis</i>
Cochlichloraceae	<i>Burchardia bairdiae</i>
Cochlichloraceae	<i>Burchardia congesta</i>
Cupressaceae	<i>Calibris pyramidalis</i>
Cyperaceae	? <i>Mesomelaena</i> sp.
Cyperaceae	<i>Caustis dioica</i>
Cyperaceae	<i>Cyathochaeta avenacea</i>
Cyperaceae	<i>Lepidosperma effusum</i>
Cyperaceae	<i>Lepidosperma leptostachyum</i>
Cyperaceae	<i>Lepidosperma pubisquamatum</i>
Cyperaceae	<i>Lepidosperma squamatum</i>
Cyperaceae	<i>Mesomelaena pseudostygia</i>
Cyperaceae	<i>Mesomelaena stygia</i>
Cyperaceae	<i>Mesomelaena tetragona</i>
Cyperaceae	<i>Schoenus brevisetis</i>
Cyperaceae	<i>Schoenus curvifolius</i>
Cyperaceae	<i>Schoenus efolatus</i>
Cyperaceae	<i>Schoenus pedicellatus</i>
Cyperaceae	<i>Tricostularia neesii</i>
Cyperaceae	<i>Tricostularia neesii</i> var. ? <i>elatior</i>
Cyperaceae	<i>Tricostularia neesii</i> var. <i>neesii</i>
Dasypergonaceae	<i>Calectasia narragara</i>
Dasypergonaceae	<i>Dasypergon bromellifolius</i>
Dasypergonaceae	<i>Dasypergon obliquifolius</i>
Dasypergonaceae	<i>Kingia australis</i>
Dilleniaceae	<i>Hibbertia huegeli</i>
Dilleniaceae	<i>Hibbertia hypericoides</i>
Dilleniaceae	<i>Hibbertia racemosa</i>
Droseraceae	<i>Drosera erythrorhiza</i>
Droseraceae	<i>Drosera paleacea</i>
Droseraceae	<i>Drosera paleacea</i> subsp. <i>paleacea</i>
Droseraceae	<i>Drosera pallida</i>
Droseraceae	<i>Drosera stolonifera</i>
Ericaceae	<i>Astroloma stomaanthema</i>

Family	Name
Ericaceae	<i>Conostephium pendulum</i>
Ericaceae	<i>Leucopogon conostephoides</i>
Ericaceae	<i>Leucopogon propinquus</i>
Ericaceae	<i>Lysinema ciliatum</i>
Ericaceae	<i>Styphelia tenuiflora</i>
Euphorbiaceae	<i>Monotaxis grandiflora</i>
Fabaceae	<i>Acacia applanata</i>
Fabaceae	<i>Acacia huegelli</i>
Fabaceae	<i>Acacia lasiocarpa</i>
Fabaceae	<i>Acacia pulchella</i>
Fabaceae	<i>Acacia saligna</i>
Fabaceae	<i>Acacia sessilis</i>
Fabaceae	<i>Aotus gracilima</i>
Fabaceae	<i>Bossiaea eriocarpa</i>
Fabaceae	<i>Daviesia decurrentis</i>
Fabaceae	<i>Daviesia divaricata</i> subsp. <i>divaricata</i> ms
Fabaceae	<i>Daviesia incrassata</i> subsp. <i>incrassata</i>
Fabaceae	<i>Daviesia nudiflora</i> subsp. <i>nudiflora</i>
Fabaceae	<i>Daviesia physodes</i>
Fabaceae	<i>Daviesia polyphylla</i>
Fabaceae	<i>Daviesia triflora</i>
Fabaceae	<i>Euchilogpis linearis</i>
Fabaceae	<i>Eutaxia virgata</i>
Fabaceae	<i>Gastrolobium capitatum</i>
Fabaceae	<i>Gompholobium confertum</i>
Fabaceae	<i>Gompholobium knightianum</i>
Fabaceae	<i>Gompholobium tomentosum</i>
Fabaceae	<i>Hovea trisperma</i>
Fabaceae	<i>Jacksonia angulata</i>
Fabaceae	<i>Jacksonia floribunda</i>
Fabaceae	<i>Jacksonia furcellata</i>
Fabaceae	<i>Kennedia coccinea</i>
Fabaceae	<i>Kennedia prostrata</i>
Fabaceae	<i>Sphaerolobium macranthum</i>
Fabaceae	<i>Sphaerolobium vimineum</i>
Goodeniaceae	<i>Dampiera linearis</i>
Goodeniaceae	<i>Lechenaultia ? expansa</i>
Goodeniaceae	<i>Lechenaultia biloba</i>
Goodeniaceae	<i>Lechenaultia floribunda</i>
Goodeniaceae	<i>Scaevola repens</i>
Goodeniaceae	<i>Scaevola repens</i> var. <i>repens</i>
Haemodoraceae	<i>Anigozanthos humilis</i>
Haemodoraceae	<i>Anigozanthos manglesii</i>
Haemodoraceae	<i>Conostylis aculeata</i>
Haemodoraceae	<i>Conostylis aculeata</i> subsp. <i>aculeata</i>
Haemodoraceae	<i>Conostylis aurea</i>
Haemodoraceae	<i>Conostylis juncea</i>
Haemodoraceae	<i>Conostylis setigera</i> subsp. <i>setigera</i>
Haemodoraceae	<i>Haemodorum laxum</i>
Haemodoraceae	<i>Phlebocarya ciliata</i>
Hemerocallidaceae	<i>Agrostocrinum hirsutum</i>

Family	Name
Hemerocallidaceae	<i>Agrostocrinum</i> sp.
Hemerocallidaceae	<i>Amocrinum preissii</i>
Hemerocallidaceae	<i>Caesia micrantha</i>
Hemerocallidaceae	<i>Corynotheca micrantha</i>
Hemerocallidaceae	<i>Dianella revoluta</i>
Hemerocallidaceae	<i>Johnsonia pubescens</i>
Hemerocallidaceae	<i>Johnsonia pubescens</i> subsp. <i>pubescens</i>
Hemerocallidaceae	<i>Tricoryne elatior</i>
Hemerocallidaceae	<i>Tricoryne tenella</i>
Iridaceae	<i>Orthrosanthus laxus</i> var. <i>laxus</i>
Iridaceae	<i>Patersonia occidentalis</i>
Juncaceae	<i>Juncus pallidus</i>
Lamiaceae	<i>Hemianandra linearis</i>
Lamiaceae	<i>Hemianandra pungens</i>
Lamiaceae	<i>Pityrodia bartlingii</i>
Lauraceae	<i>Cassytha racemosa</i> forma <i>racemosa</i>
Loranthaceae	<i>Nuytsia floribunda</i>
Molluginaceae	<i>Macarthuria keigheryi</i>
Myrtaceae	<i>Astartea scoparia</i>
Myrtaceae	<i>Calothamnus lateralis</i>
Myrtaceae	<i>Calothamnus quadridius</i>
Myrtaceae	<i>Calytrix aurea</i>
Myrtaceae	<i>Calytrix flavescens</i>
Myrtaceae	<i>Calytrix fraseri</i>
Myrtaceae	<i>Chamelaucium uncinatum</i>
Myrtaceae	<i>Corymbia calophylla</i>
Myrtaceae	<i>Eremaea asterocarpa</i>
Myrtaceae	<i>Eremaea pauciflora</i>
Myrtaceae	<i>Eremaea pauciflora</i> var. <i>pauciflora</i>
Myrtaceae	<i>Eucalyptus marginata</i>
Myrtaceae	<i>Eucalyptus todiana</i>
Myrtaceae	<i>Hypocalymma angustifolium</i>
Myrtaceae	<i>Kunzea glabrescens</i>
Myrtaceae	<i>Leptospermum erubescens</i>
Myrtaceae	<i>Leptospermum spinescens</i>
Myrtaceae	<i>Melaleuca aspalathoides</i>
Myrtaceae	<i>Melaleuca huegelli</i> subsp. <i>huegelli</i>
Myrtaceae	<i>Melaleuca lanceolata</i>
Myrtaceae	<i>Melaleuca lateralis</i>
Myrtaceae	<i>Melaleuca latentia</i>
Myrtaceae	<i>Melaleuca nesophila</i>
Myrtaceae	<i>Melaleuca preissiana</i>
Myrtaceae	<i>Melaleuca rhipiphylloides</i>
Myrtaceae	<i>Melaleuca serata</i>
Myrtaceae	<i>Melaleuca systena</i>
Myrtaceae	<i>Pericalymma ellipticum</i>
Myrtaceae	<i>Scholtzia involucrata</i>
Myrtaceae	<i>Taxandria linearifolia</i>
Myrtaceae	<i>Verticordia densiflora</i>
Myrtaceae	<i>Verticordia densiflora</i> var. <i>densiflora</i>
Myrtaceae	<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>
Myrtaceae	<i>Verticordia</i> sp.

Family	Name
Orchidaceae	<i>Prasophyllum drummondii</i>
Orchidaceae	<i>Prasophyllum sp.</i>
Orchidaceae	<i>Pyrorchis nigricans</i>
Pittosporaceae	<i>Billardiera fraseri</i>
Pittosporaceae	<i>Billardiera sp.</i>
Poaceae	<i>Amphipogon turbinatus</i>
Poaceae	<i>Austrostipa flavescens</i>
Poaceae	<i>Austrostipa mollis</i>
Poaceae	<i>Neurachne alopecuroidea</i>
Poaceae	<i>Tetrastrymena laevis</i>
Polygalaceae	<i>Comesperma calymega</i>
Polygalaceae	<i>Comesperma confertum</i>
Polygonaceae	<i>Muehlenbeckia adpressa</i>
Proteaceae	<i>Adenanthera cygnorum</i>
Proteaceae	<i>Adenanthera sericea</i>
Proteaceae	<i>Banksia attenuata</i>
Proteaceae	<i>Banksia dallanneyi</i>
Proteaceae	<i>Banksia dallanneyi</i> var. <i>dallanneyi</i>
Proteaceae	<i>Banksia grandis</i>
Proteaceae	<i>Banksia ilicifolia</i>
Proteaceae	<i>Banksia menziesii</i>
Proteaceae	<i>Banksia nivea</i>
Proteaceae	<i>Banksia sessilis</i>
Proteaceae	<i>Conospermum huegelii</i>
Proteaceae	<i>Conospermum undulatum</i>
Proteaceae	<i>Grevillea obtusifolia</i>
Proteaceae	<i>Hakea ceratophylla</i>
Proteaceae	<i>Hakea prostrata</i>
Proteaceae	<i>Hakea ruscifolia</i>
Proteaceae	<i>Hakea sulcata</i>
Proteaceae	<i>Hakea trifurcate</i>
Proteaceae	<i>Hakea undulata</i>
Proteaceae	<i>Hakea verna</i>
Proteaceae	<i>Isopogon drummondii</i>
Proteaceae	<i>Lambertia multiflora</i>
Proteaceae	<i>Persoonia elliptica</i>
Proteaceae	<i>Persoonia saccata</i>
Proteaceae	<i>Petrophila linearis</i>
Proteaceae	<i>Petrophile macrostachya</i>
Proteaceae	<i>Sterlingia latifolia</i>
Proteaceae	<i>Synaphea spinulosa</i> subsp. <i>spinulosa</i>
Proteaceae	<i>Xylomelum occidentale</i>
Restionaceae	? <i>Meoboldina</i> sp.
Restionaceae	<i>Alexgeorgea nitens</i>
Restionaceae	<i>Chaetanthera aristatus</i>
Restionaceae	<i>Chordifex sinuosus</i>
Restionaceae	<i>Cytogonidium leptocarpoides</i>
Restionaceae	<i>Desmocladus fasciculatus</i>
Restionaceae	<i>Desmocladus flexuosus</i>
Restionaceae	<i>Dietsia stenostachya</i>
Restionaceae	<i>Hypolaena exsulca</i>

Family	Name
Restionaceae	<i>Lepyrodia muirii</i>
Restionaceae	<i>Lyginia barbata</i>
Restionaceae	<i>Lyginia imberbis</i>
Restionaceae	<i>Meeboldina scariosa</i>
Rubiaceae	<i>Opercularia vaginata</i>
Rutaceae	<i>Boronia ramosa</i>
Rutaceae	<i>Boronia ramosa</i> subsp. <i>anethifolia</i>
Rutaceae	<i>Philotheeca spicata</i>
Stylidiaceae	<i>Stylium ? miniatum</i>
Stylidiaceae	<i>Stylium brunonianum</i>
Stylidiaceae	<i>Stylium diuroides</i> subsp. <i>diuroides</i>
Stylidiaceae	<i>Stylium repens</i>
Stylidiaceae	<i>Stylium repens</i> var. <i>repens</i>
Stylidiaceae	<i>Stylium schoenoides</i>
Thymelaeaceae	<i>Pimelea floribunda</i>
Thymelaeaceae	<i>Pimelea sulphurea</i>
Violaceae	<i>Hybanthus calycinus</i>
Xanthorrhoeaceae	<i>Xanthorrhoea brunonis</i>
Xanthorrhoeaceae	<i>Xanthorrhoea preissii</i>
Zamiaceae	<i>Macrozamia riedlei</i>