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Shared Services Procurement

Report for Molonglo Infrastructure - Stage 1D
Impact Track Development Application

October 2011



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1. Introduction

In April 2008 GHD Pty Ltd (GHD) was commissioned by ACT Shared Services Procurement on behalf of Environment and Sustainable Development Directorate (ESDD) to undertake a consultancy for the design and superintendence of the Molonglo Infrastructure Stage 1 project. Stage 1 of the project has been divided into three components Stage 1A/B, 1C and 1D. Each component requires a Development Application to be sought and approved. The purpose of this document is to seek approval for the development of Stage 1D of the project.

The primary objective of the project is construct and operate a portion of John Gorton Drive (JGD) between the Tuggeranong Parkway and Coppins Crossing Road to service available land for the North Weston subdivision and southern parts of the Molonglo Valley urban developments.

Construction of Stage 1D from the intersection of Uriarra Road and JGD through to the connection with Coppins Crossing Road will be undertaken in 2011 /2012.

1.1 Purpose

This Statement Against Relevant Criteria pertains to the Development Application (DA) submission under the Impact Track for the construction of JGD Stage 1D, associated infrastructure in the Molonglo Valley, ACT (S.425, *Planning and Development Act 2007*).

GHD is submitting this DA on behalf of ACT Shared Services Procurement.



2. Overview of the proposed development

2.1 Proposed Development

The JGD comprises a dual carriageway road with two lanes and on-road cycling in each direction, and the ultimate arrangement is a dual carriageway road with three lanes and on-road cycling in each direction. Bus stops have also been incorporated into the design. Provision is made for both pedestrians and cyclists to use an underpass and for pedestrians, cyclists and horse riders to pass beneath the bridge at Holdens Creek. This application also includes all ancillary works such as service roads, bridges, underpasses, stormwater drains, lighting and landscaping.

The proposed development will complete the JGD construction within Stage 1 and the temporary road connecting to Coppins Crossing Road will continue into Stage 2 for approximately 500 metres.

2.2 Stage 1 Development

Development within Molonglo Stage 1 includes 1.5 kilometres of dual lane carriageway road with two lanes and on-road cycling in each direction plus bus stops, pedestrian and cyclist pathways. The development within Stage 1 also includes the construction of a bridge over Holden's Creek and a pedestrian underpass further to the north.

2.2.1 Stage 1 Environmental

The section of the proposed development within Molonglo Stage 1 is subject to an Environmental Impact Statement (EIS) Exemption under Section 211 of the *Planning and Development Act 2007*. This exemption considers that the environmental impact of any development has been sufficiently addressed by another study or studies. This exemption includes the construction of the suburbs of North Weston, Wright, Coombs and associated infrastructure. Written advice from the ACT Minister for Planning granting this exemption is included as Appendix A to this report.

Any referrals regarding Matters of National Environmental Significance (MNES) under the *Environment Protection and Biodiversity Act 1999* have been sought as part of the broader project. Similarly, the proposed development may be subject to a Waterways Works Licence from the ACT Environmental Protection Authority.

2.3 Stage 2 Development

The proposed development in Stage 2 is a temporary road connecting Molonglo Stage 1 to Coppins Crossing Road. Accordingly, development within Stage 2 includes approximately of temporary road transitioning from two lanes and on-road cycling in each direction to one lane on each direction of Coppins Crossing Road. In total, 220 metres of new road will be constructed in Stage 2, with the remaining 280 metres forming part of the temporary/transitional connection to Coppins Crossing Road.



It is noted that the development proposed in Stage 2 of Molonglo relating to this application includes work over the previously disturbed area of Coppins Crossing Road.

2.3.1 Stage 2 Environmental

There have been a number of environmental studies undertaken for the Molonglo Valley, including the area within Stage 2. Relevant studies relating to this application include, but are not limited to:

- ▶ Draft Strategic Assessment Report of the Molonglo Valley Plan for the Protection of Matters of National Environmental Significance (Ecological Australia);
- ▶ Molonglo Valley Air Quality Assessment (AECOM);
- ▶ Environmental Preliminary Risk Assessment Report – NGH Environmental, July 2011;
- ▶ River Park Concept Plan – in progress;
- ▶ EPBC Listed Flora Community and Species Mapping in the Molonglo, EcoLogical Australia, 2009;
- ▶ Molonglo National Environmental Significance (NES) Plan (under preparation);
- ▶ Molonglo River Riparian Zone Vegetation and Habitat Survey and Mapping Project, Ecological, Feb 2008 for ACTPLA;
- ▶ ACT Aquatic Species and Riparian Zone Conservation Strategy, Action Plan 29 (ACT Government 2007);
- ▶ Lower Molonglo River Corridor Management Plan, Environment ACT, (DUS) 2001;
- ▶ Environmental planning principles for the protection of the pink-tailed worm lizard in the lower Molonglo valley, Osborne for ACT Planning and Land Authority, 2008;
- ▶ Assessment of Pink-Tailed Worm Lizard (*Aprasia parapulchella*) habitat along the proposed Molonglo Trunk Sewer, Implications of the EPBC Act. Will Osborne and David Wong, July 2009;
- ▶ Habitat mapping and conservation considerations for the Pink-Tailed Worm Lizard (*Aprasia parapulchella*) with respect to the alignment of the proposed Molonglo Trunk Sewer, Will Osborne and David Wong, 2008;
- ▶ Distribution of the Pink-tailed worm lizard in the Lower Molonglo Valley, with respect to the strategic land planning, Applied Ecology Research Group, University of Canberra for the ACT Planning and Land Authority, Canberra, 2004; and
- ▶ Habitat survey for the endangered pink-tailed worm lizard *Aprasia Parapulchella* in the Lower Molonglo Valley, ACT, Jones for ACTEW Services Division, Canberra, 1993.

Such studies have been summarised in a number of maps which outline Vegetation Communities (Ecological Australia), Site Environmental Constraints (AECOM) and potential Stage 2 EIS Triggers (ESDD) in relation to the construction of JGD. These maps have been included as Appendix B to this report.



2.4.1 Planning and Development Act 2007

Part 4.2 of the *Planning and Development Act 2007* specifies the types of development proposals and activities which require an EIS.

Item 1 of Part 4.2:

proposal for construction of a transport corridor including a major road, a dedicated bus way, a railway, or a light rail corridor, on any land, other than on land designated under the territory plan as a future urban area or in a transport and services zone, if the proposal is likely to have a significant adverse environmental impact on—

- (a) *air quality so as to be detrimental to the health of persons in an adjoining residential, commercial or community facility zone; or*
- (b) *ambient noise or vibration so as to be detrimental to the health of persons*

The proposed development involves the construction of a major (arterial) road transport corridor that *is* on 'land designated under the territory plan as a future urban area or in a transport and services zone'. Accordingly, the proposed development does not trigger an EIS under this provision.

Part 4.3 of the *Planning and Development Act 2007* specifies the development proposals and areas and processes that require an EIS:

Item 2, Part 4.3:

proposal involving—

- (a) *the clearing of more than 0.5ha of native vegetation other than on land that is designated as a future urban area under the territory plan unless the conservator of flora and fauna produces an environmental significance opinion that the clearing is not likely to have a significant adverse environmental impact; or*
- (b) *the clearing of more than 5.0ha of native vegetation on land that is designated as a future urban area under the territory plan unless the conservator of flora and fauna produces an environmental significance opinion that the clearing is not likely to have a significant adverse environmental impact.*

The proposed development is located on land designated as future urban area under the territory plan. Furthermore, the proposed development will not involve the clearing of more than 5.0ha of native vegetation and accordingly will not trigger an EIS under this provision.

2.5 Design

The ultimate arrangement of Stage 1D of JGD will be a three lane dual carriageway including bus lane and cycle lane in each direction. In the initial construction (interim arrangement), two lanes will be constructed in each direction with provision for the construction of the additional lane in the future which is not subject to this application.

In accordance with the recommendations of SMEC 2008 the posted speed for the JGD will be 70 km/hr. The road geometry has therefore been designed for 80km/hr in accordance with the ACT Design Standards for Urban Infrastructure.



The Design Drawings for the proposed development have been included as Appendix C to this report.

2.5.1 Environmental Design

In September 2008, the ACT and Commonwealth Governments commenced a strategic assessment under Section 146 of the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).

The Draft Strategic Assessment Report of the Molonglo Valley Plan for the Protection of Matters of National Environmental Significance (Ecological, 2010) addresses the potential impacts likely to arise through implementation of the Molonglo Valley Plan for the Protection of Matters of National Environmental Significance (the NES Plan) (Ecological 2010).

The NES Plan defines the development activities proposed for the Molonglo Valley as set out in the Molonglo and North Weston Structure Plan. The Structure Plan is part of the ACT statutory Territory Plan which guides urban development and associated infrastructure in the Molonglo Valley. The Structure Plan is likely to be implemented over the next 25-30 years and addresses a broad range of environmental, social and economic planning issues. West Molonglo is included within the scope of the strategic assessment as it was part of the same overall process to establish the Structure Plan. However, it is not currently part of the Structure Plan (Ecological 2010).

The NES Plan is currently awaiting approval and may be available as part of the DA lodgement as additional information. The NES Plan will outline the development actions and set out the protection and conservation strategies to avoid unacceptable impacts on matters protected by the EPBC Act as a result of development in the Molonglo Valley. Compliance with the NES Plan will be enforceable under the *Planning and Development Act 2007* (ACT) and, if endorsed by the Commonwealth Minister for the Environment (the Minister) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), will allow the Minister to approve actions that will be taken in accordance with it (ESDD 2010).

The Strategic Assessment provides an assessment of information covering both the Stage 1 and Stage 2 areas of the Molonglo Valley. A summary of the relevant information to both Stage 1 and Stage 2 is provided in Section 3.4. In particular, an assessment of the potential impacts to the area of the proposed development located in Stage 2 (outside of the area covered by the EIS Exemption for Stage 1) has been included. Where applicable, an explanation of how the recommended mitigation measures have been incorporated into the design has been provided.

EPBC referrals have been submitted and assessed for the areas within Stage 1 of the Molonglo Development where Matters of National Environmental Significance are potentially or directly impacted by the proposed works. The remainder of the areas will be covered by the process outlined above.



2.5.2 Traffic Analysis

A detailed traffic analysis was undertaken as part of the Preliminary Sketch Plan (PSP) design published by GHD in December 2008. This study was based on traffic forecasts for the years 2021 and 2031 produced by strategic modelling undertaken by SMEC as part of the Molonglo Roads Feasibility Study. These traffic forecasts were utilised as the basis for SIDRA analyses of the major signalised intersections along the route of the JGD and were used to inform the staging requirements for the road.

Further traffic modelling by AECOM for ESDD in 2010 updated the SMEC traffic forecasts for JGD.

2.5.3 Utilities

Thorough investigations have been undertaken into the existing services located in the vicinity of the proposed development alignment. This has included the identification of trunk water mains and Telstra Fibre Optic utilities. The location of these services has been noted and incorporated into the design.

Coordination with all service authorities has been undertaken during the design phase to determine their requirements for new services along the JGD. The location of these services is indicated on the drawings which have been included as Appendix C to this report. Furthermore, a detailed assessment of the proposed new services has been included in Section 7.7.2.

All services are to have road crossings under the JGD provided as part of the road construction. As the development plans have not been finalised for the areas adjacent to Stage 1D, provision for services has been made that will have to be confirmed as the adjacent developments proceed. Such services include gas, electricity, communications, water and sewer.

2.5.4 Pedestrians and Cyclists

Provisions for both Pedestrians and Cyclists have been incorporated into the design of the proposed development. For example, cyclists have been accommodated by the JGD 1D development with a 2m wide on-road cycle lane on each carriageway.

The standard arrangements for cyclists will be provided through the signalised intersection. Characteristics of the treatment at the intersection are:

- ▶ Cycle lane widths through the intersection will be 1.7m with a further 300mm to the kerb on the left; and
- ▶ Because of the high volumes of traffic and cyclists expected on JGD, the conflict area where left turning traffic on JGD crosses the cycle lane will be painted green to indicate the right of way for cyclists.

Off road shared paths have a width of 2.5m and have been designed to accommodate for pedestrians and cyclists with the 1.5m shared path at the outer edge of the verge. Provision is made for both pedestrians and cyclists to use the underpass at Ch 13470 and for pedestrians, cyclists and equestrians to pass beneath the bridge at Holdens



Creek. Details of the shared paths at the underpass and the bridge are given in Section 13 of this report.

Off road cyclists will be also be able to safely cross JGD at the signalised intersection.

2.5.5 Holdens Creek Bridge

The proposed structure at approximate chainage 12680, provides for two carriageways. The speed of traffic on the road at the bridge is 70km/hr.

Each carriageway consists of the following components:

- ▶ A 1400mm high pedestrian and cycleway vertical bar railing conforming to TAMS criteria, drawing DS7-06 and AS5100.2 cl.11.5;
- ▶ An equestrian track and multi-use track;
- ▶ A 1300mm high combined vehicle and cycle barrier, conforming to RTA standard drawing RTAB051 Issue 4, Type RCO barrier. The grab rail is located flush with rear face of barrier in accordance with Roads ACT requirements. The lower 800mm of the barrier, is a concrete New Jersey shape Regular Performance Level barrier to AS5100;
- ▶ A 2.0m clear-width cycleway (on road);
- ▶ A 3.5m clear-width bus lane;
- ▶ Two 3.5m clear-width vehicle lanes for each carriageway;
- ▶ 1.2m shoulder adjacent to median, to conform to Table 9.5 AS5100 Part1, for more than 5000 vehicles per day; and
- ▶ An, RTA Type RAO 1000mm high traffic barrier on the median side in accordance with RTA standard drawing RTAB051 Issue 4.

2.5.6 Underpass

The underpass at Chainage 13470 consists of two separate dual lane carriageways approx. 19.15m wide spanning over the existing creek and a new shared pathway. The bridge deck consists of two 11.5m clear spans. The bridge uses pre-tensioned modified RTA planks with a composite deck slab over. The abutment walls are cast in situ reinforced concrete with base slabs founded on rock.

2.5.7 Lighting

Following discussions with TAMS via email, it is proposed that the full length of JGD stage 1D be lit as it is an urban road with numerous intersections. The street lighting would be designed to match with the earlier stages (Stage 1A and Stage 1B). Lighting design would be in accordance with AS 1158 and the ACT Design Standards for Public Infrastructure – section 12 Public Lighting.

Road lighting design for JGD would use high performance luminaries with high efficiency High Pressure Sodium (HPS) lamp. The road lighting luminaire will be Sylvania Roadster Aeroscreen with cut-off performance to limit any upward waste light.



The luminaire will use a twin arc tubular lamp to provide more lumen output and improve efficiency together with reactive control gear.

Luminaries for underpasses would be weatherproof with high impact resistance that use linear fluorescent lamps.

Luminaries for the pathways that approach underpasses would be high efficiency compact fluorescent lamps in Sylvania Urban Aeroscreen cut-off pedestrian area luminaries.

The lamp (and luminaire) types proposed are:

- ▶ Vehicular road - 250 W High pressure sodium twin arc (Sylvania Roadster Aeroscreen);
- ▶ Underpasses – 2 x 24 W fluorescent luminaire (Versalux Rhino); and
- ▶ Cyclist pathways – 42 W compact fluorescent luminaire (Sylvania Urban Aeroscreen).



3. Existing Environment

3.1 Site Location and Description

3.1.1 Context

The Molonglo Valley is in Canberra's west, within the urban growth containment line outlined in The Canberra Spatial Plan (2004). When fully developed, the Molonglo Valley will support about 55,000 people. It is being developed in three stages:

- ▶ Stage 1 – Coombs, Wright and north Weston, currently being developed and sold
- ▶ Stage 2 – to the south of the Molonglo River, currently being planned
- ▶ Stage 3 – to the north of the Molonglo River, to be planned and developed in the next 10 years¹

Molonglo Stage 1 is currently under construction and the drafting of the planning and design framework is currently being undertaken for the Stage 2 development (this application).

The proposed development forms part of John Gorton Drive, which will run from Cotter Road in the south to William Hovell Drive in the north. Accordingly, it is envisaged that the proposed JGD will traverse Stage 3 of the Molonglo Valley in the future.

3.1.2 Location and Regional Context

The Molonglo Valley is a large valley covering an area of around 4,000 hectares between Belconnen and Weston Creek, approximately 8 km to the south west of the Canberra CBD. The project is predominately located in Stage 1 but does traverse into Stage 2 of the proposed Molonglo Valley development.

The valley itself is surrounded by mountains (including Black Mountain, Dairy Farmers Hill, Mount Stromlo, Mount Painter and the Pinnacles) and undulating land. The Molonglo River runs from the south-east to the north-west through the valley, downstream of the Scrivener Dam and Lake Burley Griffin (Eco Logical, 2010).

The land has historically been used for rural purposes and forestry purposes, and much of the area has been cleared. There are also some pine plantations in the area (Eco Logical, 2010). The area was extensively damaged during the 2003 Canberra Bushfires.

The Molonglo Valley Stage 2 development area is located north of the suburbs of Coombs and Wright (Molonglo Stage 1) and south of the Molonglo River (downstream of Scrivener Dam). The site is bounded by the Molonglo River to the north and east, Uriarra Road and the Stromlo Forest Park to the west, and steep land not planned for

¹ 'Molonglo Valley', ACT Planning and Land Authority Online, Accessed 22nd August 2011 from http://www.ESDD.act.gov.au/topics/significant_projects/planning_studies/molonglo_valley



urban development is located to the north west. Coppins Crossing Road passes north-south through the Molonglo Stage 2 site².

The location and staging of the Molonglo Valley has been included in below as Figure 2.

² Molonglo Valley Air Quality Report, February 2011, AECOM, pg 3

3.2 Zoning

The proposed site is zoned **Transport and Services – TSZ1 – Transport** under the Territory Plan 2008. In addition, the proposed site also has an Intertown Public Transport Route Overlay as seen on the Territory Plan map. The Molonglo Valley area has been identified as a Future Urban Area (FUA).

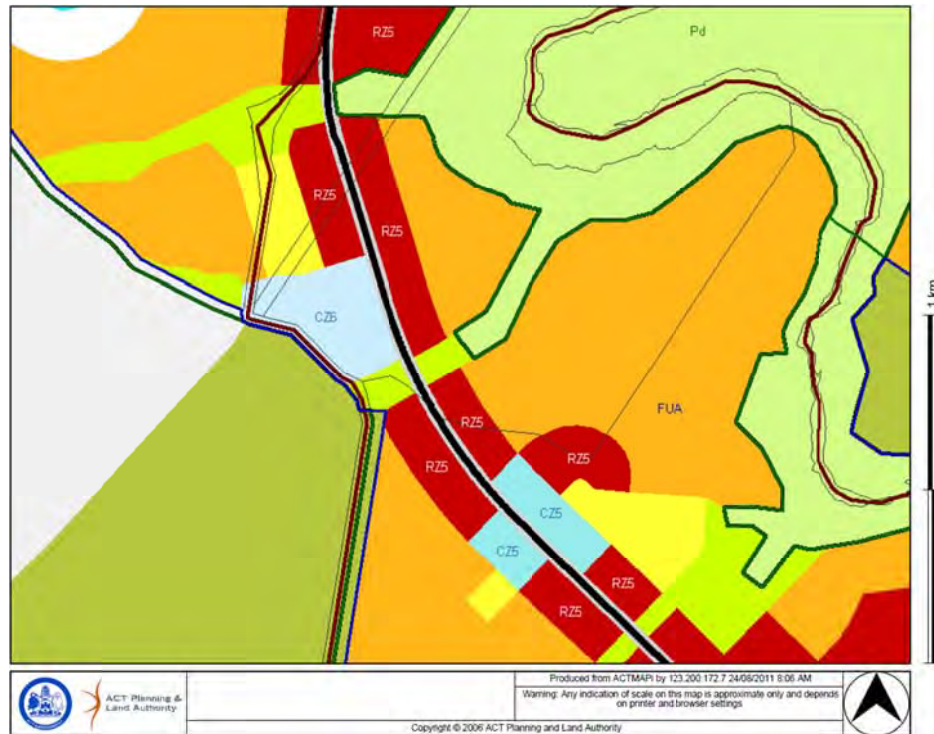


Figure 3 The zoning of the proposed site

(Source: ACTMAPi Online)

Under the Territory Plan 2008, the currently surrounding land use zones to the proposed transport corridor include:

- ▶ Residential - RZ5 - High Density
- ▶ Commercial - CZ5 - Mixed Use
- ▶ Residential - RZ1 – Suburban; and
- ▶ Community Facilities.

3.3 Surrounding Land Use

The current surrounding land use for the proposed site is Future Urban Area, with Stage 1 currently in the construction phase of development. To the West is the Mount Stromlo Parkland and to the east is the Molonglo River Corridor area. The area to the north remains greenfield and rural use.



3.4 Environmental issues

A summary of the relevant information to both Stage 1 and Stage 2 is provided below. In particular, an assessment of the potential impacts to the area of the proposed development located in Stage 2 (outside of the area covered by the EIS Exemption for Stage 1) has been included. Where applicable, an explanation of how the recommended mitigation measures have been incorporated into the design has been provided.

3.4.1 Flora and fauna

The area of the proposed development of JGD and associated infrastructure within Stage 1 and Stage 2 has been highly modified due to past clearing and current land use practices. Land in the surrounding area was formerly used for pine plantations (destroyed by the January 2003 fires) and for grazing with some recreation (e.g. horse riding) (Ecological 2010).

The Molonglo Valley has significant habitat values for a large range of threatened, rare and uncommon species (Ecological 2010). The area within which JGD is away from the particularly valuable habitat areas including the Kama Nature Reserve and the Molonglo River corridor which are considered to be important for sustaining populations of woodland birds and facilitating wildlife movement within the valley.

The Strategic Assessment identified that the following matters of national environmental significance were likely to, or had the potential to be impacted by implementation of the NES Plan:

- ▶ White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland (Box-Gum Woodland).
- ▶ Natural Temperate Grassland of the Southern Tablelands of NSW and the ACT (Natural Temperate Grassland).
- ▶ *Aprasia parapulchella* (Pink-tailed Worm Lizard).
- ▶ *Polytelis swainsonii* (Superb Parrot);
- ▶ *Lathamus discolor* (Swift Parrot); and
- ▶ *Merops ornatus* (Rainbow Bee-eater).

Due to its location within the Molonglo Valley, the construction of JGD and associated infrastructure will not have an impact on Box-Gum Woodland and the associated woodland bird species (Superb Parrot, Swift Parrot and Rainbow Bee-eater) or Natural Temperate Grassland.

There are approximately 428.67 ha of potential Pink-tailed Worm Lizard habitat identified within the Molonglo Valley. Within East Molonglo and its nearby surrounds there are approximately 88.44 ha of habitat. Approximately 16.15 ha occurs within the development area, 53.65 ha within the East Molonglo river corridor, and 19 ha in surrounding hills, ridges and buffer zones.

Within the East Molonglo river corridor, there are approximately 36.06 ha of high quality habitat (in 71 patches) and 17.59 ha of moderate quality habitat.



The proposed JGD and associated infrastructure will intercept a small patch of low and moderate quality habitat (located in Stage 1). The loss of this habitat has been accounted for in the 16.15 ha of habitat loss associated with the Molonglo Valley development. No Pink-tailed Worm Lizard habitat is located in Stage 2 which is currently not covered by the EIS Exemption; therefore will not be affected by the construction of JGD and associated infrastructure.

In addition, the proposed development of JGD may potentially lead to a range of indirect impacts to the Pink-tailed Worm Lizard population within the river corridor, both during and post construction. Potential indirect impacts may arise as a result of erosion, sediment run-off and stockpiling of materials.

There are no specific principles or policies in the Structure Plan that relate to the management of impacts from the development of JGD and associated infrastructure.

The EPBC referral for Urban Development in Parts of the Suburb of Coombs – Molonglo Valley ACT (EPBC 2009/5050) covers the area of Pink-tailed Worm Lizard habitat that is to be impacted by the proposed development of JGD (see Patch 1 in Figure 4). A request for reconsideration of the original referral decision was submitted by ESDD (dated 2 March 2010) to include the habitat patch areas located on Holdens Creek and further refinement of the habitat areas and development activities covered by the referral (see Figure 4). A Reconsideration Decision notice was issued by the Department of Sustainability, Environment, Water, Population and Community (formerly Department of Environment, Water, Energy and Water) on 16 April 2010. The project was deemed *not a controlled action if undertaken in a particular manner*.

The measures relevant to the development of JGD and associated infrastructure which must be undertaken to avoid significant impacts on Pink-Tailed Worm Lizards are provided in Table 1 along with a response indicating how these measures have been incorporated or considered in the design.

Table 1 EPBC referral conditions applicable to the proposed development

EPBC 2009/5050 Reference	Details of referral condition	How incorporated or considered in design
1	Maintain a buffer zone of at least 20 metres from moderate and high quality <i>Aprasia parapulchella</i> habitat as identified at Annexure 1 (<i>note: see Figure 2 above</i>), except where inconsistent with other measures in this notice.	Not applicable to this proposed development.
2	Ensure vehicles do not drive over and keep all forms of disturbance, such as heavy earth moving equipment and other construction activity away from	Although not required to be complied with under the referral conditions for Patch 1 (see condition 14 below) this measure will be included in the CEMP to be prepared by the Contractor for



EPBC 2009/5050 Reference	Details of referral condition	How incorporated or considered in design
	moderate and high quality <i>Aprasia parapulchella</i> habitat in Annexure 1, except when inconsistent with other measures in this notice.	construction.
3	Prevent construction spoil and any material used in soil stabilisation and revegetation from running down slope over mapped <i>Aprasia parapulchella</i> habitat at Annexure 1.	Although not required to be complied with under the referral conditions for Patch 1 (see condition 14 below) this measure will be included in the CEMP to be prepared by the Contractor for construction.
4	Prevent the spread or planting of trees, shrubs or weeds (e.g. Blackberry <i>Rubus fruitcosus</i>) within 20m of high or moderate quality <i>Aprasia parapulchella</i> habitat at Annexure 1. Trees and shrubs will not be planted in areas that could potentially shade moderate and high quality habitat or buffers.	Not applicable to this proposed development.
4.1	All construction machinery will be washed to prevent the spread of weeds prior to entering the site. All machinery operating below the proposed edge road will be washed; if machines have been (a) offsite or (b) entered or operated in the area of former pine plantation identified at Annexure 1.	Although not required to be complied with under the referral conditions for Patch 1 (see condition 14 below) this measure will be included in the CEMP to be prepared by the Contractor for construction.
5	Prevent stormwater, occurring as a result of this action, from flowing over moderate and high quality <i>Aprasia parapulchella</i> habitat patches below the sewer line at Annexure 1.	Not applicable to this proposed development.
6	Erect permanent fencing to enclose all moderate and high quality <i>Aprasia parapulchella</i> habitat at Annexure 1. Fencing will be designed to minimise unregulated public access, rock collection, access by domestic animals and unregulated stock grazing.	Not applicable to this proposed development.



EPBC 2009/5050 Reference	Details of referral condition	How incorporated or considered in design
7	An edge road as indicated on page 27 of the Coombs and Wright Concept Plan will separate residential development from the river corridor.	Not applicable to this proposed development.
8	A management strategy will be implemented, and ensure that:	Not applicable to this proposed development.
8.1	Habitat values for high and moderate quality <i>Aprasia parapulchella</i> patches below the edge road area maintained and improved, including removal and on-going management of weeds.	Not applicable to this proposed development.
8.2	Any fire, biomass management, or fuel reduction required as a result of the action within 20 m of moderate and high quality habitat at Annexure 1 will be conducted in an ecologically sympathetic manner with the conservation of <i>Aprasia parapulchella</i> . Grazing will only be used as a management technique when it is undertaken in accordance with expert advice.	Not applicable to this proposed development.
8.3	Signs containing educational/public information concerning the conservation of <i>Aprasia parapulchella</i> in the Molonglo Valley will be erected in consultation with expert advice.	Not applicable to this proposed development.
9	Measures 1 and 2 will not apply with respect to the construction of public accessways to the river corridor through moderate quality <i>Aprasia parapulchella</i> habitat or buffer areas at Annexure 1. Access ways will be planned and designed in accordance with expert advice to minimise impact and conserve habitat values for <i>Aprasia parapulchella</i> .	Not applicable to this proposed development.



EPBC 2009/5050 Reference	Details of referral condition	How incorporated or considered in design
9.1	Access ways will not pass through high quality <i>Aprasia parapulchella</i> habitat at Annexure 1.	Not applicable to this proposed development.
10	Surface rocks suitable for <i>Aprasia parapulchella</i> from within the Coombs pond inundation area and access way alignments will be used to rehabilitate areas of potential habitat below the sewer line in accordance with expert advice. Rehabilitation will not take place within mapped high quality habitat at Annexure 1. Rocks and any machinery will be washed of all soil and organic matter prior to use for rehabilitation.	This measure will be included in the CEMP to be prepared by the Contractor for construction.
10.1	A monitoring program developed in accordance with expert advice will survey rehabilitated habitat areas annually for 5 years, following final completion of the trunk sewer. As part of the monitoring program, a baseline survey will be conducted prior to the construction of houses and annual results will be published on an appropriate ACT Government website.	Not directly applicable to this proposed development.
11	For Patch 2 (Annexure 1) all measures, except measure 1 apply. In addition:	Not directly applicable to this proposed development.
11.1	Within 20m of patch 2, machinery will only operate from within or above the sewer alignment; excavated material will not be stockpiled below the alignment.	Not directly applicable to this proposed development.
11.2	All land disturbed within 20m of Patch 2 will be rehabilitated to improve current <i>Aprasia parapulchella</i> habitat value in accordance with expert advice. Specifically surface rocks will be	Not directly applicable to this proposed development.



EPBC 2009/5050 Reference	Details of referral condition	How incorporated or considered in design
	retained and replaced and disturbed areas will be revegetated with local native grasses, sterile Rye and specifically Kangaroo grass (<i>Themeda australis</i>).	
12	Patch 4 (Annexure 1) will be rehabilitated to improve <i>Aprasia parapulchella</i> habitat value below the sewer alignment as per measure outlined in 11.2.	Not directly applicable to this proposed development.
12.1	All development other than the trunk sewer will avoid the rehabilitated portion of Patch 4 (Annexure 1) by a minimum buffer of 20m.	Not directly applicable to this proposed development.
13	A wildlife expert experienced with <i>Aprasia parapulchella</i> will check all potential habitat that is disturbed prior to construction. Any <i>Aprasia parapulchella</i> specimens found will be relocated to the nearest suitable habitat.	This measure will be included in the CEMP to be prepared by the Contractor for construction.
14	The above measures do not apply to the area identified as Patch 1 (Annexure 1), except for measures 10 and 13.	See responses above.