EXECUTIVE SUMMARY

On 2 April 2011, the Office of Environment & Heritage (OEH) received an application from Queanbeyan City Council (QCC) for concurrence pursuant to Section 112C of the *Environmental Planning and Assessment Act 1979* (EP&A Act). Concurrence was sought for a decision by QCC to grant development consent under Part 5 of the EP&A Act for the deviation and duplication of Old Cooma Road between Karabar and Googong, south of Queanbeyan which may significantly affect a threatened species, population, or an endangered ecological community or its habitat.

OEH has considered the application from QCC in accordance with Section 112D of the EP&A Act and I have decided to grant concurrence to this development for the reasons set out in Section 6 and subject to the conditions set in Section 7 of this report.

Julian Thompson
Head of Operations - South-East Region
Environment Protection and Regulation
Office of Environment and Heritage
Department of Premier and Cabinet
as delegate to the Director-General

Dated: 30 November 2011

The Department of Environment, Climate Change & Water is now known as the Office of Environment and Heritage

PO Box 622, Queanbeyan NSW 2620
Level 3, 11 Farrer Place, Queanbeyan NSW
Tel: (02) 6229 7002 Fax: (02) 6229 7006
ABN 30 841 387 271
www.environment.nsw.gov.au

1 DESCRIPTION OF THE PROPOSAL AND THE ENVIRONMENT

The proposal is for Queanbeyan City Council ("QCC") to re-align and duplicate a portion of Old Cooma Road ("OCR") between a point 400m south of the intersection with the proposed Edwin Land Parkway at Karabar and the intersection with Googong Road at Googong. The proposal is a two stage project. Stage 1 is the re-alignment of OCR to bypass a winding section of the existing road. Stage 2, is the duplication of the existing road (including stage 1), therefore creating a dual lane carriage way. Stage 2 is referred to as the ultimate duplication.

The Species Impact Statement ("SIS") for the above project prepared by Ecological Australia (December 2010) indicates that the assessment for the proposal is under Part 5 of the *Environmental Planning and Assessment Act 1979* ("EP&A Act") with QCC being both the proponent and consent authority. The Development Application for the proposal was lodged with QCC on 14th March 2010. QCC also engaged *Aurecon Australia* to prepare a Determination Report to assist Council in its consideration of the proposal for transparency and probity reasons.

Concurrence is required from the Director General of the Department of Premier & Cabinet pursuant to section 112C of the EP&A Act.

The proposal is also described in the following documents:

- Minutes of the Ordinary Meeting of Queanbeyan City Council for the 23th March 2011;
- Determination report Old Cooma Road Realignment (Aurecon 2011);
- Copy of all submissions made during the notification period 10th December 2010 – 31 January 2011;
- Species Impact Statement, Old Cooma Road Realignment and Duplication Queanbeyan (Ecological 2010);
- Review of Environmental Factors (Hogg 2010);
- Review of Environmental Factors – Scoping Assessment (Hogg 2009);
- Flora and Fauna Assessment (BES 2007);
- Draft *Offset plan for the Old Cooma Road Duplication* (NGH 2010);
- Geotechnical Investigative Report (Brown & Partners 2001);
- Visual Landscape Character (JEA 2009);
- Realignment – Preliminary Sketch Plan Report (Brown 2010);
- Noise Assessment Realignment & Duplication (UNSW 2010);
- EPBC decision report (DEWHA 2010); and
- Cultural Heritage Assessment (Navin Officer 2009).

Subject Site

The subject site is located approximately 2.6 kilometres south of the centre of Queanbeyan, NSW. The proposed road is a linear development and extends for approximately 4.8km (Ecological 2010) between a point 400m south of the intersection with the proposed Edwin Land Parkway at Karabar and the intersection with Googong Road at Googong.

The subject site follows the existing OCR easement in the southern section. The northern section extends beyond the existing road easement into parts of freehold and Crown Land. The central section of the subject site follows the proposed road deviation to replace the winding section of OCR.

The approximate area of the subject site is 21.5 ha, of which it is estimated that 17.2 ha of native vegetation remain, including 10.4ha of Dry Forest and 5.5ha of White Box Yellow Box Blakely's Red Gum Woodland (Ecological 2011), known as Box Gum Woodland. Box Gum Woodland is listed as an Endangered Ecological Community, under the *Threatened Species Conservation Act* 1995.

The vast majority of the OCR falls within land zoned 9(a) Road A – Proposed roads. However, as the proposed road footprint is larger than the existing road easement, other zonings which are directly affected include 1(a)(b)(c) Rural, (2d) Residential, SP Residential and Scenic Protection and 7(a) Environmental Protection. The proposed activity is permissible in all the zones listed above.

Small additional areas will be directly affected which will require land acquisition along the length of the road to enable the construction of the ultimate duplication, shared bicycle and pedestrian path.

Study Area

The study area encompasses approximately 226 ha and includes the subject site and adjoining areas of suitable habitat for certain threatened species on both public and private land. The study area incorporates a minimum buffer of approximately 100m from the centreline of the proposed road alignment, and extends to the distance of up to approximately 1,300m from the road in areas of suitable flora and fauna habitat.

Approximately 79% of the study area is covered by some form of native vegetation (Ecological 2010). It comprises about 128 ha of Box-Gum Woodland, 75ha of Dry Forest and 5ha of Grassland-Woodland Mosaic. The remaining 17% of the study area is compiled of non-native vegetation, building, dams, roads or other infrastructure.

There are three Local Environmental Plans (LEPs) in force in the Queanbeyan LGA (Aurecon 2011). The works associated with the proposal fall within the area governed by the Queanbeyan LEP, while land adjoining the proposal to the east is covered by the Yarrowlumla LEP.

The majority (136ha) of the study area is zoned Rural (R1a,b,c,d), 6ha is zoned Residential (2d), 20.9ha is zoned SP Residential and Scenic Protection, 55.6ha of land is zoned Environmental Protection (7a,b), 1.4ha is zone for proposed roads (9a). Approximately 74% of the study area is private tenure.

The Proposal

Old Cooma Road is a rural road extending between Queanbeyan, NSW in the north to the Monaro Highway, ACT in the south. The existing road is a single carriageway with one lane in each direction. The proposal is for Queanbeyan City Council ("QCC") to deviate and then duplicate a portion of Old Cooma Road ("OCR") through a two stage project.

The total footprint of the project is approximately 21.5ha in size and extends approximately 4.8km. Cleared areas which include the existing OCR make up 5.16ha of the disturbance footprint. The project will result in 17 ha of native vegetation consisting of dry forest and woodland being removed.

The proposal includes activities such as vegetation clearing, modification of the ground surface, bulk earthworks, excavations, drainage, grading, compacting, bitumen spraying, asphalt laying, road line marking and stockpiling of materials such as excavation spoil, sand and gravel.

The proposal is broken into two stages and explained below.

Stage 1

This consists of a new two lane road southbound and a single carriageway northbound over a section of OCR between the Tempe Crescent turnoff and the southern connection of Heights Road. This stage is approximately 1.1km in length and the width of the development footprint will range from 30 metres to 90 metres, varying with topography. The purpose of this re-alignment is to bypass a winding section of the existing OCR and the entrance to Cooma Road Quarry.

The re-alignment of stage 1 has also been designed to allow for the siting of stage 2, being a dual carriage way in both directions.

Stage 1 will also include a services trench to be constructed over the entire length of the proposed subject site, approximately 4.8km long. The trench will house a gas pipeline and telecommunications. The trench will be sited outside the development foot print of stage two (the ultimate duplication) to avoid damage to the internal services (listed above) during the second stage of construction. The trench will mostly be within disturbed areas however it will require clearing through a corridor of native vegetation for a length of about 950 metres (in the north) and at the width of 3 to 5 meters. Earthworks for the ultimate duplication prevent the service trench from being combined with the road corridor for stage 2.

Stage 1 will also require sections of the existing 11KV overhead electricity and underground telecommunications cable/optical fibre lines to be relocated. This activity will largely be within the more disturbed areas of the subject site.

The final part of stage 1 is the decommissioning and rehabilitation of the southern portion of the existing road which is being bypassed. This would include the north eastern section of the existing Old Cooma Road from Heights Road intersection to the existing quarry access. It also includes, a section of road between the quarry entrance and the Talpa Road areas and the section of Tempe Crescent between the current egress point and Heights Road.

In summary; the proposed works for stage 1, include the re-alignment of OCR over a section between the Tempe Crescent turnoff and the southern connection of Heights Road. The proposal will consist of a new two lane road southbound and a single carriageway northbound. This stage is approximately 1.1km and will involve

- Construction of a two lane road southbound and a single carriageway northbound;
- Provision for new services in the road corridor (communication cable, high pressure gas main);
- Relocation/ protection of services (water trunk main, high voltage overhead power, fibre optic and copper communications cable);
- Construction of new intersections onto Old Cooma Road;
- Construction of drainage and stormwater systems
- Road cutting and filling
- Batters and easements;
- Landscaping;
- Lighting;
- Installation of sound attenuation structures;
- Fencing;
- Establishment of temporary stabilised access and works areas; and

<u>Stage 2</u> (the ultimate duplication)

Stage 2 will be the construction of a dual carriage way road, each carriageway with two lanes over the distance of approximately 4.8km, on a potion of OCR. It will also require minor realignment of the road north and south of stage 1 to improve the overall road geometry, travel times and safety.

Based on *Googong and Tralee Traffic Study 2031*, (Gabites Porter, 2010 cited by Aurecon 2011) the construction of the ultimate duplication is not expected to be necessary until 2031. Fundamentally, the construction of the ultimate duplication will be in proportion to the growth of the future Googong Township which is expected to ultimately house up to 15,000 people. As per council's conditions of consent, monitoring of traffic volumes will be undertaken to identify when the duplication of OCR should occur.

Stage 2 will be the duplication of the entire section of Old Cooma Road between a point 400m south of the intersection with the proposed Edwin Land Parkway at Karabar and the intersection with Googong Road at Googong. Each traffic lane would be 3.5 metres wide, with shoulders between 1.5 meters to 2.5 meters in width. The two carriageways would be separated by a median of variable widths, between 4 metres and 9 meters, located between the edges of the adjacent pavements. In the northern and southern potions of OCR where it consists of over storey vegetation on both sides of the road, the entire development footprint will be restricted to the smallest possible corridor width and in accordance with the Landscape Preliminary Sketch Plans reviewed by OEH.

The northbound carriageway would be constructed west of the southbound carriageway. Most of the northbound carriageway and the proposed service road would be located outside the existing road reserve, necessitating land acquisition.

Stage 2 includes the construction of a shared path for bicycles and pedestrians to be located from Edwin Land Parkway to Googong Road on the eastern side of the proposed duplication. Longitudinal drainage would be positioned along the road and consist of open table drains, apart from those areas with steep cuttings which will be fitted with concrete lined drains. Noise barriers of variable heights would be constructed as required to ensure amenity for nearby lands.

This stage may also require a section of existing 66KV overhead electricity near Wickerslack Lane to be relocated, however this will be finalised during the detailed design phase. Gas mains near Wickerslack Lane, Tempe Crescent and Heights Road will require relocating during Stage 2.

In summary; Stage 2 will be the construction of a dual carriage way road, each carriageway with two lanes over the distance of approximately 4.8km over a potion of OCR between a point 400m south of the intersection with the proposed Edwin Land Parkway at Karabar and the intersection with Googong Road at Googong. This would involve:

- Construction of a dual-carriageway road, with two lanes per carriageway;
- Construction of a pedestrian path & cycleway on the eastern side of OCR;
- Relocation/ protection of services (water trunk main, high voltage overhead power, fibre optic and copper communications cable);
- Construction of new intersections onto Old Cooma Road;
- Construction of drainage and stormwater systems
- Road cutting and filling
- Batters and easements;
- Landscaping;
- Lighting;
- Installation of sound attenuation structures;
- Provision of fauna mitigations such as underpasses;
- Fencing;
- Establishment of temporary stabilised access and works areas;

Plans for the ultimate duplication will be based on the documents supplied by council and listed in section 1 of this report, however the detailed design for this stage will be finalised closer to construction.

Conditions of Consent

The Species Impact Statement (SIS) for the project, tilted *Old Cooma Road Realignment and Duplication Queanbeyan* prepared by Ecological Australia (2010) on behalf of Brown consulting & Queanbeyan City Council indicates that the assessment for the proposal falls entirely under Part 5 of the *Environmental Planning and Assessment Act* 1979 (EP&A Act). The determination report (Aurecon 2011) and its recommendations have been adopted by the Queanbeyan City Council. The report includes a number of recommended conditions of approval including that:

- The trunk services shared trench is located closer to the final designed footprint to minimise the need for vegetation removal and edge effects on areas of vegetation;
- Pre-clearing fauna surveys prior to the construction of the road sections;
- Robust temporary fencing shall be erected prior to the removal of any vegetation;
- Induction of construction personnel shall include specific reference to the purpose of temporary fencing;
- Regular inspections shall be undertaken during clearing activities to monitor compliance;
- Final design of the under passes shall be undertaken in consultation with DECCW (*now, OEH*), and consideration shall be given to increasing the number of underpasses where large areas of vegetation occur either side of the road;
- Finalisation of the biodiversity offsets associated with the project shall be undertaken in consultation with DECCW and shall be consistent with their principles for the use of biodiversity offsets in New South Wales;
- Design of lighting shall minimise light spill beyond the roadway outside of built up areas; and
- Ongoing management of the OCR shall include appropriate attention to weed management, particularly for the section adjacent to native vegetation;

2 THE PUBLIC SUBMISSIONS

Section 112D of the EP&A Act requires that the Director-General consider any submissions or objections received concerning the development application. This section summarises the threatened species matters raised in submissions.

The SIS for the proposed development was placed on public exhibition from 10 December 2010 to 31 January 2011 (53 calendar days) and public comment invited. 35 submissions were received on a range of issues. The following threatened species matters were raised:

1. Suitability of the proposed Biodiversity Offset
2. Fragmentation / Connectivity
3. inadequate fauna underpasses
4. impact to the threatened Rosenberg's Goanna

Issues 1 & 2 above are addressed below. All other Issues are discussed under Section 3 and addressed through Section 7 in the concurrence conditions.

Biodiversity Offset

Public submissions do not question the ecological values of the offset land however, question that there is another more suitable area to which the offset can apply, as the proposed offset land has limited development potential in the future because of its proximity to an existing quarry.

The OEH believes the proposed offset land is of an appropriate zoning to enable the parcel to be considered as a biodiversity offset site. In the draft LEP for Queanbeyan the proposed offset site consists of both E2 (Environmental Protection) and RU2 (Rural Landscapes) zones. The proposed covenant will ensure the offset site is managed for biodiversity conservation in perpetuity, which provides supplementary security to its existing zoning which entitles future development to be considered.

The proponent has applied the NSW Government endorsed Biobanking methodology to demonstrate how the project and its offset is able to achieve a "maintain or improve" biodiversity outcome. The development of stage 1 and 2 of the project will result in the loss of 17.2 ha of native vegetation, of which 5.5ha is Box-Gum Woodland (BGW) Endangered Ecological Community. The proposed offset site will protect approximately 129ha of BGW in a conservation agreement, in perpetuity, of which 48 ha would meet the Commonwealth listed, BGW definition under the *Environmental Protection & Biodiversity Conservation Act 1999.* The OEH believes the proposed offset is of suitable size, and is known to contain or provide habitat for all threatened species and endangered ecological communities that will be impacted by the project.

The proposed offset is directly connected to another parcel of land, known as Stringy Bark Hill, which is also secured for biodiversity conservation. Together these two parcels of land provide long term security to over 200ha of land within a regional biolink, identified in the *Queanbeyan LGA Biodiversity Study* (BES 2008), which connects woodland and forest around Jerrabomberra to areas of native vegetation east of the Queanbeyan River. The OEH believes the proposed offset is appropriately located.

It is recognised there are also other parcels of land within the regional biodiversity corridor that contain high conservation values. The OEH recommends the parcels of land as identified in public submissions, eg Gales Grassy Woodland and others identified in the *Queanbeyan LGA Biodiversity Study* (BES 2008) are given consideration for any biodiversity conservation agreements by council in the future. The OEH also recommends Queanbeyan City Council consider the conservation and economic benefits of securing these parcels of land into Biobanking offset sites, therefore generating credits that can be traded on the open market or used in respect of future Council developments.

As per the conditions of consent, the proposed offset will be secured in consultation with the Office of Environment and Heritage (OEH), which has adopted a strong offset policy to secure suitable land in perpetuity and which includes management actions to arrest adverse impacts and obtain high quality habitat for biodiversity conservation. The OEH has further strengthened the Council's requirements through conditions of concurrence outlined in section 7 of this report in relation to biodiversity offsets.

Fragmentation / Connectivity

Some public submissions questioned the potential for the proposal to fragment and isolate habitat in an area that has been identified as an important regional biolink in the Queanbeyan LGA (BES 2008), this being the vegetated area north of Wickerslack Lane.

The OEH recognises the project will increase the width of disturbance in the northern portion of the project, which forms part of the regional biolink in the Queanbeyan LGA. The projected disturbance in this area has been restricted to the minimum extent necessary, as per the Landscape Preliminary Sketch Plans, which is significantly lowers the original publicly submitted proposal of up to 90m.

Widening of this regional biolink is not anticipated to be constructed until 2030, which will form part of the ultimate duplication. The Council consent conditions and OEH's concurrence, apply mitigations to maintain connectivity though the regional biolink. Such measures include; reducing

the width of the development footprint in sensitive areas, fauna underpasses, fauna fencing, monitoring of road kill, and controlling erosion and edge effects.

It is recognised, the project will increase the width of the road corridor within the regional biolink in the Queanbeyan LGA, which will impact upon connectivity. However with the aid of fauna underpasses and other vehicle collision mitigations, the project is expected to facilitate safe movement across the road corridor for a range of species. With the implementation of appropriate mitigations the project is not anticipated to significantly amplify the existing connectivity issues through this area.

A full list of concurrence conditions is outlined in Section 7 of this report which address the impacts of fragmentation and aim to maintain connectivity within the study area.

3 CONSIDERATION OF THREATENED SPECIES ISSUES

Section 112D of the EP&A(A) Act requires that the Director-General consider:

- the SIS which accompanied the development application (s.S112D (1)(a)) ;
- the assessment report prepared by or on behalf of the proponent (s.112D (1)(b));
- any representations made received concerning the SIS (s.112D(1) (c));
- any relevant recovery plan or threat abatement plan (s.112D (1)(d)). There are no recovery plans for the species of relevance;
- whether the development proposed is likely to reduce the long term viability of the species, population or ecological community in the region (s.112D(1)(e)); and
- whether the development is likely to accelerate the extinction of the species, population or ecological community or place it at risk of extinction (s.112D(1)(f))

This section of the assessment report addresses these statutory considerations, using information from the SIS, REF and Determination Report to determine the impact of the proposal at the local and regional levels. The SIS considers that two species, Rosenberg's Goanna and the Speckled Warbler will be adversely affected by the proposal. The OEH also raised concerns about the potential impact on the Yellow Box White Box Blakely's Red Gum, commonly known as Box-Gum Woodland (BGW) Endangered Ecological Community (EEC) present on the site. Other threatened species are not considered to be significantly impacted by the proposal and OEH supports this opinion. Therefore the assessment and concurrence conditions only deal with Rosenberg's Goanna, Speckled Warbler's and the EEC, Box Gum Woodland (BGW).

3.1 *Rosenberg's Goanna (Varanus rosenbergi)*

Rosenberg's Goanna is listed as Vulnerable under the NSW *Threatened Species Conservation Act 1995* (TSC Act). The species occurs on Sydney Sandstone in the Wollemi National Park to the north-west of Sydney, in the Goulburn and ACT regions and near Cooma in the South. Within the locality there are records from the eastern foreshores of Googong Dam and Wickerslack Lane. Rosenberg's Goanna is found in heath, open forest and woodland.

Individuals require large areas of habitat and shelter in hollow logs, rock crevices and in burrows. Termite mounds are considered to be a critical habitat component for the species, as eggs are laid in excavated termite mounds (DECCW 2005a).

The surveys undertaken during the Flora and Fauna assessment (BES 2007) and the SIS (Ecological 2010) did not locate any individuals of Rosenberg's Goanna, or evidence of the species using termite mounds within the locality. The species can however be difficult to locate due to its large home range (Ecological 2010).

The SIS states that the area north of Wickerslack Lane is likely to be the primary area of habitat for this species within the study area. Habitat in other parts of the study area are considered to be less suitable due to disturbance however the species is expected to utilise these areas occasionally (Ecological 2010). The area north of Wickerslack Lane contains a minium of 86 termite mounds (Ecological 2010) that could be suitable for use as egg laying sites.

The study area contains suitable habitat for foraging and numerous termite mounds (132) that could be suitable for use as egg laying sites. Eggs are thought to be laid in termite mounds in late summer. Eggs are incubated within termite mounds through winter, and are thought to hatch in spring when juvenile goanna's dig themselves out of the termite mound (Sass 2008). Suitable shelter sites were also recorded in the form of hollows across the study area. (Ecological 2010).

The proposed development will remove up to 25 termite mounds, of which 5 are within the area north of wickerslack Lane, which is about 6% of the termites observed within the area identified as primary habitat for this species (Ecological 2010).

The habitat to be removed by the development, is not large enough to encompass the home range of an individual however, it may be used on occasion as part of a home range or during dispersal. The SIS states, that approximately 580ha of habitat for the species exists west of the Queanbeyan River. Previous studies also state that 430 ha of suitable contiguous habitat would be available to the local population west of OCR (GHD 2009).

It is anticipated that vehicle collision causes the greatest risk to Rosenberg's Goanna by the project. Over the last 20 years few vehicle collision deaths for this species have been recorded in the area, however it is recognised that true mortality figures are unknown. The long term impacts of vehicle collision are proposed to be reduced through the provision of vehicle collision mitigations (eg. fencing, fauna underpasses) as part of the ultimate duplication of OCR.

As an additional measure the OEH believes it will be important to monitor road kill prior to the ultimate duplication to identify any black spots, where high fauna mortality is experienced. Areas with the highest record of mortality should then be the focus for appropriate mitigation measures, for example fauna underpasses and fences to prevent impacts to the Rosenberg's Goanna. Road kill should be monitored following construction of the ultimate duplication to measure the success of the mitigation measures, and identify whether alterations are necessary to improve their effectiveness.

Habitat loss has been proposed to be offset through the provision of similar habitat. It will be important to make sure that no removal of termite mounds is undertaken when juvenile goannas could be inside prior to hatching and dispersal.

The removal of a small proportion of potentially suitable foraging and breeding habitat is not likely to reduce the long term viability of the species in the region and the development is not likely to accelerate the extinction of the species, or place it at risk of extinction.

Along with the proposed mitigation measures and conditions of concurrence in this report, the increased width of Old Cooma Road is not likely to reduce the long term viability of the species in the region (s112D(1)(e)); and the development is not likely to accelerate the extinction of the species, or place it at risk of extinction (s.112D(1)(f)).

3.2 Speckled Warbler (*Pyrrholaemus saggitatus*)

The Speckled Warbler has a patchy distribution throughout south-eastern Queensland, the eastern half of NSW and into Victoria, with this bird species most frequently reported from the hills and tablelands of the Great Dividing Ranges (DECCW 2005b). The species lives in a wide range of Eucalyptus dominated communities that have a grassy understorey, often on rocky ridges or in

gullies. In the Queanbeyan Region, the species' distribution is widespread but patchy, occurring in woodland with bare or stony ground and avoiding heavily forested or cleared areas (GHD 2009). There has been a decline in the population density of Speckled Warbler, with the decline exceeding 40% of the population in areas where native vegetation remnants are smaller than 100 ha (DECCW 2005b).

The SIS reports the Speckled Warbler was recorded in the less disturbed vegetation in the north and south of the study area. In the north, one individual was recorded within a well defined gully on two separate occasions during the breeding season within the subject site (Ecological 2010). The species was also recorded west of OCR near Barracks Creek in previous surveys by GHD in 2009 (GHD 2009). The SIS states this part of the study area (northern section) has suitable foraging and breeding habitat and is likely to form part of a permanent home range for this species. No breeding sites were observed, however comprehensive nest surveys were not performed.

In the south, one other record was made close to OCR in relatively disturbed dry forest in the study area (Ecological 2010). The SIS determined that habitat is more disturbed, less structurally diverse and of lower quality than habitat for the species in the northern portion of the study area (Ecological 2010).

The SIS recognises this species utilises habitats close to the ground, which may render it more susceptible to vehicle impacts when moving across the road (Ecological 2010). However, in addition to elevated tree heights that will facilitate safer movements across the road, the SIS also recognises the steep topography in the northern portion of the site will allow birds to fly above the traffic level and reduce the Speckled Warbler collisions with vehicles (Ecological 2010).

Speckled Warbler pairs are sedentary and occupy a breeding territory of about 10 ha, with a slightly larger home-range when not breeding (DECC2005b). Regionally, habitat is expected to be widespread for this species (Ecological 2010). Large portions of habitat within the Queanbeyan regional biolink is zoned for environmental protection and occur locally. Parts of this regional biolink are reserved for biodiversity conservation in perpetuity and will be increased as part of the offsetting process associated with this development.

The removal of small proportion of suitable foraging and nesting habitat is not likely to reduce the long term viability of the species, in the region (s.112D(1)(e)); and the development is not likely to accelerate the extinction of the species, or place it at risk of extinction (s.112D (1)(f)).

3.3 White Box Yellow Box Blackely's Red Gum Woodland (Box-Gum Woodland)

White Box Yellow Box Blakely's Red Gum Woodland (commonly referred to as Box Gum Woodland BGW) is an open woodland community in which the most obvious species are one or more of the following: White Box *Eucalyptus albens*, Yellow Box *E. melliodora* and Blakely's Red Gum, *E. blakelyi* (DECCW 2005c). The subject site consists of approximately 17.2 hectares of vegetation of which 5.5 ha is the *Threatened Species Conservation Act* 1995 (TSC Act) listed BGW Gum Woodland (BGW).

BGW occurs in the northern, central and southern portions of the study area in low to good condition. Across the study area the community is generally heavily disturbed by grazing, while edge effects such as erosion and weed invasion occur on the lower parts of the site or at areas close to Old Cooma Road.

Disturbance is heaviest in the central and northern parts of the study area, particularly around Barracks Creek where long term grazing and weed invasion have modified the groundcover and understorey (Ecological 2010). In the south, BGW is generally in better condition with relatively fewer disturbances where a diverse native ground cover was recorded (Ecological 2010).

Despite the site having undergone extensive modification as a result of historical and ongoing disturbance associated with agriculture and the construction and maintenance of OCR the majority of the BGW at the subject site would meet Biometric condition class definition of "Moderate to Good", approximately 86% or 4.79 ha (Ecological 2010).

As per the Biometric condition class definition, the subject site supports approximately 4.71ha of BGW in moderate to good condition and approximately 0.79ha of BGW in low condition (Ecological 2010). The project is likely to result in the direct loss of 5.5 ha of BGW.

Within the locality, this community occupies more than 5652 ha (Ecological 2010) not including the area listed as secondary grassland derived from the historical clearing of BGW which is estimated to be an additional 1870 hectares (GHD 2009). Regionally, it is estimated by that there is more then 106,000 ha of BGW not including the secondary grassland (Fallding 2002, cited by Ecological 2010).

The removal of small proportion of BGW is not likely to reduce the long term viability of the EEC, in the region (s.112D(1)(e)); and the development is not likely to accelerate the extinction of the community, or place it at risk of extinction (s.112(1)(f)).

4 ECOLOGICALLY SUSTAINABLE DEVELOPMENT

Section 112D(1)(g) of the EP&A Act requires that the Director-General consider the principles of ecologically sustainable development as defined in the objects of the *Protection of the Environment Administration Act 1991*. The principles of ecologically sustainable development have been applied to this proposal as follows:

a) *The precautionary principle - namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.*

Threats to the environment associated with the realignment and duplication of Old Cooma Road have been acknowledged and mitigation measures (see Section 3 of this report) have been proposed in the SIS. The OEH's conditions of concurrence are designed to prevent serious or irreversible damage to White Box Yellow Box Grassy Woodland, Rosenberg's Goanna or Speckled Warblers. It is not considered that there is a lack of scientific certainty about the potential impacts of this development, and the mitigation measures and offsets are designed to maintain or improve biodiversity.

b) *Inter-generational equity - namely, that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.*

Implementation of the mitigation measures outlined in Section 3 of this report and OEH's conditions of concurrence will increase the extent of habitat protected for a number of threatened species and the EEC. Securing an offset site within a regional biolink, that will be managed for conservation, in perpetuity; will provide greater conservation protection within the Queanbeyan area. The management actions within the offset site will maintain and improve the conservation values of the site which will be of benefit to future generations.

c) *Conservation of biological diversity and ecological integrity.*

Implementation of the mitigation measures proposed in the SIS, Council's consent conditions and OEH's conditions of concurrence will, on balance, provide for an increase in the conservation of BGW and species of concern such as Speckled Warbler. In particular, managing the proposed

offset sites for conservation in perpetuity will contribute to the conservation of biological diversity and ecological integrity in the Queanbeyan area.

d) *Improved valuation and pricing on environmental resources*

The principle of improved valuation and pricing of environmental resources seeks to overcome the inefficient allocation of resources by ensuring that the full value of these resources is recognised and considered in the decision-making process. Environmental resources have economic values and there is a trade-off between the economic benefits associated with the development and the economic benefits provided by the natural environment that will be foregone as a result of development. The economic benefits associated with the environment include use values and non-use (option, bequest and existence) values. The economic value of the environmental resources to be impacted by the development proposal is given explicit recognition through the costs involved in implementing the mitigation measures and the biodiversity offset outlined in OEH's concurrence conditions.

5 SOCIAL AND ECONOMIC CONSEQUENCES

Section 112D(1)(h) of the EP&A(A) Act requires the Director-General to consider the likely social and economic consequences of granting or not granting concurrence. Granting concurrence can include granting concurrence with or without conditions.

Economic

Economic consequences refer to the net effect of the development proposal on the local or regional economy. The economic benefit of the project will commence with stage 1 of the project through the jobs and contracts required during construction, which is due to commence in 2011-2012.

However in the long term, a safe and relatively easy transit between Googong and Queanbeyan will improve the overall attractiveness of the undeveloped Googong Township. It is anticipated the township of Googong will grow to a population of approximately 15,000 people during its final stages (approx. 2030). The development of Googong Township is expected to provide a local and regional economic benefit over the next 20 years though the construction of houses and township infrastructure, however long term economic benefits will continue through the development of local business and an established township. The realignment and duplication of OCR is seen as an important component of the development of Googong Township.

Not granting concurrence would risk the future economic viability of the Googong Township.

Social

Social consequences refer to the net effect of the development proposal on community well-being. The project will have the social benefit of improving traffic flows between Queanbeyan and the new township of Googong. It is anticipated the township of Googong will grow to a population of approximately 15,000 people during its final stages. Improving the travel time and the safety of anticipated high traffic flows on OCR are considered to be of significant social benefit of the Googong and the integrated traffic from Jerrabomberra and Queanbeyan connecting to the Monaro Highway.

Stage 1 of the project will replace the winding section of OCR creating a safer passage for both north and south bound traffic. This stage will also bypass a quarry which will enable traffic to avoid negotiating with heavy vehicles entering and exiting the quarry. The dual lane heading south, in stage 1, will also enable safe overtaking of larger vehicles.

The duplication of OCR will also coincide with planned works to improve carriageways further into Queanbeyan facilitating a smoother transit into the CBD during peak periods. The ultimate duplication is expected to provide a significant saving in travel time and reduce stress levels for those on the road which is likely to have a flow on effect on community well-being though reduced stress levels and possible reduction vehicle collisions.

6 REASONS FOR THE DIRECTOR-GENERAL'S DECISION

Following consideration of the REF, SIS, and Determination Report and the other matters provided for under Section 112D of the EP&A(A) Act, the Office of Environment & Heritage, which is a part of the Department of Premier and Cabinet has decided to grant concurrence to the development proposal, subject to the conditions outlined in section 7 of this report, for the following reasons:

1. The provision of the biodiversity offset site will provide protection for BGW that will be managed for conservation in perpetuity;
2. The conditions of concurrence will mitigate against any potential impact to Rosenberg's Goanna and Speckled Warbler;
3. The proposal, as conditioned, is unlikely to affect the long term viability of BGW, Rosenberg's Goanna or Speckled Warbler in the region or increase their overall risk of extinction.
4. There are social and economic benefits which will result from the development.

7 CONDITIONS OF CONCURRENCE

This concurrence is granted subject to the following conditions:

Condition 1:

Unless Stage 2 road works are commenced prior to 31 December 2021;

a) The detailed design of stage 2 (the ultimate duplication, circa 2030) for the part of Old Cooma Road that traverses the regional biolink corridor north of Wickerslack Lane must be undertaken by Queanbeyan City Council in consultation with the OEH, or the appropriate Environment Office/Agency/Department of the NSW Government at the time. This part of the project must be given the written support of this agency prior to the construction of stage 2 through the regional biolink corridor.

b) An updated test of significance (7-part test), pursuant to Section 5a of the *Environmental Planning and Assessment Act 1979*, must be undertaken by Council prior to the construction of stage 2 (the ultimate duplication). The OEH or the appropriate Environment Office/Agency/Department of the NSW Government at the time must be consulted with if a threatened species, not considered in the 2010 REF & SIS, is identified as likely to be significantly impacted by stage 2.

Reason: The consultation/review is designed to consider any new biodiversity impacts that may occur within the regional biolink corridor if the construction of stage 2 is delayed for more than 10 years.

Condition 2:

All stockpiles, machinery, plant and vehicles associated with construction must not be located within threatened species habitat, endangered ecological communities or watercourses. For areas outside the approved road corridor, a 7-part test (pursuant to section 5a of the EP&A Act) must be undertaken for proposed construction compounds and hardstand areas in order to identify the locations of threatened species habitat, endangered ecological communities or watercourses..

Reason: To ensure that the Yellow Box Woodland EEC and other environmentally sensitive areas outside the approved road corridor are not adversely affected by construction works.

Condition 3:

Pre-construction surveys for threatened fauna should be carried out by suitably qualified ecologist immediately prior to the clearance of forest and grassland areas of the site. If threatened fauna are detected, then recommendations included within Section 5 of the SIS, Ecological 2010, *Old Cooma Road Realignment and Duplication*, Queanbeyan City Council should be implemented.

Reason: To minimise the impact of the road corridor on all threatened species.

Condition 4:

Vegetation clearing should not be undertaken between August and November to minimise the impacts to threatened bird species during the nesting season.

Reason: To minimise the impact of the road corridor on threatened woodland birds that utilise the area.

Condition 5:

Vegetation may be cleared contrary to condition 5 of this concurrence report, only if all of the following points are employed prior to clearing:

- Before any vegetation clearing between August and November hollow bearing trees (HBTs) and nest sites must be identified and marked in the field during surveys by a suitably qualified person; and
- Surveys must also target the woodland birds that have been identified on site such as the Speckled Warbler and Turquoise Parrot; and
- HBTs and nest sites must be monitored for a minimum 3 consecutive days, undertaken during the day and at dusk for any signs of breeding activity within 2 weeks prior to clearing; and
- If a threatened bird species is observed nesting, a 200m buffer must be applied around the breeding site. All vegetation must be retained until young have fledged from the nest; and
- Any variation from the above conditions must be through prior consultation with the OEH or the relevant Office/Agency/Department at the time.

Reason: To minimise the impact of the road corridor on threatened species, in particular woodland birds that are known to utilise the area.

Condition 6:

The total development footprint for stage 2 (ultimate development) in the vegetated areas in the northern and southern portions of the road should be kept to the smallest possible width. The OEH stress this is particularly important in the areas known as the regional biolink, located north of Wickerslack Lane . Removal of vegetation in the regional biolink must be in accordance with the Landscape Preliminary Sketch Plans, Landscape drawing 401 (issue A), 402 (issue B) & 403 (issue B) or as otherwise agreed by the OEH, or the appropriate Environment Office/Agency/Department of the NSW Government at the relevant time pursuant to Condition 1...

Reason: To minimise the impact of the road corridor on threatened species, particularly within the recognised regionally significant biodiversity corridor.

Condition 7:

Final design, number and location of the fauna underpasses, and other mitigations shall be in consultation with the OEH or the relevant Environment Office/Agency/Department of the NSW Government at the time. The design shall consider multiple fauna crossings especially within the two vegetated areas in the north and south of the subject site.

Reason: To minimise the impact of the road corridor on fauna species and in particular the Rosenberg's Goanna's.

Condition 8:

The proponent must prepare and implement a fauna vehicle collision monitoring plan within 12 months of this concurrence. The plan must;

- aim to monitor locations along Old Cooma Road in the area of the subject site, where fauna mortality occurs.
- Those areas with the highest recorded fauna mortality should be used to design and locate mitigations such as underpasses and fauna fences to reduce the level of fauna collisions with vehicles on OCR;
- cover the total length of the subject site being the stretch of OCR between Edwin Land Park Way and Googong Road however with efforts focussed where OCR passes through the regional biolink corridor north of Wickerslack Lane.
- record the group of fauna, bird, reptile, amphibian or mammal observed dead or injured;
- record the fauna species observed dead or injured (if possible);
- record the observed deaths or injuries to *Rosenberg's Goanna;*
- record the time and date of death/injury (or discovery of the mortality);
- include regular monitoring surveys of dead or injured fauna;
- enable regular opportunistic observations of dead or injured fauna to be recorded; and
- must be designed to give a yearly representation of groups and species observed dead or injured over the subject site until final design of the ultimate duplication is approved; and
- must report to the OEH or the relevant Environment Office/Agency/Department of the NSW Government at the time if a *Rosenberg's Goanna* is recorded dead or injured.

The results of the first 12 months of monitoring under the fauna vehicle collision plan must be reported to the OEH which will, at that time, review the results and the plan, and negotiate any necessary changes to the plan with Council.

Reason: To enable effective mitigations to be installed through the road corridor during the construction of the ultimate duplication. Also, to minimise the impact of the road corridor on fauna species and in particular the Rosenberg's Goanna's.

Condition 9:

The removal of any termite mound must be undertaken in the presence of a suitably qualified ecological expert or wildlife handler, any Rosenberg Goanna juveniles or eggs must be protected by removal to a licensed wildlife facility or handler for care until they can be safely released.

Reason: To minimise disturbance to termite mounds that could be used as nesting sites for Rosenberg's Goannas.

Condition 10:

Within 12 months of this concurrence, the proponent must place at least one advisory sign in both directions along Old Cooma Road, indicating the potential for the presence of Rosenberg's Goanna's within the regional biolink, north of Wickerslack Lane.

Reason: To minimise the impact of the road corridor on Rosenberg's Goannas that may seek to cross the road. Signage can make motorists aware of the potential for Rosenberg's Goanna's to be using the road.

Condition 11:

Queanbeyan City Council must, within 12 months of the commencement of construction of Stage 1 of the Old Cooma Road upgrade:

A) Put in place legal arrangements to manage in perpetuity for conservation:

1) OCR Biodiversity Reserve (Lot 1 DP 808393 (excluding quarry), Lot 2 DP 808393 (majority of) and Lot 4 DP 582954 as per Figure 3-1 (*Landscape assessment*) of the OCR draft Offset Plan (NGH 2010);

B) Prepare a Management Plan for:

1) OCR Biodiversity Reserve that guides the conservation management in perpetuity of this site that specifically includes the methodology for rehabilitating the site.

Reason: To offset the impact on the proposal on Speckled Warbler, Yellow Box White Box Blakely's Red Gum Endangered Ecological Community and Rosenberg's Goanna by providing areas that will be managed for conservation in perpetuity.

REFERENCES

BES (2007) *Flora and Fauna assessment for proposed Deviation of Old Cooma Road Googong*, Queanbeyan City Council.

Hogg (2010) Review of Environmental Factors for the Old Cooma Road Realignment.

Ecological (2010) *Species Impact Statement for the Old Cooma Road Realignment and Duplication*, Queanbeyan City Council.

NGH (2010) draft *Offset plan for the Old Cooma Road Duplication*.

Aurecon (2011) *Determination report Old Cooma Road Realignment*, Queanbeyan City Council.

BES (2008) Biodiversity Findings Study Report of the Queanbeyan Local Government Area.

DECCW (2005a) Rosenberg's Goanna – profile.

DECCW (2005b) Speckled Warbler – profile.

DECCW (2005c) Yellow Box Woodland – Profile.

GHD (2009) Report for Edwin Land Parkway Extension, Queanbeyan, Species Impact Statement, Queanbeyan City Council.

Sass, S. (2008) Increasing ecological knowledge and community awareness of the threatened Rosenberg's goanna in the Shoalhaven. A report funded through the Natural Heritage Trust administered by the Southern Rivers Catchment Management Authority and with support from Shoalhaven City Council.