



**South
Jerrabomberra
Structure Plan
2013**

Ref: C1356307

South Jerrabomberra Structure Plan

Queanbeyan City Council
257 Crawford St Queanbeyan
PO Box 90 NSW 2620
Phone: 6285 6000
Email: council@qcc.nsw.gov.au
Web: www.qcc.nsw.gov.au

South Jerrabomberra Structure Plan

Table of Contents

Executive Summary	6
1 Background and Purpose of the Structure Plan	9
1.1 The Queanbeyan Residential and Economic Strategy 2031	9
1.2 Current Local Environmental Plans	9
1.3 Background Work and Work currently being done.....	10
2 Estimated Densities for the South Jerrabomberra Valley	12
2.1 Residential Areas under the Queanbeyan Residential and Economic Strategy 2031.....	12
2.2 Revised Densities following notification of Queanbeyan Local Environmental Plan (South Tralee) 2012.....	12
2.3 Employment Areas and Local (Neighbourhood) Centres	12
2.3.1 Option A.....	13
2.3.2 Option B.....	13
2.3.3 Option C	14
2.3.4 Preferred Option	14
3 On Site Community/Recreational Facilities and Open Space Areas	14
4 Environmental Conservation Areas	15
5 Traffic and Transport Matters	16
5.1 Traffic Links.....	16
5.2 Dunns Creek Road.....	18
5.3 Public Transport.....	19
5.4 Other forms of Transport.	20
6 Water Supply.....	21

South Jerrabomberra Structure Plan

7	Sewerage	22
8	Stormwater Management	24
9	Other Utilities	27
9.1	Electricity	27
9.2	Gas	27
9.3	Telecommunications	28
10	Other Services	28
10.1	Ambulance	28
10.2	Fire	28
11	Cross Border Contributions	29
12	Structure Plan	29
12.1	Infrastructure Stages for the Development	30
12.1.1	Initial Construction Stage (South Tralee)	30
12.1.2	Short Term (to provide for interim development)	30
12.1.3	Longer Term (to provide for the ultimate development proposed)	31
12.1.4	Other Infrastructure	31
	Map 1: South Jerrabomberra Structure Plan Boundaries	32
	Map 2: Residential and Economic Strategy Map	33
	Map 3: Applicable Local Environmental Plans	34
	Map 4: Proposed Land Uses (subject to further detailed studies)	35
	Map 5: Property Names within South Jerrabomberra	36
	Map 6: Structure Plan for South Jerrabomberra	37
	Map 6.1: Structure Plan for South Jerrabomberra – Short Term	38

South Jerrabomberra Structure Plan

Map 6.2: Structure Plan for South Jerrabomberra – Longer Term	39
Bibliography	40

South Jerrabomberra Structure Plan

Executive Summary

This Structure Plan applies to the land known as South Jerrabomberra (Map 1). It has been prepared with the input of the Department of Planning and Infrastructure.

The purpose of this Structure Plan is to inform the development of South Jerrabomberra over a 25 year period, specifically in its provision of infrastructure, and to aid it being delivered in a logical and efficient manner. It is not a statutory document however it represents Council's and the Department of Planning and Infrastructure's preferred direction for development and infrastructure provision within South Jerrabomberra and therefore will have weight in terms of planning decisions concerning future re-zonings

As it will also inform discussions on possible cross border infrastructure contributions with the ACT, it is also appropriate that it address key concepts and principles which should apply to these. These concepts and principles are long standing in NSW and include the concept of reasonableness and its underlying principles of nexus and apportionment.

This Structure Plan identifies the preferred short term and long term options available for key infrastructure provision such as sewer, water supply and transportation.

The Structure Plan also provides for South Jerrabomberra being serviced with other public utilities such as electricity, gas and telecommunications. Other services such as ambulance and fire are also considered by it.

South Jerrabomberra is currently zoned under six local environmental plans (Map 3).

South Jerrabomberra has been the subject of considerable investigation in the past, and where appropriate, this Structure Plan draws on those investigations. Further work on traffic impacts including those on ACT roads has also been commissioned by Council to feed into this Structure Plan. Other traffic work has also been commissioned by the Village Building Company.

Part of the Structure Plan area is also currently the subject of a planning proposal which applies to Forrest/Morrison, part of Tralee Station and Henry Morrison's land (Map 5). At the same time Council is also reviewing the *Queanbeyan Residential and Economic Strategy 2031* at the request of the Department of Planning and Infrastructure and this Structure Plan will be a key part of that review.

In order to promote housing choice and affordability over a 25 year period the *Queanbeyan Residential and Economic Strategy 2031* provided for about 4,685 dwellings in South Jerrabomberra. However this may be reduced to about 2,748 dwellings if development is precluded from within the current ANEF 20-25 contour as per the decision to defer residential areas within ANEF 20-25 for *Queanbeyan Local Environmental Plan (South Tralee) 2012* and the draft Ministerial Direction for Canberra Airport which may prevent such areas being zoned for residential in the future. Consequently the Structure Plan has considered a reduction in the potential residential area and provides for this reduced number of dwellings.

It also provides for areas identified for employment (approximately 136.5 hectares) and local commercial centres (approximately 12,000 m² plus) as well as areas for community/recreational facilities.

The Structure Plan also provides for large areas of open space. These include areas already zoned on the Poplars (about 53.5 hectares) and within South Tralee (about 16

South Jerrabomberra Structure Plan

hectares). Extensive areas for conservation are also provided with about 111.4 hectares being provided on the Poplars and about 81.6 hectares being provided on South Tralee (Map 4).

The Village Building Company have commissioned GHD to undertake a Strategic Social Plan for the residential development proposed within this Structure Plan. This has assessed the type and quantum of community/recreational infrastructure needed to service its expected ultimate residential community of the 2,748 dwellings expected. However this report is yet to be endorsed by Council. The type of onsite community and recreational facilities that were identified by the *Queanbeyan Residential and Economic Strategy 2031* to service the wider South Jerrabomberra area included an aquatic centre and a regional sporting complex to be located on the Poplars and further open space areas, sporting fields and a primary school to be located on South Tralee. The delivery mechanism for onsite facilities is likely to be through a combination of section 94 plans and/or local planning agreements, conditions of consent, Council funding, and various types of government and private funding.

Arterial roads to service South Jerrabomberra include:

1. A first connection running through the Poplars from Tompsitt Drive.
2. A second connection running from South Jerrabomberra across the rail corridor and into Hume connecting to the Monaro Highway near Isabella Drive.

In the longer term a further link may be available from the east via a future Dunns Creek road linking South Jerrabomberra to Old Comma Road. However traffic work commissioned by Council indicates that the Dunns Creek Road is not required to manage traffic from any development currently known until after a 25 year period. Notwithstanding this, provision for this part of the link will be constructed within the South Tralee development. For that part of Dunns Creek outside of South Tralee this will be subject to the resolution of complex ecological and archaeological matters as well as the securing of considerable funds to construct it.

On the basis of previous work and past experience with the Structure Plan area it is anticipated that South Jerrabomberra will be serviced by public transport and provide for cycling and walking. To encourage the use of public transport, the Structure Plan provides for a transport interchange (park and ride facility) which was also provided for in the *Queanbeyan Residential and Economic Strategy 2031*.

In regard to servicing development with key infrastructure local environmental plans (such as *Queanbeyan Local Environmental Plan (South Tralee) 2012*) usually contain a clause which requires Council to be satisfied that essential public utility infrastructure is available or that adequate arrangements have been made for that infrastructure to be available when required before granting development consent. This will also be the case for the remainder of South Jerrabomberra.

In the short and long term the Structure Plan anticipates that South Jerrabomberra will be serviced with a reticulated water supply from the Queanbeyan supply system. In the longer term this will also be the case for sewerage with South Tralee being serviced by a rebuilt Oaks Estate Sewerage Treatment Plant which is targeted for completion in 2017 – 18. However in the short term temporary sewerage for the first stage of dwellings may be obtained from the ACT system. However this would be subject to the agreement of ACTEW.

South Jerrabomberra Structure Plan

Stormwater will be managed in accordance with Water Sensitive Urban Design (WSUD) principles. These principles will be reflected in development control plans to ensure compliance of future subdivisions.

In the case of the South Tralee part of the Structure Plan the *Queanbeyan Local Environmental Plan (South Tralee) 2012* contains a clause requiring the preparation of a development control plan which is to include storm water and water quality controls. Accordingly these principles have been incorporated into a draft Development Control Plan for South Jerrabomberra and will apply to other areas within South Jerrabomberra reflecting Councils long standing application of Water Sensitive Urban Design principles to urban release areas. By being in a development control plan they will have to be considered and applied as part of subdivision and development applications/consents for these areas.

To service electricity supply in the short term, a 11kVA main will be constructed from the existing network supplying Jerrabomberra at Tomsitt Drive to serve approximately the first 800 dwellings within South Tralee. This will run down the alignment of a new northern access road through the Poplars and then onto South Tralee (Map 6.1). In the longer term there will be a need to construct 33kVA overhead mains from Googong terminating at a new zone substation to service the remainder of South Jerrabomberra (Map 6.2).

For gas supply, there are options to service South Jerrabomberra from a secondary main in Lanyon Drive or from the ACT system in Hume. The latter has been identified in work undertaken by the Village Building Company and their discussions with the gas supplier following recent upgrades of their Hume network.

In regard to telecommunications, available information is now dated though it seems that new development in South Jerrabomberra will be able to be serviced by extending the existing network as development occurs. The development will most likely fall under the NBN Co mandate for supplying fibre to homes within Greenfield developments.

South Jerrabomberra Structure Plan

1 Background and Purpose of the Structure Plan

This Structure Plan applies to the land known as South Jerrabomberra (Map 1). It has been prepared with the input of the then Department of Planning and Infrastructure.

The purpose of this Structure Plan is to inform the development of South Jerrabomberra over a 25 year period, specifically in its provision of infrastructure, and to aid it being delivered in a logical and efficient manner. It is not a statutory document however it represents Council's and the then Department of Planning and Infrastructure's preferred direction for development and infrastructure provision within South Jerrabomberra and therefore will have weight in terms of planning decisions concerning future re-zonings

It will also form part of the basis for continuing Government to Government and Council discussions with the ACT relevant to these issues and associated possible cross border infrastructure contributions.

1.1 The Queanbeyan Residential and Economic Strategy 2031

The twice endorsed *Queanbeyan Residential and Economic Strategy 2031* (Map 2) has previously identified this area for residential, employment, commercial, educational, community and non urban land uses.

This was done having regard to Canberra Airport's Ultimate Practical Capacity ANEF endorsed for technical accuracy by Air Services Australia on 12th June 2008. It was also done having regard to Ministerial Section 117 Direction 3.5 Development Near Licensed Aerodromes. In regard to the latter it needs to be noted that this Ministerial Direction is being considered to be replaced by a new direction in the near future. A draft Ministerial Section 117 Direction for Canberra Airport was previously placed on exhibition and was the subject of many submissions which are currently being reviewed.

Many of the matters such as indicative road links and the provision of various types of infrastructure being considered in this Structure Plan were also considered by the *Queanbeyan Residential and Economic Strategy 2031* (Map 2).

The *Queanbeyan Residential and Economic Strategy 2031* (Map 2) identified further investigation areas which are yet to be reviewed. This Strategy was twice comprehensively reviewed by the then Department of Planning and twice endorsed as a result with the last endorsement occurring in December 2008.

1.2 Current Local Environmental Plans

Land within South Jerrabomberra is currently zoned under six local environmental plans (Map 3). These are:

1. *Queanbeyan Local Environmental Plan 1991* with the applicable zone being Zone 1(a) Rural "A" Zone.
2. *Queanbeyan Local Environmental Plan 1998* with the applicable zone being Zone 1(a) Rural "A" Zone.
3. *Queanbeyan Local Environmental Plan (South Tralee) 2012* with applicable zones being B1 Neighbourhood Centre, B4 Mixed Use, R1 General Residential, E2 Environmental Conservation, RE2 Private Recreation and part being a (DM) Deferred Matter.
4. *Yarrowlunla Local Environmental Plan 2002* part of the area is currently zoned Zone No 7 (e) (Environmental Protection Zone).
5. *Queanbeyan Local Environmental Plan 2012* with the area being zoned E2 Environmental Conservation.

South Jerrabomberra Structure Plan

6. *Queanbeyan Local Environmental Plan (Poplars) 2013* with the applicable zones being B1 Neighbourhood Centre, B7 Business Park, E2 Environmental Conservation and RE2 Private Recreation

Part of the southern part of the Structure Plan area is also currently the subject of a planning proposal (Map 4). This is the result of a Council resolution on 22nd May 2013 which in part resolved to:

1.pursuant to Section 55 of the *Environmental Planning & Assessment Act, 1979* to prepare a Planning Proposal in respect of land identified on Map 1 being land identified as residential on the map titled *Queanbeyan Residential and Economic Strategy Map 2008* contained in the report titled *Departmental Review Queanbeyan City Council Residential and Economic Strategy Addendum Report December 2008* which is both outside of ANEF 20 and is not affected by *Queanbeyan Local Environmental Plan (South Tralee) 2012*.

This was subsequently done with a Gateway determination being issued by the Department of Planning and Infrastructure on 18 September 2013.

North Tralee (Map 5) is also the subject of a current draft local environmental plan.

1.3 Background Work and Work currently being done

South Jerrabomberra Structure Plan area (Map 1) has been the subject of considerable investigations.

These include:

1. Broad brush investigations such as the *1998 ACT and Sub-region Planning Strategy*, the *Queanbeyan Structure Plan February 2004*, the *Queanbeyan Residential and Economic Strategy 2031* and the two Department of Planning Reviews of this Strategy (April 2007 and December 2008). It also included the Biodiversity Study of the Queanbeyan Local Government Area (July 2008) adopted by Council on 27th October 2008, (although much of the area was excluded from the study) the Googong and Tralee Traffic Study (April 2010) and investigations resulting in a 2012 certified Queanbeyan City Council – Bushfire Prone Land Map.
2. Parts of it have been the subject of specific reviews/investigations. These include a *Poplars Local Environmental Plan*, three volume *Tralee Local Environment Study (March 2005)*, a three volume *South Tralee Supplementary Report to the Tralee Local Environmental Study 2005 (August 2010)* as well a draft *North Tralee Local Environmental Study (December 2011)*.
3. The commissioning of various studies by the proponents for some of the areas still to be rezoned (i.e. Biodiversity studies carried out by Ecological for land at Tralee Station and Kevin Mills for land at Forrest Morrison) as well as a traffic investigation relevant to this Structure Plan.
4. The preparation of two staged (concept) Development Applications for the South Tralee Urban Development and a Northern Entry Road. These concept applications include amongst other things a Statement of Environmental Effects, master planning, Engineering Design, Infrastructure Planning and supporting reports including; landscaping, traffic, social infrastructure, ecological, historical, geotechnical, contamination, acoustic and odour assessment, visual assessment and bush fire assessment. All of these studies have been commissioned by the Village Building Company and are being reviewed by Council as part of the development assessment processes for these development applications.

South Jerrabomberra Structure Plan

Further work has also arisen from the Gateway determination for the Planning Proposal referred to above. This is part of the area covered by this Structure Plan and the further work will examine the relevant issues within the sub area in more detail than this Structure Plan.

On the 27th February 2013 following a request from the then Department of Planning and Infrastructure, Council also considered a report on the review of the *Queanbeyan Residential and Economic Strategy 2031*. As a result Council resolved in part:

1. Council endorse the review of the *Queanbeyan Residential and Economic Strategy 2031*.

This means that the entire Structure Plan area is also a key part of the review of the *Queanbeyan Residential and Economic Strategy* and is likely to inform it.

Council has recently commenced another major project which will have implications for the servicing of South Jerrabomberra for sewerage. This project involves investigating the rebuilding of the Queanbeyan City Sewerage Treatment works at Oaks Estate ACT and will include a master plan with possible options, their implications and how they could be implemented for the provision of sewerage for the Structure Plan area. The project is currently in its scoping and planning phases and is estimated to be completed towards the end of 2014 with construction of the sewerage treatment plant being targeted for 2017-18).

As part of the investigations for this Structure Plan and the review of the *Queanbeyan Residential and Economic Strategy 2031*, Council has commissioned Gabites Porter to update their 2010 Googong and Tralee Traffic Study using the 2011 census figures rather than the original 2006 figures.

The Traffic Design Group Limited (TDG which also includes the former Gabites Porter) have also been commissioned to undertake an assessment of traffic impacts from development on ACT and Queanbeyan roads using the most recent trip data estimates available for households and employment within the South Jerrabomberra area and assuming two scenarios: a north only road link and both a north and south road link.

ARUP have been commissioned by the Village Building Company to conduct a traffic study which has analysed the traffic to be generated within South Jerrabomberra by 2031 and its potential impacts. Like the TDG report it has supported the preferred ultimate links of a Northern Entry Road to Tompsitt Drive and a second connection at a later date (potentially required by 2025). However it recommends that the second connection be at Sheppard Street, Hume whereas Council's preferred second connection is at Isabella Drive further south. The ARUP report has not been endorsed by Council.

In relation to Sheppard Street, it is also noted that John Holland Rail has recently refused an application by Brown Consulting for a proposed level crossing.

It is also understood that the ACT has undertaken traffic work on the impacts of traffic from the NSW side of the border on ACT roads particularly the use of Sheppard Street and the Monaro Highway as part of their consideration of development within the South Jerrabomberra Valley.

It is further understood that the ACT has undertaken work on the cost implications of South Jerrabomberra on ACT service providers as part of their consideration of development within the South Jerrabomberra Valley.

South Jerrabomberra Structure Plan

2 Estimated Densities for the South Jerrabomberra Valley

2.1 Residential Areas under the Queanbeyan Residential and Economic Strategy 2031

An important principle of the *Queanbeyan Residential and Economic Strategy 2031* still relevant to this Structure Plan is to provide two urban release areas in competition (the other being the Googong development) in order to promote housing affordability and choice. To achieve this and to cater for Queanbeyan's future housing needs for a 25 year period, the 2008 revised Strategy Map provided for 4,685 dwellings within South Jerrabomberra on the basis of about 417.4 hectares of residential land at 13 dwellings per hectare. However these densities and numbers need reconsideration given the decisions to defer residential areas within ANEF 20-25 for *Queanbeyan Local Environmental Plan (South Tralee) 2012* and to draft a Ministerial Direction which may prevent such areas being zoned for residential in the future.

2.2 Revised Densities following notification of Queanbeyan Local Environmental Plan (South Tralee) 2012

The then Department of Planning and Infrastructure's preliminary work on a Structure Plan for this area notes that the potential loss of residential lands located between the 20 and 25 ANEF in the South Jerrabomberra area will result in an overall optimum capacity of less than 3,000 dwellings – down from 4,685 (based on average dwelling yield) identified in the *Queanbeyan Residential and Economic Strategy 2031*. The Village Building Company's analysis is that approximately 2,748 dwellings may be achieved within the residential area identified within this Structure Plan.

This includes a dwelling rate of 15.2 dwellings per hectare for South Tralee (Map 5) arising from a fairly high density of development around the local centre (about 33 dwellings per hectare) with lower densities expected on the areas of Forrest Morrison, part Tralee Station and Henry Morrison's land particularly on the more elevated areas. Significant areas are likely to be zoned for conservation and scenic value. With no local centres planned within the land further south (the planning proposal areas of Forrest Morrison, part Tralee Station and Henry Morrison) and the land generally being of steeper topography, higher altitude and likely biodiversity constraints it is expected this land will have a much lower yield of dwellings per hectare of gross land. The Village Building Company has estimated that approximately 1,400 dwellings may be achieved across the land subject of the planning proposal with a gross area of 143.5 hectares. It is estimated this could achieve a maximum population of 8,515 could be achieved for the whole South Jerrabomberra area using an approximate total number of dwellings of 2,748.

Queanbeyan Local Environmental Plan (South Tralee) 2012 has zoned about 45.05 hectares as residential with potential additional residential as shop top housing within the area zoned B1 Neighbourhood Centre and residential flat buildings in the B4 Mixed Use zone.

2.3 Employment Areas and Local (Neighbourhood) Centres

The *Queanbeyan Residential and Economic Strategy 2031* identified a total of 136.05 hectares of employment areas on the Poplars, North Tralee and Environa (Map 4). These include about 31.9 hectares on the Poplars, about 16 hectares at North Tralee and 76.57 hectares at Environa.

The *Queanbeyan Residential and Economic Strategy 2031* identified two local centres in South Jerrabomberra. Under the standard template local environmental plan these were/are

South Jerrabomberra Structure Plan

proposed to be zoned as neighbourhood centres (i.e. B1) and comprised an area of about 7.6 hectares on the Poplars and an area of about 6.63 hectares within South Tralee which with consent allowed for retail and commercial uses.

Altogether this totals approximately 12,000 m² of commercial/retail uses comprising:

- 5,000 m² – South Jerrabomberra Neighbourhood Centre.
- 7,000 m² – Poplars Neighbourhood Centre.

In the case of South Tralee there is also an additional area of 5.12 hectares allowing additional restricted commercial type land uses such as food and drink premises, hotel or motel accommodation, office premises and service stations.

In the case of the Poplars *Queanbeyan Local Environmental Plan (Poplars) 2013* was notified (gazetted) in August 2013, rezoning the land amongst other things for employment and commercial.

For South Tralee *Queanbeyan Local Environmental Plan (South Tralee)* was notified (gazetted) on 9th November 2012. Consequently the commercial areas have been rezoned.

In the case of North Tralee a draft Local Environmental Study has been prepared. This identifies the potential employment areas as IN1 General Industrial, IN2 Light Industrial and B7 Business Park under the Standard Template Local Environmental Plan.

The draft North Tralee Local Environmental Study identifies some of the employment area as being partly flood prone. This has resulted in considerable investigations and discussion with the relevant NSW agencies on the best way forward and has effectively delayed the rezoning of North Tralee by about three years.

This fact also calls up Section 117 Ministerial Direction 4.3 Flood Prone Land which has the following objectives:

- (1) The objectives of this direction are:
 - (a) to ensure that development of flood prone land is consistent with the NSW Government's Flood Prone Land Policy and the principles of the Floodplain Development Manual 2005, and
 - (b) to ensure that the provisions of an LEP on flood prone land is commensurate with flood hazard and includes consideration of the potential flood impacts both on and off the subject land

The above suggests a number of Options for the affected land within North Tralee.

2.3.1 Option A

The first option is to continue negotiations with the relevant NSW authorities. The implications of this is that the draft local environmental plan for North Tralee will continue to be delayed as well as the application of the *Queanbeyan Residential and Economic Strategy 2031* for this area with the outcomes of negotiations also being unknown at this time.

2.3.2 Option B

The second option is for a Floodplain Risk Management Study and Plan (FRMP) to be undertaken in accordance with the process outlined in the NSW Floodplain Development

South Jerrabomberra Structure Plan

Manual 2005. This would confirm the current flood affected area as well as to identify the appropriate options and land use planning policy controls that are to apply within it. This is estimated to cost in the order \$100,000 and take up to 12 months to complete. While it is being done the draft local environmental plan for North Tralee cannot be finalised. This is an important consideration as a basic principle of the *Queanbeyan Residential and Economic Strategy 2031* is the concurrent release of residential and employment lands.

2.3.3 Option C

The third Option is to move the potential employment areas outside what is known as the current flood prone land further south and to identify more potential employment area further south in Environa to make up for this area. The land that is flood prone can be deferred to allow the North Tralee Local Environmental Plan to progress.

This is consistent with the preferred land use recommendation of the draft North Tralee Local Environmental Study (December 2011) and has potential as it does not rule out the above options in the longer term but permits the draft local environmental plan for North Tralee to progress further to exhibition and onto finalisation (notification).

2.3.4 Preferred Option

For the reasons outlined above Option C is the preferred option pending no short term resolution or acceptance of Option A above. Consequently the southern border of the identified employment lands at North Tralee and Environa has been moved south so that it now avoids the 1:100 year flood affected land surrounding Jerrabomberra Creek. This reduces the amount of employment land in North Tralee from 28.9 hectares to approximately 16 hectares. This Option is consistent with the draft Willana North Tralee Local Environmental Study (December 2011) Scenario 2 - Figure 21 and Figure 36. Map 4 shows the potential employment land in purple now outside the 1:100 year flood contour. The land that is currently identified as a backwater zone will be deferred pending further work being completed.

In the case of the other employment area on Environa identified by the *Queanbeyan Residential and Economic Strategy 2031* investigations and a future planning proposal is yet to be prepared.

3 On Site Community/Recreational Facilities and Open Space Areas

The *Queanbeyan Residential and Economic Strategy 2031* identified areas of community and recreation to accommodate facilities such as an aquatic centre, a regional sporting complex (on the Poplars), open space and sporting fields, a private secondary college and a primary school. Open Space areas also form part of a 250 metre wide buffer area to Hume.

These community facilities and open space requirements were based on residential development potential of approximately 4,685 dwellings. This Structure Plan now uses as an estimate about 2,748 dwellings which acknowledges potential reductions to residential development arising from the deferral of land previously identified as residential as part of the decision on *Queanbeyan Local Environmental Plan (South Tralee) 2012* and the draft Section 117 Ministerial Direction for Canberra Airport.

The Village Building Company has commissioned GHD to prepare a Strategic Social Plan and has submitted to Council a letter of intent to commence discussions with a view to entering into a voluntary planning agreement as part of the supporting studies/documentation to the South Tralee Concept (staged) Development Application. Amongst other things these identify a range of community/recreational facilities and provides

South Jerrabomberra Structure Plan

for land /and or the facility. Facilities identified include 2 playing fields on the Poplars, a 70 hectare regional reserve, 3 playgrounds, 1 skate park, 3 tennis courts, 2 half hard courts and Stage 1 of a community hall.

This range of community and recreational facilities are yet to be agreed to by Council.

The GHD report also recommends land and possibly a contribution towards capital works for a primary school. This would firstly require the support of the Department of Education and Communities and if agreed to would be delivered through a State Planning Agreement.

Similarly the GHD report recommends a secondary school site. However again if this proceeds it is most likely to be delivered through a State Planning Agreement. Again this would also require in the first instance the support of the Department of Education and Communities.

In relation to the Poplars the two playing fields are sited on the 19.2 hectares of land which the Village Building Company has committed to acquiring there.

Other uses already flagged here are an extension to the current Jerrabomberra Public school on 1.6 hectares of land. The school has already taken usage of the area under licence and in time will be gifted the land. The developer is also liaising with several community groups and council and will determine ultimate uses of the remainder of the land in due course.

Part of the Poplars zoning under *Queanbeyan Local Environmental Plan (Poplars) 2013* accommodates a wide range of community and recreational facilities with the consent of Council and covers about 53.5 hectares of land.

On the basis of past experience facilities such as sports fields are also likely to be used by ACT based sporting clubs.

Within South Tralee (Map 4) some of the community and recreational facilities referred to above are proposed in the areas zoned RE2 Private Recreation which has an area of about 16 hectares.

For North Tralee the draft local environmental study's preferred recommended land use map also identifies an open space area. Within it the draft local environmental study recommends playgrounds, tables, seats, bicycle parking facilities and the like.

4 Environmental Conservation Areas

The Map to *Queanbeyan Residential and Economic Strategy 2031* identified large areas of the Structure Plan area as environmental conservation (Map 2). This was done on the basis of the best information available to Council at the time, particularly for the Poplars and South Tralee which were in the first stages of being rezoned.

Some of these areas like South Tralee (Map 4) have been confirmed and been rezoned accordingly to Zone E2 Environmental Conservation that has an area of approximately 81.57 hectares. This land was zoned not only for its ecological values but also for its scenic qualities and as such the Village Building Company intends to gift it to Council. However the future ownership and maintenance of this land has not been resolved at present and requires a future decision by Council.

South Jerrabomberra Structure Plan

In cases such as the Poplars the area has now been rezoned to Zone E2 Environmental Conservation and has an area of 111.4 hectares.

In other parts of the South Jerrabomberra area there are also likely to be areas zoned to Zone E2 Environmental Conservation although these will need an appropriate biodiversity and landscape/visual assessment studies done for them. This is the case for Henry Morrison's land (Map 5) which is currently zoned Zone E2 Environmental Conservation under *Queanbeyan Local Environmental Plan 2012* and possibly parts of Tralee Station and Forrest/Morrison and these lands will need further studies to determine the extent of this zoning. The rezoning of these lands is currently being progressed in a planning proposal for South Jerrabomberra.

Consequently the areas identified as environmental conservation on Map 4 are based on those which have been zoned or are close to being zoned generally on the basis of studies to confirm their ecological and scenic values.

There is also some possibility of providing for east west ecological links between the ACT and South Jerrabomberra particularly in the far south of the Structure Plan area and along Jerrabomberra Creek. These possibilities should be considered and pursued where possible.

5 Traffic and Transport Matters

5.1 Traffic Links

The *Queanbeyan Residential and Economic Strategy 2031* shows four schematic arterial road links/entry points servicing South Jerrabomberra. These are:

1. A link at the Poplars linking South Jerrabomberra to Tomsitt Drive.
2. A road running north-south and parallel to the railway line and linking into Lanyon Drive and Dunn's Creek Road.
3. Dunn's Creek Road running east-west from Old Cooma Road through South Jerrabomberra and into the ACT onto Isabella Drive.
4. A road linking North Tralee across the rail road to the north of Arnott Street to Sheppard Street, adjacent Hume and Lanyon Drive.

Since the second endorsement of the Strategy by the then Minister for Planning in December 2008, considerable additional work has been done on traffic matters associated with the development of South Jerrabomberra.

This work includes:

1. The Googong and Tralee Traffic Study (April 2010) by Gabites Porter and adopted by Council on 26th August 2009,
2. Three studies on the alignment of Dunn's Creek Road and associated ecological and heritage investigations (October 2007, January 2009 and July 2009) by GHD,
3. Costing of the South Jerrabomberra Roads (January 2009 and April 2009) by GHD,
4. Traffic work commissioned by the ACT on the impacts of traffic from the NSW side of the border on ACT roads particularly on the Monaro Highway and its intersection with Isabella Drive.
5. The South Jerrabomberra Traffic report by ARUP, August 2013 (commissioned by Village), to provide context to the South Tralee staged (concept) Development Application.

South Jerrabomberra Structure Plan

6. The Queanbeyan Timing of Works Analysis, February 2013, prepared by Gabites Porter and commissioned by Council.
7. TDG, August 2013, Queanbeyan City Council TRACKS Model South Jerrabomberra Traffic Analysis Report.

As part of the investigations for this Structure Plan and the review of the *Queanbeyan Residential and Economic Strategy 2031* Council commissioned Gabites Porter Consultants Porter to update their 2010 Googong and Tralee Traffic Study using the 2011 census figures rather than the original 2006 figures. This is the Queanbeyan Timing of Works Analysis, February 2013 referred to above.

The Traffic Design Group Limited (TDG which also includes the former Gabites Porter) have also been commissioned to undertake an assessment of traffic impacts from development in South Jerrabomberra on flows using Isabella Drive, Tomsitt Drive, Lanyon Drive and the Monaro Hwy using the most current estimates for households and employment following the reduction of the size of the development. Its findings have been incorporated into this Structure Plan and this is Item 7 of Queanbeyan City Council TRACKS Model South Jerrabomberra Traffic Analysis Report referred to above.

The TDG report looked at two connection scenarios with each to be considered for AM and PM peak periods for the years 2015, 2017, 2019, 2021, 2026 and 2031. These are:

1. Connection onto Tomsitt Drive only.
2. Connection onto both Tomsitt Drive and Isabella Drive.

This is called the Queanbeyan City Council TRACKS Model South Jerrabomberra Traffic Analysis Report August 2013 and is currently being reviewed by Council staff with future work being commissioned.

The review clearly shows that two access points are required by this development and that a single northern entry has significant impact on adjoining roads such as Tomsitt Drive, Lanyon Drive and Edwin Land Parkway.

The second access should connect to the Monaro Highway at or near the Isabella Road roundabout.

Initial access is anticipated to occur from Tomsitt Drive and then south through the Poplars. This access will also contain services for electricity, water and sewer. Its estimated cost by the Village Building Company is around \$14.9M. This would need to be apportioned across all South Jerrabomberra developments with the costs recovered through a local planning agreement with Village and development contribution plan.

Preliminary concept plans for a Northern Entry Road (including a bridge) as well as for the development of South Tralee have recently been lodged with Council as part of two concept (staged) development applications.

Whilst any requirement for a secondary access is a considerable time away (not required until after 2025 according to the ARUP traffic work), it is important that a preferred second access point is identified to enable stakeholders such as the ACT to have some certainty and to allow developer contributions and cross border contributions to begin negotiation. Only then can issues such as efficient traffic movements, ease of connecting to the existing road network, safety, potential costs of the connection and other potential additional benefits need to all be explored to inform the contributions plan which is to be put in place for the

South Jerrabomberra Structure Plan

South Jerrabomberra area. Any potential government grants or contributions from the ACT, QCC or the Federal Government may also inform this Contributions Plan”.

Like the TDG report the most recent work commissioned by the Village Building Company recommends that in the longer term a second access point be provided. However unlike the TDG report ARUP recommends that an east-west Sheppard Street Extension be provided.

In relation to Sheppard Street, it is also noted that John Holland Rail has recently refused an application by Brown Consulting for a proposed level crossing.

Also in relation to the use of Sheppard Street it is understood that the ACT does not support its use on the basis of the mix of residential and industrial traffic giving rise to safety considerations. It is also understood that the ACT is concerned about the traffic impacts of the South Tralee development on the functioning of the Monaro Highway.

5.2 Dunns Creek Road

In relation to Dunn’s Creek Road the Googong and Tralee Traffic Study (April 2010) concluded that it was not required within the 25 year time span of the Strategy. Nevertheless a portion of it within developable areas of South Jerrabomberra is proposed to be constructed as part of future development there. Provision for the western part it has also been allowed for by *Queanbeyan Local Environmental Plan (South Tralee) 2012*. However in the longer term there will need to be a link from it to the Monaro Highway in the vicinity of the Isabella Drive intersection.

East of South Tralee (Map 5) the Dunn’s Creek Road proposal will require significant ecological matters to be considered and resolved.

For example the July 2009 work by GHD on the 8.3 kilometre long Dunn’s Creek Road looked at a common route and two options in terms of biodiversity offsets. It concluded in part that the study area contained high quality habitat for a number of threatened species and ecological communities listed on both the *Threatened Species Conservation Act 1995 (NSW)* and the *Environmental Protection and Biodiversity Conservation ACT 1999 (Comm)*, that it was likely to cause fragmentation and degradation and that further detailed study and assessment of the proposed development will be necessary.

Further work on Dunns Creek Road is identified in the Infrastructure, Access and Transport section of the Community Strategic Plan 2013-23 with one of its strategies being to undertake a feasibility study of Dunn’s Creek Road.

Work in April 2009 by GHD estimated that the total cost of Dunn’s Creek Road would be between \$70M and \$73.82M depending on the option selected and that this would be done in two stages with the first stage including but extending beyond South Jerrabomberra. It is now likely that any work will be limited in the short term to South Tralee (Map 5).

In 2009 the Village Building Company made an offer to enter into an agreement with the Council to fund the land acquisition as well as up to 50% of the construction costs, subject to conditions. This would be over and above work required by the Googong and Tralee Traffic Study (April 2010), was not part of the executed Googong Local Planning Agreement and would be separate to any Voluntary Planning Agreement with Council. Council accepted this offer at its meeting of 22 July 2009. However the currently reduced number of dwellings of South Jerrabomberra arising from the decision on *Queanbeyan Local Environmental Plan (South Tralee) 2012* (i.e. from about 4,685 to approximately 2,748 dwellings) and the draft Section 117 Ministerial Direction means that this offer is no longer available. Consequently

South Jerrabomberra Structure Plan

in the short to medium term only that part of Dunn's Creek Road within South Tralee will be constructed.

The Department's April 2007 and December 2008 reviews of the *Queanbeyan Residential and Economic Strategy 2031* anticipated that costs would be met through developer contributions from Googong and South Jerrabomberra. However, this will not be the case given the findings and recommendations of the *Googong and Tralee Traffic Study* (April 2010) and the decision on *Queanbeyan Local Environmental Plan (South Tralee) 2012*.

Recently at its meeting of 24 July 2013 Council resolved in part for the entire Dunns Creek Road:

2. *That in regard to Dunns Creek Road, Council now proceed to determine a preferred route to include as follows;*
 - a) *Prepare a concept design with centreline and typical cross sections for a route that best satisfies current road design requirements.*
 - b) *Undertake a preliminary assessment of the environmental impacts of this route and estimate potential environmental offset requirements.*
 - c) *Undertake a preliminary assessment of potential land acquisition requirements of the proposed route.*
 - d) *Review current cost estimates.*
3. *That \$300,000 be allocated from the RMS Grant to undertake the work as specified in 2 above.*
4. *That council defer reallocation of the balance of the unexpended portion of the RMS Grant (being approximately \$1.2m) and that expenditure options be further considered with the RMS and a further report assessing priorities be submitted to Council.*

Consequently further action on this proposed road will be dependent on the results of this work. Should it proceed it will also be dependent on sources of funding and in the longer term further development within future residential areas yet to be investigated may provide some funds if the requisite nexus can be established.

5.3 Public Transport

The *Queanbeyan Residential and Economic Strategy 2031* (December 2008) map indicates a transport interchange adjoining the local centre in South Tralee (Map 2). This has also been recommended by GHD within the Strategic Social Plan which considered the need, number and nature of the community/recreational facilities to be delivered to cater for the estimated new residential population.

The South Tralee Supplementary Report to the Tralee Local Environmental Study March 2005 (August 2010) notes that limited public transport services are available in the vicinity of South Jerrabomberra.

These include a bus route servicing the Jerrabomberra area, which is a loop starting and ending at the Queanbeyan interchange which also enables passengers to change for buses to Canberra. A 'hail and ride' system operates along the Jerrabomberra bus loop, except for Canberra Avenue, Lanyon Drive or Tompsitt Drive where the bus will stop wherever it is safe to do so. 'Hail and ride' buses also pick up and set down at all marked bus stops. However once development in South Jerrabomberra commences the existing bus service is likely to be extended into the areas being developed as this occurs.

South Jerrabomberra Structure Plan

Detailed planning work at development control plan/master planning phases needs to be undertaken with public transport providers to maximise uptake of public transport between local origin and destination pairs.

Any public transport proposal should also link to the ACT public transport system in the event that a link between South Jerrabomberra and ACT Hume is established. On this matter cross border transport is currently being considered through the Regional Framework being prepared under the ACT/NSW Memorandum of Understanding for Regional Collaboration.

At Council level the need to work closely with the ACT Government on cross border transport issues is further reinforced by an appropriate strategy in the Infrastructure, Access and Transport section of the Community Strategic Plan 2013-23. It is also likely to be reflected in the NSW Regional Transport Plan for Southern NSW once it is released which will also be guided by the strategies advanced in the NSW Long Term Transport Master Plan.

5.4 Other forms of Transport.

The South Tralee Supplementary Report to the Tralee Local Environmental Study March 2005 (August 2010) observes on walking and cycling that Council adopted in principle at its meeting of 28 April 2010, a Pedestrian Access Mobility Plan (PAMPS) and a Bicycle Plan together with their respective schedule of works which are to be reviewed annually.

The intent of the PAMPS Plan includes:

1. *Facilitate improvements in level of pedestrian access and priority, particularly in areas of pedestrian concentration.*
2. *Reduce pedestrian access severance and enhance safe and convenient crossing opportunities on major roads.*
3. *Identify and resolve pedestrian crash clusters.*
4. *Facilitate improvements in the level of personal mobility and safety for pedestrians with disabilities and older persons through the provision of pedestrian infrastructure and facilities which cater to the needs of all pedestrians.*

Amongst other things the intent of the Bicycle Plan is to:

1. *Acknowledge and incorporate where possible all existing cycle ways into an overall plan.*
2. *Connect potential cyclists from their point of origin to their destinations including schools, CBD, churches, transport interchange, local shops, swimming pools, and sport and recreation facilities.*
3. *Provide for recreational cycling.*
4. *Connect the Queanbeyan City Council routes to those routes within the ACT.*

While these did not apply to South Jerrabomberra both plans recognise the potential of this area for future residential and so it is likely that future reviews will expand coverage to include it as development begins and proceeds. This is also reinforced by the identification of a strategy in the Infrastructure, Access and Transport of the Community Strategic Plan 2013-23 which actively promotes walking and cycling as transport options.

The South Tralee Supplementary Report to the Tralee Local Environmental Study March 2005 (August 2010) also supports the need for pedestrian and cycle access provision linking

South Jerrabomberra Structure Plan

the buffer, transport interchange (park and ride), the school, Dunns Creek road and the local centre.

Queanbeyan Development Control Plan 2012 also contains objectives and provisions which apply to bicycle paths (clause 2.9.16) as well as objectives and provisions applying to new subdivisions (clause 2.10.13) relevant to the provision of safe facilities for pedestrians and cyclists. Provisions similar to these are will be included in future development guideline(s) for various parts of South Jerrabomberra.

6 Water Supply

In regard to water supply and other services local environmental plans (such as *Queanbeyan Local Environmental Plan (South Tralee) 2012*) usually contain a clause which requires Council to be satisfied that essential public utility infrastructure is available or that adequate arrangements have been made for that infrastructure to be available before granting development consent. In relation to these the developer must be able to demonstrate satisfactory arrangements as part of any development application.

Potentially there are two broad options to service South Jerrabomberra with water. These are servicing through the ACT supply system or through the Queanbeyan supply system.

A report and plans by Brown Consulting (ACT) Pty Ltd on infrastructure provision for South Tralee (Map 5) (with the plans focusing on South Tralee), prepared on behalf of the Village Building Company and submitted with the current concept (staged) development application, proposes a water supply system for South Tralee and the rest of South Jerrabomberra. However at this stage the proposed supply system is still being assessed by Council and has not been fully endorsed.

The Brown report looks at both short term and long term options. However both Council and the report's preference is for a system which links into the Queanbeyan supply system.

In regard to the use of the ACT system the Brown Report notes that ACTEW Water advice is that there is inadequate capacity to service the entire South Tralee and adjacent developments from the Hume water supply zone. However temporary connections could be made to supply minimum pressures to the first stage(s) of South Tralee.

In regard to short term connections, whilst the report's preference is for a connection to the Queanbeyan supply system, it does observe that an initial temporary connection point from the Hume water supply zone for initial stages will be used if required. This would require the resolution of various issues involving capacity, water pressure, water quality, pricing and regulation.

In order to connect into the Queanbeyan supply system the Brown report identifies two options -

1. A connection from the 1st Queanbeyan offtake on Edwin Land Parkway.
2. A connection from the existing 450 mm main in Jerrabomberra Parkway.

It is the 450 mm main option that the report identifies as being the preferred connection point. However at the same time the report notes that whatever option is selected, it will be linked to a proposed water main along the verge of Tompsitt Drive and the new northern access road running through the Poplars and providing access to the rest of South Jerrabomberra (Map 6.1). It will then gravity feed to a low level reservoir at around 660 m which will provide a water supply to the bottom third of South Tralee. A booster pump will

South Jerrabomberra Structure Plan

then pump water up to a high level reservoir that will serve the remainder of the development within South Jerrabomberra. This will need to be located above the development limit of 740 m with additional height to provide adequate pressures for both residential and fire fighting purposes (Map 6.2).

The Brown report also notes that provision will be made for a future water delivery main to service the employment uses of the Poplars, North Tralee and Environa.

In regard to these it is noted that the proposed employment development will have highly variable water usage and is expected to be developed over a much longer period than residential development based on market factors.

Given this, as well as the distances between the proposed employment and residential development the Brown report recommends that these areas be served by a separate system and an additional further reservoir to the two required for residential development.

This reservoir could be located on a local high point adjacent to the Poplars Development (Map 6.2) that would then gravity feed to the Poplars, North Tralee and Environa Developments.

However it is Council's view that the Poplars reservoir should not be required to service these areas and that they can be serviced from existing reservoirs. Indicative locations for the two reservoirs are shown on the Structure Plan map (Map 6).

7 Sewerage

Again potentially there are two broad options to service South Jerrabomberra with sewer. These are through the ACT system or through the Queanbeyan sewer system.

The Brown report referred to above and accompanied by engineering concept plans, proposes new sewer infrastructure to service the whole of South Jerrabomberra. Eventually this will link into existing infrastructure and onto a rebuilt Oaks Estate Sewerage Treatment Plant. However in the short term the report proposes a temporary connection into the Hume sewage network (which flows to the ACT Fyshwick Sewage Treatment Plant) to facilitate the first stages of the South Tralee development.

In regard to the use of the ACT system there will be a range of issues needing to be resolved including those involving capacity, pricing, legalities and the agreement of ACTEW and Council for such a connection.

On the capacity issue advice has been received from ACTEW Water that the adjacent ACT system in Hume has limited capacity to serve approximately 80-400 dwellings depending on the restrictions of average daily flows and the amount of attenuation provided. In addition peak flows and daily volumes will be limited especially during wet weather events.

Advice has also been received from ACTEW Water on some of the other technical and costing issues associated with the Hume connection.

Amongst other things this advice notes that only low flow rates would be available and due to the low flow rates, unless good infiltration and Inflow controls are in place, then wet weather flows and possibly peak dry weather flows will need to be attenuated in NSW prior to transfer to the ACT sewers.

South Jerrabomberra Structure Plan

It goes on to note that the possible utilisation of the allowable capacity at the connection will be left to Council to determine depending on planning and design issues of the proposed development in NSW. Needless to say, a tailored sewage collection system will be required within the Tralee development and will need to be designed to NSW standards.

For the Hume Connection capital works involving 140 m of 150 mm sewer would be required within the ACT. There would also need to be provision made for a gauging site to facilitate flow rate control and sampling and possibly volumetric charging if this is to be the accepted method of payment.

In terms of costs of required infrastructure for the Hume connection ACTEW Water have not undertaken detailed cost estimates, but it expects that the costs of sewerage works in the ACT would be approximately (including a gauge station) \$0.15-\$0.25 million

ACTEW Water also expects as per past development practice in the ACT, that the Tralee developer will fund and construct these works in the ACT. This would be subject to ACTEW standards, design and ACTEW and ACT approvals processes.

Trade Waste Agreements between ACTEW and QCC and commercial servicing contract will need to be put in place to gain agreement on sewage quality control, quantity control, charging and dispute resolution. As the discharge is intended to be pumped, septicity control at point of discharge in the ACT will be a requirement.

In the long term the Brown report's strategy proposes to service South Tralee and future residential development areas to the south in the Structure Plan area by way of a single sewer pump station located in the northern corner of South Tralee. This sewer pump station will be designed to pump all sewer flows generated from the fully developed South Jerrabomberra Residential Development. Flows will be pumped up to Tomsitt Drive via a rising main along the proposed South Tralee northern access road. The sewer flows will then discharge into an existing trunk sewer in Tomsitt Drive which will transfer flows to the Queanbeyan Sewer Treatment Plant.

Subject to detailed analysis, chemical dosing and/or aeration may need to be provided at the new sewage pump station to address potential odour issues caused by longer sewage detention times.

Although outside the scope of the Brown report it also suggests that the employment lands i.e. the Poplars, North Tralee and Environa, will require an independent sewer pump station and associated rising main to service development within these lands. This is due to the catchment boundaries and local low points differing to the proposed residential development, water quality/septicity concerns if long detention times are incurred and due to the scale, type and ultimate effluent generation of the employment development not being well known at this time.

It suggests that the sewer pump station be located on North Tralee where Jerrabomberra Creek crosses under the railway line but outside the 1 in 100 flood level.

Councils preferred long term option for the full development is:

1. Sewer network draining to one new sewage pump station at South Jerrabomberra at a low point in North Tralee clear of flood prone land.
2. New sewage pump station to either:
 - i. Pump directly to the Queanbeyan Sewerage Treatment Plant with a new dedicated rising main

South Jerrabomberra Structure Plan

- ii. Pump to the existing Bayside sewage pump station and upgrade the existing rising main to the Queanbeyan Sewerage Treatment Plant to accommodate the higher flows.

The long term option for the provision of sewerage to South Jerrabomberra will also be influenced by a proposal to rebuild the Oaks Estate Sewerage Treatment Plant. The planning for this has recently been commenced.

The project is currently in its scoping and planning phases with funding of \$2.5M provided in the Operational Plan 2013-14 and a total funding of \$10M in the Delivery Plan 2013-17. The current work is estimated to be completed towards the end of 2014 with completion of the new sewerage treatment plant being targeted for 2017–18.

Planning also involves the development of a master plan with possible options as well as an examination of the implications of each option and how they would be best implemented to service this area.

This project is necessary because the current Oaks Estate Sewerage Treatment Plant is near capacity, is in poor condition, is required to be upgraded to meet current discharge requirements and in its current form, would be unable to service all of the proposed South Jerrabomberra or any other significant growth across Queanbeyan elsewhere.

8 Stormwater Management

As recommended in the South Tralee Supplementary Report to the Tralee Local Environmental Study March 2005 (August 2010) Water Sensitive Urban Design principles will be adopted throughout the development phases design approach to ensure maintenance of natural water flows regimes and contribute to improving downstream water quality parameters.

The Brown report supporting the current concept (staged) development application for South Tralee also outlines strategies to manage stormwater including the achievement of WSUD.

In regard to stormwater management the report indicates that the proposed residential development areas of South Jerrabomberra consists of five major stormwater catchments that all grade to the northwest, conveying flows towards the ACT/NSW border and through culverts/bridges under the railway line into the ACT suburb of Hume. Flows are conveyed through the Hume stormwater network before discharging via various outlets into Jerrabomberra Creek towards the downstream Jerrabomberra Wetlands.

To reduce the flows in Hume to predevelopment levels, a series of detention basins have been proposed with four of these to be constructed within the South Tralee part of South Jerrabomberra (Map 5). Basins located downstream, adjacent to the railway will be combined with a wetland and permanent water body to improve water quality leaving the development site and so achieve WSUD. Basins have been sized and preliminary designs done to meet stipulated criteria being:

- To reduce post development peak flow rates to predevelopment conditions for the 5 year and 100 year ARI.
- Maximum batter gradients of 1 in 6.
- Integrated with wetlands and permanent water bodies.
- Piped outlets have been sized to convey the minor flows (5 year ARI) with spillways to convey major flows.

South Jerrabomberra Structure Plan

- 300mm minimum freeboard from the top of the embankment to the 100 year ARI water level.

Stormwater flows throughout South Jerrabomberra area will be managed via a minor stormwater pipe network sized to cater for the 5 year ARI storm event and the major system, which will include road reserves and open channels. Overland flows through the major system will again be designed to meet:

- Limit the depth of overland flow to 0.2m in depth during the 100 year ARI storm event.
- Have a velocity depth ratio of equal or less than 0.4m²/s.
- Have a minimum of 0.3m freeboard to private land.

The proposed Water Sensitive Urban Design strategy aims to reduce the impact of urbanisation induced waterway pollutants to relative pre-developed conditions. The report considers that it is appropriate to adopt the regional treatment targets from the ACT Waterways Water Sensitive Urban Design Code, as the site discharge directly towards the Australian Territory Border, upstream of the Jerrabomberra Wetlands. The regional targets set higher benchmarks for pollutant removal than developer targets as would normally be the case of in a typical urban development within the ACT. Due to the absence of downstream regional treatment measures the higher targets were considered appropriate.

The regional targets compare the percentage reduction of pollutants relative to a typical urban development with no water quality treatment measures.

Proposed treatment targets are as follows:

- Gross pollutants (90% removal requirement).
- Suspended Solids (85% removal requirement).
- Total Phosphorus (70% removal requirement).
- Total Nitrogen (60% removal requirement).

Stormwater management is also addressed in a statutory sense. This is done pursuant to a clause in the *Queanbeyan Local Environmental Plan (South Tralee) 2012* which is known as a settled local provision. This clause requires the preparation of a development control plan including the incorporation of storm water and water quality controls into it.

Any future local environmental plan will also contain the settled local provision contained in *Queanbeyan Local Environmental Plan (South Tralee) 2012*. Consequently the future development control plan for other areas to be developed for urban purposes within South Jerrabomberra will also include these types of objectives and controls. As such they will also be considered and applied as part of subdivision and development applications for these areas.

At the local planning level Water Sensitive Urban Design principles are included in a draft Development Control Plan (DCP) for South Jerrabomberra prepared by Council and will apply throughout future development phases. The draft DCP's controls include stormwater management which reflect the long standing principles of applying Water Sensitive Urban Design to urban release areas.

In relation to stormwater management the relevant objectives and controls are:

Objectives:

South Jerrabomberra Structure Plan

- Ensure that all development within South Jerrabomberra incorporates stormwater retention and detention strategies to limit the changes to the hydrological regime of the receiving waterways.
- To minimise the impacts of development and associated infrastructure on the health and amenity of natural waterways.
- Treat run-off from development such that it does not adversely impact on downstream flora and fauna during construction and post development phases.
- Incorporate Water Sensitive Urban Design (WSUD) in the planning of the site layout and design and development to promote sustainable and integrated management of land and water resources incorporating best practice stormwater management, water conservation and environmental protection.

Controls:

- a) All Development Applications shall include a Stormwater Drainage Analysis, addressing the management of water quality and quantity (having regard to all contributing catchments and downstream water bodies), for the range of storm events from the 1 Year ARI to the 100 Year ARI storm event and addressing the objectives of WSUD.
- b) Existing natural drainage lines shall form part of a stormwater and runoff drainage management system utilising soil conservation measures (including detention basins and or wetlands) to alleviate stormwater peaks and retain sediments and pollutants.
- c) Stormwater management strategies shall be adopted to maximize the efficient use of land and facilitate adequate allocation of land for these purposes.
- d) Stormwater management strategies shall be developed and implemented in a manner which addresses potential salinity hazards.
- e) Stormwater treatments are to be designed to meet the minimum level of performance which is a reduction in the stormwater peak run off flows to predevelopment levels for the range of storms from the 1 year ARI to the 100 year ARI event.
- f) Stormwater management design is to maintain the existing hydrological regime for stream forming flows, with respect to peak flows and duration of flow.
- g) WSUD elements shall be incorporated into the design of all development.

A Development Application shall include a WSUD assessment that addresses:

- h) The relevant site characteristics and constraints.
- i) Stormwater management strategies, including treatment measures and maintenance requirements.
- j) A rationale for the proposed strategies.
- k) Evidence of stormwater modelling is to accompany all development applications for all proposed development except those for less than 10 dwellings.

Future subdivision and development applications for South Jerrabomberra will have to include measures which clearly show how these objectives and controls are to be satisfied and these will be considered as part of the assessment process and will be applied as conditions of subdivision and development consent.

The draft DCP also contains objectives and controls in relation to soil and salinity. Again where relevant these will be considered and applied as part of the subdivision and development assessment processes.

South Jerrabomberra Structure Plan

9 Other Utilities

9.1 Electricity

In the short term an 11kVA main will need to be constructed from the existing network supplying Jerrabomberra at Tompsitt Drive to serve approximately the first 800 - 1,000 dwellings within South Tralee. This will run down the alignment of a new northern link through the Poplars and then onto South Tralee (Map 6.1)

In the longer term there will be a need to construct a 33kVA overhead main from Googong constructed with a zone substation to service the remainder of South Jerrabomberra (Map 6.2).

It should be noted that Council is not responsible for the supply of electricity and has little influence over delivering this service to developments. Council relies on advice from electricity suppliers to confirm that suitable arrangements have been made to supply electricity to developments such as South Tralee. Confirmation of this is required before any development consent will be issued.

9.2 Gas

For development within South Jerrabomberra there are a number of options for the supply of gas.

Again it should be noted that Council is not responsible for the supply of gas and has little influence over delivering this service to developments. Council again relies on advice from gas suppliers to confirm that suitable arrangements have been made to supply electricity to developments such as South Tralee. Confirmation of satisfactory arrangements for the supply of gas to any proposed development will be required before any development consent will be issued.

For the Poplars and North Tralee (Map 5) the Northrop Report which informed the Local Environmental Study for the Poplars states:

The take-off from the secondary main in Lanyon Drive will supply at least The Poplars and North Tralee. The mains and distribution network should be consistent with the needs of a servicing strategy for the greater South Jerrabomberra area.

In regard to supplying gas to South Tralee the Tralee Local Environmental Study (March 2005) notes:

Natural gas could be supplied from the existing medium pressure network in Jerrabomberra or by constructing an off-take along the existing secondary main running along Lanyon Drive. This secondary main is situated to the north east of the proposed development areas.

A district regulator (black box) would be installed and a feeder line would be extended south from the off-take in the vicinity of the north western corner of Tralee North into Tralee North the development.

Supplying natural gas to Tralee North via Hume would be more difficult (and costly) as the medium pressure network in Hume is already close to capacity and would require major upgrade work to be carried out to supply the number of dwellings specified. The same would apply to Tralee South, as it is even further away from the existing network (that ends in Shepherd Street, Hume).

South Jerrabomberra Structure Plan

However in relation to South Tralee the Brown report supporting the current concept (staged) development application for South Tralee notes that Znx have advised that Gas services are readily available from ACT Hume. A service will be supplied across the rail corridor into South Tralee.

9.3 Telecommunications

The Statement of Environmental effects supporting the current concept (staged) development application notes that the new northern entry road from Tompsitt Drive to South Tralee (Map 6.1) will incorporate a shared utilities trench for both electricity mains and telecommunication conduits for future installation of fibre optic cables by the NBN Company. This then could be extended to other areas of South Jerrabomberra.

10 Other Services

The then Department of Planning and Infrastructure in its preliminary work on a Structure Plan for South Jerrabomberra notes that the ability for emergency services (police, fire, ambulance) to service from existing NSW infrastructure to meet response times is dependent on the arterial road network between Queanbeyan and South Jerrabomberra. In terms of those considerations good access is available to Jerrabomberra from Lanyon Drive or Cooma Street/Old Cooma Road and the Edwin Land Parkway.

10.1 Ambulance

There is currently an ambulance station in Queanbeyan at the Queanbeyan Hospital.

ACT ambulance stations close to South Jerrabomberra include Kambah, Fyshwick and Woden. Under the current MOU with Ambulance service of NSW, ACT operational resources can be called upon to respond to incidents within NSW. The ACT Government have noted that given the proximity of the development to the ACT border and current utilisation rates of NSW (Queanbeyan) ambulance crews, the development is likely to result in further work for ACT Ambulance Service as the closest ambulance resource.

10.2 Fire

Once developed this area would be serviced by Fire and Rescue NSW with a station in Campbell Street, Queanbeyan and another one planned at Googong with land being provided through a State Planning Agreement.

There is also the current ACT Fire Brigade-NSWFB MOU which is likely to be sufficient to cover the new development area – subject to the provision of a reticulated water supply. The ACT Government notes that the Queanbeyan Fire Station is having significant issues with retaining staff and the ACT Fire Brigade has been increasingly called upon to provide backup. The servicing of this area will continue to be monitored by Fire and Rescue NSW.

The MOU and Mutual Aid agreement (MAA) with NSW RFS also establishes arrangements and protocols between the ACT and the Queanbeyan (Lake George) Zone that would allow back up bushfire response as required.

In regard to bushfire planning this matter has been considered in all of the local environmental studies and draft local environmental studies for the various sub areas within the Structure Plan area undertaken so far. These generally contain recommendations applying to subdivision and development phases which are designed to minimise exposure and protect future residents and property as well as to ensure that future development complies with the NSW Rural Fire Service Guidelines.

South Jerrabomberra Structure Plan

11 Cross Border Contributions

Sections 94C and 94CA of the *Environment Planning and Assessment Act 1979* authorises cross border developer contributions which could arise as a consequence from development within South Jerrabomberra. However if these do arise they will need to observe long standing principles for their imposition.

These long standing principles are discussed in the Department of Planning and Infrastructure's Development Contributions Practice Note 9 July 2005 which observes:

Section 94 contributions are based on two key concepts:

- *Reasonableness in terms of nexus (the connection between development and demand created) and apportionment (the share borne by future development) and other relevant factors*
- *Accountability both public and financial.*

The concept of reasonableness is evident throughout s94 and is the philosophy underlying the preparation and administration of an s94 development contributions plan.

Section 94 of the EP&A Act expressly refers to reasonableness by:

- *requiring reasonable dedication or contribution (s94(2))*
- *requiring reasonable contribution towards recoupment (s94(4))*
- *enabling a condition to be disallowed by the Court because it is unreasonable (s94B (3)).*

Reasonableness comprises concepts of fairness, equity, sound judgement and moderation. The two key principles underlying reasonableness are nexus and apportionment.

Nexus is the relationship between the expected types of development in the area and the demonstrated need for additional public facilities created by those developments. The requirement to satisfy nexus is one of the core components of a valid development contributions plan and is a specific requirement of clause 27(1) (C) of the EP&A Regulation.

Apportionment is a tool to arrive at the correct nexus to ensure that a charge under s94 only ever reflects the demands of development and not other demands.

In many cases, new facilities may satisfy demands beyond those of the contributing development. That is, satisfy demand that is existing. While it is quite acceptable for a council to provide facilities that will cater to existing and future demand (and are encouraged to do so), the proportional needs of the existing population must be quantified and taken into account when calculating an s94 contribution.

These are equally applicable to cross border contributions.

12 Structure Plan

The preferred Structure Plan is shown at Map 6. Maps 6.1 and 6.2 also illustrate potential options for infrastructure provision at various stages of the development.

The Structure Plan is not a statutory document. However it represents Council and the Department of Planning and Infrastructure's preferred direction for development and

South Jerrabomberra Structure Plan

infrastructure provision within South Jerrabomberra and therefore will have weight in terms of planning decisions concerning future re-zonings and development proposals.

The respective maps show the preferred options in relation to the provision of such services as electricity, gas, telecommunications water and sewerage and road links. The maps also show areas broadly identified for residential, commercial, community, educational, employment, open space and recreation and environmental conservation. The maps also show Canberra Airport's current Ultimate Practical Capacity Australian Noise Exposure Forecasts (ANEFs) which were endorsed for technical accuracy by Air Services Australia in June 2008.

12.1 Infrastructure Stages for the Development

South Jerrabomberra is likely to be developed over a number of stages over a 25 year period. The indicative infrastructure requirements are outlined in the maps and below.

12.1.1 Initial Construction Stage (South Tralee)

- **Access** – Construction vehicle access to be provided via Alderson Place using existing level crossing and subject to agreement by ACT. Not to service any residential or industrial traffic at any time.
- **Sewer** – Temporary on-site arrangements to service workers.
- **Water** – Temporary on-site arrangements to service construction such as water trucks.
- **Electricity** – Temporary on-site arrangements such as generators.
- **Gas** – No requirement initially.

12.1.2 Short Term (to provide for interim development)

- **Access** – Construction of two - a new lane northern entry road to meet Tompsitt Drive at Jerrabomberra to the northern boundary of South Tralee (approximately 3.4 kms, although the full length will not be completed in the short term). Will also service future employment lands at Poplars and North Tralee.
- **Sewer** – Temporary connection into ACT system at Hume subject to gaining and complying with all necessary approvals, and the Village Building Company meeting all associated costs. At a later date or if the temporary connection through Hume is not feasible, provision of a sewer main within the road reservation or verge of the new northern entry road and then construction of a single sewer pump station located in the northern side of North Tralee at a low point outside any flood prone land.
- **Water** – Water main extension off Tompsitt Drive to low level reservoir to service approximately 500 dwellings below this level, predominantly the northern area of South Tralee.
- **Electricity** – Initial 11kVA main from Tompsitt Drive in a shared utility trench adjoining the new northern entry road to service the initial 800 - 1,000 dwellings.
- **Gas** – Connection to reticulated gas network in Hume.

South Jerrabomberra Structure Plan

12.1.3 Longer Term (to provide for the ultimate development proposed)

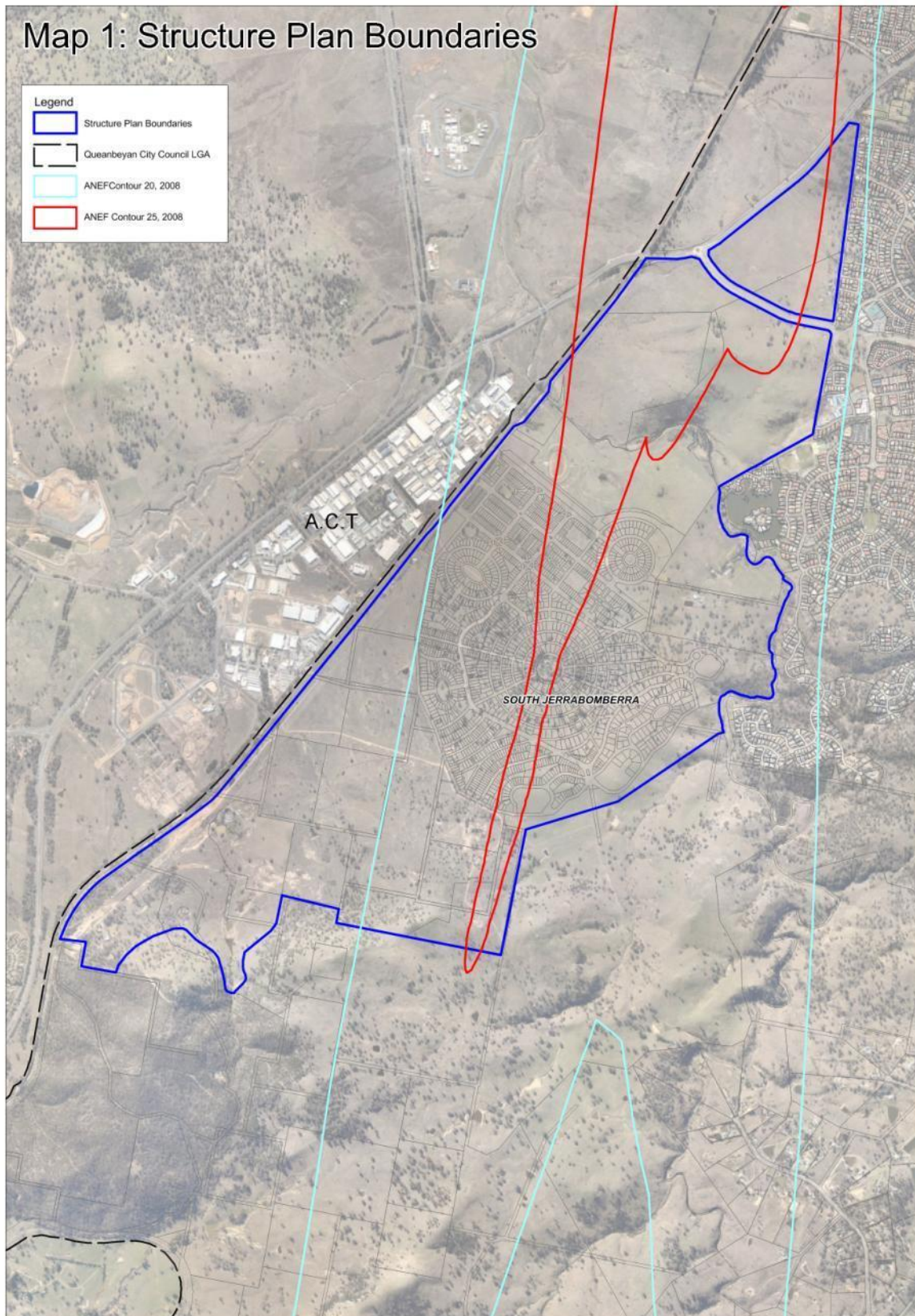
- **Access** – Construction of 2 lane road to meet Monaro Highway in the vicinity of Isabella Drive in the ACT (subject to long term traffic demand). Will also service Hume industrial area.
- **Sewer** – Connection to upgraded Oaks Estate Sewerage Treatment Plant from South Jerrabomberra via a pump station at North Tralee, rising main within the road reserve or verge of the new northern entry road. Close short term connection to Hume. Northern section of Poplars to gravity feed to new pump station.
- **Water** – Booster pump from low level reservoir to new high level reservoir to service the remainder of the development.
- **Electricity** – Connection of new 33kVA from Googong to zone substation to service the remainder of the development.
- **Gas** – Connection to reticulated gas network in Hume.

12.1.4 Other Infrastructure

- Sporting fields.
- Regional Park/Bushland.
- Multipurpose community centre.
- Playgrounds and open space.
- Skateboard Park.
- Tennis Courts.
- Hardcourts (basketball/netball).
- Community Hall – Stage 1
- Park and Ride (Transit Hub).
- Telecommunications.
- Emergency Services Centre.
- Potential Local police/ambulance Station.
- Potential primary school (public).
- Potential High School (public).

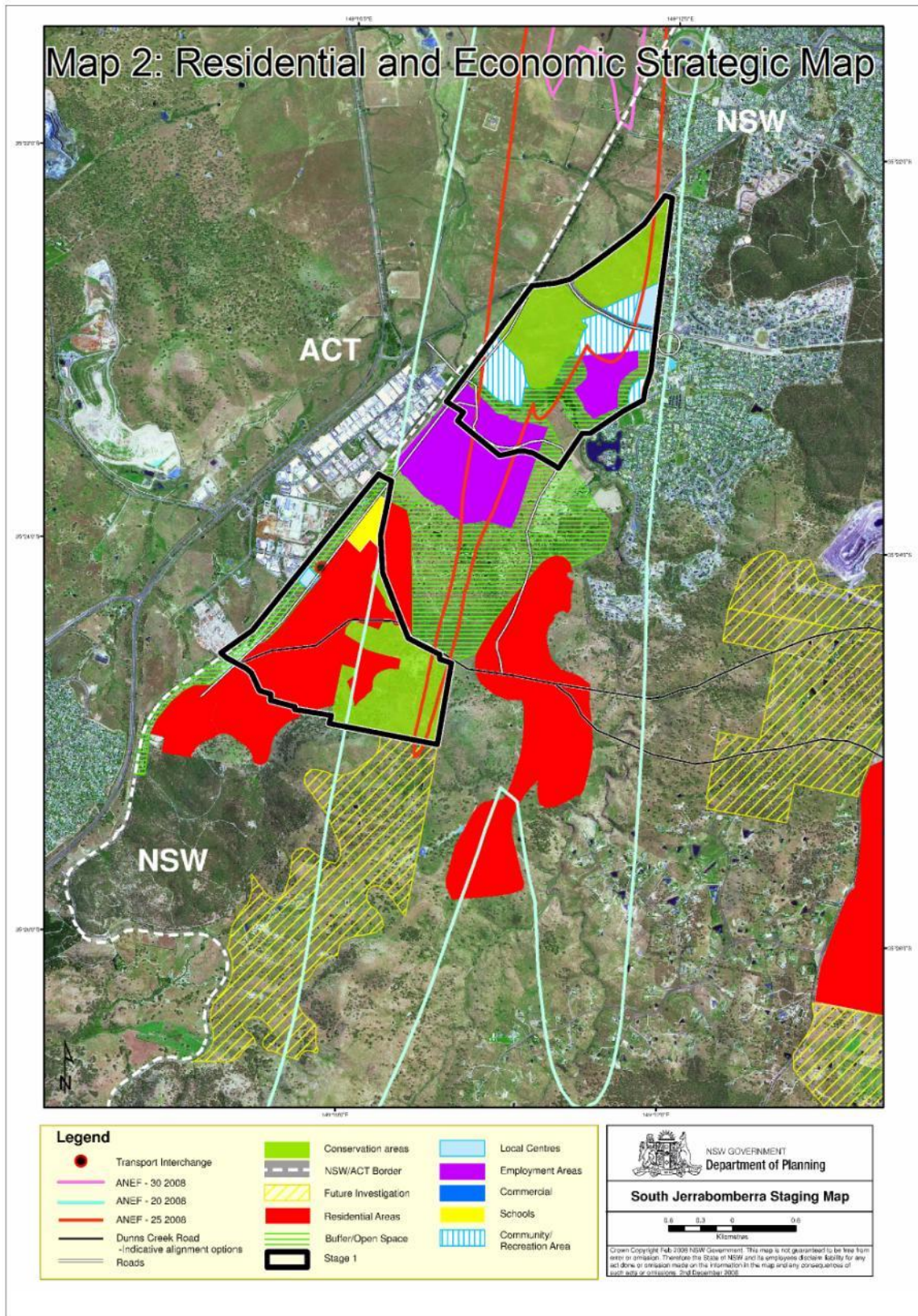
South Jerrabomberra Structure Plan

Map 1: South Jerrabomberra Structure Plan Boundaries



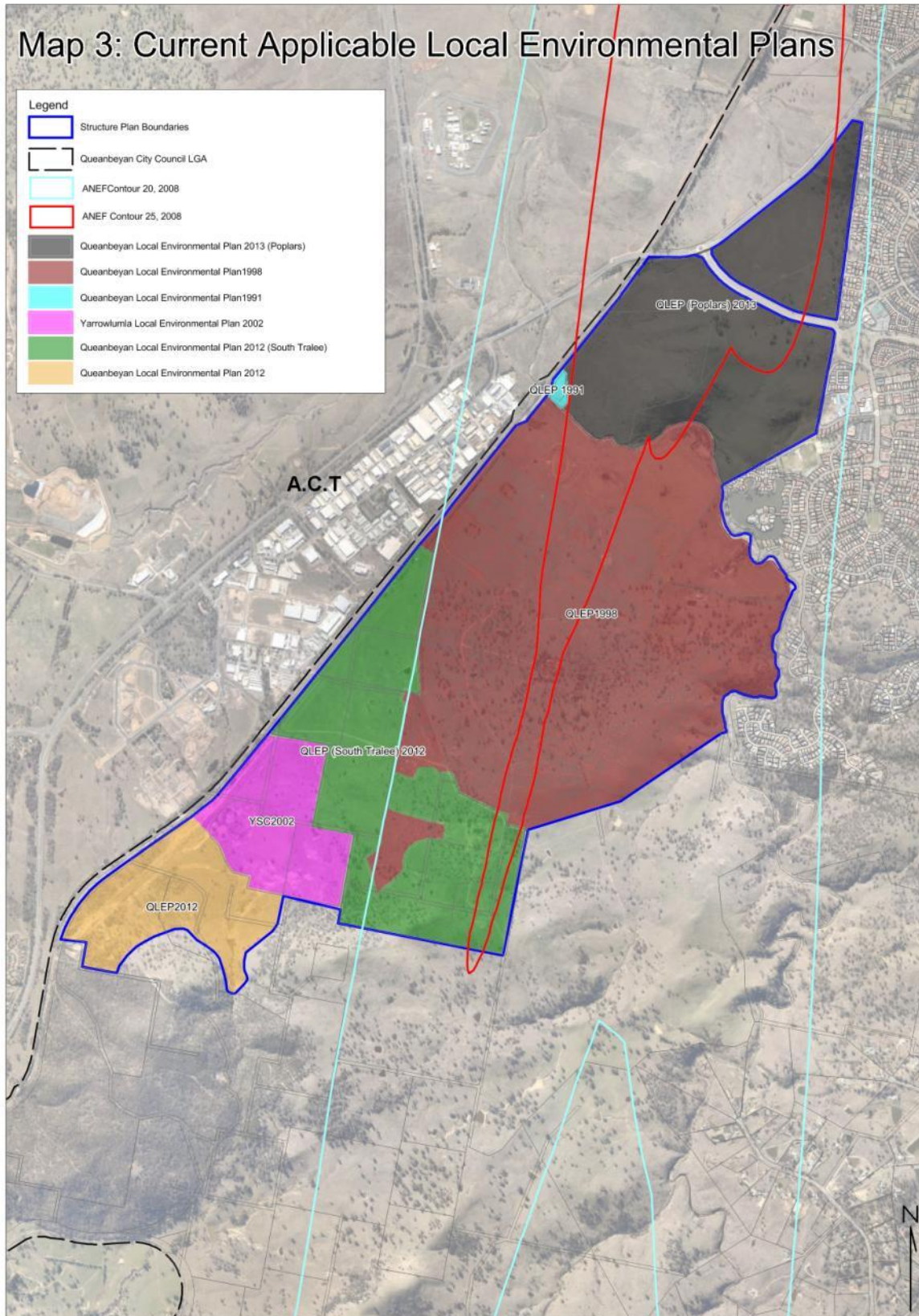
South Jerrabomberra Structure Plan

Map 2: Residential and Economic Strategy Map

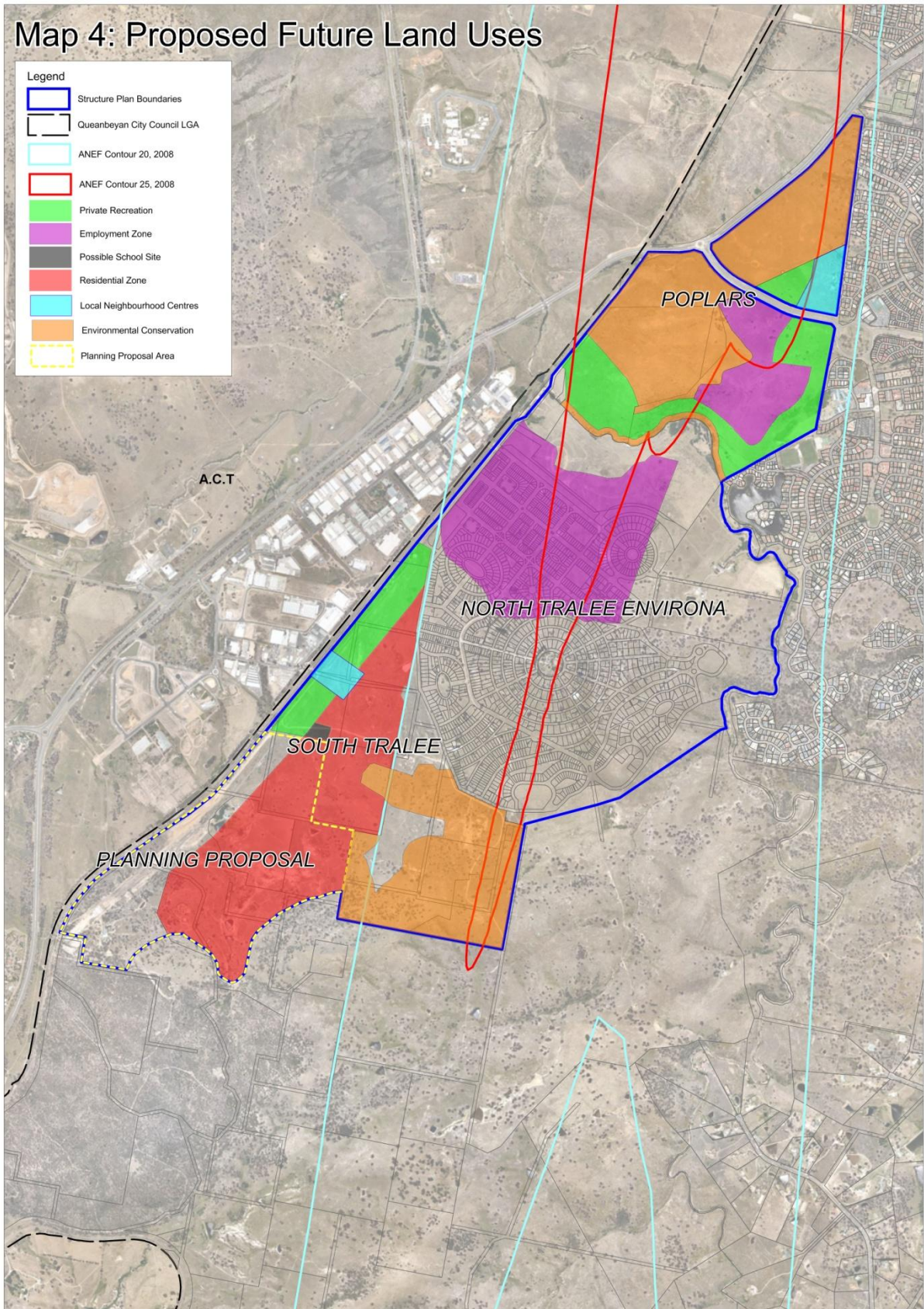


South Jerrabomberra Structure Plan

Map 3: Applicable Local Environmental Plans

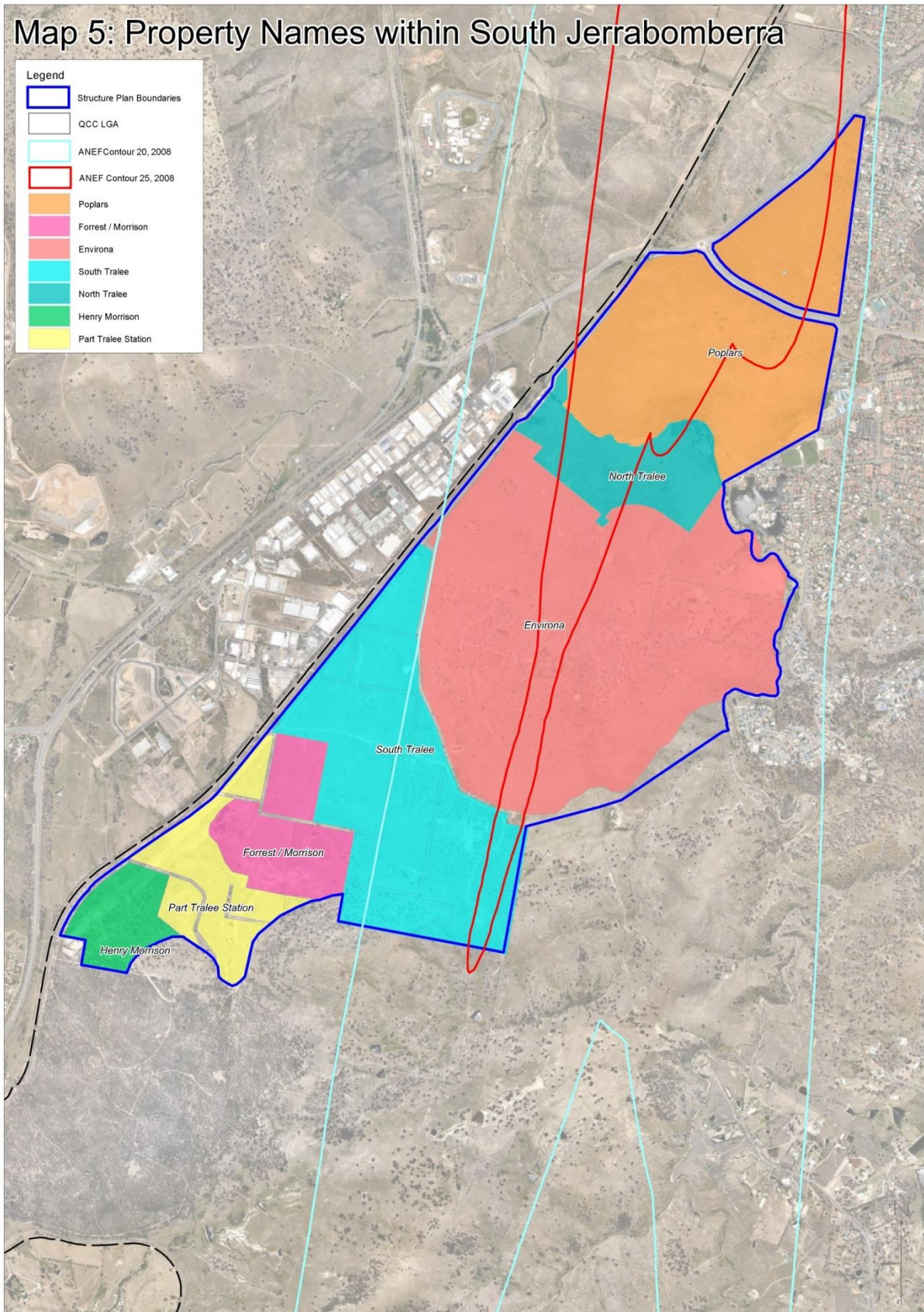


Map 4: Proposed Land Uses (subject to further detailed studies)



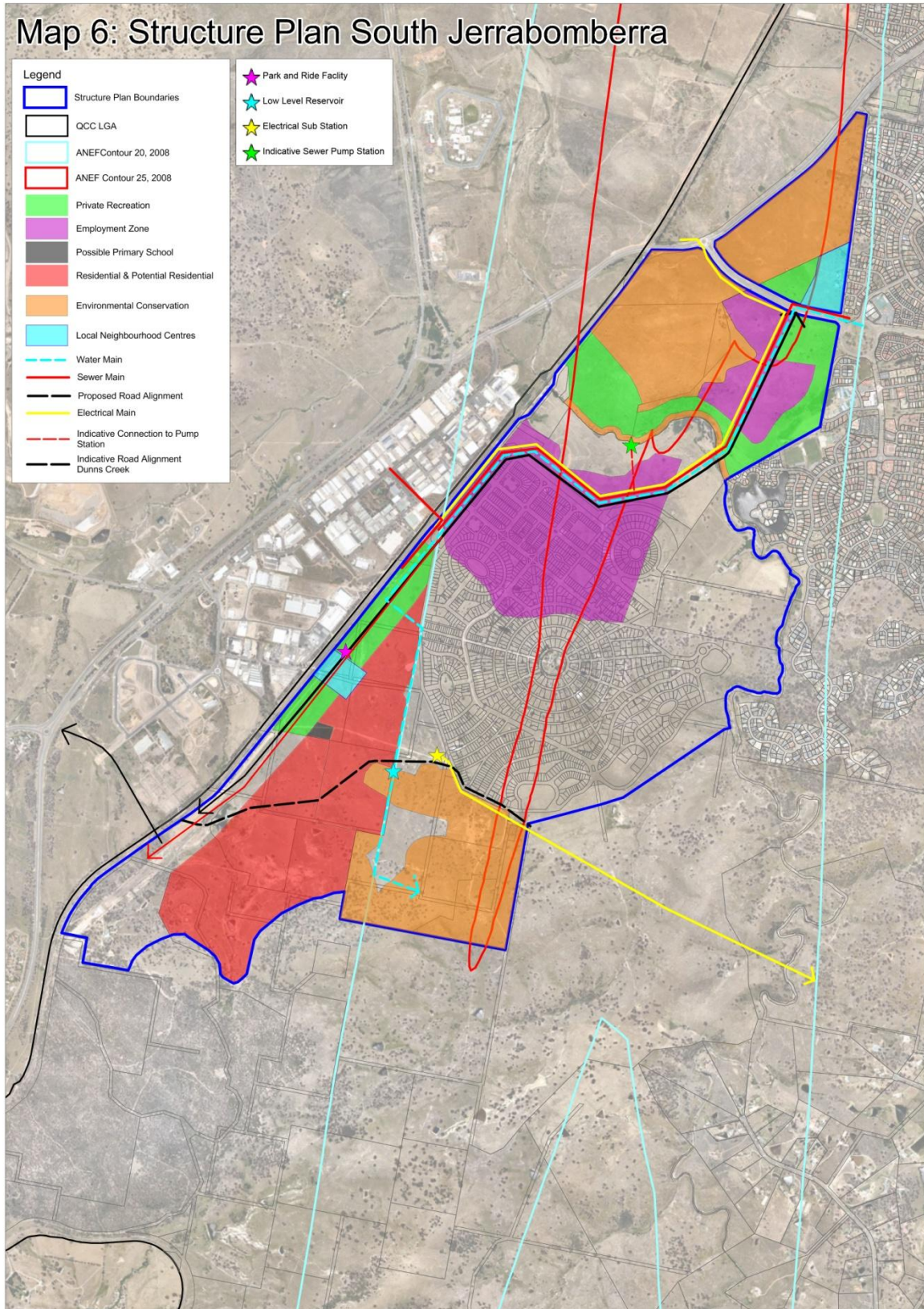
South Jerrabomberra Structure Plan

Map 5: Property Names within South Jerrabomberra



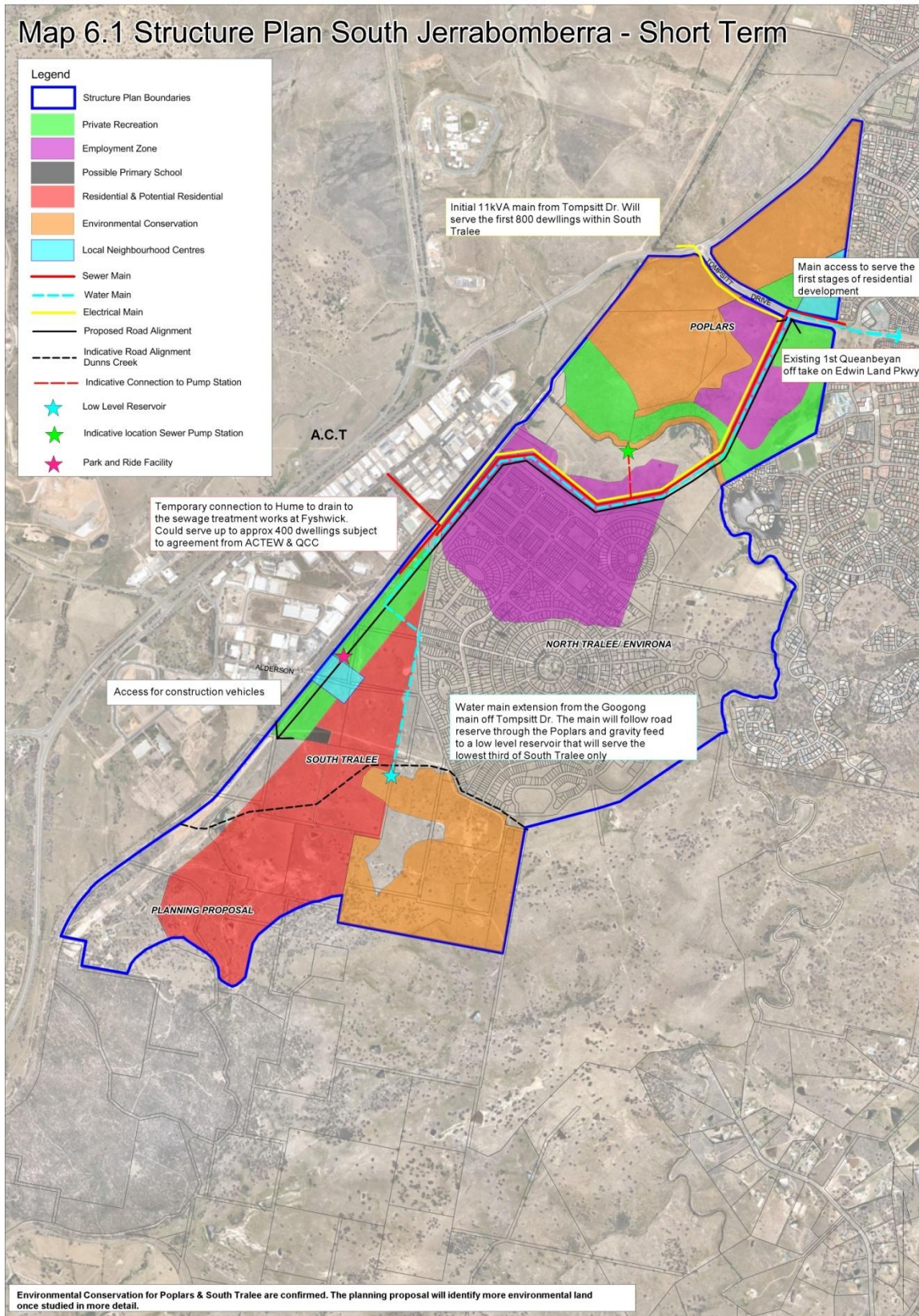
South Jerrabomberra Structure Plan

Map 6: Structure Plan for South Jerrabomberra



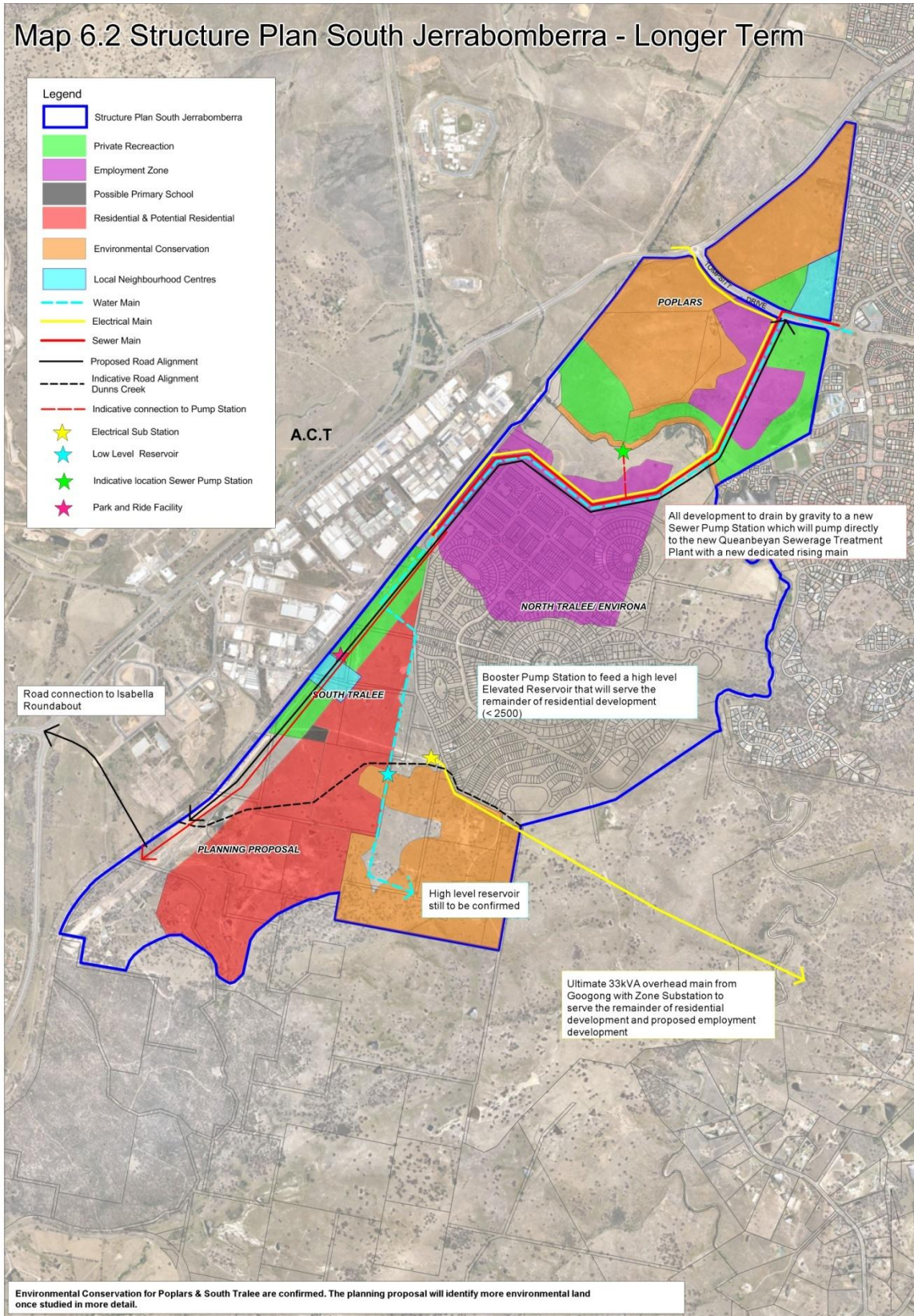
South Jerrabomberra Structure Plan

Map 6.1: Structure Plan for South Jerrabomberra – Short Term



South Jerrabomberra Structure Plan

Map 6.2: Structure Plan for South Jerrabomberra – Longer Term



South Jerrabomberra Structure Plan

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