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Gawler East DPA Traffic Assessment

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Executive Summary

QED Pty Ltd have been engaged by Delfin Lend Lease (Delfin) to undertake a traffic assessment for the proposed re-zoning of the former Gawler Quarry site and adjacent lands at Gawler East. The traffic assessment is to be used as part of the investigation process for the re-zoning of land to permit residential and other development on the proposed sites.

The proposed re-zoning of the land is expected to result in the provision of 3,900 dwellings (2,700 for Phase 1) as well as a town centre and schools in two phases in areas that are within the current Urban Growth Boundary.

The existing and future traffic demands, without the proposed Gawler East development are expected to result in locations on the road network in Gawler such as Murray Street and Adelaide Road operating close to capacity with congestion at peak periods.

There is expected to be increased traffic demands within Gawler, particularly on Calton Road, Murray Street, Cheek Avenue and Adelaide Road as a result of the proposed development. A Link Road through the proposed development to the south east of Gawler is expected to reduce the traffic impacts within the Gawler Town Centre and surrounding road network by the proposed development and surrounding residential areas. The timing of the Link Road is dependant on the rate of development, and traffic volumes but is expected to be required between 2014 and 2017. This is based on traffic volumes of 14,000 to 15,000 vpd or when there are about 1,500 dwellings occupied. This Link Road will ultimately extend to Potts Roads as the development progresses past 2017.

Traffic modelling undertaken by the Department for Transport, Energy and Infrastructure (DTEI) for the Gawler Transport Plan has confirmed the basic assumptions with regard to traffic generation for this assessment. In addition it has also confirmed the need for the Link Road to reduce traffic volumes on Calton Road / Murray Street within the Gawler Town Centre area.

There are a number of improvements to the road network that are required to cater for the future demands. These involve the probable widening of Sunnysdale and Cheek Avenues as well as Potts Road, providing a painted median on Calton Road and improvements to a number of junctions. The form and timing of these improvements will need to be discussed with the Town of Gawler and Delfin.

The key outcomes of the traffic assessment are:

- On the basis of this assessment, Phase 1 of The Gawler East Development could proceed with interim traffic measures (up to 2014 -2017, without the need for the Link Road)
- The opportunity exists within Phase 2 of the development to provide an integrated solution for the early provision of the Link Road (South Eastern Connection) by all parties, being land owners, Delfin, Town of Gawler and DTEI
- The scope of this study does not take into consideration the future development of Concordia (within the UGB) beyond 2021. Notwithstanding the ability for Gawler East to proceed ahead of this, detailed analysis with DTEI, Town of Gawler and District Council of Barossa is required to identify appropriate connections and links to reduce traffic demands on the Barossa Valley Way.

1 Introduction

QED Pty Ltd have been engaged by Delfin Lend Lease (Delfin) to undertake a traffic assessment for the proposed re-zoning on the former Gawler Quarry site and adjacent lands at Gawler East. The traffic assessment is to be used as part of the investigation process for the re-zoning of land to permit residential and other development.

The proposed re-zoning of the land for development is expected to consist of two main phases as indicated in Figure 1. Both Phases include areas in the recently announced changes to the Urban Growth Boundary.

Phase 1 is located to the south of Calton Road and north of South Para River and proposes 2,700 residential dwellings, schools and a neighbourhood centre. Road access will be made to Calton Road and Balmoral Road to the north and east, and ultimately subject to further development via the Gawler to Kersbrook Road to the west. It is proposed the development would be staged over a 10 year period starting in 2009.

Phase 2 is substantially located to the southwest of the South Para River and is expected to comprise 1,200 residential dwellings. Road access will be made to Potts Road, and One Tree Hill Road (Gawler to Kersbrook Road). It is proposed that this Phase of the development would be staged over a 15 year period starting in 2011/12 depending on market conditions.

A link road will be provided that connects the two Phases from Sunnysdale Avenue in the north to Potts Road at the southern end.

This report details the traffic impacts of the proposed rezoning of the land on the surrounding road network.

2 Existing Assessment

2.1 Road Network

The overall site is located to the east / south east of Gawler. Phase 1 of the development is located south of Calton Road at Gawler East, and bounded by Balmoral Road and Cork Road to the east and west respectively. No existing road access is available to the south, which is constrained by the South Para River and associated creeks (refer Figure 1). Phase 2 is located to the northeast and south west of the Gawler to Kersbrook Road and Potts Road.

The road network in the vicinity of the proposed site is primarily under the care and control of the Town of Gawler. Barossa Valley Way, Gawler to Kersbrook Road and Adelaide Road are arterial roads under the care and control of the Department for Transport Energy and Infrastructure (DTEI). The Barossa Valley Way is a key route in the road network in the study area as it provides access for freight movements to the southern areas of the Barossa Valley as well as Sandy Creek and Williamstown. It also a key link for animal transport from the Adelaide Hills Region and beyond to Dublin.

Calton Road provides the main link to the Gawler Town Centre at Murray Street for the existing Gawler East residential area and to Williamstown to the east via Balmoral Rd. Calton Road - Balmoral Road, East Terrace and the Barossa Avenue - Gozzard Street - Rudall Street - Ayres Street link has been defined by council as Principal Local Connectors. Cheek Avenue is defined as a secondary Local Connector with all remaining roads considered as local access roads.

Murray Street is the main street within the Gawler Town Centre and distributes traffic to the surrounding arterial road network including Ryde Street / Twelfth Street, Adelaide Road, Gawler to Kersbrook Road to the south and west, and Main North Road to the north.

Cheek Avenue and Sunnysdale Avenue provide access to the Barossa Valley Way for travel east and north of the Gawler Town Centre.

Potts Road provides access to various residential areas to the east of Adelaide Road and is a Principal Local Connector in Council's road hierarchy.

All roads are two lane single carriageway roads with a speed zone of 50km/hr, except for:

- Barossa Valley Way east of Cheek Avenue (60 / 80 km/hr)
- Gawler to Kersbrook Road (80 / 100 km/hr) and
- Calton Road east of Cheek Avenue (80km/hr)

All the junctions in the local traffic area are simple "T" junctions or cross roads with the exception of the Julian Terrace intersection with Bridge Street and the Barossa Valley Way junction with Murray Street, both of which are signalised.

2.2 Traffic Volume and Operation

Figure 2 shows the road network and existing daily traffic volumes on the key roads within the study area for this assessment. The data has been provided to the team by Council and Department of Transport, Energy and Infrastructure (DTEI).

Existing traffic volumes on Calton Road are low for a major collector road at 4,500 vehicles per day (vpd) near the site, but the volume of traffic does increase to 7,700 vpd to the west of Murray Street. Balmoral Road carries 3,000 vpd. Daily traffic volumes on Potts Road just east of Adelaide Road are in the order of 2,100 vpd and reduce to 300 to 500vpd at the junction with the Gawler to Kersbrook Road.

The traffic surveys indicate that during peak periods, (8.00 to 9.00 am and 5.00 to 6.00 pm) the traffic volumes are about 8 to 10% of the daily volumes on the road network.

Traffic operation on the road network in the vicinity of the proposed development is considered satisfactory with minor queues and delays on Calton Road and Barossa Valley Way during the peak periods. The road network operates with minimal delays to road users during off-peak periods.

However along Murray Street, traffic operation is considered congested due to the volume of traffic on (greater than 20,000vpd in some sections), and interaction with the adjacent land uses, including parking manoeuvres. The existing Murray Street / Calton Road junction is congested with current demands and there are significant queues on the Calton Road approach during peak periods.

Journey to work data from the 2006 ABS Census indicates that within Gawler about 5 % of work trips use public transport (essentially the train) and that

- 30% of work car trips have destinations in Gawler,
- 12% of work car trips have destinations to the east of Gawler,
- 30% of work car trips have destinations in the Salisbury / Playford Council areas, and
- The remainder of trips have destinations south of Salisbury.

2.3 Road Crashes

Crash data has been obtained from the DTEI for the 5 year period from 1 January 2002 to 31 December 2006 for the following locations:

- Calton Road between Murray Street and Balmoral Road including the intersection with Murray Street;
- Cheek Avenue;
- Sunnydale Avenue, and
- Potts Road.

Only crashes having an estimated repair cost of greater than \$3,000 or a personal injury were recorded. These records identified that:

- There have been just 6 crashes at the intersection of Calton Road with Murray Street, none of which resulted in injury.
- There have been just 7 crashes at the intersection of Calton Road with High Street none of which resulted in injury.
- Four crashes at the Calton Road / Cheek Avenue intersection, of which all were right angle crashes and no injuries.
- There have been 17 mid block crashes on Calton Road between High Street and Cheek Avenue. Of these crashes 4 resulted in injuries whilst 7 occurred at the intersections with Calton Road.
- There have been 3 mid block crashes on Calton Road between Cheek Avenue and Sunnydale Avenue. Of these 2 were injury crashes.
- There have been 2 mid block crashes on Potts Road and 4 crashes at the junction with Adelaide Road. Of the above two were casualty crashes.

For the traffic volumes using Murray Street, Calton Road and Potts Road, this crash history is not considered to be significant.

2.4 Public Transport

The main public transport provider within Gawler is the TransAdelaide train service between Adelaide and Gawler Central. No regular daily bus services operate in Gawler. During peak periods the train service runs at 15 minute intervals with reduced frequency off-peak. It is understood that the main factors preventing higher usage of the train are a lack of adequate parking facilities and bus feeder services. There is an after-midnight bus service that runs from the Adelaide CBD to Gawler on Saturday night / Sunday morning

There is a community bus service operated by Council. In addition there is a Dial and Ride service that operates between 9.00am and 3.00pm daily with a night service between 7.00pm and 10.00pm Monday to Friday, for local destinations.

There are a number of school bus services that operate on school days only. In addition, Barossa Valley Coaches operate a daily service from Angaston to Adelaide that stop in Gawler when required. However, these services are not integrated with the current Metroticket system.

On this basis, the Gawler East area is considered to have poor accessibility to public transport due to the train being some distance from the proposed development.

2.5 Cycling and Walking

There are no specific on or off-road cycle paths within the study area. In addition, there are no pedestrian crossings and footpaths except for footpaths provided on some of the local roads.

3 Future Assessment

This assessment details conditions in the future without the proposed re-zoning of the land.

3.1 Road Network

3.1.1 General

There is expected to be little change in the road network in the vicinity of the study area within the timeframe of the proposed sites. Whilst some growth in traffic is expected there are no significant changes envisaged that would result in a significant increase in traffic volume.

There is expected to be changes in the Town Centre area along Murray Street with increased development, such as the recently approved Target Development, and provision of a roundabout at the Calton Road intersection. In addition, other changes may be made to isolated locations due to future developments.

The biggest change is expected to be from the provision of the Northern Expressway in late 2010, which is expected to result in a diversion of traffic from Adelaide Road to both Twelfth Street and Redbanks Road. Traffic studies for the project indicated the likely changes in traffic demands are as follows:

- a 5,000 to 7000 vpd increase for Redbanks Road,
- a 2,000 to 3,000 vpd increase for Twelfth Street / Ryde Street, and
- a 5,000 to 7,000 vpd decrease on traffic on some sections of Adelaide Road.

DTEI has recently undertaken and released to the public a Road Management Plan (RMP) for the Main North Road / Adelaide Road link from the interchange at the Sturt Highway (north extent) through to Trinity Drive at the southern extent. However, it does exclude the section of Murray Street from the junction with the Barossa Valley Way to Twelfth Street. The RMP essentially has examined the existing conditions along the road sections and identified a number of improvements/treatments to address deficiencies, particularly with road safety. The treatments have been prioritised with the expectation that those with a high priority would be assessed for funding in the near future.

3.1.2 Future Residential Development

Future residential developments are expected to occur at Evanston Gardens (south of Gawler) and possibly Concordia (to the north of the Barossa Valley Way). For this assessment, the Concordia development is that area to the east of Gawler and north of Barossa Valley that has been added to the Urban Growth Boundary (UGB). It does not relate to the Urban Pacific proposed development that is located further east of this area and has yet to receive approval from the relevant authorities. The Barossa Council have advised that the proposed Urban Pacific development would also

include that area of Concordia within the UGB as well as significant areas outside the UGB.

The Evanston Gardens development (approximately 2,500 dwellings) is located just to the south of Gawler and is expected to include land on both sides of Main North Road. The timing of this development is such that it is likely to start in 2009 and be fully developed around 2021. This development is expected to add additional traffic to Adelaide Road and Murray Street.

For the Concordia development (within the current UGB), it is not known at this time the timing of this development, but the Town of Gawler have advised that Concordia would not be developed until after 2021. It is also unknown what connections would be provided from the development to the existing road network. This development is expected to have more dwellings than this (Gawler East) project. Consequently traffic generated from the development is expected to be large and additional connections to Sturt Highway (via north east connection) would be required to reduce traffic on the Barossa Valley Way. Any proposed connection would also facilitate diversion of freight movements away from the Gawler Town Centre. However, it is anticipated that Barossa Valley Way would still cater for some of the increased traffic.

3.2 Traffic Volume and Operation

The expected 2025 volumes on the existing local road network have been calculated by incorporating 1% annual growth into the existing volumes.

Hence future traffic volumes on Calton Road are considered appropriate for a major collector road, at 5,100 vpd between Cheek and Sunnydale Avenues but the volume of traffic would increase to 8,700 vpd to the east of Murray Street. On Balmoral Road daily traffic is expected to 3,400 vpd.

In terms of future operation, it is expected that the existing road network would cater for the expected increase in the vicinity of the proposed development. However, along Murray Street the future increase is expected to exacerbate existing traffic issues in the Town Centre. Traffic conditions would be expected to improve along Adelaide Road due to the diversion of traffic onto the Northern Expressway. However, additional developments in the vicinity of Potts Road and the Gawler Racecourse, as well as from Evanston Gardens are expected to mitigate some of the diversion of traffic on Adelaide Road to the Expressway.

3.3 Public Transport

The State Government announced that it is investigating the electrification of the Adelaide to Gawler rail line, which will also include resleepering with concrete sleepers. Timing of this work is uncertain at the moment and could be brought forward depending on funding from the Federal Government. This project is expected to increase the number of passengers using the rail line, however further studies are being undertaken by the Public Transport Division to determine the expected increase in patronage.