Yarralumla Residents Association

Analysis of two reports published in 2016 by Land Development Agency (LDA) as part of the Canberra Brickworks Precinct Development (CBP)

January 2017

PART 1

Canberra Brickworks Precinct, ACT Site Investigation - Traffic, Transport & Carparking. Prepared by AECOM Australia Pty Ltd 12-Feb-2016. Client: Land Development Agency

http://www.lda.act.gov.au/uploads/ckfinder/files/pdf/3_Commercial/Canberra_Brickworks/Site_Report2016/Attachment%20E%20Site%20Investigation%20-%20Traffic%2C%20Transport%20%26%20Carparking%20(AECOM%202016).pdf

PART 2

Concept Design Report CBP Access Road and Dudley Street Upgrade. Prepared by CARDNO for the Land Development Agency October 2016

http://www.lda.act.gov.au/uploads/ckfinder/files/pdf/3_Commercial/Canberra_Brickworks/Feasibility%20Study.pdf

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PART 1

Canberra Brickworks Precinct, ACT Site Investigation - Traffic, Transport & Carparking. Prepared by AECOM Australia Pty Ltd 12-Feb-2016. Client: Land Development Agency

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AECOM Report Background

The ACT Government, represented by the Land Development Agency (LDA) has briefed AECOM Australia Pty Ltd (ABN 20 093 846 925) to prepare a traffic, transport and parking investigation report for key sections of Yarralumla, ACT. The scope was reviewed by TAMS.

The AECOM Report states that:

"*This investigation is intended to identify existing capacity within the existing suburb of Yarralumla and to provide sufficient data for any future impact assessment associated with the development.*"

and

"The report sets out an assessment of the existing transport conditions of the study area, including consideration of the following:

I. *key road accesses to the study area;*
II. *existing traffic volumes and any corresponding existing congestion issues;*
III. *existing car parking availability and utilisation;*
IV. *existing public transport amenity in the study area;*
V. *existing pedestrian and cycle infrastructure in the study area."*

AECOM Report Executive Summary

The AECOM Report Executive Summary states that:

"*The analysis and relevant discussion in this report allows the following conclusions to be made:*

- *Some links in the road network are currently operating near their intended design volumes when compared to the road classifications.*
- *The Hopetoun Circuit /Adelaide Avenue and Kent Street/Denison Street intersections are operating over capacity during peak periods.*
- *The Novar Street/Dudley Street/Kent Street/Adelaide Avenue roundabout is operating at capacity during peak periods.*

- *The parking associated with the shops operates at capacity on the weekend and operates over capacity during the working week.*
- *The public transport level of service is acceptable during the peak periods on a weekday, but is limited during off peak periods and on weekends.*
- *There is good provision for active travel within Yarralumla however there is limited connectivity between the local active travel network and on-road cycle lanes located on Adelaide Avenue."*

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Key issues arising from the AECOM report

The level of detail and the scale and scope of the analysis does not meet the intended purpose of the report which "is *intended to identify existing capacity within the existing suburb of Yarralumla and to provide sufficient data for any future impact assessment associated with the development."*

Guidelines for Transport Impact Assessment

The AECOM report does not meet the requirements of the "Guidelines for Transport Impact Assessment " August 2016 ACT Government Transport Canberra and City Services (TCCS) for example:

- for existing traffic flows use the guidelines require that data be no more than 3 years old if current data is not collected
    - however existing traffic flows use much data that is 10 years' old taken in 2006
    - half of the recent intersection count data analysed is not reliable. The AECOM intersection analyses uses two sets of data, one from TRACSIS undertaken on 4 and 7 November 2015, and the other by BVY undertaken 9 and 11 July 2015. The BVY assessment was undertaken during school holidays which were from 3 to 20 July 2015 and thus considerably under represent traffic flows and intersection counts. This is also contrary to the guidelines that state that school holidays are to be avoided. Indeed, an analysis of the available data comparing school and non-school periods shows that Weston Street (between Novar and Hopetoun Circuit) carries 60% less traffic during school holidays and Novar Street 30% less.
- there is no analysis of historical traffic counts to illustrate growth rates
    - however, our analysis using ACT Government data shows for example a 15% increase in traffic on the major collector Novar Street between 2014 and 2015. Similarly, for Weston Street (between Novar and Hopetoun Circuit) the increase in vpd (vehicles per day) between 2006 and 2015 had been between 148% and 160%. Although there has been no new development in the suburb over this period.
- No modelling of future increase in traffic volumes has been undertaken for which a there is a default rate of 2% per annum growth rate

http://www.tccs.act.gov.au/__data/assets/pdf_file/0009/991989/Transport-Impact-Assessment-Guidelines.pdf

- there is no data or analysis of the safety performance of the existing network
    - there are an increasing number of accidents at/near the Novar/Dudley/Kent Street/Adelaide Avenue roundabout and at the Yarralumla Shops area of Bentham and Novar Street
- for the proposed development, the analysis will require an assessment for opening day and opening day plus 10 years
    - This report does not look at the Canberra Precinct Brickworks development – that is the subject of the "Concept design Report CBP Access Road and Dudley Street Upgrade" by Cardno, October 2016 prepared for the Land Development Agency.
- other land use changes identified at the strategic level should be considered this includes known developments and future transportation network changes that will affect traffic flows within the study area - this is not addressed by the study however:
    - the duplication of the section of the Cotter road between the Tuggeranong Parkway and McCulloch Street in Curtin commenced in late 2016. This will shift an existing AM peak bottle neck from the Cotter Road/ Parkway intersection to add to the existing Cotter Road/Dudley Street Bottle neck as the Cotter Road becomes one lane to feed in to Adelaide Avenue (Yarra Glen). This bottle neck already encourages rat running through Yarralumla along Dudley, Novar and Weston.
    - Stages 2and 3 of the development of new suburbs at Molonglo are underway and the Cotter road is the arterial for these new suburbs. This will significantly increase traffic flows and place pressure on the Cotter/Dudley Street intersection which is already at capacity.
    - the development of the Equinox stage 2 commercial centre on Kent Street has been approved and this will significantly affect the performance of the Novar/Dudley/Kent/ Adelaide Avenue intersection and the Adelaide Avenue off ramp /Kent Street intersection
    - as noted in the Cardno 2016 report the traffic flows in the area of the proposed development, including Dudley Street, Kent, Novar and Cotter Road are already operating at the ACT Government's strategic modelling estimate for 2031 – that is 15 year earlier than modelled.
- The AECOM report contains errors. The Cardno report identifies that the analysis of the Adelaide Avenue off ramp/Kent Street intersection should currently be at LOS F rather than LOS A.

Functioning of the existing road network

The report does not look at the functioning of the existing road network in Yarralumla and its performance it only looks at intersection counts.

The current traffic flows and issues arising are an important constraint on any proposed development and must be addressed. They comprise failure of the main access intersections failure, choke points in the main access routes, over capacity traffic volumes on roads under 10m wide, and vehicle and pedestrian safety issues. These issues are as follows:

- Access to the suburb of Yarralumla is very constrained. There is only ready access from the south and the east.
- A high proportion of traffic in the suburb of Yarralumla is not generated by residents but originates from outside the suburb. This traffic is either travelling to the more than 24 major destinations in the north west of the suburb or rat running to avoid intersection failure on Adelaide Avenue.
- The main access to Yarralumla is from the south at two intersections on Adelaide Avenue and one intersection with the Cotter Road. These intersections are from arterial roads and take all traffic into Novar Street directly or via Dudley and Weston Streets. These intersections are at the point of failure.
- Connectivity in the suburb is poor with Novar Street and Weston Street carrying 80% of the traffic volume to the major destinations in Yarralumla. These streets are already carrying traffic volumes that exceed their capacity. Novar Street is at arterial road levels of more than 7000 vehicles per day on weekends.
- The volume of traffic on Novar Street has increased by 15% between 2014 and 2015 in the absence of any increase in the number of dwellings or number of residents in the suburb.
- There is no connectivity through Bentham Street as parking at the Yarralumla Centre blocks access and precludes through traffic and it also impedes traffic flow along Novar Street – it is a choke point.
- There are no streets in Yarralumla that are wide enough, that is a 10m carriageway, to meet the current requirements of a minor or major collector road to carry 1000 to 6000 vehicles per day, or an arterial road of 6001 plus vehicle per day.
- There is poor access to the suburb from the east from the Commonwealth Avenue arterial road along the narrow Alexandrina Drive. This road, at 5.4 metres wide, should carry 300 vehicles per day by current standards, but is carrying four times that volume.
- The current combination of traffic volumes and road widths creates significant pedestrian and vehicle safety issues. These issues are compounded by the absence of pedestrian crossings, traffic calming measures or signalisation of major intersections.
- The Adelaide Avenue and Cotter Road access intersections which channel traffic into Novar Street have become choke points as has the Bentham/Novar Street junction. AM and PM peak gridlock can be expected at a future date.
- These connectivity issues and intersection failure will be exacerbated by currently scheduled developments and the increasing number of destinations on the lake foreshore. These developments include the Cotter road duplication, the completion of further suburbs in Molonglo, the redevelopment of the exiting Deakin Commercial

area on Kent Street, and the additions of Equinox 2 Complex at the junction of Kent Street and Strickland Crescent and the Canberra Brickworks development but also. New destinations on the lake foreshore include the proposed maze in Weston Park and expansion of rowing facilities at Yarralumla Bay.

Parking

The AECOM report looks at parking as a separate issue that is independent of and unrelated to traffic flows and only parking at the Yarralumla Shops in Bentham Street and at the Uniting Church are assessed.

The parking at the Yarralumla Shops is assessed as at capacity on weekends and over capacity during the week. However, the nature of the on-street parking in Bentham Street and the impact of this on existing traffic flows is not considered.

- The AECOM report shows Bentham Street as a Minor Collector Road but it does not perform this function due to the parking arrangements that preclude its use as a through street and already impacts on the functioning of Novar Street which has a Major Collector classification but is already carrying arterial road volumes of traffic and is at capacity. Details are provided below.
- The Yarralumla shopping centre is one block wide located on Bentham Street between Novar Street and Hutchins Street. The road is 7.4m wide with on road parking for 46 vehicles in 90-degree parking bays on both sides of the road. This configuration precludes through traffic flow, is a major safety issue and does not meet the AS2980.5 for road width for 90-degree angle parking or a two-way 60-degree angle parking scheme.
    - Vehicles parked on each side of the street reverse across to the other side of the street to exit the parking bay blocking the whole road and causing back-ups along Novar Street.
    - Some 40 serious crashes of parking/reversing vehicles were reported in the period 2008 -2012 with minor crashed going unreported (ACT Government Territory and Municipal Services TMS ID 790973 April 2014).
- The parking at the Uniting Church on Denman Street was only subject to one assessment on a Sunday morning and based on this the conclusion was drawn that there was sufficient capacity and that it would not impact on the development (although the study is supposed assess where the development may impact not vice versa).
    - The Uniting Church is also a community facility and provides room hire. The main use is thus not just Sunday mornings but at many other times and parking by over 55 vehicles is common and more than the existing formal capacity.

Active Travel

- In regard to active travel the AECOM report notes that Yarralumla has a good supply of footpaths and that connectivity with the new development is important.

- The report however does not consider the ability of pedestrians to safely use these footpaths. There are no pedestrian crossings in Yarralumla and Novar Street, Hopetoun Circuit (south), Kent Street and Dudley Street all carry arterial road levels of traffic making it near impossible to cross at peak times. This is putting at risk pedestrians going to the Grammar Schools, the Primary School, the two Child care centres and the Yarralumla Shops and militates against people walking locally rather than driving.

PART 2

Concept Design Report CBP Access Road and Dudley Street Upgrade. Prepared by CARDNO for the Land Development Agency October 2016

CARDNO Report Background

The CARDNO Report advises that the Canberra Brickworks Precinct (CBP) is to be developed with up to 380 residential dwellings and will repurpose a highly valued historical amenity.

The report states that the CBP is accessible via one access road only and an alternative access road is required, connecting directly into Dudley Street. Previous traffic studies have identified concerns with Dudley Street function and capacity under existing traffic use conditions. This Feasibility Study focuses on upgrade requirements for Dudley Street to meet current ACT Government standards and includes recommended location for the new CBP access road, infrastructure and associated intersection with Dudley Street.

The report sets out an assessment of the existing Dudley Street corridor operation and identifies future road network improvements, including consideration of the following:

I. existing conditions
II. existing traffic conditions along Dudley Street, Kent Street, Novar Street, Denison Street, Cotter Road and Adelaide Avenue
III. suitable measures for improved road and intersection performance
IV. suitable measures to cater for future traffic volumes with consideration for improving pedestrian and cyclist accessibility
V. proposed public transport infrastructure
VI. proposed active travel infrastructure
VII. the opinion of cost for proposed treatments.

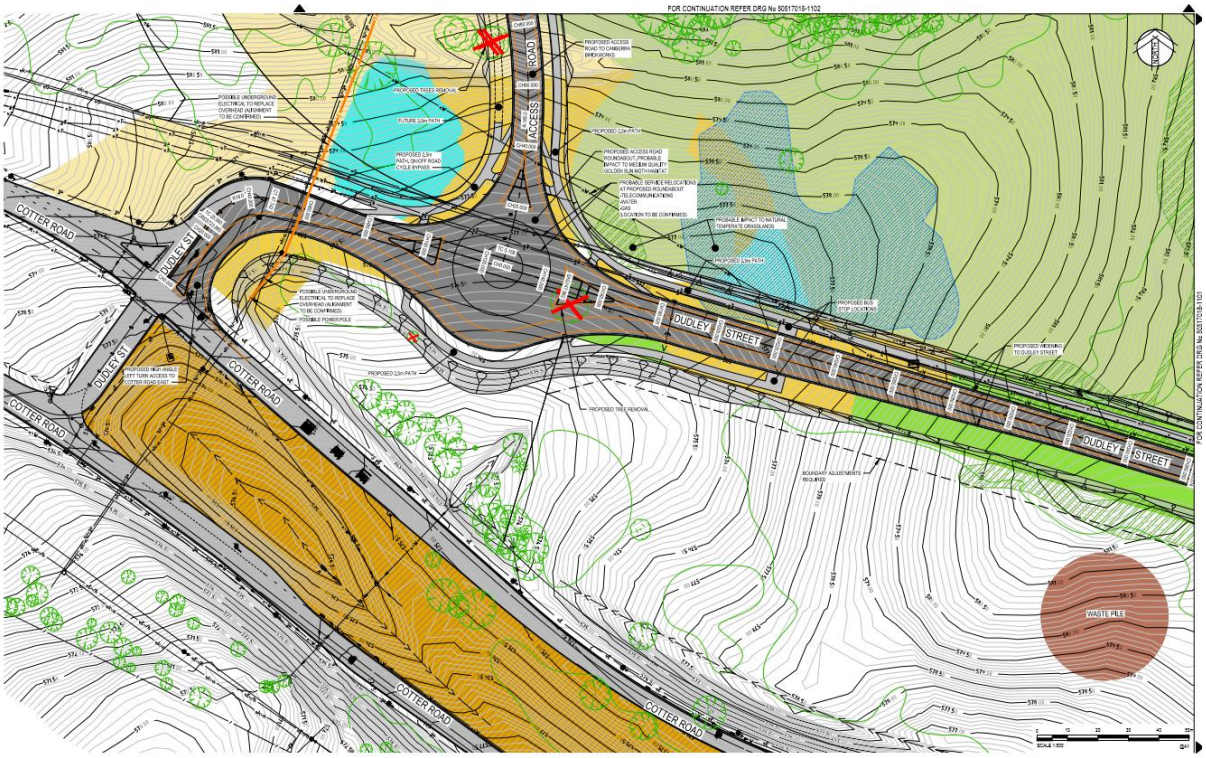
CARDNO Report Recommendations

The CARDNO Report (p27) has recommendations as follows:

- *"The alignment of the Access Road be further developed and agreed with the LDA, confirming the preferred entry point into the CBP Precinct (Section 102) early in the Preliminary Sketch Plan phase of the project.*
- *A 10m wide carriageway, minor collector road be provided from Dudley Street to the CBP (Section 102).*
- *Upgrade Dudley Street to improve safety and amenity of the road to a level agreed with TCCS and in accordance with current standards.*

- *A roundabout be provided in a location similar to that shown in the Concept Plans suitable for the needs of various road users including, trucks, Buses and cycling provisions.*
- *Provide a water supply main in the CBP Access Road verge. All connections and disconnections are to be carried out by ICON Water at the expense of the developer.*
- *Assess Stormwater catchments and design a drainage network to meet the overland surface flow criteria for Roads (TCCS Design Standards for Urban Infrastructure Table 1.15). This will mean modelling the road to channel the major overland flows.*
- *Liaise with ActewAGL in relation to with the proposed relocation of overhead high voltage electrical to the CBP Access Road verge as required.*
- *Liaise with Jemena Gas for relocation and protection requirements to the existing Dudley Street main.*
- *Liaise with Jemena Gas for provision of a new gas supply main in the CBP Access Road verge.*
- *Liaise with Telstra for relocation of services currently within subject site and for connection to existing infrastructure surrounding the proposed development site, once development details are known.*
- *Liaise with ICON (communications) for relocation of services to the CBP Access Road verge as required.*
- *Determine the layout of the proposed development and liaise with TCCS Tree Protection Unit and other relevant authorities as necessary to obtain approval for the required removal of trees on site.*
- *Conduct environmental testing onsite to confirm presence of GSM and Native Grasses. Any direct loss of golden sun moth habitat or natural temperate grassland would require approval of the action under the EPBC Act through the EPBC Referral process.*
- *Conduct geotechnical testing onsite to confirm underlying subgrade, groundwater and existing pavement conditions.*
- *The intersection of the Old Uriarra Track with the proposed access road will be an important consideration during the development of the road design and future consultation. Road user and pedestrian safety checks will need to be undertaken to determine the most appropriate pedestrian crossing point and treatment for the Old Uriarra Track where the proposed Access Road crosses it. Further Engineering assessment of the crossing point's close proximity to the proposed roundabout will be required if a formalised crossing point is further considered.*
- *Modifications to the kerb return or removal of the pedestrian refuge will be required to facilitate the access of a Steer-tag Bus will need to be agreed with TCCS during the development of detailed design for the upgrade of Dudley Street.*
- *Minor modifications to the Kent Street median to allow vehicle turning successfully without mounting the median kerbing. Modifications to the Kent Street median will be required to facilitate the access of a Steer-tag Bus and will need to be agreed with TCCS during the development of detailed design for the upgrade of Dudley Street."*

Report Concept Plan- Recommended Solution



KEY

GSM potential habitat mixed grassland

GSM moderate quality habitat native grassland

GSM moderate quality habitat exotic grass

GSM low quality habitat exotic grass

Natural Temperate Grassland –Themeda

Natural Temperate Grassland Rytdosperma

Waste Pile

Waste Pile

Former Railway Corridor Uriarra Track

Historical Track

Tree and Tree Removal

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Key Issues Arising from the Cardno Report

Estimation of traffic flows

There are a number of inaccuracies in the calculations and assumptions in the calculations of existing and future traffic flows.

- The Yarralumla Precinct Code (RC1 Yarralumla Brickworks, Element 1, Rule 1.1) sets a shop floor area limit of 500 square meters except where associated with entertainment, accommodation or leisure activities and for an office 1500 square metres. This has been applied in the calculations as being a maximum area of 2000 square metres for the whole development. No such limit has been agreed and therefore the calculations essentially do not take into most of the adaptive re-use of the Old Canberra Brickwork nor the expected holding of events there.
- The report bases its calculations for residential traffic generation on the Estate Development Code). For commercial use the assessment applies the metric of *"Mixed use floor space of 2 trips per100 square metres (RTA Guide to traffic Generating Development commercial land uses."* This metric is too low as the NSW RTA Guide to Traffic Generating Developments TDT 2013/ 04a provides separate metrics for offices, shopping centres, business parks and industrial estates, bulky goods retails stores and hardware and building supplies stores. For shopping centres, less than 10,000 square metres, the peak hour generation rate is 12 vehicles/100 square metre Gross Floor Area (GFA) for weekdays and 16 weekends. This would equate to between 80 and 106 vehicle movements per 100 square metre GFA per day. Thus, as the calculations of commercial use do not distinguish between retail and office space the calculations of vehicle movements per day appear considerably underestimated.
- The maximum number of dwellings permitted for the new development is 380 but the calculations use a figure of 398 dwellings (cf Annex 2 and Annex 4)
- The assessment of existing and future traffic is based on the AECOM 2016 report which has a large number of shortcomings including:
    - use of 2006 data; incorrect modelling of Adelaide Avenue /Kent Street off ramp giving an LOS of A rather than the correct one of LOS F;
    - use of 2015 intersection data that was collected during school holidays and thus significantly underestimates vpd by 30% to 60% for Novar and Weston Street;
    - there is no consideration of strategic and development changes underway or approved (Cotter Road duplication; Molonglo suburb growth; Equinox2 in Kent Street);
    - no assessment of growth in traffic;
    - traffic flows and parking are assessed independently giving an erroneous view on the ability of the road network to cope with current volumes

    - the assessment of active pedestrian travel only considers the availability of footpath infrastructure not the inability of pedestrians to use this at AM and PM peak due to traffic volumes and absence of any pedestrian crossings
- In relation to future traffic and the impact of the development on the existing road network the analysis does not apply any growth factor stating that this is because the existing traffic volumes are already at the ACT Government's modelled 2031 volumes (cf Annex 2 p19)
    - although the report acknowledges that in the absence of any other data a growth factor of 2% per annum should be applied.
- The traffic modelling undertaken is based on the assumption that 70% of the CBP development traffic uses the new access road and 30% Denman Street. Of the 70% that uses the CBP Access Road 60% are assumed to use the Cotter Road intersection and 30% the Dudley/Novar/Kent/Adelaide Avenue on ramp roundabout. No basis for this is given, no assessment which assumes little traffic will visit the Yarralumla Shops or other destinations in Yarralumla.
- There is no assessment of visitor use of the Old Canberra Brickworks for leisure and events not any consideration of parking requirements.
- In relation to intersection performance the report states that the Cotter Road is two lanes each way at the Cotter Road/Dudley Street Intersection. This is not correct as the Cotter Road east of Dudley Street is a single lane access ramp onto (and off) Adelaide Avenue (Yarra Glen). The current 95 percentile Cotter Road east bound queue at the Dudley Street intersection is 178 to 192m. This queue will increase significantly with the completion of the Cotter Road duplication that is underway.
    - This is currently driving rat running through Dudley/Novar/Weston Street to access Adelaide Avenue or Commonwealth Avenue. This is likely to increase significantly with the completion of duplication of the Cotter Road and the CBP development will add to this and the Dudley Street/Novar/Kent/Adelaide Avenue roundabout intersection is already at capacity and will fail.
- The "SUMMARY (Gap Analysis) concludes that "As the proposed development is not likely to increase the proposed parking utilisation, parking utilisation for the study area is not considered further.

Proposed solutions of Dudley Street upgrade; CBP Access Road; new Roundabout and intersection modifications

Dudley Street currently varies in width, being only single lane each way and 6 m wide over most of its length, equating to an Access level A and B road (Estate Development Code) but carries arterial road volumes of traffic and is classified by ACT Roads as a Major Collector. It is proposed that Dudley Street be upgraded to:

- a 10m wide carriage way width associated cycle paths and pedestrian path and verges making a total width of 26m
- at the Cotter Road end of Dudley Street, it is proposed that there be two lanes each way to the roundabout making the total width some 36m

- Removal of the pedestrian island at the Novar Street intersection is proposed to allow buses to turn.

The CBP Access Road proposed

- is a Minor Collector at 10m wide carriageway with associated cycle paths and pedestrian path and verges making a total width of 26m will be level requiring a significant cutting through the ridge line which takes the out to a width of more than 30m
- the alignement of the road is NOT along the exisitng electricity powerline but some 75m further east

The CBP/Dudley Street Roundabout

- the roundabout starts approximately 90m from the Cotter Road intersection and in total covers and area about 100m in diameter
- The alternative of an un-signalised Tee Intersection was assessed but not preferred as there was a LOS F for the minor leg (CBP Access Road) in the PM Peak period (cf Annex 2 p 16). A Tee intersection with signals was not assessed.

Denman Atreet and Kintore Crescent

- Denman Street is currently classified as an Access A road and the proposal is to change Denman Street to an Access B.
- Kintore Crescent is currently an Access B road and the propsal is for it to become a Minor CollectorRoad, with an estimated 14% increase in traffic flows, but withour any upgrade in width to meet the Estate Development Code standard.

Impacts of proposed CBP Access Road and Dudley Street Upgrade

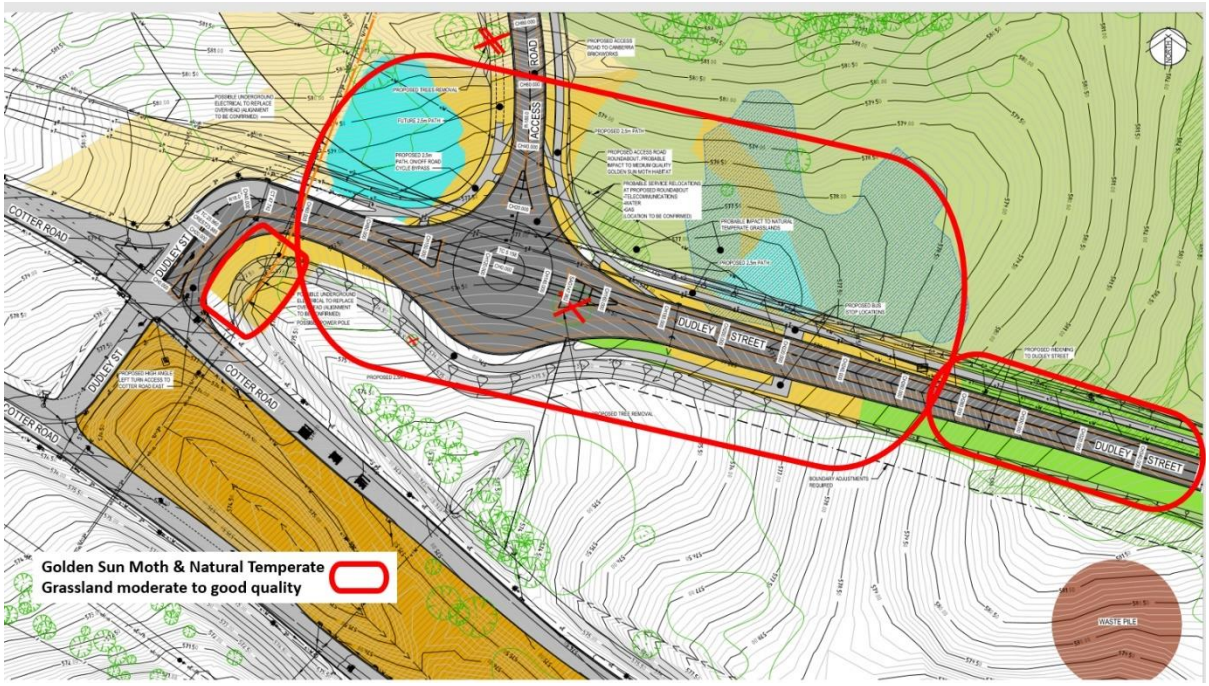
The scale, scope and location of the roadworks for the CBP Access Raod and the Dudley Street upgrad are such that they will have a huge impact on Block 94 which

- is Urban Open Space,
- is a landscape scale asset of woodland and ridge line;
- forms part of the Approach route vista to Government House;
- is a critically endangered Golden Sun Moth and Natural Temperate Grassland habitat;;
- contains the Old Uriarra Track and historical walking track
- is highly valued green recreational space by Canberra resdients

Figure 1. Location and design of CBP Proposed Access Road and Dudley Street Roundabout

Figure 2 CBP Proposed Access Road and cutting through Ridge, Woodland and Uriarra Track

Figure 3 Dudley Street Roundabout and Upgrade and the prime areas of Golden Sun Moth Habitat and Natural Temperate Grassland



Application of the Canberra Brickworks Precinct Objectives

The proposal contravenes the Canberra Brickworks Precinct Objectives that formed part of the RFP and RFT (see Appendix). In particular it contravenes Objectives 2a, 2f, 2g, 3b,4a,4b,4e, 7 in that

- the location of the CBP Access Road Roundabout and widening of Dudley Street maximizes the destruction of Golden Sun Moth habitat and Natural Temperate Grassland rather than seeking to minimise any impact
- requires the removal of a large number of high value trees in particular the oak trees and indeed the removal of the majority of trees is proposed
- puts about a 7m deep cutting through the exisitng east-west wooded ridgeline that is a landscape scale asset on Urban Open Space that is Designated Land and forms part of an Approach Route under the National Captial Plan. This will severely disrupt the terrain and geological features and impact on the natural vista of the Approach Route with a deep scar
- biscects the highly valued woodland walking trail and Old Uriarra Tract with a 30m plus wide and about a 7m deep cutting. This will totally disrupt the “Green walking circuit” and makes providing a continuous crossing of the CBP Access Road highly problematic
- the need for adequate parking for visitors to the Brickworks, Quarry Park and Railway Remanats is not assessed
- the requirement for a 20m buffer as per the Precinct Code is not met

- the Road Hierachy of Denman Street and Kintore Crescent is changed to Access B and Minor Coleector respectively
- Dudley Strteet and Novar Street
    - are classified as Major Collectors but carry arterial road volumes of traffic
    - the intersections are at capacity in AM and PM peak
    - there is significant rat running along these street which will increase with changes underway and the proposed CBP development
    - for which vehicle and pedestrial safety have not been considered in particular that Novar Street has direct property access by vehicles, is a bus route and has no pedestrian crossings.

APPENDIX

CANBERRA BRICKWORKS PRECINCT OBJECTIVES

http://www.lda.act.gov.au/uploads/ckfinder/files/pdf/3_Commercial/Canberra_Brickworks/Site_Report2016/CANBERRA%20BRICKWORKS%20PRECINCT%20OBJECTIVES%20MAR%2016.pdf

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1. To conserve, redevelop and integrate the Land's heritage elements to create a unique and distinctive heritage, cultural and recreation destination that provides a diversity of activities for the broader community, by:

a. Provides appropriate and sympathetic conservation, restoration, adaptive and sustainable reuse of structures and areas in accordance with the provisions of the endorsed Conservation Management Pln (2010) or its endorsed successor and considers the Burra Charter and the TICCIH Charter for Industrial Heritage.

b. Including the Railway Remnants and the Quarry as publicly accessible and connected parklands, integrating the Land's heritage, cultural and geological heritage elements, and preserving the physical and historical connection to the Brickworks buildings.

2. Provide a range of high quality, diverse, innovative and socially inclusive uses in within the Land while targeting global best practice measures and outcomes for sustainability, community focus, and resilience, including:

a. If housing is included in the proposal, provide diverse housing options, up to a maximum of 380 dwellings and an environment that is easy and delightful to live within;

b. Ensure community amenities such as shops and other services are accessible, matched to the proposed uses of the Precinct and provide opportunities for positive formal and informal interpersonal interactions.

c. Demonstrate commitment to zero (or negative) net:

i. greenhouse gas emissions (including contributing to the ACT's self-sufficiency in renewable energy and not providing any infrastructure for use of fossil gas as a fuel),

ii. pollutants,

iii. nutrients,

iv. water,

v. waste

from the development and the Precinct

d. Demonstrate commitment to mitigate against impacts of climate change;

e. Incorporate global best practice such as required to achieve, as a minimum, top ratings for Green Star certification (all categories), Living Building Challenge 3.0 certification, Livable Housing Australia certification, NatHERS and NABERS; HIA Greensmart Accreditation; and Water Sensitive Urban Design; etc.;

f. Plan development to minimise disturbance to the Precinct's current terrain, soil structure and hydrology, and to ensure protection of critically endangered Golden Sunmoth and temperate grasslands nearby.

g. Demonstrate how active and public transport will be the attractive, safe (and perceived to be safe) and accessible transport choice in the Precinct h. Demonstrate commitment to triple bottom line.

3. Development in the Precinct harmonises with the character of the Brickworks, Canberra's Garden City Principles and the context of broader planning for Canberra:

a. Harmonise new buildings with the Precinct's and surrounding built form, landscape and streetscape (through selection of materials, wide verges and large street trees);

b. Minimise disturbance to the current terrain, geological features and landscape scale assets and enhance the woodlands as significant assets and as a windbreak and sound barrier;

c. Ensure the development minimises visible impact from the south or west of the ridgeline that runs from Denman Street to Dunrossil Drive.

4. Integrate Precinct open space, active travel and recreation connections and facilities into existing networks:

a. Retain and improve the continuous woodland loop, part of which is the Old Uriarra Track, in its natural state with mature trees and groundcover and without requiring people who are walking, cycling or using other active travel and recreation to cross a primary access road.

b. Install shared paths in all streets, and connect the Precinct with existing paths, including with paths around Lake Burley Griffin and near Novar/Kintore Streets.

c. Ensure connections between Precinct parklands including Railway Remnants parkland, the Brickyard area and the Quarry.

5. Minimise adverse impact of development on the surrounding community in terms of traffic, parking, noise, light, odour and privacy etc.:

a. Propose measures to minimise traffic volume and rat-running impacts on the currently existing built areas of Yarralumla and Deakin.

b. Ensure the primary access into the Brickworks Precinct is shared by visitors to the Brickworks/Quarry and any new residential development.

c. In addition to standard mandated parking requirements for intended uses, ensure adequate parking for motor and active travel, and to meet projected future needs for people visiting the Brickworks, Quarry Park, and Railway Remnants;

d. Ensure adequate infrastructure is provided in the Precinct to accommodate active travel and public transport – paths, sites suitable for public transport.

e. Provide a landscaped “green” buffer of at least 20 metres’ width to the north and east of the project area that protects the privacy of adjacent residential blocks and presents an attractive visual treatment from the Precinct.

f. Ensure no new structures have sight lines into the gardens and living areas of residential blocks ;

g. Design a development in the Brickworks and Quarry that will mitigate potential noise, odour and light pollution impacts on residential, community and commercial blocks;

h. Minimise duration of construction phase, develop a transport management plan in collaboration with the community, and ensure adequate protection to residential, community and commercial blocks, residents, workers and visitors from any asbestos, dust and other contaminants during construction.

6. Development is financially viable and sustainable over the long term, minimises the ongoing Precinct management costs to the ACT Government, and provides value to the Territory:

a. Provide a transparent, costed plan for the Brickworks conservation, preservation and adaptive reuse, including upfront repairs as specified in the Conservation Management Plan, and other Precinct management costs;

b. Propose a planned structure for ongoing management and financing of the Precinct.

7. Demonstrate in the response to the RFP and RFT that the parameters in the Community Parameters and Perspectives report in Annexure X have been and will continue to be addressed comprehensively.

8. Demonstrate ongoing engagement with the community, including the Community Panel, during the RFP and RFT and subsequent planning, design, approval, development, construction and post-construction processes are addressed through a Community Engagement Plan:

a. Respond to the Community Parameters and Perspectives Report in Annexure X in the Community Engagement Plan and factor it into the Precinct development program and timeline.

9. Development demonstrates compliance with relevant and current ACT and Commonwealth legislation, strategies, policies, plans, programs and projects.