



Title of Proposal - Canberra Brickworks Precinct (CBP) Access Road and Dudley Street Upgrade

Section 1 - Summary of your proposed action

Provide a summary of your proposed action, including any consultations undertaken.

1.1 Project Industry Type

Transport - Land

1.2 Provide a detailed description of the proposed action, including all proposed activities.

Dudley Street provides a link from north western Canberra to the suburbs of Yarralumla (via Novar Street) and Deakin, Hughes and Garran (via Kent Street). It connects Cotter Road to the roundabout intersection of Novar Street / Adelaide Avenue / Kent Street. In 2016, AECOM prepared a traffic assessment which determined that Dudley Street is functioning at capacity under existing traffic use conditions. Upgrades are required to allow Dudley Street to operate safely and to meet the design requirements for a 'major collector road'.

The Canberra Brickworks Precinct (CBP) is located in the central Canberra suburb of Yarralumla on a 16 hectare site and is located around 3.5 kilometres from the Canberra CBD. The CBP site is proposed to be developed into around 380 residential dwellings and would repurpose a highly valued historical amenity. A new access road is required to service the CBP from Dudley Street together with the upgrade of Dudley Street. The development of the CBP is not part of this proposed action and the separate action for this would be undertaken by the DOMA Group. It has been agreed that the two Referrals will be submitted and assessed concurrently.

The proposed action, to be undertaken by the ACT Government, includes:

- Upgrading Dudley Street;
- A new roundabout intersection between Dudley Street and the new access road to the CBP; and
- A new access road travelling north to connect the new roundabout intersection on Dudley Street to the CBP up to the boundary of the CBP development site.

A feasibility design, concept design and preliminary sketch plan (PSP) design have been developed for this action which identified improvements for Dudley Street and proposed an alignment for the new access road (including an intersection from Dudley Street) to provide access for the future development requirements of the CBP. The CBP Access Road and Dudley Street Upgrade (the proposed action) have been optimised during each of these design stages to minimise ecological and community impacts, while meeting design objectives and road design requirements.

The proposed action comprises the following components:



1. Dudley Street Upgrade

Upgrade of Dudley Street from a six metre wide single carriageway to a 10 metre single carriageway to allow its reclassification to a 'major collector road' to meet current ACT Estate Development Code guidelines. The proposed cross section on Dudley Street is as follows:

- 3.5 metre wide traffic lane with a 1.5 metre shoulder
- 7.0 metre wide verge on the northern side generally to cater for:
 - 2.5 metre wide shared path;
 - Street lights and utilities.
- 4.5 metre wide verge on the southern side generally to cater for:
 - Street lights and utilities.

Bus stops and associated paths are also included in the upgrade.

2. CBP Access Road

Provision of a new 180 metre long access road (classified in the ACT as a minor collector road) and intersection connecting from Dudley Street and extending through Yarralumla Section 94 Block 3 to provide access for the future development requirements of the CBP. The proposed cross section of the CBP Access Road is as follows:

- 3.5 metre wide traffic lane;
- 4.5 metre wide raised median;
- 6.7 metre wide verge on the western side generally to cater for:
 - 1.5 metre wide utility corridor;
 - 1.5 metre wide path;
 - 3.7 metre wide tree planting corridor adjacent to the road boundary; and
 - Street lights
- 7.7 metre wide verge on the eastern side generally to cater for:
 - 2.5 metre wide path;
 - 1.5 metre wide utility corridor.
 - 3.7 metre wide tree planting corridor adjacent to the road boundary; and
 - Street lights.

3. Ancillary Facilities

Two construction compound locations have been identified for use during the construction phase that would be used for site offices, construction staff amenities, storage of machinery, vehicles, equipment and material laydown areas. The first compound would be located in the western extents of the Project between Dudley Street and Cotter Road and the second compound would be located north of Dudley Street in the east adjacent to the Yarralumla Uniting Church. The western compound area would also be used for the temporary realignment of Dudley Street to maintain traffic flow during construction of the upgrades of the Cotter Road / Dudley Street intersection.

Opportunities to use alternative locations for the construction compound are currently being investigated, including: (1) using the CBP site prior to its development; (2) use of the existing construction compound at Lady Denman Drive which is currently being used for the Cotter Road upgrade. The use of these locations is highly dependent on the scheduling of the proposed activities and the existing uses/development of these sites, and also on successful contract negotiations between the responsible parties. The use of these areas would minimise the



disturbance footprint within the Project Area and would utilise areas which have previously been disturbed. However both of these locations are a greater distance from the area of construction activity which would result in less efficient onsite work practices.

1.3 What is the extent and location of your proposed action? Use the polygon tool on the map below to mark the location of your proposed action.

Area	Point	Latitude	Longitude
Project Area	1	-35.313077351863	149.09060726735
Project Area	2	-35.312709649799	149.0898777065
Project Area	3	-35.31249077873	149.08995280835
Project Area	4	-35.31254330784	149.09025321576
Project Area	5	-35.312289416823	149.09039269063
Project Area	6	-35.312053034814	149.09057508084
Project Area	7	-35.311702837976	149.09044633481
Project Area	8	-35.31161528853	149.09013519856
Project Area	9	-35.311545248904	149.09019957158
Project Area	10	-35.311597778629	149.09044633481
Project Area	11	-35.311089989861	149.09038196179
Project Area	12	-35.311072479847	149.0908003864
Project Area	13	-35.311589023677	149.09088621709
Project Area	14	-35.311624043478	149.09120808217
Project Area	15	-35.311764122532	149.09116516682
Project Area	16	-35.311737857728	149.09085403058
Project Area	17	-35.311737857728	149.09085403058
Project Area	18	-35.312088054415	149.09115443799
Project Area	19	-35.312219377781	149.09130464169
Project Area	20	-35.312403230136	149.09141193005
Project Area	21	-35.312657120797	149.0914548454
Project Area	22	-35.313357504694	149.09426580045
Project Area	23	-35.313497580745	149.09497390363
Project Area	24	-35.313226183175	149.09513483617
Project Area	25	-35.313445052254	149.09562836263
Project Area	26	-35.313401278486	149.09641156766
Project Area	27	-35.313243692723	149.09694800946
Project Area	28	-35.31342754275	149.09706602666
Project Area	29	-35.313182409288	149.09810672375
Project Area	30	-35.31249077873	149.09816036793
Project Area	31	-35.31249077873	149.09838567349
Project Area	32	-35.313541354462	149.09838567349
Project Area	33	-35.313550109202	149.09810672375
Project Area	34	-35.313418787996	149.09811745259
Project Area	35	-35.313847769813	149.09593949887



Area	Point	Latitude	Longitude
Project Area	36	-35.313812750974	149.09533868405
Project Area	37	-35.313182409288	149.09221659276
Project Area	38	-35.313086106653	149.09189472768
Project Area	39	-35.31356761868	149.09157286259
Project Area	40	-35.312954784694	149.0906823692
Project Area	41	-35.313059842278	149.09060726735
Project Area	42	-35.313077351863	149.09060726735

1.5 Provide a brief physical description of the property on which the proposed action will take place and the location of the proposed action (e.g. proximity to major towns, or for off-shore actions, shortest distance to mainland).

The proposed action is located within ACT Territory land under the management of the ACT Government, with the exception of Dudley Street, which is National land under the management of the National Capital Authority (NCA). The proposed action traverses four blocks with differing zoning as listed in Table 1 (note this table does not include road reserves).

Table 1 Blocks and Sections within which the proposed action is located:

- Block 3, Section 94, Yarralumla, Zone: PRZ2, PRZ1, Applicable statutory planning framework: Territory Plan, Land custodianship: Public land
- Block 1, Section 127, Yarralumla, Zone: PRZ2, Applicable statutory planning framework: Territory Plan, Land custodianship: Public land
- Block 1, Section 113, Yarralumla, Zone: Designated Land, Applicable statutory planning framework: National Capital Plan, Land custodianship: Public land
- Block 1, Section 123, Curtin, Zone: Designated Land, Applicable statutory planning framework: National Capital Plan, Land custodianship: Public land

The properties on which the proposed action will take place (the Project Area) are located in the suburb of Yarralumla, Canberra around 3.5 kilometres away from the Canberra CBD. The Project Area is around two kilometres south of Lake Burley Griffin.



Dudley Street is an existing 'minor collector road' with a single lane in each direction connecting Cotter Road and Kent Street/Novar Street. The area surrounding Dudley Street and the road reserve to the south are classified as designated land under the auspices of the NCA. North of Dudley Street the zoning is a mix of PRZ1: Urban Open Space (in the western extents) and PRZ2: Restricted Access Recreation Zone (in the eastern extents).

The CBP Access Road would connect from Dudley Street travelling north to the CBP boundary. The CBP Access Road would be located on land zoned as PRZ1: Urban Open Space.

The nearest residential receivers are located on Denman Street to the north.

1.6 What is the size of the proposed action area development footprint (or work area) including disturbance footprint and avoidance footprint (if relevant)?

Project footprint is around 5.58 hectares

1.7 Is the proposed action a street address or lot?

Lot

1.7.2 Describe the lot number and title. Yarrulumla, Section 94 Block 3

1.8 Primary Jurisdiction.

Australian Capital Territory

1.9 Has the person proposing to take the action received any Australian Government grant funding to undertake this project?

No

1.10 Is the proposed action subject to local government planning approval?

Yes

1.10.1 Is there a local government area and council contact for the proposal?

Yes

1.10.1.0 Council contact officer details

1.10.1.1 Name of relevant council contact officer.



Tegan Liston

1.10.1.2 E-mail

Tegan.Liston@act.gov.au

1.10.1.3 Telephone Number

02 6205 9649

1.11 Provide an estimated start and estimated end date for the proposed action.

Start date 07/2018

End date 07/2019

1.12 Provide details of the context, planning framework and State and/or Local government requirements.

The proposed action, with the exception of the Dudley Street road reserve, is located within land subject to the Territory Plan, administered by ACT Environment, Planning and Sustainable Development Directorate (ACT EPSDD) in accordance with the *ACT Planning and Development Act 2007* (PD Act)). Territory Development Approvals are by the ACT Planning and Land Authority (ACTPLA) under the PD Act and are required for works proposed in areas subject to the Territory Plan.

Dudley Street road reserve is located within a Designated Area, which is subject to the requirements of the National Capital Plan (NCP) administered by the National Capital Authority (NCA). The NCA has responsibility for determining detailed conditions of planning, design and development for proposals in Designated Areas. For the Dudley Street works, development approval is required from the NCA through a Works Approval process. Works proposed in Designated Areas do not require development approval from the ACT's planning authority (ACTPLA) under the ACT's legislative planning framework (PD Act). Notwithstanding, works proposed in Designated Areas still require project endorsement from the ACT agencies which administer ACT environmental regulations.

If the proposed action is deemed a controlled action, it will be subject to a formal assessment and approval under the EPBC Act. The type of assessment would depend on the complexity of the proposed action and potential impacts. The assessment is likely to be in the form of an Environmental Impact Statement (EIS) prepared under the bilateral agreement with the ACT Government. The bilateral agreement essentially allows the Commonwealth to delegate to the ACT the responsibility for conducting the environmental assessment for the proposed action, under the EPBC Act. An EIS prepared under the bilateral agreement must be approved by both



the Minister for the Department of the Environment and Energy and ACTPLA before the proposed action can proceed. For the works proposed within Designated Areas, advice in relation to how obligations have been met under the EPBC Act will be provided with the Works Approval.

The proposed works would be assessed in the Impact Track under the PD Act, as there are triggers due to potentially significant impacts to golden sun moth and natural temperate grassland, and part of the Project Area is within a site listed on the ACT contaminated land register. Proposals assessed in the Impact Track require an EIS to be prepared and submitted to ACTPLA before a development application can be lodged with ACTPLA.

Endorsement from ACT Government agencies which administer ACT environmental regulations would be required for all works. Endorsement from the ACT agencies (ACT Heritage, the Conservator of Flora and Fauna, ACT Environment Protection Authority (EPA) and Transport Canberra and City Services (TCCS)) satisfies the NCA's requirement for endorsement by the ACT agencies for works proposed in Designated Areas, as well as the endorsements required for development approval under the PD Act for areas subject to the Territory Plan.

1.13 Describe any public consultation that has been, is being or will be undertaken, including with Indigenous stakeholders.

A number of relevant stakeholders have been consulted throughout the design process, including:

- Suburban Land Agency
- Yarralumla Uniting Church
- National Capital Authority
- Transport Canberra and City Services (TCCS)
- ACTION Canberra Transport
- Utilities Authorities
- Inter-Directorate with EPSDD
- Water Burley Griffin Society
- Indigenous heritage stakeholders



- SEE-Change
- Yarralumla Residents Association
- Pedal Power.

Suburban Land Agency

The Suburban Land Agency (SLA), previously the Land Development Agency (LDA), is a key stakeholder in the design and representatives have been attending the fortnightly project meetings during PSP design development.

The key issues and requirements for the SLA are:

- Alignment of the CBP Access Road to ensure an appropriate tie-in with the CBP development while considering topographical and environmental constraints.
- A shared path to provide a connection to the CBP from Cotter Road.
- The proposed gradient of the CBP Access Road to meet the maximum gradient design requirements.
- Stormwater design for the CBP Access Road and Dudley Street Upgrade assumes existing run off conditions. Increased run off due to the CBP development would be managed and attenuated by the development.
- SLA has a Community Panel set up for the Canberra Brickworks Project which includes groups such as the Yarralumla Residents Association (YRA), Inner South Community Council, SEE-Change and Pedal Power etc. The SLA has presented the design as it progresses at Community Panel sessions and meetings have also been held with YRA, SEE-Change and Pedal Power.

Yarralumla Uniting Church

A meeting was held on 6th February 2017 with various representatives from the Yarralumla Uniting Church to discuss the stormwater drainage from the Church. It was agreed with CMTEDD that the stormwater flow from the Church would be incorporated into the Dudley Street Upgrade works. A further meeting was held on 18th August 2017 to provide an update on the proposed action.



The key points of discussion and outcomes from the meeting were:

- Uniting Church representatives noted that the stormwater drainage outlets flow in the direction towards Dudley Street as there is visible erosion close to these outlets.
- The stormwater from the main church drains towards Deakin.
- Uniting Church representatives raised their concern regarding the stormwater drainage from the church affecting any downstream future developments.
- The property was surveyed around 12 months ago.
- It was agreed that stormwater runoff from the church would be incorporation into the Dudley Street Upgrade.

National Capital Authority

A meeting was held with Sarah Treble from the National Capital Authority (NCA) on 1st February 2017 to discuss the proposed scope of works. The key points of discussion and outcomes of the meetings were:

- NCA queried the traffic numbers and impacts on Cotter Road and Dunrossil Drive that could affect dignitaries on route to or from Government House.
- NCA requested that the draft alignment be shared with them to understand the required boundary changes prior to a Works Approval submission.
- The current cross sections for the CBP Access Road and Dudley Street were presented and NCA would internally discuss if further additional landscaping treatments along Dudley Street would be required.
- NCA highlighted that both ACT Heritage and ACT Conservator should be consulted.
- NCA highlighted that public consultation would be required prior to the Works approval application.
- NCA highlighted that the approval application would be only for Dudley Street. Further consultation has been undertaken with NCA as the design for the project has progressed including an update meeting on 9 August 2017 and review of the Preliminary Sketch Plan drawings and design report in early August 2017.



Transport Canberra and City Services (TCCS) and ACTION Canberra Transport

An initial meeting was held with TCCS and ACTION on 23rd January 2017.

The key points of discussion and outcomes of the meeting were:

- Clarified bus services will use Dudley Street to service the future development.
- Current bus route on Novar Street would be retained.
- Bus stop is to be indented.
- Bus stop bay (gradient) is to comply with the TCCS standard.
- There is to be one bus stop (in each direction) on Dudley Street and located as close as possible to the CBP development. Local stop location to be clearly communicated to the SLA and the Developer.

A few areas of concern for ACTION included:

- Dudley Street/Cotter Road westbound intersection – safety concern for buses turning right into Cotter road as currently the intersection is not signalised.
- Dudley Street/Novar Street is a tight intersection.
- Adelaide Avenue southbound off ramp/Kent Street is a tight intersection.

Further meetings have occurred with TCCS as the design has progressed including discussion and agreement of the road cross section and review of the Preliminary Sketch Plan drawings and design report in July/August 2017.

Utilities Authorities

During the PSP design process liaison with utility authorities was undertaken to discuss the proposed works and location of existing utilities. The potentially impacted utility authorities include:

- Jemena/Zinfra



- ActewAGL
- Icon Water
- Telstra
- Transact/iiNet.

Inter-Directorate

There have been inter-directorate discussions and a meeting with the ACT Conservator of Flora and Fauna. Liaison from the Environment, Planning and Sustainable Development Directorate (EPSDD) of ACT Government on 23rd March 2017. This meeting involved discussions regarding the environmental issues and impacts. It was confirmed that an EPBC Act Referral and a Bilateral EIS would be likely be required to support the Development Approval Process.

Pre-application meeting held on 3rd August 2017 that had representatives including:

- TCCS
- ACT EPA
- Icon Water
- ActewAGL
- Conservator Liaison Officer (EPSDD)
- Impact Assessment Officer (EPSDD).

Further discussions have occurred as the design has progressed with staff from EPSDD in relation to the environmental impacts and offsets required for this project and recommended tree and grass species to plant,

Walter Burley Griffin Society



Civil Infrastructure Delivery of CMTEDD advised the Walter Burley Griffin Society on 5th January 2017 of the works occurring at Dudley Street. The Walter Burley Griffin Society has been advised of the works due to Dudley Street being part of the original road layout by Walter Burley Griffin. The Walter Burley Griffin Society mentioned that their main interests with respect to Griffin's plan and street layouts are in relation to the terminus of the Adelaide Avenue axial and Griffin's principles of designing with landforms and vistas. The Walter Burley Griffin Society has requested to be notified of public briefings regarding the draft design plans.

Indigenous heritage stakeholders

A Stage 1 Aboriginal Cultural Heritage Assessment was undertaken by Navin Officer Heritage Consultants Pty Ltd in 2014. The assessment confirmed there is no presence of any Aboriginal heritage values relevant to the Project Area and therefore no consultation with Aboriginal stakeholders has been carried out. See section 3.9 of this submission for further details of the Stage 1 Aboriginal Cultural Heritage Assessment.

General Public

The proposed action would be publically exhibited during the EIS and Development Application process and these would be available on the ACT Environment and Planning website for the statutory period and open for public comment.

1.14 Describe any environmental impact assessments that have been or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project.

A number of preliminary investigation assessments have been carried out, including:

- Site Investigation Report (Stage 1), March 2016 by AECOM.
- Detailed Engineering Survey, October 2014 by Leach Steger.
- Site Investigation – Traffic, Transport and Carparking, February 2016 by AECOM.
- Yarralumla Brickworks Precinct Tree Assessment (Tree Management Report), November 2015 by dsb Landscape Architects.
- Golden sun moth Survey and Ecological Assessment of Dudley Street Road Reserve,



February 2016 by Umwelt.

- Canberra Brickworks and Environs Ecological Assessment, December 2014 by Umwelt.
- Bushfire Risk Assessment Report, Canberra Brickworks Precinct, January 2016 by ABPP.
- Preliminary Geotechnical Site Investigation for the Canberra Brickworks, November 2013 by SMEC.- Preliminary Environmental Site Investigation-Canberra Brickworks, February 2014 by SMEC.
- Yarralumla Brickworks Railway Remnants registration, 2013 by the ACT Government.
- Stage 1 Aboriginal Cultural Heritage Assessment, August 2014 by Navin Officer.
- Impact Assessment Report, Canberra Brickworks Access Road and Dudley Street Upgrade Area, Yarralumla, ACT, September 2017 by Umwelt.

A number of ecological surveys have been completed within the Project Area as part of the broader CBP project (Rowell 2010, Rowell 2011, Rowell 2012, Umwelt 2014, Umwelt 2016 and Umwelt 2017). These surveys have guided the planning phase of the Project, such that potential impacts to ecological values have been minimised as far as reasonable and feasible.

The latest survey in 2017 was undertaken to confirm the current extent and quality of the ecological community natural temperate grassland and quality and species abundance of golden sun moth habitat. An Impact Assessment Report (Umwelt, 2017) has been prepared using the result of this survey to support the EPBC referral with three objectives:

- describe the avoidance measures undertaken as part of the design process for the proposed action;
- assess the impacts of the proposed action under relevant Commonwealth and ACT approvals legislation; and
- quantify the extent and quality of impacted areas, according to Commonwealth and ACT offset policies as required.

The Impact Assessment Report (Umwelt, 2017) has been referenced throughout and is attached to this referral as supporting information.



The proposed action has not been fully assessed under the PD Act at this stage. It is considered that a Bilateral Environmental Impact Statement (EIS) would be prepared under the 'Impact Track' process to support the Development Approval application of the Project.

1.15 Is this action part of a staged development (or a component of a larger project)?

Yes

1.15.1 Provide information about the larger action and details of any interdependency between the stages/components and the larger action.

The proposed action will provide the publicly funded access to allow the development of the CBP. As the responsible party for developing the majority of roads in ACT, the ACT Government (Infrastructure Finance and Capital Works) are the proponent for the CBP Access Road and Dudley Street Upgrade.

DOMA Group are the proponent for the development of the Canberra Brickworks Estate (within the CBP). A separate EBPC Act Referral will therefore be submitted for the proposed action of developing the CBP site as has previously been discussed and agreed with DOEE.

There is a preference for the construction of the CBP Access Road and Dudley Street Upgrade to commence first in order to allow an appropriate access via these routes for the construction vehicles undertaking work on the CBP, thereby minimising disruption from construction traffic (including site decontamination works) for the residents of Yarralumla.

Independent of the development of the CBP site, upgrades to Dudley Street are required to safely operate and to meet the requirements for a 'major collector road'. A traffic assessment (AECOM, 2016) determined that Dudley Street is currently functioning at capacity under existing traffic use conditions.

1.16 Is the proposed action related to other actions or proposals in the region?

No



Section 2 - Matters of National Environmental Significance

Describe the affected area and the likely impacts of the proposal, emphasising the relevant matters protected by the EPBC Act. Refer to relevant maps as appropriate. The [interactive map tool](#) can help determine whether matters of national environmental significance or other matters protected by the EPBC Act are likely to occur in your area of interest. Consideration of likely impacts should include both direct and indirect impacts.

Your assessment of likely impacts should consider whether a bioregional plan is relevant to your proposal. The following resources can assist you in your assessment of likely impacts:

- [Profiles of relevant species/communities](#) (where available), that will assist in the identification of whether there is likely to be a significant impact on them if the proposal proceeds;
- [Significant Impact Guidelines 1.1 – Matters of National Environmental Significance](#);
- [Significant Impact Guideline 1.2 – Actions on, or impacting upon, Commonwealth land and Actions by Commonwealth Agencies](#).

2.1 Is the proposed action likely to have ANY direct or indirect impact on the values of any World Heritage properties?

No

2.2 Is the proposed action likely to have ANY direct or indirect impact on the values of any National Heritage places?

No

2.3 Is the proposed action likely to have ANY direct or indirect impact on the ecological character of a Ramsar wetland?

No

2.4 Is the proposed action likely to have ANY direct or indirect impact on the members of any listed species or any threatened ecological community, or their habitat?

Yes

2.4.1 Impact table

Species	Impact
Golden sun moth (<i>Synemon plana</i>)	In December 2015, Umwelt carried out a



Species	Impact
	<p>vegetation assessment and golden sun moth Survey in accordance with EPBC Act survey guidelines for this species. Based on the wide distribution of golden sun moth throughout the Project Area, the majority of the Project Area has been determined to constitute habitat, albeit of varying quality. Quality has been determined based on vegetation composition and moth observations. Further surveys for golden sun moth were carried out by Umwelt in 2017 in accordance with the EPBC Act survey guidelines for this species. The ecological survey of the golden sun moth (Umwelt, 2017) identified a total of 7.39 hectares of golden sun moth habitat recorded within the defined Survey Area (refer to the attached report for more details). This includes the majority of the grassland areas within the Project Area. Table 2 summarises the habitat types and quality present with the GSM Survey Area. Table 2: golden sun moth Habitat (Vegetation Type; Quality; Area (ha)): - Exotic Grassland (Chilean needle grass (<i>Nassella neesiana</i>) (perennial) Dominated); Moderate (Disturbed); 1.41 ha. - Exotic Grassland (mixed golden sun moth feed species); Low; 0.84 ha. - Exotic Grassland (mixed golden sun moth feed species); Moderate; 2.91 ha. - Mixed Grassland, Low, 0.77 ha. - Mixed Grassland, Low-Moderate, 0.78 ha. - Native Grassland (<i>Rytidosperma</i> spp.), Low, 0.21 ha. - Native Grassland (<i>Rytidosperma</i>, <i>Austrostipa</i> spp.), Low, 0.05 ha. - Native Grassland (<i>Rytidosperma</i>, <i>Austrostipa</i> spp.), Moderate, 0.42 ha. Total 7.39 ha. The 2017 survey identified a total of 617 male and six females over four non-consecutive days of survey in December (refer to attached IAR for methodology and results). The highest density of moths was recorded in Exotic Grassland (Chilean needle grass (<i>Nassella neesiana</i>) (perennial) Dominated) and in Exotic Grassland (mixed golden sun moth feed species) in the north west of the Survey Area. Moderate numbers of golden sun moth were recorded throughout much of the remaining area. Low golden sun moth numbers were recorded on</p>



Species	Impact
	<p>the southern verge of Cotter Road. Golden sun moth observations fluctuate seasonally, and the quality of habitat within the Project Area may vary between years based on the dominance of exotic species. Of the recorded 7.39 ha of suitable golden sun moth habitat in the Survey Area, the proposed action's footprint would result in a direct loss of 2.54 ha or the equivalent of 34 percent of suitable golden sun moth habitat within the Survey Area. Habitat areas to the south of Dudley Street are also expected to be impacted by changes in surface water run-off and small patch size; resulting in a further 0.63 ha of habitat indirectly impacted by the proposed action. A total of 3.17 ha or 43 percent of golden sun moth habitat is expected to be impacted by the proposed action (this includes the project footprint and temporary construction site compound locations, refer to Table 3 for a detailed breakdown of the golden sun moth habitat to be removed including habitat quality). Table 3: breakdown of clearing of golden sun moth habitat</p> <p>Habitat Quality; Loss of habitat in hectares (ha) = Direct Impacts</p> <ul style="list-style-type: none">- Low (native grassland with a moderate component of native C3 grasses on shallow, eroded soils; or moderately dense mixed grassland); 0.42 ha.- Low to Moderate (understorey includes a moderate cover native C3 grasses but is affected by shading of planted trees); 0.15 ha.- Moderate (native grassland with a moderate component of native C3 grasses); 0.04 ha.- Moderate (Disturbed) (exotic grassland dominated by Chilean needlegrass); 1.93 ha. <p>= Sub-total, habitat Directly Impacted, 2.54 ha.</p> <p>= Indirect Impacts - Moderate (Disturbed) (exotic grassland dominated by Chilean needlegrass); 0.63 ha.</p> <p>= Total, 3.17 ha. Source: Impact Assessment Report (Umwelt 2017). The 'Significant Impact Guidelines for the Critically Endangered golden sun moth' state that within a small or fragmented habitat area (<10 hectares), such as within the Project Area, any habitat loss, degradation or fragmentation is considered a significant impact. As the project is expected to</p>



Species	Impact
	<p>reduce the area of occupancy of golden sun moth in excess of the amount stated in Significant Impact Guidelines for the Critically Endangered golden sun moth and adversely affect avoided habitat such that the species may decline, it is considered likely to result in a significant impact to golden sun moth. As all possible avoidance and mitigation measures have been considered and implemented, the remaining impacts will be offset in accordance with the EPBC Act environmental offsets policy. The removal of 3.17 ha of suitable golden sun moth habitat is therefore likely to be considered a significant impact. Refer to the Impact Assessment Report (Umwelt, 2017) further details of the significance assessment undertaken for the proposed action against the 'Significant Impact Guidelines 1.1'.</p>
Natural temperate grassland	<p>The EPBC Act listed natural temperate grassland is also present within the proposed action footprint. The most recent survey (Umwelt, 2017) identified a total of 0.75 ha of natural temperate grassland within the Survey Area, with a vegetation condition of high or very high. The proposed action's footprint would result in a loss of 0.13 ha (0.01 ha of very high and 0.12 ha of high quality) or the equivalent of 17 percent of natural temperate grassland within the Survey Area. No clearing of the natural temperate grassland is likely to be required for the temporary construction site compound locations. There are currently no published thresholds for what constitutes a significant impact to natural temperate grassland, so impacts would need to be considered in the context of the proposed alignment within the proposed action. The Approved Conservation Advice (including listing advice) for the natural temperate grassland (EC 152) indicates that any clearing of a patch of the natural temperate grassland with a condition rating of high or above is considered a significant impact. An assessment has been undertaken of Significant Impacts on the natural temperate grassland against the 'Significant Impact Guidelines 1.1' refer to the attached</p>



Species	Impact
	<p>Impact Assessment Report (Umwelt, 2017). The assessment determined the proposed action would reduce the extent of this critically endangered ecological community, including affecting its critical habitat; would result in a minor increase in fragmentation; and may result in direct impacts that affect remaining patches of natural temperate grassland it is considered likely to result in a significant impact to natural temperate grassland. As all possible avoidance and mitigation measures have been considered and implemented, the remaining impacts would be offset in accordance with the EPBC Act environmental offsets policy. The loss of 0.13 ha of natural temperate grassland with a condition rating of high is therefore likely to be considered a significant impact.</p>
Spotted-tail quoll (<i>Dasyurus maculatus maculatus</i>)	<p>The spotted-tail quoll are vulnerable species under the EPBC Act. The species has a preference for mature, wet forests that contain sufficient structural diversity to supply den sites and plentiful prey. Records of the species in the ACT region most regularly occur within the Brindabella Ranges, with scattered records throughout the urban area. There is a record from 1968 of a spotted-tail quoll in the Project Area (ACT Government 2015; Canberra nature Map 2017). Despite their preference for wet forest, spotted-tail quolls have been recorded through numerous forest, woodland, heathland, grassland, rocky outcrops, and urban areas. This indicates the high mobility and large home range of the species, rather than evidence of a resident population. As the preferred wet forest habitat of the species does not occur within the project Area and given the urban context; the record of 1968 is considered to be evidence of a vagrant dispersing through the landscape. The Project Area is not considered likely to be regularly utilised by the species and does not meet its usual habitat requirements. It is therefore not considered likely for the proposed action to have a significant impact on spotted-tail quoll as there is no resident population, no suitable habitat present, and it would not affect the ability of the species to move through the</p>



Species	Impact
	landscape.

2.4.2 Do you consider this impact to be significant?

Yes

2.5 Is the proposed action likely to have ANY direct or indirect impact on the members of any listed migratory species, or their habitat?

No

2.6 Is the proposed action to be undertaken in a marine environment (outside Commonwealth marine areas)?

No

2.7 Is the proposed action to be taken on or near Commonwealth land?

No

2.8 Is the proposed action taking place in the Great Barrier Reef Marine Park?

No

2.9 Is the proposed action likely to have ANY direct or indirect impact on a water resource related to coal/gas/mining?

No

2.10 Is the proposed action a nuclear action?

No

2.11 Is the proposed action to be taken by the Commonwealth agency?

No

2.12 Is the proposed action to be undertaken in a Commonwealth Heritage Place Overseas?

No

2.13 Is the proposed action likely to have ANY direct or indirect impact on a water



resource related to coal/gas/mining?

No



Section 3 - Description of the project area

Provide a description of the project area and the affected area, including information about the following features (where relevant to the project area and/or affected area, and to the extent not otherwise addressed in Section 2).

3.1 Describe the flora and fauna relevant to the project area.

The proposed action is located in an area that was formerly grazing land and has been previously cleared and modified. The vicinity of the Project Area contains residential development to the north and east, open landscape to the south nestled between Cotter Road and Adelaide Avenue and a landscape buffer to the Royal Canberra Golf Club to the west. There is minimal native vegetation remaining in the Project Area with the only native vegetation present consisting of the natural temperate grassland. There are exotic grassland species such as Chilean needle grass (*Nassella neesiana*) (perennial) and Wild oats (*Avena* species) (annual) also present in the Project Area.

A tree assessment of existing trees within the Project Area was carried out by dsb Landscape Architects in 2015 and 2017. The report indicates there are a number of regulated and non-regulated trees consisting of Turkey Oaks and *Pinus radiata* (pine weed species) of varying quality. Some regulated medium and low quality trees would likely be impacted by the proposed action.

The proposed action is located in an area with known suitable habitat for the EPBC listed golden sun moth. The ecological survey undertaken by Umwelt (2017) identified a total of 7.39 ha of golden sun moth habitat recorded within a defined Survey Area. The Umwelt survey identified a total of 617 male and six females over a period of four non-consecutive days of survey in December (refer to attached Impact Assessment Report (Umwelt) 2017 for methodology and results). The highest density of moths was recorded in Exotic Grassland (Chilean needle grass (*Nassella neesiana*) (perennial) Dominated) and in Exotic Grassland (mixed golden sun moth feed species) in the north west of the Survey Area.

3.2 Describe the hydrology relevant to the project area (including water flows).

There is an existing drainage line located in the southwest corner of the Project Area between Dudley Street and Cotter Road with a pipe culvert located under Cotter Road. The Project Area generally slopes to the southwest. Overland surface flow has been mapped based on the site contours to generally flow south towards Yarralumla Creek, which discharges into the Molonglo River. There are two existing culvert crossings on Dudley Street of 750mm and 375mm



diameter in size. The largest sub catchment in the vicinity of the project area flows towards the existing 750mm diameter culvert. There is evidence of surface water flow to the drainage line in the south west corner of the Project Area due to high presence of exotic grassland species in this area. Refer to the Stormwater Catchment Master Plan (Drawing number: 20-0000-CD-0501) which shows the sub-catchments through the Project Area.

The groundwater in the region occurs in fractured rock aquifers and in unconsolidated sand in thin alluvial and colluvial aquifers. Yields of bores in fractured rock aquifers are in the range 0.1-5l/s and higher yields are obtained in closely jointed rocks along fault zones. A search of the Environment, Planning and Sustainable Development Department (EPSDD) Groundwater Bore database indicated that three registered abstraction and one investigation/monitoring groundwater were located within a two kilometre radius of the Project Area. No groundwater bores are located within the Project Area.

A Preliminary (Environmental) Site Investigation of the Project Area completed by SMEC in February 2014 found that no potential source of groundwater contamination was identified during their investigation.

3.3 Describe the soil and vegetation characteristics relevant to the project area.

The Project Area lies on the Williamsdale soil landscape, with undulating rises and local relief typically below 10% in natural terrain. The Project Area sits on a minor local topographic high, with the ground surface sloping south and south west towards Yarralumla Creek, which discharges into the Molonglo River.

Topsoil within the Project Area generally overlies shallow residual soil which extends typically to 0.4-0.8 metres below ground level (SMEC, 2013). Geotechnical investigations along the Dudley Street alignment identified topsoil to a depth of between 0.05-0.2 metres below ground level (top of rock at 0.1-1.3 metres below ground level (Douglas Partners, 2017). Residual soil consists of low to medium plasticity, very stiff to hard, orange brown and red brown clay with varying amounts of well graded, sub-angular medium grained gravels. Residual soil thickness decreases upslope, resulting in several observable outcrops of weathered siltstone bedrock. Alluvial soils are found at the lowest point of the Project Area, in an old drainage line now used for drainage beneath Cotter Road.

Onsite vegetation includes natural temperate grassland, exotic grassland and a significant number of Turkey Oak trees and *Pinus radiata* (pine weed species) of varying quality of high to low.



3.4 Describe any outstanding natural features and/or any other important or unique values relevant to the project area.

There are no outstanding natural features or important and unique values present in the Project Area. The Project Area is in the proximity of:

- Canberra Brickworks (directly north of the Project Area).- Royal Canberra Golf Club (around 300 metres to the north).- The Red Hill Nature Reserve (around one kilometre to the south).- Government House (around two kilometres to the north-west).- Lake Burley Griffin (around two kilometres to the north).- Weston Park (around three kilometres to the north).- Parliament House (around three kilometres to the east).

3.5 Describe the status of native vegetation relevant to the project area.

The Project Area is generally highly disturbed and fragmented by the existing road network (Umwelt, 2017). Much of the Project Area is covered with stands of exotic trees, including *Pinus canariensis*, *P. radiata*, *P. patula*, *Ulmus procera*, and *Quercus palustris*. The majority of the grassland areas are also exotic, dominated by Chilean needlegrass (*Nassella neesiana*). The exceptions are some patches of natural temperate grassland of the south eastern highlands (natural temperate grassland) (a threatened ecological community), which are of varying quality; and some areas of missed grassland also of varying quality. Vegetation within the Project Area is contiguous with the North Curtin Horse Paddocks and the Royal Canberra Golf Club.

Given the elevation of the Project Area (less than 600 metres above sea level), it is considered unlikely that white box-yellow – Blakely's red gum grassy woodland and derived native grassland (box gum woodland) occur within the Project Area (Rowell 2010).

Refer to the Impact Assessment Report (Umwelt, 2017) for further details on threatened ecological communities (Section 3.1.4.1 of the IAR) and threatened plant species (Section 3.1.4.7 of the IAR) within the Project Area.

3.6 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

The Project Area generally slopes to the southwest. The topography of this area has been modified to include the Cotter Road and Yarra Glen/Adelaide Avenue.

The new access road would require a longitudinal gradient of up to 6% to traverse the crest at



the Boundary of Section 94 and 102, into the Canberra Brickworks Precinct. Noting the maximum street longitudinal gradient for a Minor Collector is 12% (ACT Estate Development Code 2016). For the upgrade of Dudley Street the longitudinal grade would range between 1% to 4%.

3.7 Describe the current condition of the environment relevant to the project area.

The current condition of the environment ranges from high to very high quality natural temperate grassland (a threatened ecological community) to poor quality vegetation with exotic trees and exotic grassland with weed infestations. The native vegetation within and surrounding the Project Area is highly fragmented and disturbed as a result of previous urban development and road construction, exotic tree plantings, and weed incursion. The majority of the grassland through the Project Area is maintained by regular mowing with two patches that have been left to grow naturally. There are signs of erosion along the edge of Dudley Street with a number of locations showing very sparse vegetation cover, including on the corner near the Cotter Road intersection, near to the bus stops and at the church. The Old Uriarra Track is also located within the Project Area which is an informal gravel walking track through the reserve area that is used by local residents for recreation purposes such as dog walking.

3.8 Describe any Commonwealth Heritage Places or other places recognised as having heritage values relevant to the project area.

There are no Commonwealth or other Heritage places recognised as having heritage value at the Project Area.

3.9 Describe any Indigenous heritage values relevant to the project area.

An Aboriginal cultural heritage assessment carried out in 2014 by Navin Officer concluded that the Project Area is considered to have a relatively low potential for the occurrence of Aboriginal heritage sites.

A search of the ACT Heritage sites database was undertaken and no Aboriginal heritage sites were located within the Project Area. No areas of archaeological potential were identified. Given the location of the area in relation to the past riverine resources associated with the Molonglo River, the Project Area would be considered to have a relatively low potential for the occurrence of Aboriginal sites.

It is recommended that for the unanticipated discovery of Aboriginal sites and burials (during future investigation or development works, including excavation and/or other significant ground disturbance), the works be managed through the use of an unexpected finds protocol (as



outlined in the Navin Officer report).

3.10 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the project area.

The Project Area is currently unleased Territory land some of which is located in Designated Areas. Transport Canberra and City Services (TCCS) are the land custodians for the land subject to the Territory plan.

3.11 Describe any existing or any proposed uses relevant to the project area.

Existing uses of the land is PRZ1:Urban Open Space; and PRZ2: Restricted Access Recreation Zone in the Territory Plan and Dudley Street is defined as Designated Area. The proposed CBP Access Road within Section 94, Block 3 is considered to be a 'minor road' and therefore a permissible development on the block as mentioned in PRZ2 Development Table. Block 3 also has an Urban Open Space overlay.



Section 4 - Measures to avoid or reduce impacts

Provide a description of measures that will be implemented to avoid, reduce, manage or offset any relevant impacts of the action. Include, if appropriate, any relevant reports or technical advice relating to the feasibility and effectiveness of the proposed measures.

Examples of relevant measures to avoid or reduce impacts may include the timing of works, avoidance of important habitat, specific design measures, or adoption of specific work practices.

4.1 Describe the measures you will undertake to avoid or reduce impact from your proposed action.

The alignment of the CBP Access Road and Dudley Street Upgrade has been refined through various design stages since its conception. A feasibility design, concept design and preliminary sketch plan (PSP) design have been developed which identified improvements for Dudley Street and proposed an alignment for the new access road (including an intersection from Dudley Street) to provide access for the future development requirements of the CBP. The design of the proposed action including the cross sections and alignment has been optimised during each of these design stages to minimise ecological and community impacts, while meeting design objectives in this constrained environment.

Some of the improvements to the design which have been implemented to avoid impacts to MNES include:

- The new intersection of the CBP Access Road and Dudley Street was relocated to the west and optimised to minimise the footprint and locate the roundabout away from the identified habitat for MNES.
- The alignment of the Dudley Street Upgrade has been moved south so that the higher quality habitats north of Dudley Street are avoided (while taking into consideration the steep slope on the southern side of Dudley Street).
- The proposed on road cycling and street trees proposed along Dudley Street have been removed to reduce the width of the road cross section and minimise potential shading impacts on golden sun moth habitat. Note: An off road shared path will be provided along Denman Street by the CBP developer to meet this requirement.
- The gradient of the proposed Dudley Street upgrade has been optimised to more closely match the existing ground levels and therefore minimise the size of the embankments required by the proposed design (i.e. reducing the footprint of the project).
- The location of the proposed compound areas have been selected to avoid areas identified as consisting of higher quality habitats where possible.

A Construction Environmental Management Plan would be developed for the Project, incorporating the recommendations from the Environmental Impact Statement which is still to be prepared. This would include particular management measures around the protection of natural



temperate grassland and golden sun moth habitat. The following measures are proposed:

- The primary measure to reduce impacts to these species is to minimise the project footprint and clearly demarcate all areas of retained habitat and vegetation as 'no-go' zones during construction. The limit of works should be clearly defined with no disturbance beyond the edge of these zones.
- Ensure that vehicles and machinery brought into the construction area are free of soil and/or seeds to minimise weed spread. Avoid introducing weeds or nonindigenous plants into the Project Area or adjacent habitat and vegetation.
- Utilise local fill wherever possible, and ensure only clean fill is imported onto the Project Area.
- Revegetate disturbed areas along Dudley Street with known native grasses including food plants for golden sun moth where possible, such as indigenous Wallaby Grasses.

4.2 For matters protected by the EPBC Act that may be affected by the proposed action, describe the proposed environmental outcomes to be achieved.

Two MNES that have the potential to be significantly impacted are golden sun moth and natural temperate grassland. The potential impacts to MNES have been considered during each of the project design phases to alter the design to avoid impact to MNES as far as is practicable, while achieving project and road design objectives.

In order to further reduce the impacts, the previously described mitigation measures (section 4.1) would be implemented. The outcomes of these measures would be as follows:

- Reduction in potential habitat/ vegetation loss and degradation.
- Reduction in risk of direct mortality of the golden sun moth and natural temperate grassland.
- Reduction in risk of new weeds establishing within local area through hygiene protocols which prevent species composition change and reduction in suitability for the species.
- Disturbed areas would be successfully revegetated with native grasses including known golden sun moth food plants such as Wallaby Grass (*Rytidosperma* spp.).

The proposed works are likely to result in a significant impact to golden sun moth and natural temperate grassland; therefore the proposed action is likely to be deemed a 'controlled action' by the Australian Government Minister for the Environment. Environmental offsets would therefore be required for residual impacts to golden sun moth and potentially the natural temperate grassland outside the Project Area, in accordance with the EPBC Act Environmental Offsets Policy (Commonwealth of Australia 2012).



The ACT Government propose to secure an offset site that supports a golden sun moth population and natural temperate grassland, consistent with the requirements of the EPBC Act Environmental Offsets Policy and the outputs of the associated EPBC Act offset calculator. Offsets would be secured for golden sun moth habitat and natural temperate grassland vegetation removal to ensure a gain to ACT's biodiversity that is equivalent to the loss resulting from the permitted clearing of natural temperate grassland vegetation and golden sun moth habitat.

Offset discussions with ACT Parks and Conservation Service have been undertaken and a potential offset area (the North Mitchell Grasslands ie Block 4 Section 47 Franklin) has been identified. Initial advice from ACT Parks and Conservation Service (Manager - Environmental Offsets Planning, ACT Parks and Conservation Service, Environment, Planning and Sustainable Development Directorate) is that they are supportive of using the North Mitchell Grasslands as the proposed offset area for the proposed action with the prerequisite that they have an opportunity to provide input on any conditions of approval for how the site needs to be managed long term. The use of this site is dependent on contractual negotiations and site suitability.



Section 5 – Conclusion on the likelihood of significant impacts

A checkbox tick identifies each of the matters of National Environmental Significance you identified in section 2 of this application as likely to be a significant impact.

Review the matters you have identified below. If a matter ticked below has been incorrectly identified you will need to return to Section 2 to edit.

5.1.1 World Heritage Properties

No

5.1.2 National Heritage Places

No

5.1.3 Wetlands of International Importance (declared Ramsar Wetlands)

No

5.1.4 Listed threatened species or any threatened ecological community

Listed threatened species and communities - Yes

5.1.5 Listed migratory species

No

5.1.6 Commonwealth marine environment

No

5.1.7 Protection of the environment from actions involving Commonwealth land

No

5.1.8 Great Barrier Reef Marine Park

No

5.1.9 A water resource, in relation to coal/gas/mining

No



5.1.10 Protection of the environment from nuclear actions

No

5.1.11 Protection of the environment from Commonwealth actions

No

5.1.12 Commonwealth Heritage places overseas

No

5.2 If no significant matters are identified, provide the key reasons why you think the proposed action is not likely to have a significant impact on a matter protected under the EPBC Act and therefore not a controlled action.

Proposed action is likely to be considered a 'controlled action'.



Section 6 – Environmental record of the person proposing to take the action

Provide details of any proceedings under Commonwealth, State or Territory law against the person proposing to take the action that pertain to the protection of the environment or the conservation and sustainable use of natural resources.

6.1 Does the person taking the action have a satisfactory record of responsible environmental management? Please explain in further detail.

Yes. The ACT Government has undertaken many projects in the Canberra Region.

6.2 Provide details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either (a) the person proposing to take the action or, (b) if a permit has been applied for in relation to the action – the person making the application.

No proceedings against the Chief Minister, Treasury and Economic Development Directorate (CMTEDD), are currently occurring. This is the branch of ACT Government proposing to take the action.

6.3 If it is a corporation undertaking the action will the action be taken in accordance with the corporation's environmental policy and framework?

Yes

6.3.1 If the person taking the action is a corporation, please provide details of the corporation's environmental policy and planning framework.

Yes, the proposed action would be undertaken in accordance with relevant ACT Government policies and guidelines.

6.4 Has the person taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?

Yes

6.4.1 EPBC Act No and/or Name of Proposal.

2017/8061 (Chief Minister, Treasury and Economic Development Directorate ACT



Procurement/Transport - Water/Canberra, ACT/Australian Capital Territory/Molonglo 3 Water Supply Pipeline, ACT). Descision pending.

2016/7742 (ACT Procurement/Transport - Land/Mustang Avenue roundabout, Majura Road, Pialligo, ACT/Australian Capital Territory/Construction of the IKEA Canberra Northern Access Road, ACT).

2015/7483 (ACT Shared Services Procurement/Transport - Land/Pialligo/Australian Capital Territory/Construction of a link road on Marjura Parkway, Pialligo, ACT).

2010/5565 (ACT Procurement Solutions/Transport - land/Approx 8km north of CBD within the suburb of Kenny/ACT/2.1km upgrade and extension of Morisset road).

2010/5412 (ACT Procurement Solutions /Transport - land/Gungahlin, Mirrabai Drive & Lens Waters Street/ACT/Mirrabai Drive Extension.

2009/5156 (ACT PROCUREMENT SOLUTIONS/Transport - Land/West Gungahlin/Australian Capital Territory/Clarrie Hermes Drive Extension).



Section 7 – Information sources

You are required to provide the references used in preparing the referral including the reliability of the source.

7.1 List references used in preparing the referral (please provide the reference source reliability and any uncertainties of source).

Reference Source	Reliability	Uncertainties
Site Investigation - Traffic, Transport and Carparking, February 2016 by AECOM	This information of existing Traffic and Transport regarding the new residential development has been undertaken by a local traffic engineer specialist consultant, experienced in the survey and assessment of traffic and transportation. The study informing this referral is considered reliable and suitably recent.	No uncertainties or limitations are identified within the report.
Detailed Engineering Survey, October 2014 by Leach Steger	Identifies locations of storm water infrastructure within the Project Area and surrounding area. Photographic and highly detailed information is provided. The study informing this referral is considered reliable and suitably recent.	No uncertainties or limitations are identified within the report.
Yarralumla Brickworks Precinct Tree Assessment (Tree Management Report), Nov 2015 by dsb Landscape Architects	Provides general commentary on the quality of trees assessed within the Project Area and any management issues that arose from the assessment. Detail mapped locations of trees with associated tree quality is provided. The study informing this referral is considered reliable and suitably recent.	No uncertainties or limitations are identified within the report.
Golden sun moth Assessment at Revised Brickworks Project Area, December 2015 by Umwelt	The information regarding the ecological values and conditions were drawn from numerous surveys and studies, largely including this one. This	Not all the study is relevant as some of the Survey Area was outside of the proposed Project Area.



Reference Source	Reliability	Uncertainties
	study has been undertaken by local professional ecological consultants, experienced in survey and assessment of impacts upon the relevant MNES. The study informing this referral is considered reliable.	
Preliminary Geotechnical Site Investigation for the Canberra Brickworks, Nov 2013 by SMEC	This report provides comprehensive geotechnical site investigation providing detailed field data by SMEC. The study informing this referral is considered reliable and suitably recent.	Limitations stated in the report are as follows: "SMEC have carried out the PSI in accordance with Australian Standards AS1289:1997 and AS1726:1993". No other uncertainties are identified.
Preliminary Environmental Site Investigation-Canberra Brickworks, Feb 2014 by SMEC	This report provides comprehensive environmental site investigation including detailed field data by SMEC. The study informing this referral is considered reliable and suitably recent.	No uncertainties or limitations are identified within the report.
Yarralumla Brickworks Railway Remnants registration, 2013 by the ACT Government	The report provides heritage advice against the Heritage Act 2004. The study informing this referral is considered reliable and suitably recent.	No uncertainties or limitations are identified within the report.
Stage 1 Aboriginal Cultural Heritage Assessment, Aug 2014 by Navin Officer	The information regarding Aboriginal cultural heritage has been undertaken by local professional heritage consultants. The study informing this referral is considered reliable and suitably recent.	No uncertainties or limitations are identified within the report.
Impact Assessment Report, Canberra Brickworks Access Road and Dudley Street Upgrade Area, Yarralumla, ACT, September 2017 by Umwelt	The information regarding the ecological values and conditions were drawn from numerous surveys and studies. This assessment report has been undertaken by local professional ecological consultants, experienced in survey and assessment of impacts upon the relevant MNES. The study informing this referral is considered reliable.	Data is limited to the time frame, seasonality and current weather of the Project Area. No other uncertainties are identified.



Section 8 – Proposed alternatives

You are required to complete this section if you have any feasible alternatives to taking the proposed action (including not taking the action) that were considered but not proposed.

8.0 Provide a description of the feasible alternative?

The alignment of the CBP Access Road and Dudley Street Upgrade has been refined through various design stages since its conception. A feasibility design, concept design and preliminary sketch plan (PSP) design have been developed which all identified improvements for Dudley Street and proposed an alignment for the new access road (including an intersection from Dudley Street) to provide access for the future development requirements of the CBP. The design of the proposed action, including the road cross sections and alignment, has been optimised during each of these design stages to minimise ecological and community impacts, while meeting design objectives in this constrained environment. Further refinements will be made during the preparation of the detailed design.

'Do nothing' option

The option not to take the proposed action to construct the CBP Access Road and Dudley Street Upgrade was considered in the Traffic Analysis Report (Cardno, 2016) using generated traffic volumes for the CBP. Without the proposed action, current access points in the exiting residential suburb of Yarralumla (including Denman Street) would not be able to operate satisfactorily with the additional traffic expected to be generated by the CBP.

Independent of the development of the CBP site, upgrade of Dudley Street is required for this road to safely operate with the existing traffic volumes and to meet the ACT's road design requirements for a 'major collector road'. If the proposed action was not undertaken, Dudley Street would remain a potential hazard to users of the road and it would not achieve 'major collector road' standards.

Siting of construction compounds

Opportunities to identify other locations for the construction compound are currently being



investigated including (1) using the CBP site itself prior to the development of this site; (2) use of the existing construction compound at Lady Denman Drive which is currently being used for Cotter Road upgrades. The use of these locations is highly dependent on the scheduling of the proposed activity and the existing uses/development of these sites, and also on successful contract negotiations between the responsible parties.

8.1 Select the relevant alternatives related to your proposed action.

- Locations
- Activities

8.3 What is the extent and location of your proposed alternative action?

Area	Point	Latitude	Longitude
Discounted design option	1	-35.313443902968	149.09812403514
Discounted design option	2	-35.313890394059	149.09595681026
Discounted design option	3	-35.313872884651	149.09545255497
Discounted design option	4	-35.31373280925	149.09419728115
Discounted design option	5	-35.313137486086	149.09201932743
Discounted design option	6	-35.313610243074	149.09157944515
Discounted design option	7	-35.312542158541	149.08957315281
Discounted design option	8	-35.312375816238	149.08969117
Discounted design option	9	-35.31267348117	149.09049583271
Discounted design option	10	-35.312498384284	149.09072113826
Discounted design option	11	-35.312638461823	149.09156871631
Discounted design option	12	-35.312690990838	149.09178329303



Area	Point	Latitude	Longitude
Discounted design option	13	-35.311955581527	149.09174037769
Discounted design option	14	-35.311544099591	149.09161163166
Discounted design option	15	-35.311053820508	149.09127903774
Discounted design option	16	-35.311141370562	149.09194422557
Discounted design option	17	-35.311631649114	149.09209442928
Discounted design option	18	-35.312498384284	149.09224463298
Discounted design option	19	-35.31277853912	149.09223390415
Discounted design option	20	-35.31323378866	149.094272383
Discounted design option	21	-35.313365110166	149.09466934993
Discounted design option	22	-35.31360148834	149.0954632838
Discounted design option	23	-35.313391374442	149.09542036846
Discounted design option	24	-35.313452657719	149.0957315047
Discounted design option	25	-35.31360148834	149.09576369121
Discounted design option	26	-35.31358397887	149.09612847164
Discounted design option	27	-35.313084957361	149.09812403514
Discounted design option	28	-35.312507139137	149.09804893329
Discounted design option	29	-35.31248962943	149.09841371372
Discounted design option	30	-35.313680280911	149.09837079837
Discounted design option	31	-35.313645262	149.09813476398
Discounted design option	32	-35.313443902968	149.09814549282
Discounted design option	33	-35.313443902968	149.09812403514



8.4 Provide a brief physical description of the property on which the alternative proposed action will take place and the project location (e.g. Proximity to major towns, or for off-shore projects, shortest distance to mainland).

Alternatives considered for the alignment of the CBP Access Road and Dudley Street Upgrade were located within the vicinity of the Project Area. The refined alignment has moved to the south and west of the existing Dudley Street road alignment to minimise impacts to MNES.

8.5 What is the size of the development footprint or work area of the alternative?

Comparable to preferred design.

8.6 Is the alternative proposal a street address or lot?

Lot

8.6.2 Describe the lot number associated with the alternative proposal.

The same as preferred option, see previous.

8.7 Is there a different local government area and council contact for the alternative?

No

8.8 Provide details of the context, planning framework and State/Local Government requirements.

The same as preferred option, see previous.

8.9 Describe any public consultation that has been, is being or will be undertaken (including with Indigenous stakeholders).

The same as preferred option, see previous.

8.10 Describe any environmental impact assessments that have been, is being or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project for the alternative.

The same as preferred option, see previous.

8.11 Is the alternative activity part of a staged development or a component of a larger project?



No

8.12 Nominate any matters of National Environmental Significance that are likely to be impacted by this alternative proposal by ticking the relevant checkboxes.

Listed threatened species or any threatened ecological community

8.12.1 Please provide further information on potential impacts of matters of environmental significance that you have nominated above.

The alignment of the CBP Access Road has been moved to the west of the existing road alignment to follow the tree line and existing tracks as much as possible. It limits potential impacts to natural temperate grassland to only those associated with the Dudley Street Upgrade and provides a buffer to mitigate indirect impacts. Areas containing trees are not considered to constitute golden sun moth habitat so following the tree line minimises the impacts on this species.

As impacts are considered significant to the threatened species and community under the EPBC Act offsets are required to be provided and would be incorporated into the design of the project. Offset discussions with ACT Parks and Conservation Service are currently underway with a potential offset site being identified as detailed in section 4.2 above.

8.13 Describe any impacts on the flora and fauna relevant to the alternative proposal.

Greater impacts to golden sun moth and natural temperate grassland. This design option was not taken forward.

8.14 Describe the hydrology relevant to the alternative proposal (including water flows).

The same as preferred option, see previous.

8.15 Describe the soil and vegetation characteristics relevant to the alternative proposal.

The same as preferred option, see previous.

8.16 Describe any outstanding natural features and/or unique values relevant to the alternative proposal.

The same as preferred option, see previous.



8.17 Describe the remnant native vegetation relevant to the alternative proposal.

Greater impacts to natural temperate grassland. This design option was not taken forward.

8.18 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the alternative proposal.

The same as preferred option, see previous.

8.19 Describe the current state of the environment relevant to the alternative proposal.

The same as preferred option, see previous.

8.20 Describe any Commonwealth Heritage Places or other places recognised as having heritage values relevant to the alternative proposal.

The same as preferred option, see previous.

8.21 Describe any Indigenous heritage values relevant to the alternative proposal.

The same as preferred option, see previous.

8.22 Describe any other important or unique values relevant to the alternative proposal.

The same as preferred option, see previous.

8.23 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the alternative proposal.

The same as preferred option, see previous.

8.24 Describe the existing uses of the area relevant to the alternative proposal.

The same as preferred option, see previous.

8.25 Identify any proposed uses of the area relevant to the alternative proposal.

The same as preferred option, see previous.



8.26 What are the proposed measures for any alternative action to avoid or reduce impact?

This option was not taken forward due to greater impacts to MNES.

8.27 Do you have another alternative?

No



Section 9 – Contacts, signatures and declarations

Where applicable, you must provide the contact details of each of the following entities: Person Proposing the Action; Proposed Designated Proponent and; Person Preparing the Referral. You will also be required to provide signed declarations from each of the identified entities.

9.0 Is the person proposing to take the action an Organisation or an Individual?

Organisation

9.2 Organisation

9.2.1 Job Title

Senior Project Manager

9.2.2 First Name

Gerard

9.2.3 Last Name

Coffey

9.2.4 E-mail

gerard.coffey@act.gov.au

9.2.5 Postal Address

PO Box 158
Canberra ACT 2601
Australia

9.2.6 ABN/ACN

ABN

66676633401 - CMTEDD ACT PROCUREMENT

9.2.7 Organisation Telephone

(02) 6207 5542



9.2.8 Organisation E-mail

procurementadmin@act.gov.au

9.2.9 I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:

Not applicable

Small Business Declaration

I have read the Department of the Environment and Energy's guidance in the online form concerning the definition of a small a business entity and confirm that I qualify for a small business exemption.

Signature:..... Date:

9.2.9.2 I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations

No

9.2.9.3 Under sub regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on which the waiver is sought and the reasons why it should be made

Person proposing the action - Declaration

I, GERARD MARK COFFEY, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf of or for the benefit of any other person or entity.

Signature:..... GM Coffey Date: 17/10/17.....

I, GERARD MARK COFFEY, the person proposing the action, consent to the designation of GERARD MARK COFFEY ACT GOV as the proponent of the purposes of the action describe in this EPBC Act Referral.

Signature:..... GM Coffey Date: 17/10/17.....

9.3 Is the Proposed Designated Proponent an Organisation or Individual?



Organisation

9.5 Organisation

9.5.1 Job Title

Senior Project Manager

9.5.2 First Name

Gerard

9.5.3 Last Name

Coffey

9.5.4 E-mail

gerard.coffey@act.gov.au

9.5.5 Postal Address

PO Box 158
Canberra ACT 2601
Australia

9.5.6 ABN/ACN

ABN

66676633401 - CMTEDD ACT PROCUREMENT

9.5.7 Organisation Telephone

02 6207 2471

9.5.8 Organisation E-mail

gerard.coffey@act.gov.au

Proposed designated proponent - Declaration

I, GERARD MARK COFFEY, the proposed designated proponent, consent to the designation of myself as the proponent for the purposes of the action described in this EPBC Act Referral.



Signature:.....*Boff*..... Date:17/10/17.....

9.6 Is the Referring Party an Organisation or Individual?

Organisation

9.8 Organisation

9.8.1 Job Title

Team Leader - ACT Environment

9.8.2 First Name

Richard

9.8.3 Last Name

Farmer

9.8.4 E-mail

richard.farmer@aecom.com

9.8.5 Postal Address

PO Box 1942
Canberra ACT 2601
Australia

9.8.6 ABN/ACN

ABN

20093846925 - AECOM AUSTRALIA PTY LTD

9.8.7 Organisation Telephone

02 8934 0000

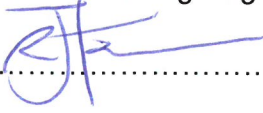
9.8.8 Organisation E-mail

Canberra.Reception@aecom.com

Referring Party - Declaration



I, RICHARD FARMER, I declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence.

Signature:  Date: 18/10/17



Appendix A - Attachments

The following attachments have been supplied with this EPBC Act Referral:

1. 60533438-sht-20-0000-cd-0511-a_stormwater_catchment_master_plan.pdf
2. 60533438-sht-20-0000-cn-0004-a_environmental_constraints.pdf
3. 60533438-sht-20-0000-cn-0005-a_zoning.pdf
4. 60533438-sht-20-0000-cn-0006-a_project_layout.pdf
5. 60533438-sht-20-0000-cs-0801-0804-a_construction_staging.pdf
6. 60533438_design_package_drawings_subject_to_change.pdf
7. 60533438_impact_assessment_report_umwelt_2017.pdf
8. advice_from_act_parks_and_conservations.pdf
9. dudley-works_boundarystromlo_grid.zip