Development Outcomes Report

Athllon Drive Duplication Southern Section

Transport Services Zone Policy & Parks and Recreation Zone Policy

Prepared for: Infrastructure Canberra
23 June 2025
Client Reference No. 30673-NCT-002

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Executive Summary

Infrastructure Canberra (iCBR) has engaged SMEC to progress the Athllon Drive Duplication in the southern section between Sulwood Drive and Drakeford Drive to further the project's design development, specifically the Document Readiness (DR) phases of design development. This Design Outcomes Report (DOR) provides an assessment against both the Transport Services Zone Policy and Parks and Recreation Zones Policy, as well as the Urban and Biodiversity Sensitive Urban Design Guides to support this Development Application (DA).

The project aims to create a safe and efficient travel corridor for all road users along this 2.4 km section of Athllon Drive (Southern section) between Sulwood Drive and Drakeford Drive.

The project encompasses the following elements:

- A new underpass to provide a free-flowing active travel route via the C4 walking and cycling path under Sulwood Drive.
- Part-time traffic lights on the Athllon Drive/Sulwood Drive roundabout to improve traffic flow.
- New bus stops in the vicinity of the underpasses between the Sulwood Drive and Langdon Avenue/Atkins Street intersections to improve public transport access.
- New traffic lights at the Athllon Drive/Langdon Avenue/Atkins Street intersection.
- Rebuilding the southbound Park and Ride bus stop on the new duplicated carriageway, with the northbound stop retained.
- New traffic lights at the Athllon Drive/Vosper Street and Athllon Drive/Fincham Crescent intersections.
- Widening and upgrade of existing underpass bridges and constructing a new bridge for the duplicated carriageway.
- Water quality measures to reduce pollution from water run-off from Athllon Drive to Lake Tuggeranong.

Extensive consultation with ACT Government agencies and community stakeholders has taken place since the project's initiation to inform both the design and siting of the proposed infrastructure. Early in the project, an Environmental Significance Opinion (ESO) application was submitted to the ACT Conservator of Flora and Fauna, outlining expected tree impacts and proposed replacement planting. This application, developed in collaboration with the Environment, Planning and Sustainable Development Directorate (EPSDD), demonstrated the project's commitment to minimising environmental impacts through thorough site investigations.

At that stage, approximately 600 native trees were proposed for planting along the Athllon Drive Corridor to offset the removal of Mature Native Trees (MNTs) within the project area.

As the design has progressed, further refinement was undertaken in consultation with Urban Treescapes, which led to an enhanced landscape response. The current proposal now includes 642 native tree plantings, an increase from the original plan, supporting improved ecological outcomes.

Of the 624 MNTs currently identified on-site, 39 are proposed for removal, with 585 retained. Within this total, 12 are hollow-bearing trees, of which only two are proposed for removal. Although these updated figures differ from those in the original ESO submission, the revised design delivers a net environmental benefit through increased canopy restoration and strengthened long-term ecological resilience.

The Project has been sensitively designed to minimise impacts on adjoining land uses including existing residential and commercial properties and identified areas of heritage importance. In addition, this transport infrastructure project supports active travel and will provide safe, improved and increased opportunities for access to public transport through the provision of additional bus stops, shared user paths, and pedestrian underpasses, and does not preclude future light rail along Athllon Drive. This DOR provides a clear, plain English assessment of the project against the relevant statutory planning controls that relate to this DA and demonstrates that the proposal is capable of approval.

Contents

Appendices

Figures

Tables

1. Introduction

Athllon Drive is an arterial corridor between Woden and Tuggeranong that provides access to residential and commercial premises with no direct driveway access off the road. It is the key central link within Canberra's transport network in this area. Currently, there are two remaining unduplicated sections of the road, one of which is the 2.4 km stretch between Sulwood Drive and Drakeford Drive (known as the Southern section). This section experiences traffic congestion, with peak periods seeing up to 2,000 vehicles per hour. Growing traffic movements are expected to continue due to ongoing developments in Greenway and rezoning around the Woden District.

The Athllon Drive duplication (Southern section) Detail Design project aims to create a safe and efficient travel corridor for all modes of travel.

The project encompasses the following elements:

- A new underpass to provide a free-flowing active travel route via the C4 walking and cycling path under Sulwood Drive.
- Part-time traffic lights on the Athllon Drive/Sulwood Drive roundabout to improve traffic flow.
- New bus stops in the vicinity of the underpasses between the Sulwood Drive and Langdon Avenue/Atkins Street intersections to improve public transport access.
- New traffic lights at the Athllon Drive/Langdon Avenue/Atkins Street intersection.
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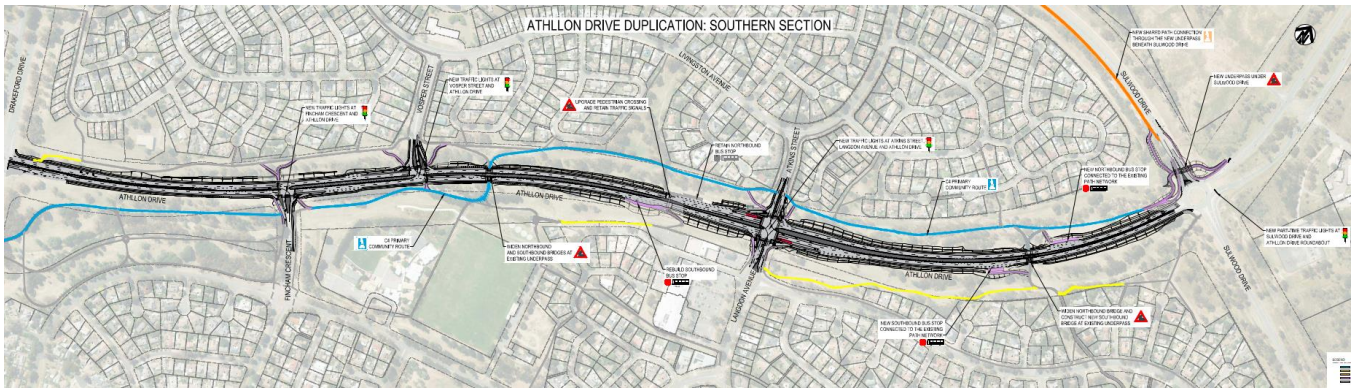

Figure 1–1 | Project location and description of proposed works

1.1 Proponent

Under the new Administrative Arrangements announced by the ACT Government in November 2024, the Athllon Drive duplication projects (northern and southern section) have moved from the Transport Canberra and City Services directorate and are now being delivered by Infrastructure Canberra effective from 24 February 2025. However, the ultimate asset owner remains unchanged being Roads ACT within the Transport Canberra and City Services directorate.

1.2 Detailed Project Description

The project area comprises the Athllon Drive road corridor between Sulwood Drive, Wanniassa and Drakeford Drive, Kambah. The project area is 2.4 km in length and 53.02 ha in area. Figure 1–2 shows the project extent overlaid on an arterial photograph to provide the spatial context of the project.

Figure 1–2 | The project extent from Sulwood Drive to Drakeford Drive.

Figure 1–3 and 1-4 below are artist impressions of the completed Athllon Drive duplication project at the Vosper Street and Atkins Street / Langdon Avenue intersections (looking south towards Tuggeranong Town Centre). These images show what the constructed project will look like and how it will function for all transport modes, including pedestrians and cyclists.

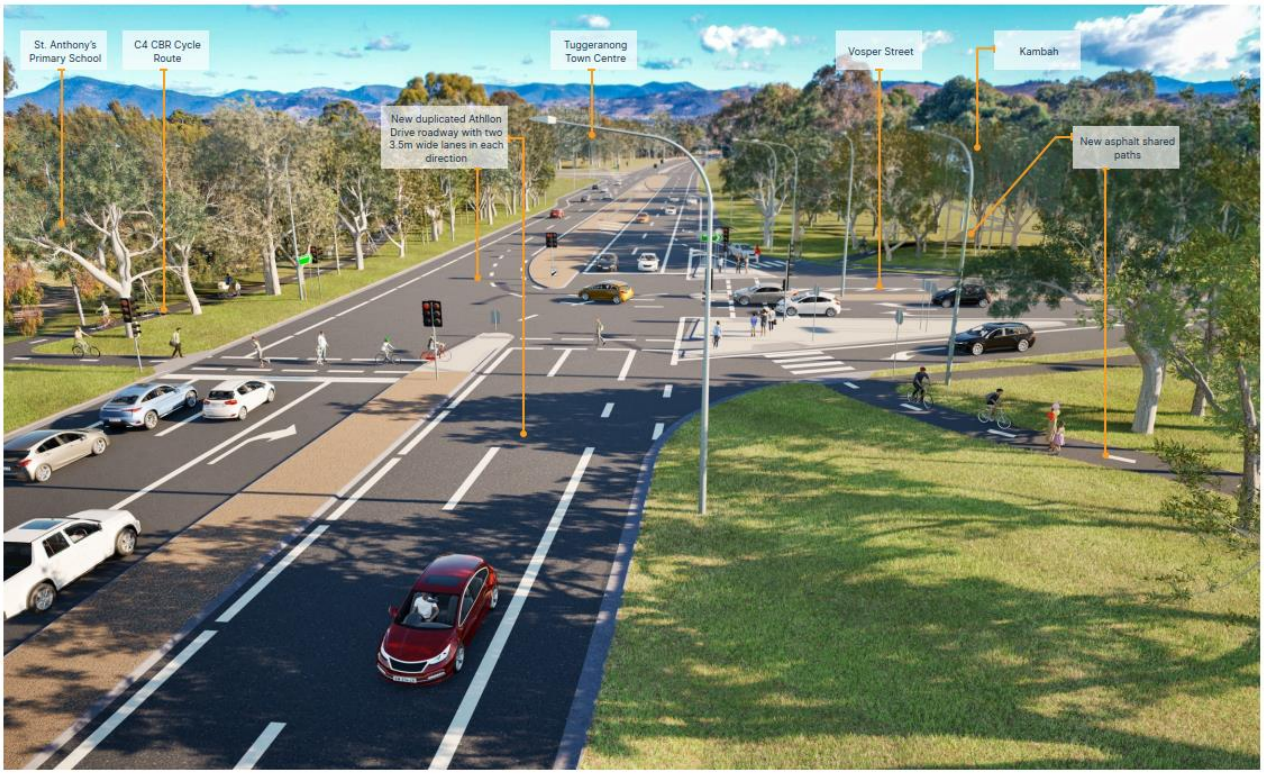

Figure 1–3 | Artist impression of Vosper Street Intersection looking south towards Tuggeranong Town Centre

Figure 1–4 | Artist impression of Atkins Street / Langdon Avenue intersection looking south towards Tuggeranong Town Centre

Movement Corridor

Athllon Drive is an 80 km/h arterial road that serves as a vital central link in Canberra's transport network, connecting the Tuggeranong and Woden Town Centres. It is a B-Double route that supports two rapid bus services. The Principal Cycle Route 4 (C4) runs along the verge of Athllon Drive, providing the primary active travel connection between the two town centres. This corridor has been identified as the Inter-Town Public Transport Route and is therefore the proposed alignment for the future extension of light rail to Tuggeranong.

Consideration for these larger vehicles and other road users have been incorporated into the road duplication design. The proposed development provides the following common features:

- A 3.75 m and a 3.5 m wide traffic lane for both carriageways. The provision of a wider kerbside lane is to allow adequate width for larger vehicles including B-Doubles and Buses.
- Minimum 3.2 m median width (kerb face to kerb face) to allow for sufficient deflection width of Wire Rope Safety Barriers (WRSB). This provides better safety outcomes for drivers compared to the existing configuration with no median.
- 2.5 m wide kerbside shoulders to provide adequate space for breakdowns/emergencies.
- Mounds with 1 in 2 batters and 1.2 m berm (typically) to replace existing mounds located along the project corridor.

As part of the duplication, modifications will be made to the existing pedestrian underpasses located between:

- Vosper Street and Atkins Street/Langdon Avenue intersections
- Atkins Street/Langdon Avenue and Sulwood Drive Intersections

The Project presents an opportunity to preserve existing bridge structures and, where required, they will be widened to accommodate the additional lanes. The underpass located between the Atkins Street/Langdon Avenue and Sulwood Drive Intersections is already wide enough to accommodate two lanes, as such an additional bridge structure will be built at this location for southbound vehicles.

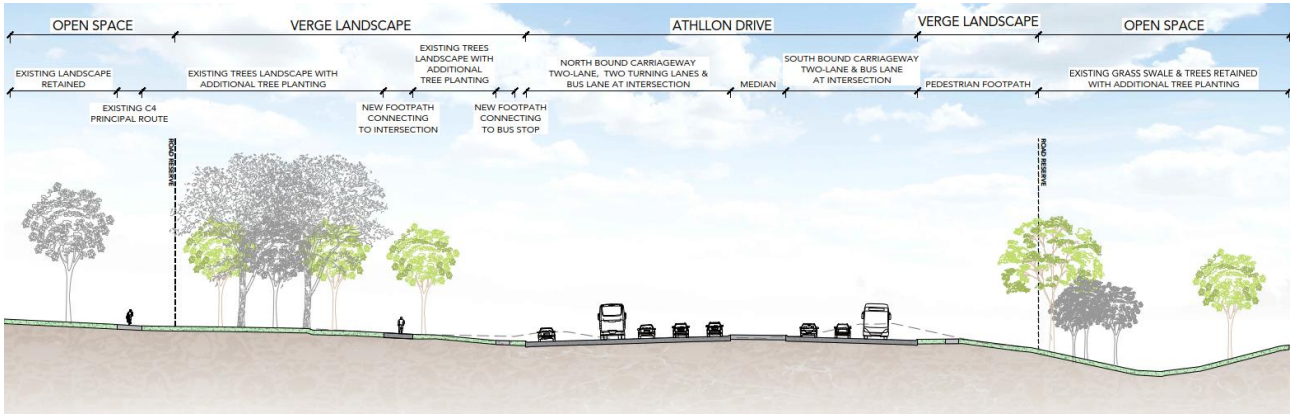

Figure 1–5 | Typical cross-section along Athllon Drive.

Intersections

The Drakeford Drive intersection is currently signalised with two through lanes, bus queue jump lanes and turn lanes. There are no plans to change the Drakeford Drive intersection as part of the Project.

The Fincham Crescent and Vosper Street intersections are currently two stage seagull intersections. Both will be upgraded to signalised intersections to help manage traffic better, ensure safe crossings for pedestrians and cyclists, while providing enough space for heavy vehicles to turn. To further improve traffic flows, the intersection upgrades are to include right-hand turn lanes.

The intersection of Atkins Street and Langdon Avenue is currently a two-lane roundabout. To improve access for pedestrians and cyclists and to better manage bus queues, the roundabout is proposed to be replaced with traffic signals. Signalisation will enhance connectivity between surrounding footpaths and the bus stops located south of the intersection.

As part of the upgrade, the signalised intersections at Fincham Crescent, Vosper Street and Atkins Street/Langdon Avenue will have the following common attributes:

- Two stage crossings of Athllon Drive to provide safe and convenient means for path users to cross.
- Slip lanes and splitter islands to reduce the intersection pavement footprint and increase the number of pedestrian refuges.
- Zebra crossings between kerb and splitter islands to give pedestrians and cyclists priority when accessing signals.

The existing Sulwood Drive roundabout features dual circulating lanes. It is predicted that future traffic queues for this intersection will extend for over a kilometre during peak times if this intersection does not receive adequate traffic control. To allow for better traffic outcomes, the roundabout is proposed to include demand activated signals installed on all four approaches. These signals will be triggered only when traffic volumes reach a threshold that causes the level of service on any approach to fall below acceptable standards. This is expected to only be during am and pm peak periods.

Public Transport and Active Travel

Improvements are planned to the public transport infrastructure within the project boundary as part of the duplication works. The existing bus stops near the Wanniassa Shops will remain with the southbound bus stop to be locally relocated to accommodate the wider carriageway footprint. This adjustment ensures the park and ride facilities, including the signalised crossing, are preserved. Additionally, two new bus stops will be added between the Atkins Street/Langdon Avenue intersection and the Sulwood Drive Roundabout, with pathways connecting them to the existing active travel network and increasing accessibility to the two rapid bus routes along Athllon Drive.

The active travel network within the project boundary will be enhanced, including a new active travel (i.e. for use by pedestrians and cyclists) underpass to be constructed under the western leg of the Sulwood Drive roundabout. The existing bridge underpass structures along the project corridor will be widened to accommodate the carriageway duplication including the provision of safety barriers. Additionally, as part of enabling works outside the scope of this DA, the existing Principal Community Route 4 (C4) path will be widened to 3 metres and path lighting installed. This upgrade aims to promote greater use of the active travel network and enhance safety for both pedestrians and cyclists.

Stormwater Management

The existing pavement drainage system is connecting to an existing trunk drainage network that runs along the eastern verge of the project. This existing pipe network transports stormwater runoff from upstream areas such as Mount Taylor Nature Reserve and has multiple connections to the existing pavement drainage. The proposed drainage design is planned to tie into the existing drainage network and maintain existing infrastructure where feasible.

Water Quality

The water quality strategy for this project focuses on treating the net additional impervious areas generated solely by the project. Treatment aims to meet the water quality reduction targets outlined in the MIS08 Stormwater and Waterways: WSUD, General Code February 2020, as detailed in Table 10-2 of the ADU Basis of Design Report (ADU-RD-001-REP).

Proprietary devices were deemed a feasible option for treating surface runoff. Atlan Basin Modular Wetlands or similar products were assessed to achieve water quality targets. These devices include an advanced stormwater treatment system that works with natural forces to provide pollutant removal. The device utilises a pre-treatment chamber which contains litter capture, sediment chamber and pre-filter cartridges and is effective in removal of gross pollutants, total suspended solid and nutrients.

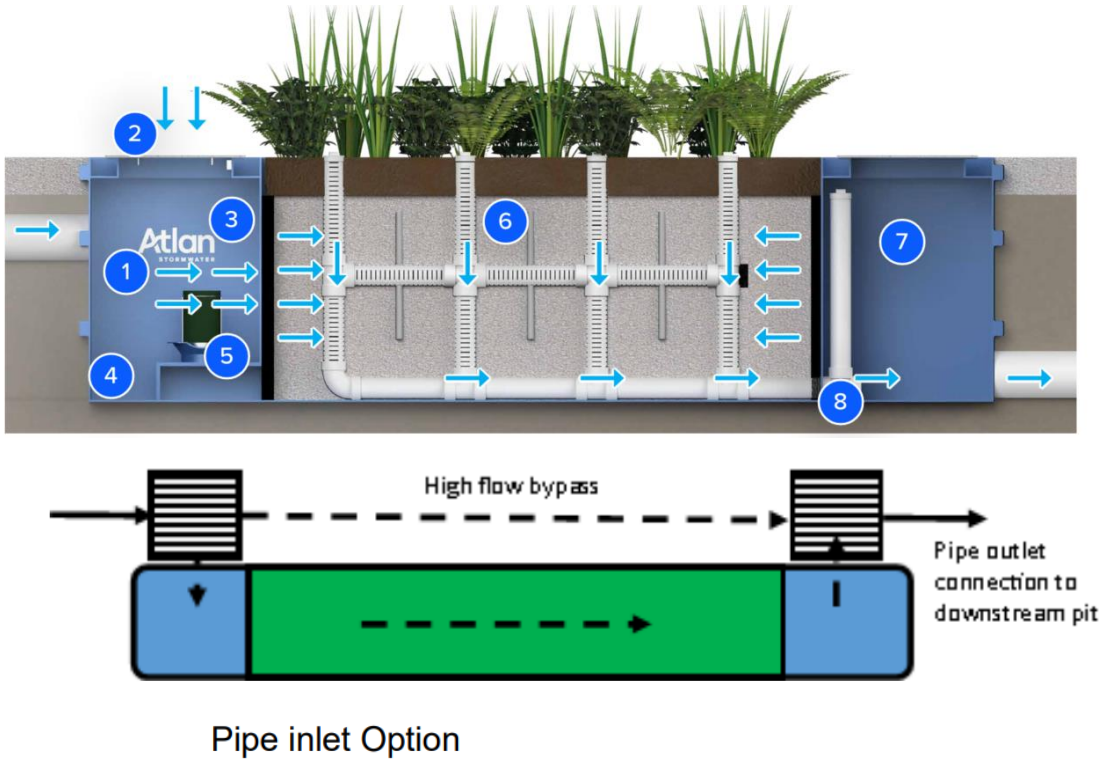

Figure 1–6| Proprietary Product Atlan Basin Schematic or equivalent proposed as part of the management of Water Quality

Sustainability

The Athllon Drive Duplication is subject to an Infrastructure Sustainability (IS) Essentials Pilot Design Rating to meet the requirements of the ACT's Climate Change Strategy 2019-2025 and Action Plan. The establishment of sustainability commitments, objectives and targets is informed by the outcomes of the materiality assessment of the IS Essentials (Pilot) rating tool. All IS categories that have been identified as most important issues through a structured assessment were used to establish SMART targets and were mapped against the United Nations Sustainable Development Goals. The performance against the objectives and targets are reviewed and reported quarterly as part of sustainability performance reporting. Refer to Table 1-1 for a summary of the project's key sustainability commitments.

Table 1-1 | Project Sustainability objectives and targets

Sustainability Theme	Objective	Key sustainability commitments
Supporting a liveable city	Contribute to the creation of a liveable urban environment. Have no adverse impact on heritage values.	• Protect the urban environment by retaining at least 85% of mature trees in the project area and plant two new trees during the Construction Phase for every mature tree removed. • Upgrade the public transport by improving the design of 2 bus stops to better serve the community • Minimise impacts on the environment by minimising impacts of noise, air quality and light pollution to protect sensitive receptors during construction • Respect local heritage by undertaking heritage assessments and conduct trainings to maintain or enhance heritage values
Increasing resilience	Enhance the Project's resilience to climate change impacts, extreme weather events, and natural disasters.	• Conduct a climate change and natural hazards risk assessment considering direct and indirect climate change risks over the forecast useful life of the asset. Including implementation of appropriate mitigation and adaptation measures. • Undertake flood modelling for a higher rainfall intensity event for sensitivity testing and check the design's response to projected future climate conditions • Implement adaptation measures to reduce all of High and Extreme direct climate risks to an acceptable level
Social inclusion	Stakeholders are actively engaged throughout the design and construction process.	• Engage with local stakeholders and community at all key stages • Respond to all community concerns raised during key engagement activities (transparently report on this via Project webpage • The community will have the opportunity to engage with the engagement team and stay updated on Project progress at any stage of project design and construction phases through the Project's engagement email address.
Resource efficiency and circular economy	Maximise resource efficiency and minimise the project's carbon footprint to achieve positive circular economy outcomes. Minimise resources sent to landfill	• Reduce waste by diverting at least 85% of excavation spoil and significant amounts of asphalt, concrete and metal from landfill • Develop and implement a resource efficiency strategy to minimise materials used and improve resource efficiency across the asset's lifecycle

Sustainability Theme	Objective	Key sustainability commitments
Sustainable procurement	Achieve value for money through a consideration of environmental, social and economic cost and non-cost factors on a whole-of-life basis. Use procurement to require social and environmental standards, encourage suppliers to adopt socially responsible and ethical practices and support innovation in the market.	• Implement sustainable procurement practices throughout design and construction

Environmental Significance Opinion (ESO)

The new ACT planning regulations that came into force in November 2023 included a new Environmental Impact Statement (EIS) trigger for projects that contribute to Key Threatening Processes (KTP). One of these KTPs is the Loss of Mature Native Trees, which are generally defined as native species with a diameter at breast height (1.4m) of 50 cm or greater. Therefore, the project will focus not only on the quantity of trees for removal but also on the type and frequency of planting new trees, in accordance with Bushfire Management Standards (effective 19 July 2023), particularly concerning bushfire zones in the Athllon Drive corridor.

The ACT Conservator of Flora and Fauna also identified that the Athllon Drive Duplication project boundary is situated within the potential Gang Gang cockatoo habitat area. Given that a significant number of planted Eucalypts, which may serve as a feeding resource for Gang-gangs in the area, will be removed due to the new road alignment, the ESO was required to specify which trees are to be removed and establish appropriate replacement ratios.

SMEC engaged Umwelt to carry out the Environmental Significance Opinion (ESO) pathway assessment. According to the ESO report, the Project will require the removal of two remnant Hollow Bearing Trees (HBTs) and 39 mature native trees (MNTs). The HBTs within the Project Area have been evaluated for their potential as gang-gang cockatoo habitat, and the two HBTs identified for removal are considered low priority for retention in this context. For further information, refer to the ESO Report in **Appendix E.**

An Application for an Environmental Significance Opinion on the Athllon Drive Duplication Southern Section was submitted on 24 June 2024 and approved on 29 July 2024 (ESO202342431), also contained in **Appendix E.** Clause 142 (4) of the *Planning Act 2023* notes that an ESO expires 18 months after the day the opinion is given to the applicant.

Bushfire Risk Assessment

The Strategic Bushfire Management Zones from ACTmapi 2024 is shown in Figure 1–7 which indicates that the ADD project works are located mainly within the Landscape Fire Management Zone. In this zone, fuel management standards are not applied. However, there are Inner Asset Protection Zones (IAPZ) within the suburban envelope and an Outer Asset Protection Zone (OAPZ) at the southern nature reserve section of Drakeford Drive and Fincham Crescent.

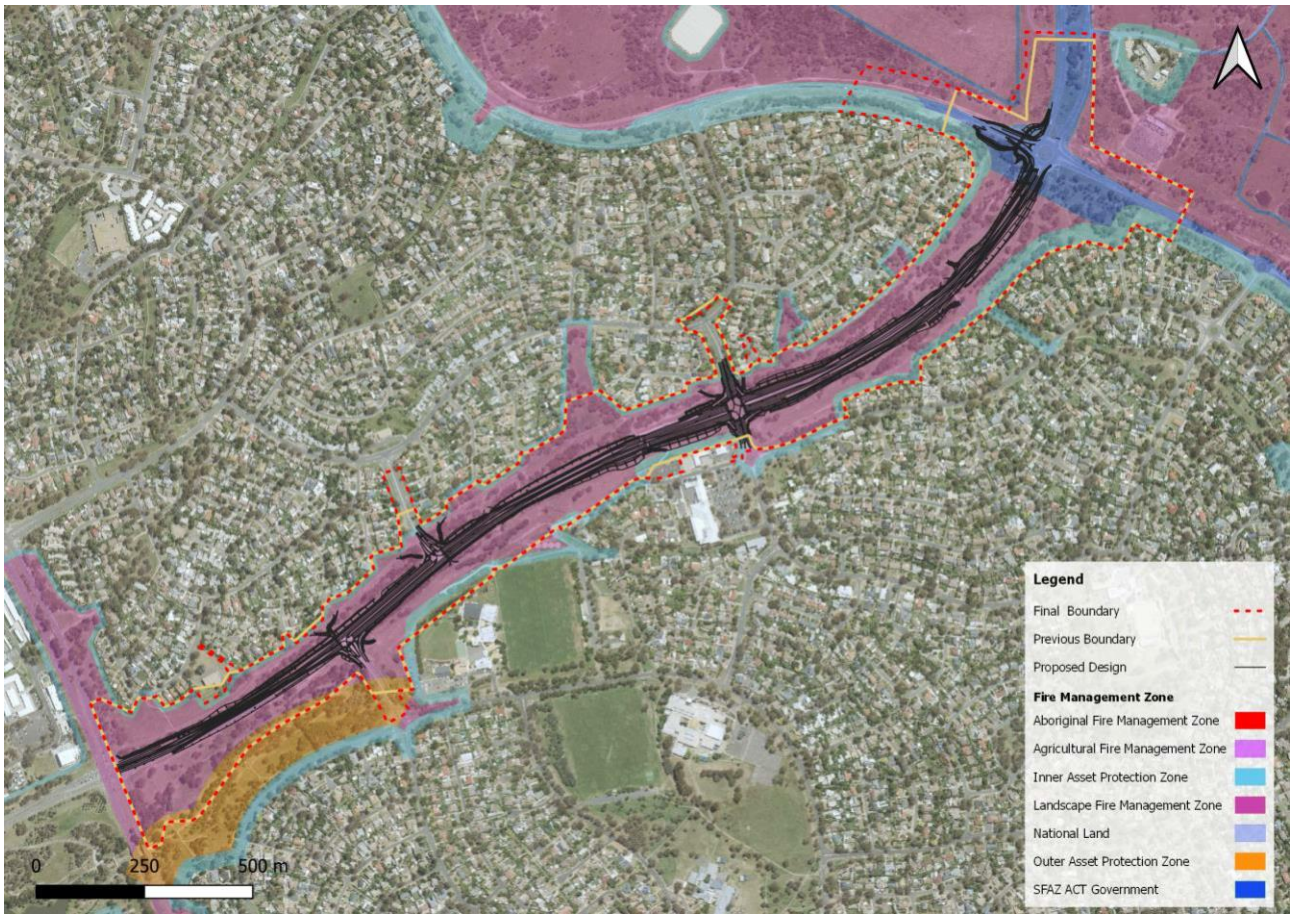

Figure 1–7 | Strategic Bushfire Management Zones

The project team consulted with Parks and Conservation Services Fire Management Unit on 22 November 2023 to confirm bushfire zone requirements including tree planting, grass and mulch beds. A summary of findings from this meeting is provided below:

- Figure 1–7 is based on Emergency Services Agency (ESA) risk assessment/fuel assessment, meaning that changing the planting would alter this risk assessment.
- The IAPZ highlighted in Figure 1–7 in blue, indicate their adjacency to houses. In these areas, certain precautions are necessary to mitigate fire risk, such as avoiding shrubs, smooth bark trees, and interlocking tree canopies. Vegetation must be managed so its biomass in summer (estimated from its height and extent of cover) stays below 20 cm to prevent the presence of ladder fuels. The width of this zone varies depending on the aspect, with the northwest being the primary/most affected area, followed by secondary and lee edge zones. Additionally, this zone will be wider adjacent to open spaces. The area of the IAPZ near the Wanniassa shops (including the petrol station) may be a concern if there is extensive planting too close to it.
- Landscape Fire Management Zones are depicted in Figure 1–7 in pale brown. These areas are not suitable for planting a "forest," as overplanting could necessitate increases in the adjacent Inner and Outer Asset Protection Zones
- Strategic Firefighting Advantage Zones (SFAZ) are indicated on the map in bright green. These zones are designated safe areas for firefighting activities during emergency events.
- Given the nature of the Project, i.e. upgrades to an existing road, bushfire and flood risk was deemed to be minimal. No further impacts as a result of an asset protection zone are anticipated.
- The Landscape Management and Protection Plan (LMPP) was consulted with ESA and PCS FMU, and it was confirmed that replanting will not provide connectivity to the mapped bushfire prone area and the provision for Asset Protection Zone's to be maintained in perpetuity by the land custodians, must be achieved.

- Additionally, introduction of weedy and exotic plants to be minimised through compensatory planting of shrubs and trees that are endemic to the bioregion.

Heritage Assessment

SMEC has engaged Past Traces to prepare a Statement of Heritage Effect (SHE) for the ADD project. Site inspections, consultations with recognised Representative Aboriginal Organizations (RAOs), and reporting have been completed, with a final meeting with ACT Heritage held on 8 November 2023. The final SHE Report was completed on 16 January 2024, incorporating feedback from the Territory and SMEC. The Statement of Heritage Effects (SHE) was submitted to ACT Heritage Council on February 1, 2024. Please refer to **Appendix F – Statement of Heritage Effect.** The recommendation of the report is to erect fencing to protect the culturally modified trees, and to amend ACT Heritage records where trees were destroyed or could not be located.

Since the SHE Report does not identify any works that would cause damage to an Aboriginal place or diminish the significance of a registered heritage place, no further assessment is considered required. However, an unexpected finds protocol has been established in the event that heritage items or suspected heritage items are found during design investigations or construction works.

Air Quality

SMEC has engaged Zephyr Environmental to prepare an Air Quality Assessment for the Project which included an assessment of existing impacts and likely construction impacts on air quality. The CAL3QHCR dispersion model was used to determine concentrations of Nitrogen Dioxide (NO2), PM10 and PM2.5 due to emissions from the proposed duplication and existing road alignment for three dispersion modelling scenarios for the existing alignment and duplication alignment cases.

The estimated concentrations of NO2, PM10 and PM2.5 were found to be well below the relevant air quality criteria for all modelling scenarios. The incremental contributions from the road alignments are very minor, with most of the concentrations made up of existing background conditions.

A risk assessment of the construction activities indicated that construction dust is unlikely to present an ongoing problem. Any effects from dust would be temporary and only arise during dry weather with the wind blowing towards a receptor, at a time when dust is being generated and mitigation measures are not being fully effective.

Please refer to **Appendix D – Air Quality Assessment.**

Noise

SMEC has engaged Renzo & Associates to undertake a Background Noise and Vibration Study. The report identified a number of sensitive receivers within the Project area including residential premises, schools and day care centres. Existing noise and vibration conditions are a result of vehicle movements along Athllon Drive. A number of measures have been identified to reduce noise, and vibration impacts during the construction and operational phases of the Project including no exceedance of predicted noise levels during the construction phase. For the operational phase, a major exceedance is defined as exceeding existing noise levels by more than 10dBA.

Please refer to **Appendix H – Noise Management Report.**

Designated Land

There are aspects of the project falling within land identified as Designated Land that will require Works Approval (WA) from the National Capital Authority. This includes a section of the proposed Shared User Path (SUP) network upgrades, located north of the Sulwood Drive and Athllon Drive roundabout. A concurrent WA to the National Capital Authority for the relatively small portion of the Project located within Designated Land. Specifically, proposed works include:

- Removal of the existing 2.5 m wide path over an approximate length of 115 m.
- Construction of a new 3.0 m wide SUP, approximately 130 m in length, which will connect to the existing C4 Principal SUP along Athllon Drive.

- Improvement of the drainage network through extension of the existing pipe system and construction of a new headwall (s) with associated scour protection. The final drainage solution will be determined following agreement on the Sulwood Underpass design (subject to the concurrent ACT DA)
- Installation of part time signals (known as roundabout metering signals) at the southbound approach to the Sulwood Drive roundabout.

2. Site Description

This section provides an overview of the current condition of the site. The purpose of this section is to set the scene, considering any potential constraints, and to describe the site in the context of the surrounding area.

Table 2-1 | Site Description

	Applicant response
Block Area	Athllon Drive between Sulwood Drive and Drakeford Drive
Zone	The Project area is located within the following zone: • TSZ1 Transport Zone • PRZ1 Urban Open Space. It is noted that a separate DOR has prepared for works within the TSZ1 zone and the PRZ1 zone which are included below as Parts 1 and 2 of this DOR.
Current Use	Arterial Road
Access, Driveways and Parking	The Project area includes an existing section of Athllon Drive between Sulwood Drive and Drakeford Drive. Athllon Drive is a major arterial road providing access between Woden and Tuggeranong, as well as the suburbs of Wanniassa and Kambah. It is noted that there is no direct driveway access onto Athllon Drive from the residential and commercial development within Wanniassa and Kambah.
Site constraints	The Project area is located within a highly urbanised area and is constrained by residential and commercial development, as well as existing vegetation within the road reserve. There are a number of site constraints that have been considered including bushfire, ecology, heritage, contamination, air quality and noise impacts.
Environmental values	The natural values of the Project area are limited due to its use as a road corridor within an urbanised area. Vegetation along the Athllon Drive corridor mainly consists of planted native trees and shrubs with mown native and exotic grasses. A total of 624 MNTs, 24 remnant trees and 12 hollow bearing trees are located with the Project area. The Project area is not considered important in its possession of uncommon, rare, endangered flora or fauna communities or natural landscapes. Extensive measures have been undertaken to minimise the removal of MNTs and hollow-bearing trees including consultation with the Office of the Conservator of Flora and Fauna. The removal of native vegetation has been considered through a request for an Environmental Significance Opinion (ESO). Approval of the ESO was received on the 29 July 2024, confirming that the proposal is not likely to have a significance adverse environmental impact. Please refer to **Appendix E – ESO Application and Approval.**
Surrounding Land Uses and Development	The Athllon Drive corridor within the Project area is zoned TSZ1 – Transport, with adjoining land made up of RZ1-Suburban and PRZ1 – Urban Open Spaces and TZ2- Services within the adjoining suburbs of Wanniassa and Kambah. The Mount Taylor Special Purpose Reserve and Farrer Ridge Nature Reserve occur directly

	north of the Project area is classified as Designated Area under the National Capital Plan.
Additional Comments	Not applicable.

Figure 2–1 | View of Athllon Drive facing west towards the Athllon / Drakeford Drive intersection, showing existing condition

Figure 2–2 | View facing southeast of the Athllon Drive and Fincham Cres intersection, existing condition

Figure 2–3 | View facing west along Athllon Drive showing typical roadside reserve and vegetation conditions

Figure 2–4 | View of Wanniassa Park and Ride along Athllon Drive

3. Pre-DA Processes

The Project Team has been consulting closely with Environmental Planning and Sustainable Development Directorate (EPSDD), Office of the Conservator of Flora and Fauna and several other key ACT Government and non-government stakeholders. The intent of early and consistent consultation was to create a collaborative approach between the Project Team and key agency stakeholders, and to guide the design team with the objective of avoiding and minimising impact. A summary of engagement undertaken with key stakeholders to date has been provided below:

- **Transport Canberra and City Services, Urban Treescape-** The ADD project team convened with the TCCS Urban Treescape unit onsite on 28 July 2023 to discuss the extent of vegetation removal.
- **EPSDD Healthy Waterway -** Two meetings related to water quality treatment and water detention were held in May and October 2023 with the EPSDD Healthy Waterway Team to identify and resolve site constraints and challenges, especially regarding the space required to fit large conventional treatment devices.
- **PCS Fire Management unit -** Engagement with PCS FMU started in November 2023 when the team sought further advice on Bush Fire Risk Management in place for the ADD project as part of the ESO/EIS pathway assessment.
- **EPSDD-** A Pre-DA meeting was held on 5 December 2023 with the presence of the EPSDD DA Gateway Team, TCCS (now iCBR), SMEC, and Environment Protection Authority (EPA) representatives to discuss the requirements of the new planning system that came into effect in November 2023.
- **Conservator of Flora and Fauna-** The ACT Conservator of Flora and Fauna's team has been involved in discussions about possible tree removal since July 2023 and is well-informed about the location of high-value trees and trees to be removed as part of the Project. A site walk took place on 10 April 2024 with SMEC, Envirolinks Design and the ACT Government in attendance to review tree removal locations and the impact to fire risk. An Application for an ESO on the Athllon Drive Duplication Southern Section was submitted on 24 June 2024 and approved on 29 July 2024.
- **National Capital Authority-** Initial contact was made and established to inform the National Capital Authority (NCA) in January 2024 regarding the civil works and an underpass at the Sulwood Drive roundabout encroaching into a Designated area.
- **Pedal Power-** Design options for the new underpass at the western leg of Sulwood Drive and the overall draft PSP design were communicated to Pedal Power ACT in November and December 2023 to seek their initial feedback. Feedback was provided by Pedal Power ACT in December 2023 with a meeting held in May 2024.
- **Community engagement** - Community engagement took place on 20 and 25 May 2024. Feedback from the community was generally supportive of the road duplication, but there are concerns about the number of new traffic lights and their impact on traffic flow and journey times. There is a preference for alternative pedestrian safety measures like underpasses and overpasses and that this project does not preclude future light rail along the corridor.
- **Cultural Engagement** – Community consultation was undertaken with Bagariin which emphasised the importance of embedding Ngunnawal culture and identity throughout the Site. Key outcomes include the opportunity for incorporation of Ngunnawal language and artwork in the underpasses. The Project will also use locally occurring native vegetation to support ecological function. The consultation highlighted connections to natural features including Mount Taylor and the Brindabella Mountains.

A summary of community feedback on Athllon Drive Southern Section Duplication is provided in Table 3-1.

Table 3-1 | Summary of Feedback (Source: ACT Government Engagement Report)

Issue Raised	ACT Government response
Project Delivery	
Support expressed for the duplication of Athllon Drive and acknowledgement there is a future need for it.	The ACT Government notes this support for the project.
Uncertainty the duplication of Athllon Drive is necessary given the current traffic volumes. The project seems unlikely to be worth the expenditure.	Athllon Drive is a busy arterial road with two rapid bus routes, cyclists and nearly 2,000 vehicles currently using this road every hour during peak periods. The current developments in Greenway and Woden are generating additional demand within this arterial transport corridor. Future development in and around Athllon Drive is also identified in the Woden and Tuggeranong District Strategies. The residents who move into these areas of urban infill in the future will generate additional demand within this arterial transport corridor.
The time it's taken to get to this point since the signs for the duplication went up 4 years ago.	The ACT Government is delivering the project as quickly as possible to improve capacity and safety on Athllon Drive for the community. Detailed design began in 2023 and is progressing well. Numerous site investigations have been undertaken to inform the design, including measuring gang-gang cockatoo hollows in trees and undertaking road pavement assessments. Noise monitoring in the area has also been completed.
Is the 3-week community engagement with information sessions insufficient consultation for the project?	The information sessions provided an opportunity for the community to ask questions and discuss the preliminary design with the project team to learn more about the road duplication. The two sessions were held on a weekday and on a weekend at different hours and in different venues to provide the best opportunity for interested community members to come along when it suited them. Those who were unable to attend were invited to provide feedback via email to communityengagement@act.gov.au. Following the preliminary design phase, the project will move into detailed design. Submissions on planning and environmental approvals for the southern section of the duplication will start to be progressed. These will include a public notification period with a further opportunity to provide feedback.
What are the timelines involved and when will we see the finished project?	Enabling works packages are funded with $8.6 million committed in the 2024-25 ACT Budget jointly funded by the ACT and Australian Governments. These works will commence in September 2024, with some of the works subject to approvals and successful procurement processes starting later. Construction of the main road duplication is estimated to take around two years, the start date is subject to environmental and planning approvals and successful procurement processes. The community will be kept informed about construction timeframes as the project progresses with more detail provided around the time of construction procurement. This will ensure plenty of notice is given prior to work commencing.
Intersection Treatments	
The traffic lights to be installed at the Athllon Drive/Sulwood Drive roundabout are	The design includes part-time lights at the Sulwood Drive/Athllon Drive intersection to improve traffic flows and safety in peak periods. The ACT Government notes the support for the proposed part-time traffic lights.

Issue Raised	ACT Government response
supported if they will operate at peak times only	
Concerns about the number of traffic lights proposed in the preliminary design including: • questioning if all of the proposed new traffic lights are required given many of the intersections currently function well and once the road is duplicated traffic should flow even better • questioning the benefit of installing traffic lights compared to other intersection treatment options • questioning how traffic lights will improve traffic flow • concerns the new traffic lights will dramatically increase commute times despite the additional traffic lane • requests for information that shows traffic lights are the most appropriate option • questioning if significant traffic growth is expected in the area to justify all of the new traffic lights.	The preliminary design for Athllon Drive incorporates crash data and other key safety considerations to meet current Austroads Standards. Traffic lights are preferred over large roundabouts, which would require a much larger footprint to accommodate heavy vehicles like B-doubles and buses. Signalised intersections are intended to improve safety for all road users—vehicles, pedestrians, cyclists, and public transport—while supporting efficient traffic flow. The design and programming of the signals are being developed in coordination with Roads ACT to optimise green time along this arterial route. The duplication of Athllon Drive is also a response to long-term growth. ACT Treasury projects the population will exceed 784,000 by 2060—an increase of over 330,000 people. Tuggeranong's population, 89,461 in 2021, is expected to grow as part of this trend. The Tuggeranong District Strategy outlines a vision to expand the Town Centre's role and promote growth in local centres, including new housing, jobs, and services along the Athllon Drive corridor. This anticipated development will significantly increase demand on the road network, making the current upgrades essential for future transport capacity and safety.
Is there any chance the roundabout on Sulwood Drive/Athllon Drive intersection could be replaced with a larger underpass that could accommodate cars and not just pedestrians/cyclists?	The preliminary design includes an underpass under a leg of the Sulwood Drive intersection to provide a safe, separated crossing for pedestrians and cyclists. A larger underpass for all transport modes is not required for the safe operation of this intersection and would be cost prohibitive to deliver.
• Opposition to replacing the current roundabout, which is seen as safe and effective with current traffic flow. • Concerns traffic lights will increase travel times, especially during off-peak periods.	The preliminary design proposes installing traffic lights at the Atkins/Langdon Street and Athllon Drive intersection to address significant safety concerns. Crash data shows that high traffic volumes on Athllon Drive contribute to risky right-turn movements at the current roundabout. The intersection's proximity to the Wanniassa shopping centre increases the need for safer pedestrian and cyclist access, which traffic lights can provide more effectively than a roundabout. To support traffic flow, the design includes left-turn slip lanes on all approaches and queue jump lanes for buses. It also takes into account the surrounding road network and has been developed in line with Austroads

Issue Raised	ACT Government response
• Fears of traffic flow impacts on nearby roads, including potential bottlenecks at the Rylah/Longmore/Langdon roundabout for access to Wanniassa shops and Park and Ride. • Request for 'Turn left at any time with care' signs on all approaches if traffic lights proceed. • View that pedestrian and cyclist needs are already met by the nearby bus stop crossing. • Preference to retain the roundabout and install part-time signals if needed, similar to other intersections. • Concerns about traffic congestion from nearby bus stops compounding intersection delays. • Suggestion to add bus/transit lanes to ease bus movements and improve traffic flow.	Standards, using crash data from across Athllon Drive. The changes aim to improve safety not just for general traffic, but also for heavy vehicles and public transport users. Traffic modelling has been carried out to assess broader network impacts, and the traffic signal phasing is being coordinated with Roads ACT to optimise flow along the arterial route. Additional upgrades to bus stops and facilities are also included to enhance public transport infrastructure.
Concern about introducing new traffic lights at the intersections of Vosper Street and Fincham Crescent. Suggestion to realign the intersections of Fincham Crescent and Vosper Street to create a single crossroad and integrate the operation of the traffic lights.	Traffic lights are proposed at the intersections of Vosper Street and Fincham Crescent to address safety concerns, particularly with right-turn movements. With the duplication of Athllon Drive, vehicles turning right at one intersection and then left at the next would need to cross multiple lanes in a short distance, creating unsafe weaving movements. Signalising both intersections will manage these movements safely and in accordance with Australian road design standards. Site constraints prevent the two roads from being combined into a single intersection. To minimise delays for through traffic on Athllon Drive, the traffic lights will be coordinated and optimised in consultation with Roads ACT.
Suggestion to replace the existing pedestrian crossing lights at the Wanniassa bus stops with a pedestrian overpass or underpass to improve both traffic flow and pedestrian safety. Concerns have been raised that the current pedestrian signals may not be synchronised with the proposed traffic lights, leading to delays and congestion. With the	The preliminary design retains the existing pedestrian crossing signals near the Wanniassa bus stops, as they provide a safe crossing point for public transport users accessing the Park and Ride and shopping centre. A pedestrian overpass or underpass is not considered necessary for safety and is also deemed too costly. To reduce traffic disruption, the pedestrian signals will be coordinated with the new traffic lights along Athllon Drive. Traffic light timing, phasing, and programming are being developed in collaboration with Roads ACT to optimise traffic flow along the arterial corridor.

Issue Raised	ACT Government response
planned expansion of the Park and Ride facility, there is also concern that increased pedestrian use of the signalised crossing will further impact traffic movement along Athllon Drive.	
Active Travel	
Why is pedestrian passage such a focus at most intersections? This is a main road, not a minor street through a suburb. One or two sets of traffic lights, along with the already present underpass should be sufficient to allow pedestrians to cross this road safely.	The ACT Government is committed to safety for all modes of transport for all road projects. The proposed traffic lights are designed to ensure safe movements for vehicles at the intersections along this section of Athllon Drive, as well as providing safe crossings for pedestrians and cyclists. At the Athllon Drive/Atkins Street/Langdon Avenue intersection there is a higher need to provide safe pedestrian and cyclist movements to access the Wanniassa shopping centre. Similarly, at the Athllon Drive/Fincham Crescent intersection will provide safe access to St Anthony's Parish Primary School and Early Learning Centre and the nearby Wanniassa High School.
The underpass at Athllon Drive/Sulwood Drive intersection is applauded for significantly improving safety for pedestrians and cyclists. It is an especially dangerous crossing for cyclists at present, many of whom are school children, due to how many cars come through the intersection. Many near misses have been seen at this crossing.	The ACT Government notes this support for the proposed underpass that is planned to be constructed as part of this project.
The design for the duplication does not seem to take the future light rail line into consideration. Will planning and building include facilities for the light rail connection from Woden to Tuggeranong?	The Light Rail Network plan for the ACT includes a future stage from Woden to Tuggeranong. The design of the duplication alignment does not preclude the future light rail connection.
Could one of the new lanes in each direction be reserved for buses and taxis/ride share vehicles as a transit lane? Suggestion to locate the transit lane down one side of Athllon Drive to obtain multiple benefits.	This project includes a range of benefits for public transport users including improved bus stops and upgraded facilities. Bus priority measures are being considered as part of the design with queue jump bus priority lanes currently included in the preliminary design at the Athllon Drive/Atkins Street/Langdon Avenue intersection. Transit lanes are not proposed as part of the southern section of this project.
The addition of four extra sets of traffic lights could further delay travel times for the R4 rapid bus service.	To optimise the green time for all traffic using the arterial road network along Athllon Drive, including the R4 bus from Tuggeranong to Civic, the traffic light design, phasing and programming are being developed with Roads ACT.

Issue Raised	ACT Government response
Support for the addition of the new pair of bus stops between the existing Wanniassa shopping centre bus stops and Sulwood Drive.	The ACT Government notes this support for the proposed new pair of bus stops that is planned to be constructed as part of this project.
The additional bus stops between Langdon Avenue and Sulwood Drive have the advantage of being serviced by both the R4 and R5 routes. Suggestion to add Park and Ride facilities for these stops as they are likely to be popular.	The ACT Government notes this support for the proposed new pair of bus stops that is planned to be constructed as part of this project. Over 20 Park and Ride facilities are provided across the ACT. These are located along rapid bus routes and at selected group centres to allow easy connections with peak hour bus services. A Park and Ride facility is already located at Wanniassa shops which is not fully utilised. Currently the ACT Government has no plans to provide an additional Park and Ride facility in this part of Wanniassa or Kambah.
Consideration should be given to adding bus stops between the Wanniassa Park and Ride and Drakeford Drive. This long stretch of road does not currently have any bus stops and they do not appear to be included in the current design.	As part of the early stages in this design project an options study was requested by Transport Canberra to consider the best location for an additional pair of bus stops in the vicinity of the Athllon Drive/Drakeford Drive intersection. This study determined that the best location for these additional bus stops was on the Tuggeranong Town Centre side of the Drakeford Drive intersection. It was agreed that these bus stops would be considered for future development by Transport Canberra.

4. Statutory Considerations

4.1 Zoning

The Athllon Drive corridor within the Project area is zoned TSZ1 – Transport, with adjoining land made up of RZ1- Suburban and PRZ1 – Urban Open Spaces and TZ2- Services under the Territory Plan 2023.

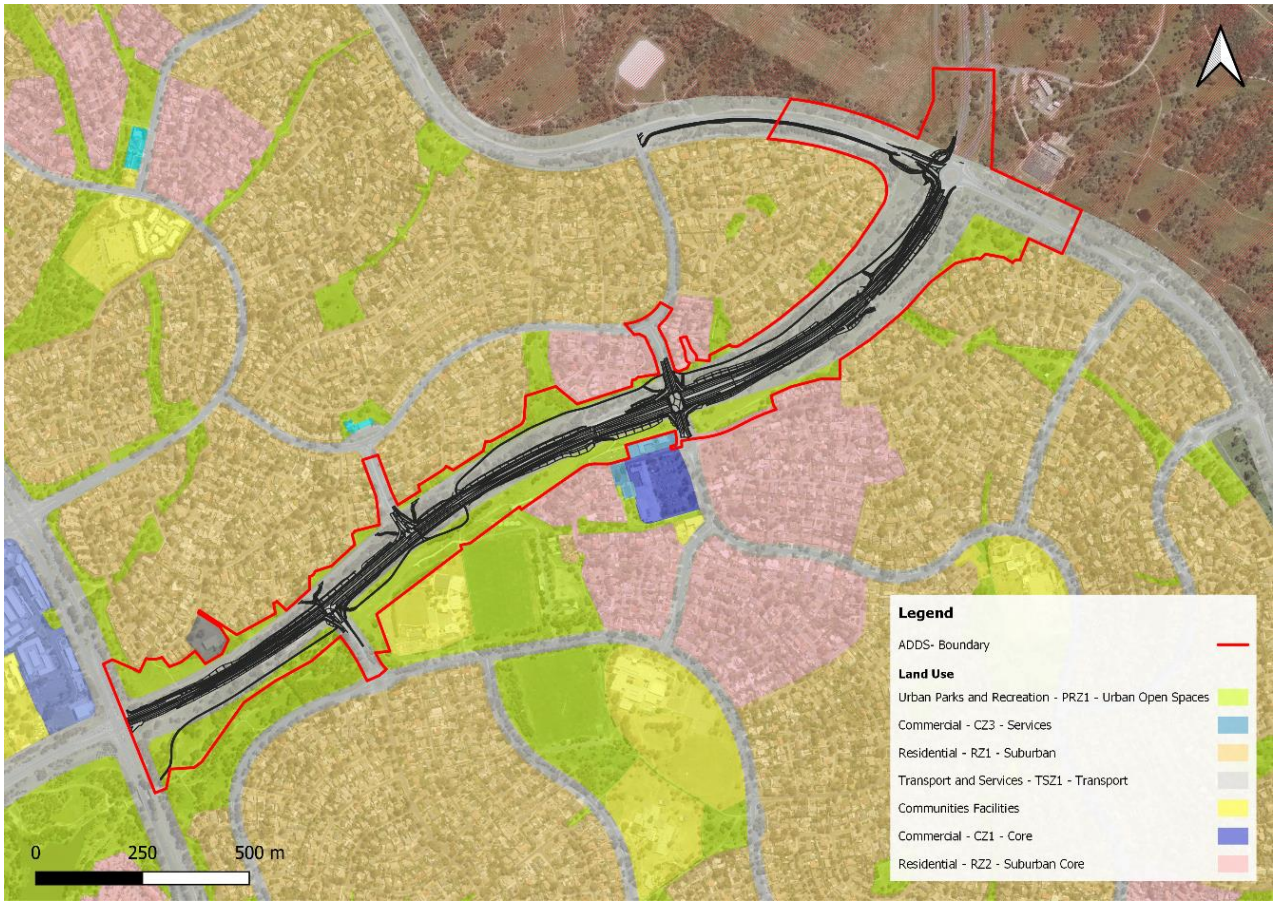

Figure 4–1 Outline of Project area with zoning

An appropriate transition is achieved between the road reserve and adjoining land uses through retention of vegetated corridors on either side of Athllon Drive as well as additional and existing footpath connections. Extensive replanting using over 642 native trees will also be undertaken to retain the character and tree canopy within the area. These additional plantings will also retain a visual buffer between Athllon Drive and the adjoining suburbs.

4.2 Suitability

Athllon Drive is an existing arterial road that provides a vital connection between Woden and Tuggeranong. The Project upgrades an existing 2.4 km section of Athllon Drive to increase road capacity and does not preclude a possible future light rail alignment along the corridor. It is noted that the proposed use of a major road is permissible under the TSZ1. The proposed duplication works are sensitive to the character of the area, including extensive landscaping works, and will provide additional traffic capacity and safety improvements for all road users.

The proposed works are suitable for the site and the locality.

4.3 Interface with adjoining or adjacent proposals

This section considers the interaction of the proposed development with any other adjoining or adjacent development proposals for which a development application has been submitted or development approval given.

As there are no adjoining or adjacent development proposals, this consideration is not applicable.

4.4 Territory Plan 2023

For a development application (DA) to be approved, it is required to be consistent with the relevant provisions of the Territory Plan. In relation to development assessment, the key elements of the 2023 Territory Plan are:

- District Policies;
- Zone Policies; and
- Other Policies, including the Subdivision and Lease Variation Policies.

The proposed works are consistent with the relevant provisions of the territory plan as following:

- D08 - Tuggeranong District Policy
- E06 - Transport and Services Zones Policy
- E05 - Parks and Recreation Zones Policy

This DOR addresses work within the TSZ1 and PRZ1 areas. Detailed responses to these policies are available in Sections 4.7 and 4.8 of this Report.

4.5 Design Guides

The Design Guides are a key element of the 2023 ACT Planning System that have been introduced to elevate design in the DA process by providing qualitative guidance, and to assist in the interpretation and application of the Territory Plan's assessment outcomes. The purpose of this section is to highlight any applicable Design Guides that apply to the proposed development and where a design response is required.

The Urban Design Guide and Biodiversity Sensitive Urban Design Guide are applicable to this proposed development and this a response has been provided in this DOR.

4.6 Tuggeranong District Policy

Appendix 1: District Policy	
Assessment Outcomes	The Site is located within an area identified by the Tuggeranong District Policy. There are no area specific outcomes. and the proposed development needs to comply with relevant zone assessment outcomes.
Assessment Requirements	There are no applicable assessment requirements for the proposed development under this part.

4.7 Transport and Services Zone Policy

Transport and Services Zones Policy – Assessment Outcomes

Development proposals must demonstrate that they are consistent with the following assessment outcomes.

Theme- Urban Structure and Natural Systems

Assessment Outcomes	Outcomes Response
1. Biodiversity connectivity is maintained across the landscape.	The Project design ensures that habitat connectivity is retained through the retention of MNTs and hollow-bearing trees where possible. There is a total of 624 MNTs within the Project area of which 39 or 6.2% will require removal. Through the retention of high value trees and replanting at a 2:1 ratio with over 642 native trees, landscape connectivity and canopy will be maintained over time.
2. Loss of native habitat and biodiversity is avoided and/or minimised.	The vegetation in the Project area consists predominantly of exotic grassland and planted native trees. No native vegetation in the Project area meets the definition of EPBC Act or NC Act listed ecological communities. The Project has been designed to avoid impacts to known ecological values where possible and is subject to an approved Environmental Significance Opinion (ESO). Compensatory planting at a 2:1 ratio will occur after construction. Approximately 642 shrub and tree species endemic to the local area will be planted to achieve a 30% canopy cover or as otherwise approved by the ACT. The PSP has been approved in principle by TCCS' Urban Treescapes, the Office of the Conservator of Flora and Fauna, and ACT Emergency Services Agency.
3. The health and functionality of waterways and catchments is maintained, including through application of water sensitive urban design principles.	A defined drainage channel runs along the eastern side of Athllon Drive from the north-eastern corner of the Project area to the southern end where it feeds into Lake Tuggeranong via a concrete channel. Where possible, grassed channels will be provided to slow the movement of water and provide a permeable area. The proposed upgrade of Athllon Drive includes a kerb and gutter along the edge of the pavement and the majority of pavement runoff is anticipated to flow through pit and pipe systems. Multiple water quality strategies were assessed including swales, bioretention basins and proprietary devices. It was noted that there is insufficient space within the Project area for water quality basins to be introduced. Further, additional overland flows would worsen flooding impacts and necessitate the installation of large inlet pits over the existing trunk drainage to intercept runoff. The proposed water quality treatment strategy is outlined in **Appendix L – Stormwater Report**.

Theme- Site and Land Use

Assessment Outcomes	Outcomes Response
4. The functionality and usability of the development is appropriate for its intended purpose/use.	The Project proposes duplication of an existing 2.4 km section of Athllon Drive which is consistent with the current transport zone and use as a major road. The proposed development also includes the establishment of new public transport facilities, new shared-user path connections, intersection upgrades and median safety barriers to create a safe and efficient road environment.
5. The proposed use and scale of development are appropriate to the site and zone.	The proposed Athllon Drive Upgrade is located within the road reserve and Transport and Service Zone.
6. Adverse impacts of development on surrounding uses (both within a site and on adjoining sites) is minimised.	Subject area zoned as transport and service and surrounded by RZ1- Suburban and PRZ1- Urban Open Space Zone. The proposed works haven not any adverse impacts on the surrounding uses.

Theme- Access and Movement

Assessment Outcomes	Outcomes Response
7. The functionality and layout of the development is well connected to the surrounding area. This includes consideration of traffic flow, passive surveillance and active travel.	The proposal consists of major road (Athllon Drive) upgrade works and shared user path which will improve the accessibility of this major road to the connected roads and active travel.
8. Access to, from and within the site permits safe and legible movement while catering for all users (including pedestrians). This includes consideration of vehicle manoeuvrability and access routes.	As above, the proposal consists of major road (Athllon Drive) upgrade works and shared user path which will improve the accessibility of this major road to the connected roads and active travel.

Theme- Public Space and Amenity

Assessment Outcomes	Outcomes Response
9. The development achieves reasonable solar access and microclimate conditions to public areas and streets to support their use by the community.	Not Applicable.
10. Any advertising or signs are suitable for their context and do not have a detrimental impact on the surrounding area (for instance due to size or light emission).	Proposed signage consists of road signage only and is consistent with the continued use as a major road. As such, there are no negative impacts to the surrounding area. Traffic signage plans are provided as part of **Appendix A – Civil Set.**

Theme- Built Form and Building Design

Assessment Outcomes	Outcomes Response
11. The height, bulk and scale of the development is appropriate, noting the desired zone policy outcomes.	The proposed works consist of duplication and upgrades to Athllon Drive including intersection upgrades and improvements to the shared user path. The scale and design of the development does not preclude for the provision of future Light Rail services along the corridor and is consistent with the policy outcomes of the Transport Zone.

Theme- Sustainability and Environment

Assessment Outcomes	Outcomes Response
12. Roofed areas and hard surfaces aim to reduce urban heat island effects, minimise stormwater run-off and maintain ecosystem services. This includes consideration of water sensitive urban design measures.	Not applicable- Roofed areas and hard surfaces are not proposed as part of this application.
13. Threats to biodiversity such as noise, light pollution, invasive species incursion or establishment, chemical pollution, or site disturbance are avoided or minimised through good design.	All the threats to biodiversity such as noise and light pollution have been considered in the design process from concept feasibility study to PSP. Noise and vibration assessments have been provided to build baseline and to provide mitigation measures to lessen impacts to nearby residents and sensitive receptors. Impact on invasive species has been considered through an ESO which is provided as part of this submission.
14. Minimise cut and fill to protect natural hydrological function and limit soil erosion and site disturbance.	Cut and fill is required to accommodate sections of the Project footprint and has been limited to a batter of no more than 2(H):1(V) in some locations whilst noting that most areas will be 1 in 4 which is able to be safely mowed and maintained by City Management. Erosion and sediment control measures will be implemented and monitored as part of the CEMP to prevent runoff and are detailed as part of **Appendix G Erosion and Sediment Control Plans**.
15. The development considers and addresses site constraints, including heritage, natural features, topography, infrastructure and utilities.	Heritage and environmental impacts have been extensively considered with design amendments including avoiding impacts to trees where possible. The establishment of TPZs and erosion and sediment control measures will further limit construction impacts. It is noted that a SHE and ESO is provided for the Project which required the detailed assessment of heritage and environmental impacts.
16. Environmental risks, including natural features, topography, noise, bushfire, flooding, contamination, air quality or hazardous materials are appropriately considered for the development on the site.	In addition to the above, environmental risks have been considered including contamination, noise, and air quality assessments to inform the proposed works.

Theme- Parking, Services and Utilities

Assessment Outcomes	Outcomes Response
17. The development provides appropriate end-of-trip facilities.	The proposed development does not impact access to vehicle and bicycle parking along Athllon Drive. It is noted that the Project includes improvements to the shared use path to improve active travel opportunities along Athllon Drive.

Assessment Outcomes	Outcomes Response
18. Vehicle and bicycle parking sufficiently caters for the development while minimising visual impacts from the street or public space. This includes consideration of parking location, dimensions and number of spaces provided.	The proposed development does not impact access to vehicle and bicycle parking along Athllon Drive. Upgrades to key intersections within the Project area and improvements to the shared user path will support separation between vehicles and cyclists / pedestrians.
19. Waste is appropriately managed on site without having a detrimental impact on the surrounding area.	Waste management has been a major consideration throughout the Projects construction phase and is included as **Appendix K – Waste Management Plan.** The proposed development will follow waste resource efficiency hierarchy and prioritise on-site reuse.
20. The site is appropriately serviced in terms of infrastructure and utility services and any associated amenity impacts are minimised.	The Project Team has undertaken extensive consultation and coordination with relevant entities regarding the requirements to retain, protect or relocate, and for the provision of new infrastructure to support the proposed development. As a result of consultation, the road design has been updated to avoid relocation of existing high-pressure gas main crossing Vosper Street and medium pressure gas main crossing Langdon Avenue, and to maintain minimum cover to existing DN450 watermain on Atkins Street/ Langdon Avenue intersection. Further, the Project Team has obtained dispensation from Jemena for existing high-pressure gas main under proposed path north-east of Vosper Street to be retained and protected. It is understood that the DA will be referred to the relevant entities for comment prior to the determination of the DA. A Before You Dig Australia search (BYDA Job number: 33884530) was carried out on 25th March 2023 to identify the subsurface utilities and their respective utilities providers within the project area. The following utility service providers have been identified in the BYDA search: • Icon Water (Water and Sewer) • Evoenergy (Gas and Electricity) • Telstra (Telecommunications) • Optus (Telecommunications) • TPG (Telecommunications) • NBN (Telecommunications • Department of Finance – ICON Fibre (Telecommunications) • Transport Canberra and City Services (Street Lighting) All of these utility service authorities have been consulted as part of this project's design.

Transport and Services Zones Policy – Assessment Requirements

Development proposals are required to meet all relevant assessment requirements – these are mandatory development controls.

Control	Assessment requirement	Is this control applicable?	For applicable controls, has it been met?	Outcomes response
Gas Connections	1. No new gas network connections are allowed to all new or existing Class 1-2 buildings as classified under the National Construction Code including redevelopments.	Yes ☐ No ☒	☐	The proposed works does not include any new gas connections.

4.8 Parks and Recreation Zone Policy

Transport and Services Zones Policy – Assessment Outcomes

Development proposals must demonstrate that they are consistent with the following assessment outcomes.

Theme- Urban Structure and Natural Systems

Assessment Outcomes	Outcomes Response
21. Biodiversity connectivity is maintained across the landscape.	The Project design ensures that habitat connectivity is retained through the retention of MNTs and hollow-bearing trees where possible. There is a total of 642 MNTs within the Project area of which 39 or 6.2% will require removal. Through the retention of high value trees and replanting at a 2:1 ratio with over 624 native trees, landscape connectivity and canopy will be maintained over time.
22. Loss of native habitat and biodiversity is avoided and/or minimised.	The vegetation in the Project area consists predominantly of exotic grassland and planted native trees. No native vegetation in the Project area meets the definition of EPBC Act or NC Act listed ecological communities. The Project has been designed to avoid impacts to known ecological values

Assessment Outcomes	Outcomes Response
	where possible and is subject to an approved Environmental Significance Opinion (ESO). Compensatory planting at a 2:1 ratio will occur after construction. Approximately 624 shrub and tree species endemic to the local area will aim to achieve a 30% canopy cover or as otherwise approved by the ACT. The PSP has been approved in principle by TCCS' Urban Treescapes, the Office of the Conservator of Flora and Fauna, and ACT Emergency Services Agency.
23. The health and functionality of waterways and catchments is maintained, including through application of water sensitive urban design principles.	A defined drainage channel runs along the eastern side of Athllon Drive from the north-eastern corner of the Project area to the southern end where it feeds into Lake Tuggeranong via a concrete channel. Where possible, grassed channels will be provided to slow the movement of water and provide a permeable area. The proposed upgrade of Athllon Drive includes a kerb and gutter along the edge of the pavement and the majority of pavement runoff is anticipated to flow through pit and pipe systems. Multiple water quality strategies were assessed including swales, bioretention basins and proprietary devices. It was noted that there is insufficient space within the Project area for water quality basins to be introduced. Further, additional overland flows would worsen flooding impacts and necessitate the installation of large inlet pits over the existing trunk drainage to intercept runoff. The proposed water quality treatment strategy is outlined in **Appendix L – Stormwater Report.**

Theme- Site and Land Use

Assessment Outcomes	Outcomes Response
24. The functionality and usability of the development is appropriate for its intended purpose/use.	The Project proposes duplication of an existing 2.4 km section of Athllon Drive which is consistent with the current transport zone and use as a major road. The proposed development also includes on-road cycle facilities, establishment of new public transport facilities, new shared-user path connections, intersection upgrades and median safety barriers to create a safe and efficient road environment.
25. The proposed use and scale of development are appropriate to the site and zone.	The proposed Athllon Drive Duplication is located within the road reserve and Transport and Service Zone.
26. Adverse impacts of development on surrounding uses (both within a site and on adjoining sites) is minimised.	Subject area zoned as transport and service and surrounded by RZ1- Suburban and PRZ1- Urban Open Space Zone. The proposed works will not have any adverse impacts on the surrounding uses.

Theme- Access and Movement

Assessment Outcomes	Outcomes Response
27. The functionality and layout of the development is well connected to the surrounding area. This includes consideration of traffic flow, passive surveillance and active travel.	The proposal consists of major road (Athllon Drive) upgrade and duplication works and shared user path works which will improve the accessibility of this major road to the connected roads and provide active travel and public transport improvements.
28. Access to, from and within the site permits safe and legible movement while catering for all users (including pedestrians). This includes consideration of vehicle manoeuvrability and access routes.	As above, proposal consists of major road (Athllon Drive) upgrade and duplication works and shared user path works which will improve the accessibility of this major road to the connected roads and provide active travel and public transport improvements.

Theme- Public Space and Amenity

Assessment Outcomes	Outcomes Response
29. The development achieves reasonable solar access and microclimate conditions to public areas and streets supports their use by the community.	Not Applicable.
30. Any advertising or signs are suitable for their context and do not have a detrimental impact on the surrounding area (for instance due to size or light emission).	Proposed signage consists of road signage only and is consistent with the continued use as a major road. As such, there are no negative impacts to the surrounding area. Traffic signage plans are provided as part of **Appendix A – Civil Set**.

Theme- Built Form and Building Design

Assessment Outcomes	Outcomes Response
31. The height, bulk and scale of the development is appropriate, noting the desired zone policy outcomes.	The proposed works consist of duplication and upgrades to Athllon Drive including the intersection upgrades and the construction of shared user path and public transport improvements. The scale of the development does not preclude for the future Light Rail services and is consistent with the policy outcomes of the Transport Zone.
32. Reasonable solar access and privacy to adjoining dwellings is achieved.	Not Applicable.

Theme- Sustainability and Environment

Assessment Outcomes	Outcomes Response
33. Roofed areas and hard surfaces aim to reduce urban heat island effects and minimise stormwater run-off. This includes consideration of water sensitive urban design measures.	Not applicable- Roofed areas and hard surfaces are not proposed as part of this application.
34. Threats to biodiversity such as noise, light pollution, invasive species incursion or establishment, chemical pollution, or site disturbance are avoided or minimised through good design.	All the threats to biodiversity such as noise and light pollution has been considered in the design process from concept feasibility study to PSP. Noise and vibration assessments have been provided to build baseline and to provide mitigation measures to lessen impacts to nearby residents and sensitive receptors. Impact on invasive species has been considered through an ESO which is provided as part of this submission.
35. Minimise cut and fill to protect natural hydrological function and limit soil erosion and site disturbance.	Cut and fill is required to accommodate sections of the Project footprint and has been limited to a batter of no more than 2(H):1(V) where possible. Erosion and sediment control measures will be implemented and monitored as part of the CEMP to prevent runoff and are detailed as part of **Appendix G - Erosion and Sediment Control Plans**.
36. The development considers and addresses site constraints, including heritage, natural features, topography, infrastructure and utilities.	Heritage and environmental impacts have been extensively considered with design amendments including avoiding impacts to trees where possible. The establishment of TPZs and erosion and sediment control measures will further limit construction impacts. It is noted that a SHE and ESO is provided for the Project which required the detailed assessment of heritage and environmental impacts.
37. Environmental risks, including natural features, topography, noise, bushfire, flooding, contamination, air quality or hazardous materials are appropriately considered for the development on the site.	In addition to the above, environmental risks have been considered including contamination, noise and air quality assessments to inform the proposed works.

Theme- Parking, Services and Utilities

Assessment Outcomes	Outcomes Response
38. The development provides appropriate end-of-trip facilities.	The proposed development does not impact access to vehicle and bicycle parking along Athllon Drive. It is noted that the Project includes the improvement to the shared use path to improve active travel opportunities along Athllon Drive.
39. Vehicle and bicycle parking sufficiently caters for the development while minimising visual impacts from the street or public space. This includes consideration of parking location, dimensions and number of spaces provided.	The proposed development does not impact access to vehicle and bicycle parking along Athllon Drive. Upgrades to key intersections within the Project area and the shared user path will provide separation between vehicles and cyclists / pedestrians.
40. Waste is appropriately managed on site without having a detrimental impact on the surrounding area.	Waste management has been a major consideration throughout the Projects construction phase and is included as **Appendix K – Waste Management Plan.**
41. The site is appropriately serviced in terms of infrastructure and utility services and any associated amenity impacts are minimised.	The Project Team has undertaken extensive consultation and coordination with relevant government stakeholders and utility service authorities regarding the requirements to retain, protect or relocate, and for the provision of new infrastructure to support the proposed development. As a result of consultation, the road design has been updated to avoid relocation of existing high-pressure gas main crossing Vosper Street and medium pressure gas main crossing Langdon Avenue, and to maintain minimum cover to existing DN450 watermain on Atkins Street/ Langdon Avenue intersection. Further, the Project Team has obtained dispensation from Jemena for existing high-pressure gas main under proposed path north-east of Vosper Street to be retained and protected. It is understood that the DA will be referred to the relevant entities for comment prior to the determination of the DA. A Before You Dig Australia search (BYDA Job number: 33884530) was carried out on 25th March 2023 to identify the subsurface utilities and their respective utilities providers within the project area. The following utility service providers have been identified in the BYDA search: • Icon Water (Water and Sewer) • Evoenergy (Gas and Electricity) • Telstra (Telecommunications) • Optus (Telecommunications) • TPG (Telecommunications) • NBN (Telecommunications • Department of Finance – ICON Fibre (Telecommunications)

Assessment Outcomes	Outcomes Response
	• Transport Canberra and City Services (Street Lighting) All of these utility service providers have been consulted as part of this design.

Parks and Zones Policy – Assessment Requirements

There are no applicable assessment requirements for development proposals in the parks and recreation zones.

4.9 Design Response – Urban Design Guide

I confirm that I, SMEC Australia was primarily responsible for designing the development proposal and/or completing the below **design response**.

I am an appropriately qualified person with experience and expertise relevant to the type and scale of development proposed, including in Bachelor of Planning and 12 years post-graduate experience in statutory planning within consulting and government and can confirm that the development is consistent with the themes and design elements of the applicable design guide(s).

Signature:

Date: 30.06.2025

❖ Note: a digital or wet signature will be accepted for the design response

<table>
<tr><th>Theme</th><th>Design Element</th><th>Design response</th></tr>
<tr><td><u>COUNTRY AND PLACE</u></td><td>1.1 <u>NGUNNAWAL CULTURAL RESONANCE</u>
a. Governance, process, and engagement
b. Buildings, spaces, and landscape character
c. Wayfinding and navigation</td><td>The presence of scar trees and the interpretation of Aboriginal and Indigenous community heritage necessitated community consultation and heritage interpretations to respect cultural significance. It is noted that community consultation with Bagariin was undertaken during the design phase and identified opportunities to incorporate cultural design elements into the proposed works.

Site inspections, consultations with recognised Representative Aboriginal Organisations (RAOs), and reporting have now been completed, with a final meeting with ACT Heritage held on 8 November 2023. The SHE was submitted to ACT Heritage Council on February 1, 2024.

Since the SHE does not identify any works that would cause damage to an Aboriginal place or diminish the significance of a registered heritage place, no further assessment is required.</td></tr>
<tr><td><u>URBAN STRUCTURE AND NATURAL SYSTEMS</u></td><td>2.1 <u>OPEN SPACE NETWORK</u>
a. Natural systems
b. Type, Size, quality, function and connectivity
c. Topography and views</td><td>The Project area occurs directly to the south of the Mount Taylor Special Purpose Reserve and Farrer Ridge Nature Reserve which may provide habitat for a number of threatened grassland species. Additionally, the area of woodland north of the Project area provides native canopy and habitat connectivity for fauna species, and is mapped in ACTmapi (ACT Government, 2024b) as having moderate regional links. The presence of urban areas to the immediate east and west of the Project area limits the overall landscape connectivity.

It is noted that there is some vegetation connection along the length of the Athllon Drive within the Project area which may provide connectivity for arboreal species.

Compensatory native tree planting and nodes of native understory planting, in line with requirements from ACT Fire and Rescue, will be undertaken to improve the connectivity value along Athllon Drive and between Lake Tuggeranong and Farrer Ridge Nature Reserve and Mount Taylor Special Purpose Reserve.</td></tr>
<tr><td><u>URBAN STRUCTURE AND NATURAL SYSTEMS</u></td><td>2.2 <u>NATURAL SYSTEMS</u>
a. Connectivity and access
b. Water Management
c. Restoring ecology</td><td>The Project design ensures that existing vegetation along Athllon Drive has been retained where possible to ensure that connectivity remains. The Project provides a 2:1 planting ratio using approximately 642 locally occurring endemic tree and shrub species to enhance species connectivity along the corridor.

The Project area does not include any riparian corridors. The water quality strategy for the Project focuses on treating the net increase in pavement area. To achieve this, the Project area is divided into five sub-catchments, with a Modular Wetland proposed near stormwater outlets. A diversion pit will be installed before the device entry allowing for high flows to bypass the treatment system. Stormwater MUSIC modelling was undertaken to test the performance node for proposed water quality measures and provides the following results:

<table><tr><th>Parameter</th><th>Target %</th><th>Result</th></tr><tr><td>Total Suspended Solids (kg/yr)</td><td>60</td><td>76.7</td></tr><tr><td>Total Phosphorus (kg/yr)</td><td>45</td><td>58</td></tr><tr><td>Total Nitrogen (kg/yr)</td><td>40</td><td>44.6</td></tr><tr><td>Gross Pollutants (kg/yr)</td><td>90</td><td>97.0</td></tr></table>
Through retention and replacement of existing trees, as well as implementation of WSUD measures, the proposed duplication and upgrade of Athllon Drive appropriately considers natural systems and exceeds the water quality targets.

Please refer to Appendix A – Civil Set (Stormwater).</td></tr>
<tr><td><u>URBAN STRUCTURE AND NATURAL SYSTEMS</u></td><td>2.3 <u>URBAN STRUCTURE</u>
a. Hierarchy of centres</td><td>Not applicable. The proposed development does not involve the construction of a new urban centre or new lots. The Project will duplicate and upgrade a 2.4 km section of Athllon Drive providing more efficient access to the surrounding residential and commercial areas.</td></tr>
</table>

Theme	Design Element	Design response
	b. Precinct structure and layout c. Diversity of lot sizes	
SITE AND LAND USE	3.1 CONTEXT AND CHARACTER a. Griffin legacy b. The Canberra Character c. Land use and zoning d. Urban growth and densification e. Precinct amenity	Athllon Drive is a primary arterial corridor between Woden and Tuggeranong that provides access to residential and commercial premises within the suburbs of Kambah and Wanniassa. Currently, there are two remaining unduplicated sections of Athllon Drive, one of which is the subject 2.4 km (Southern Package) stretch between Sulwood Drive and Drakeford Drive. This section experiences traffic congestion, with peak periods seeing up to 2000 vehicles per hour. Furthermore, growth is expected to continue due to ongoing developments in Greenway and rezoning around Woden District. The Tuggeranong District Strategy identifies two sections along Athllon Drive, including the Wanniassa Group Centre, where additional housing and density can be accommodated to meet housing demand and diversity for Canberra within the next 10 years (Category 2). The Project will duplicate a 2.4 km section of Athllon Drive, upgrade key intersections, establish new public transport facilities, and does not preclude for the possible Light Rail alignment along Athllon Drive. The proposed development supports efficient traffic movement and higher density along Athllon Drive and is considered consistent with the Griffin Legacy as well as supporting the continued growth of Canberra. The proposed development does not propose any changes to land use or zoning, noting that it will increase road capacity and transport efficiency.
ACCESS AND MOVEMENT	4.1 CITY WIDE MOVEMENT NETWORK a. Contextual movement network alignment b. Community proximity to transit infrastructure c. Diverse transport modes	Athllon Drive is a primary arterial corridor between Woden and Tuggeranong that provides access to residential and commercial premises with no direct driveway access from Athllon Drive. Currently, there are two remaining unduplicated sections of the road, one of which is the 2.4km (Southern Package) stretch between Sulwood Drive and Drakeford Drive. This section experiences traffic congestion, with peak periods seeing up to 2000 vehicles per hour. Furthermore, growth is expected to continue due to ongoing developments in Greenway and rezoning around Woden District. Both carriageways are to have a bus stop adjacent to the Wanniassa Park and Ride as well as a bus stop further north between the Atkins Street / Langdon Avenue intersection and the Sulwood Drive roundabout. The proposed development does not preclude the future provision of light rail along the corridor.
ACCESS AND MOVEMENT	4.2 BALANCING MOVEMENT AND PLACE DRIVERS a. User needs b. Movement, network hierarchy and function c. Local framework of places	The movement and place concept balances the dual function of streets, which is moving people and goods and enhancing the places they connect and pass through. Movement and Place is a key shared concept of the ACT Planning Strategy 2018 which notes that Canberra's transport network will be structured through local, central, orbital and regional links. The combination of central and orbital links will provide the backbone of Canberra's future transport network. Athllon Drive is listed as key central link and Drakeford Drive is listed as orbital link and freight route. Athllon Drive is an arterial road, is the corridor for two rapid bus routes and is also a B-double route. Central links will focus on the efficient movement between centres and urban intensification areas by public transport, walking and cycling. The primary function of the central links is to support the development of centres and urban intensification areas by moving people efficiently between areas that are likely to see more activity in the future. The strategy also emphasises the importance to improve safety on our roads for all road users by employing the Safe Systems Approach. The Transport Strategy designates Athllon Drive as a Central Link, with a focus on integrating the road as the movement corridor. The proposed works are considered to meet user needs by increasing road capacity and safety to provide a more efficient transport network as well as providing active travel facilities, improving the safety of intersections for pedestrians and providing a new active travel underpass under a leg of the Sulwood Drive intersection. It is noted that the proposed works do not preclude a possible future light rail alignment along Athllon Drive.

Theme	Design Element	Design response
ACCESS AND MOVEMENT	4.3 PEDESTRIAN FOCUSED STREETS a. Safe, inclusive and legible streets b. Permeability and ease of movement c. Comfort, convenience and amenity d. Attractive, active and distinct	The existing Athllon Drive corridor features a 2.5m wide off-road shared path (the C4 principal community route between Tuggeranong and Woden) providing a south/ north active travel facility for the majority of the alignment connected by a series of pedestrian underpasses. In addition, a new proposed shared path has recently been constructed adjacent to Sulwood Drive providing an east/ west facility that will connect into the Athllon Drive Duplication project at the Sulwood Drive intersection. The strategy for the project was to build upon and enhance the existing facilities and provide further at grade and grade separated connectivity to the wider community surrounding the project. This section summarises the initiatives undertaken to achieve this strategy. To improve pedestrian safety, controlled signalised crossings at the Fincham Crescent and Vosper Street intersections have been provided, as well as at the Atkins Street and Langdon Avenue intersection . These configurations include crossings of Athllon Drive in both locations utilising two phase crossings.
ACCESS AND MOVEMENT	4.4 ACTIVE TRAVEL a. Safe, inclusive and legible active travel network b. Comfortable and convenient active travel routes c. Supporting infrastructure for active travel	The existing Athllon Drive corridor features a 2.5m wide off-road shared path providing a south/ north facility for the majority of the alignment connected by a series of pedestrian underpasses. In addition, a new shared path has recently been constructed adjacent to Sulwood Drive providing an east/ west facility that will connect into the Athllon Drive Duplication project at the Sulwood Drive intersection. The strategy for the project was to build upon and enhance the existing facilities and provide further at grade and grade separated connectivity to the wider community surrounding the project.
ACCESS AND MOVEMENT	4.5 PUBLIC TRANSPORT a. Public transport infrastructure separation b. Inclusive and accessible public transport infrastructure c. Servicing key destinations and populations d. Transport modal change	Athllon Drive is a designated rapid bus priority route with bus routes (R4 & R5) using Athllon Drive and Langdon Avenue which connects to the Wanniassa Group Centre, Erindale Group Centre, Greenway/Tuggeranong Town Centre and Woden Town Centre. **Existing bus Stops**: The existing Park and Ride bus stops (bus stop #1908 northbound and #1909 southbound) at Wanniassa are to be retained. Bus stop #1908 may require adjustments to suit the proposed intersection arrangement and bus stop #1909 will be relocated to new carriageway of the duplicated Athllon Drive. These existing bus stops geometric arrangements and their current facilities such as indented bays, shelters, bike rack are to be retained. **New Bus Stops**: A pair of new bus stops are proposed between the Sulwood Drive and Atkins Street/ Langdon Avenue intersections based on the request from Transport Canberra within TCCS. Both carriageways will therefore have a bus stop adjacent to the Wanniassa Park and Ride as well as a bus stop further north between the Atkins Street / Langdon Avenue intersection and the Sulwood Drive roundabout. **Light Rail:** The Transport Canberra Light Rail (TCLR) master plan presents a vision that outlines the future stages of the Canberra light rail network. One of the key elements of this plan in the future is a major transit corridor that will connect Tuggeranong to Woden and Canberra City, with a significant portion of this corridor currently proposed to run along the Athllon Drive alignment or via Sulwood Drive and Erindale Drive. The proposed works will not preclude a potential future light rail alignment along Athllon Drive, however as the detail and timing of these future requirements are not currently understood, and as they have not been investigated, they were unable to be included in this design.
ACCESS AND MOVEMENT	4.6 VEHICLE ACCESS AND PARKING a. On-street parking b. Parking access and entries c. Flexible parking structures	The proposal is for a major road upgrade. No Parking has been proposed as part of this application.

Theme	Design Element	Design response
	d. Underground parking e. Parking and accessibility f. Surface parking areas g. Electrification and zero emission vehicles h. Access to buildings and parking i. On site access j. Green accessways on lots	
PUBLIC SPACE AND AMENITY	5.1 QUALITY OF PUBLIC SPACES AND PLACES a. Solar access and orientation b. Accessibility c. Active travel infrastructure **d.** Building interface	The proposed development is for upgrades and duplication of a 2.4 km section of Athllon Drive. The proposed works will not impact solar access to residential and commercial properties along Athllon Drive. As part of the project, a new active travel underpass will be constructed under the western leg of the Sulwood Drive intersection and enabling works (outside of the scope of this DA) will widen the existing C4 principal community route to 3 m, improving accessibility along this active travel corridor.
PUBLIC SPACE AND AMENITY	5.2 FUNCTIONALITY a. Flexibility, adaptability and activation capacity b. Responsive design and programming c. Pedestrian comfort, urban amenities and conveniences	The Project does not propose any new public open space however it includes improvements to pedestrian safety including the redirection of pedestrians to controlled crossings. It is noted that existing cycling and pedestrian infrastructure including footpaths, shared user path, and other related infrastructure not impacted by the design will be retained. The C4 Principal Community Route provides a link from Tuggeranong to Woden and the City and will be upgraded as part of the project's enabling works. Active travel connections are proposed to connect to the new signalised intersections, bus stops and new and existing underpasses for the Project. Footpath/active travel path crossings at road intersections are generally signalised, except at single lane left turn slip lanes where they are priority controlled. The design includes plantings with native tree species to provide shading and cooling for path users.
PUBLIC SPACE AND AMENITY	5.3 TREES, LANDSCAPING AND NATURAL FEATURES *a.* Boosting tree canopy and coverage *b.* Local planting and vegetation species *c.* Positive engagement with nature d. Biodiversity habitats	A total of 3,505 trees were identified within the Project area of which 319 trees (9.1%) will require removal, including 39 MNTs and 2 hollow-bearing trees. The design allows for the retention of 93% of MNTs and compensatory planting of 642 native trees, 436 medium sized native shrubs and over 17,200 native grasses, groundcover shrubs and forbs will improve connectivity. The environmental impact of the Project has been extensively considered and an ESO has been provided and approved for the Project.
PUBLIC SPACE AND AMENITY	5.4 GREENING THE STREETS a. Street planting and canopy b. Landscaped building interface c. Optimise services	The Project retains the vegetated road reserve/open space along both sides of Athllon Drive and will result in the replanting of over 642 native trees to increase the canopy coverage. A total of 319 out of 3,505 trees will require removal or approximately (9.1%). Please refer to Planting Schedule provided in **Appendix B – Landscape Drawings and Report** (23017 300 GA). Vegetated stormwater channels are provided within the road reserve to capture stormwater runoff and increase the permeable area. It is noted that the realignment or provision of utilities /services have been located to avoid additional tree impacts where possible.

Theme	Design Element	Design response
PUBLIC SPACE AND AMENITY	5.5 SAFETY AND INCLUSIVITY a. Crime Prevention through Environmental Design (CPTED) b. Inclusive design elements c. Promote gender sensitive urban design principles d. Legibility and wayfinding e. Lighting	The landscaping design has considered CPTED requirements for the cycle path and underpass, and has been designed in accordance with the ACT Crime Prevention & Urban Design – Resource Manual and ACT Gender Sensitive Urban Design Framework.
PUBLIC SPACE AND AMENITY	5.6 ELEMENTS, FURNITURE AND MATERIALS a. Urban furniture b. Public spaces and places material treatment c. Public art	The design proposes bike racks/parking for the new bus stops to enable users to securely park their bikes in a highly visible area.
BUILT FORM AND BUILDING DESIGN	6.1 RESPOND TO URBAN CONTEXT a. Block permeability b. Scale and massing transitions c. Orientation d. Overshadowing e. Setbacks and separation f. Layering uses g. Integrating housing types and choice h. Infill	The proposed development does not result in the creation of additional blocks. It is however noted that the upgrades to Athllon Drive will increase road capacity, safety and efficiency. The Project does not result in overshadowing or impacts to solar access.
BUILT FORM AND BUILDING DESIGN	6.2 INTEGRATED SERVICES a. Waste collection, loading and delivery areas b. Vehicle access and driveways c. Ground floor services and infrastructure d. Sleeved podium parking and services	Not applicable. The Project does not propose waste collection, loading or delivery areas. There is no direct driveway access provided from Athllon Drive.
BUILT FORM AND BUILDING DESIGN	6.3 GROUND FLOOR EDGE CONNECTIONS a. Residential urban apartment	Not Applicable. The proposal is for a major road upgrade.

Theme	Design Element	Design response
	b. Residential suburban townhouse c. Commercial active edges d. Commercial lobby / showroom e. Adaptable	
SUSTAINABILITY AND ENVIRONMENT	7.1 NATURAL RESOURCE CAPTURE AND MANAGEMENT a. Water sensitive urban design b. District energy systems and creation c. Food access and production	The proposed upgrade of Athllon Drive includes a kerb and gutter along the edge of the pavement and the majority of pavement runoff is anticipated to flow through pit and pipe systems. Multiple water quality strategies were assessed including swales, bioretention basins and proprietary devices. The water quality strategy for the Project focuses on treating the net increase in pavement area. To achieve this, the Project area is divided into five sub-catchments, with a Modular Wetland proposed near stormwater outlets. A diversion pit will be installed before the device entry allowing for high flows to bypass the treatment system.
SUSTAINABILITY AND ENVIRONMENT	7.2 GOVERNMENT MODELS AND PROCESSES a. Circular economy b. Procurement, construction, up cycling and embodied carbon c. Certification d. Waste management	iCBR are pursuing an Infrastructure Sustainability (IS) Essentials (Pilot) Design Rating for the Project. This is to comply with Action 5B outlined in the ACT Climate Change Strategy 2019-2025 which pertains to the requirement for seeking or aligning with an independent sustainability rating for new government capital works projects with a budget exceeding $10 million. Resource management efficiency management plan and action plans are being developed to support the Project. It is noted that the Project aims to utilise sustainable and recycled materials where possible and is being treated as a pilot project for sustainability on road duplication projects in the ACT.
SUSTAINABILITY AND ENVIRONMENT	7.3 CLIMATE CHANGE RESILIENCE a. Climate change resilience b. Urban heat island effect c. Flood mitigation d. Bushfire mitigation e. Robust, low maintenance materials and planting	The Project provides a design with mature canopy coverage to mitigate the urban heat island effect and ensures the recruitment of future MNTs by planting over 642 native trees.

4.10 Design Guide – Biodiversity Sensitive Urban Design (BSUD)

I confirm that I, SMEC Australia was primarily responsible for designing the development proposal and/or completing the below **design response**.

I am an appropriately qualified person with experience and expertise relevant to the type and scale of development proposed, including in Bachelor of Planning and 12 years post-graduate experience in statutory planning within consulting and government and can confirm that the development is consistent with the themes and design elements of the applicable design guide(s).

Signature:

Date:

❖ Note: a digital or wet signature will be accepted for the design response

Steps	Design response
Step 1: Identify biodiversity values Identify the biodiversity values that exist (or used to exist) on and surrounding the development site.	
Step A: Determine habitat and ecosystems Considerations in the response: • *Describe and map the biodiversity values on and around the site, such as which habitat types or ecosystems (woodlands/grasslands, aquatic, riparian) or natural features (such as hollow bearing trees) are present and where.* • *Describe the habitat condition, and identify areas that are in good / moderate / degraded condition (refer to BSUD Guide, or other methods such as PCT zone mapping)* • *Outline the site's historical context. For example, whether it was previously developed, used for grazing, or relatively undisturbed and intact.* • *Assess the site's future potential as habitat. It may include ecological corridors that currently have low biodiversity value but high connectivity significance and are suitable for future restoration.* • *Consider the broader landscape context, for example the position of the site in the catchment. Indicate soil and topography properties.* • *Describe any fauna surveys, or desk study records relevant to the development site.* • *Describe the process you undertook and provide cross-reference to site analysis and relevant policies.*	The Project area is primarily located within a road corridor and within an urbanised part of Canberra. The Project area has limited diversity in flora, fauna, and landscapes. Vegetation mostly consists of mixed native tree plantings and exotic grasses, with minimal habitat complexity. The area lacks rocky outcrops and naturally occurring logs given its use as a major road and surrounding residential / commercial uses. Adjacent reserves, such as Mount Taylor and Farrer Ridge, may support threatened species, and a small patch of box-gum woodland to the north provides habitat for threatened fauna. This woodland is outside the Project area and will not be impacted. Key ecological features in the Project area include 624 mature native trees, 24 remnant trees, and 12 hollow-bearing trees (HBTs). While efforts have been made to retain these features, the Project will involve the removal of 39 MNTs and two remnant HBTs, both of which are low priority for Gang-Gang cockatoo habitat. It is noted that the Project area provides some connectivity and foraging habitat for species such as the gang-gang cockatoo and swift parrot. Overall, the Project area represents a modified segment of the ACT's transport network with low regional connectivity. It supports some natural processes, but its vegetation, consisting mainly of exotic grasses and planted native trees, does not exhibit significant diversity or ecological importance. Both ecological and habitat values have been extensively considered through the ESO process. **Please refer to Appendix E – ESO Application and Approval.**  Figure 4–2 | ACT Urban Ecological Network
Step B: Assess ecological connectivity Considerations in the response: • *Based on the analysis on step 1a, describe an assessment of ecological connectivity of habitats on the site, with consideration of connectivity to adjacent sites and the wider landscape.* • *This should include identification of core habitats (those which could enable a taxa group to persist within the habitat), and corridor habitats (those which allow a taxa group to travel*	The Project Area occurs directly to the south of the Mount Taylor Special Purpose Reserve and Farrer Ridge Nature Reserve which may provide habitat for several threatened grassland species. Additionally, the area of woodland north of the Project Area provides native canopy and habitat connectivity for fauna species, and is mapped in ACTmapi (ACT Government, 2024b) as having moderate regional links. The Act Urban Ecological Network extends along the Athllon Drive corridor and vegetation has been retained where possible to maintain connectivity.

Steps	Design response
through a site). Their size and general condition should be identified. • *Connectivity assessment should be carried out using field data collected in Step 1a, with additional connectivity barrier mapping undertaken on the ground.* • *Known connectivity values can be supplemented and compared with the ACT Ecological Network Dashboard – This resource provides predicted habitat suitability and connectivity of habitats within urban Canberra. These are shown as potential core and connectivity habitat for 7 taxa groups.* • *The Ecological Network Dashboard also shows the Ecological Network, as presented in the Territory Plan.* • *Describe the process used to establish these and provide cross-references to supporting material.*	
Step C: Assess threats to biodiversity Considerations in the response: • *Consider direct and indirect threats arising from your proposal.* • *Consider the proximity of your proposal to important values on and adjacent to your site.* • *Consider weed/pest incursions, light and noise pollution, as well as threats caused directly by humans such as increased disturbance by increased foot fall or vehicle traffic.*	The Project has demonstrated that impacts to existing vegetation have been avoided where possible, including the location of proposed shared user paths and utilities / services. The Project is located within an area that contains planted native trees and is highly urbanised. The Project will enhance the environment along the road corridor through landscaping and replanting works using locally occurring and endemic species.
Step 2: Identify biodiversity objectives Identify the relevant biodiversity objectives you are required to achieve on the site (from legislation, statutory environmental approvals and strategies including this guide).	
Step A: Identify biodiversity objectives Considerations in the response: • *Based on the information gathered in the previous steps, identify biodiversity objectives for the proposal site and the surrounding area.* • *Make reference to the Territory Plan Assessment Outcomes relevant to the BSUD guide. These are the overarching objectives of the proposal and are supported by other objectives located throughout other action plans and strategies.* • *Reference key local policies and regulatory instruments (such as conservation strategies and action plans). These contain objectives and actions for species and ecosystems. These include, but are not limited to:* – *The ACT Native Grassland Conservation Strategy* – *The ACT Native Woodland Conservation Strategy* – *The ACT Aquatic and Riparian Conservation Strategy* – *ACT Threatened Species Conservation Action Plans* • *Summarise relevant conditions from statutory environmental approvals (such as granted Environmental Impact Statements).*	The box gum woodland identified in the far northeast of the Project area (1.22 ha) meets the minimum listing criteria for NC Act listed box gum woodland endangered ecological community as it consists of scattered mature Blakely's red gum with native tussock grasses and forbs. However, it is not impacted by the proposed works. Historical imagery suggests that it is likely that some areas currently supporting native grasslands formerly supported the box-gum grassy woodland mosaic and should therefore be considered to be box gum woodland. The box gum woodland derived native grassland (0.42 ha) also meets the listing criteria for NC Act box gum woodland as it would have previously supported yellow box or Blakely's red gum and has retained a native grassy understorey with native forbs. A total of 1.64 ha of NC Act listed box gum woodland has been identified within the Project area. An assessment of significance of potential impacts concluded that the Project would not result in a significant impact.

Steps	Design response
	
	

Steps	Design response
	

Step 3: Integrate biodiversity objectives into design
Based on the information gathered and analysed in steps 1 and 2 above, describe how the proposed design meets the Territory Plan Assessment Outcomes. This section is structured by the Design Themes and Design Elements, as found in the BSUD guide.

Theme and Territory Plan Assessment Outcome	Design elements	Design response
Maintain and enhance nature Territory Plan Assessment outcome: → Loss of native habitat and biodiversity is avoided and/or minimised.	1.1 Urban waterways and catchments *Describe how the proposed design protects and enhances the site's waterbodies, and their specific habitats and niches. Consider catchment scale impacts, water quality, habitats, and ecosystem function.* *Indicate mechanisms for achieving this element (this could include avoidance of higher value areas, employing buffer zones and other riparian / aquatic ecosystems protection mechanisms, and implementing WSUD elements etc).* *Provide cross-reference to site analysis and relevant conservation policies.* *Consider BSUD Guide sub-elements:* *1.1a Natural context*	WSUD principles have been used to inform the Project design through the retention of natural drainage lines and incorporation of modular wetland systems as the water quality treatment measures near outlets. The Project design retains a high permeable area through the retention of vegetated roadside reserves ensuring that stormwater is managed effectively and retained where possible. The Project design will include minimal landform changes, and works will sensitively integrate development with existing conditions and topography, given that the Project is for upgrades to an existing road.

	1.1b Water sensitive urban design *1.1c Topography and hydrology*	
	1.2 Grasslands and woodlands *Describe how the proposed design protects and enhances the site's woodland and grasslands, and their specific habitats and niches, such as mature native trees or native dominant understorey.* *Provide cross-reference to site analysis and relevant conservation policies.* *Consider BSUD Guide sub-elements:* *1.2a Natural features* *1.2b Design enhancements*	The vegetation in the Project area consists predominantly of exotic grasslands and planted native trees. The Project has been designed to avoid impacts to known ecological values where possible. Replacement planting at a 2:1 ratio will occur after construction. Shrub and tree species were selected through consultation with Bagariin Consulting to be endemic to the bioregion and in line with bushfire fuel management requirements for the Project area. The PSP has been approved in principle by TCCS Urban Treescapes and the Conservator of Flora and Fauna. Habitat features specific to the Project area include HBTs and mature native trees which will be retained as much as reasonably practicable and supported by compensatory planting of trees. The Project will involve earthworks, however the overall Project design will include minimal landform changes, and works will sensitively integrate development with existing conditions and topography, given that the Project is for upgrades to an existing road.
	1.3 Natural values and features *Demonstrate how the design avoids or protects higher value areas and features (such as rocky outcrops, coarse woody debris, natural wetlands) not covered within 1.1 and 1.2.* *Include consideration for preserving natural processes such as pollination, tree maturation and seed dispersal.* *Outline the process used to establish these areas (if not done earlier). Provide cross-reference to site properties (hydrology, topography, soil quality) and their analysis in biodiversity context and relevant conservation policies.* *Consider BSUD Guide sub-elements:* *1.3a Existing natural values* *1.3b Natural processes*	The natural values of the Project area are limited due to its location and current land use. The Project area primarily consists of a major road corridor as well as open space within an urbanised area of the ACT. The vegetation within the Project Area is limited to the road verge of the present alignment of Athllon Drive and mostly consists of planted native trees and shrubs with mown native and exotic grasses. The Project area occurs directly to the south of the Mount Taylor Special Purpose Reserve and Farrer Ridge Nature Reserve which may provide habitat for a number of threatened grassland species. Additionally, the area of woodland north of the Project Area provides native canopy and habitat connectivity for fauna species, and is mapped in ACTmapi (ACT Government, 2024b) as having moderate regional links. However, the presence of urban areas to the immediate east and west of the Athllon Drive limits the overall landscape connectivity. There are some strips of vegetation with low to moderate regional connectivity value (ACTmapi, 2024b), and there is low functional canopy connection between habitat patches (Cardno, 2021). Assessments undertaken of the Project area (Umwelt 2024) note that there is some vegetation connection along the length of the Project area from the planted native trees which may provide some connectivity for arboreal species that may inhabit open areas to the north or south of the Project area, such as Gang-gang Cockatoo (Callocephalon fimbriatum) and Swift Parrot (Lathamus discolor). Compensatory native tree planting and nodes of native understory planting, in line with requirements from ACT Fire and Rescue, would improve connectivity value along the Project Area and improve connectivity between Lake Tuggeranong and Farrer Ridge Nature Reserve and Mount Taylor Special Purpose Reserve. To the north of the Project is a small amount of EPBC Act and NC Act listed White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland (box-gum woodland). This patch occurs outside of the Project area and will not be impacted by the Project. The Project area also contains a total of 624 MNTs, 24 remnant trees, and 12 HBTs. These trees represent the most valuable ecological features along the subject section of Athllon Drive and the Project Team have taken extensive measures to avoid and minimise removal of mature, remnant and hollow bearing trees. The Project will involve the removal of two remnant HBTs and 39 mature native trees. The HBTs within the Project area have been assessed for their suitability for gang-gang cockatoo habitat, and the two HBTs to be removed are a low priority for retention in regard to gang-gang cockatoo habitat. The Project Area represents a highly modified segment of the ACT's transport network, and current regional connectivity value is considered to be low. The Project Area does provide some connectivity along the road corridor; however, this is limited due to the highly developed nature of the Project Area and the urban landscape surrounding it. The Project Area may support some existing processes and natural systems within the ACT; however, it is not considered especially important landscape in this regard. Please refer to the **Appendix E ESO Report.**
Connect and extend nature. Territory Plan Assessment outcome:	2.1 Ecological connectivity *Describe how the proposed design retains or enhances ecological connectivity. Consideration should include*	Effort has been made through the design of the Project to ensure that habitat connectivity is not negatively impacted by the Project, and that no key corridors are further fragmented as a result, specifically through the retention of high value trees and replanting at a 2:1 basis.

→ Biodiversity connectivity is maintained across the landscape.	*habitat in and adjacent to the site, and existing or potential corridors.* *The BSUD Guide provides guidance on what the likely minimum requirements are for habitat connectivity for key taxa groups and ecosystem types.* *Refer to the Table "Habitat requirements of common ACT ecosystems" in the BSUD Guide Implementation Advice, as well as the ACT Ecological Network Dashboard.* *The BSUD Guide also provides design guidance on specific features to avoid connectivity impacts or improve current connectivity. This includes waterbody crossing design, and guidance on road crossing structures.* *Outline the process used and provide cross-reference to site analysis and relevant conservation policies.* *Consider BSUD Guide sub-elements:* *2.1a Habitats and corridors* *2.1b Corridor features* *2.1c Habitat features* *2.1d Connectivity barriers*	The cumulative effect of the Project may impact native vegetation in the broader area, however, the continued focus of the Project team on avoiding and mitigating environmental impacts will ensure that the Project does not result in a net loss to native vegetation. Given the nature of the Project, i.e. upgrades to an existing road, connectivity in the Project Area is already limited, however, through the retention of high value HBTs and compensatory planting, habitat connectivity through the Project Area will be maintained.
Minimise threats to protect nature Territory Plan Assessment outcome: → Threats to biodiversity such as noise, light pollution, invasive species incursions or establishment, chemical pollution, or site disturbance are avoided or minimised through good design/planning.	3.1 Natural resilience *Describe the design features that prevent weed and pest animal incursion and increase drought/ bushfire /climate change resilience (e.g., buffer zones, other physical landscaping features, plant species selection etc.).* *Consider if the design can introduce biodiversity, connectivity or permeability design features into bushfire and flood threat mitigation requirements.* *3.1a Weeds and pests* *3.2b Natural threats*	The Project has been designed to prevent invasive plant or animal incursion and population establishment through the implementation of mitigation and management measures discussed in Section 8.2 of the ESO, specifically: • Weed management, monitoring and control practices should be implemented as part of the CEMP to minimise the spread of exotic species into natural areas within and outside of the Project Area • All machinery should be cleaned of foreign soil and vegetative matter to avoid the spread of Phytophthora cinnamomi, exotic rust fungi of the order Pucciniales (Myrtle Rust) and dispersal of seeds of exotic plants. • Stockpiling of materials should occur within previously disturbed areas and not within driplines of retained native trees. • Access towards waterway lines beyond the works area to be fenced off and labelled as No-Go areas to prevent accidental impacts and introduction of pathogens, such as such as Batrachonchtrium dendrobatidis, a pathogen that causes chytridiomycosis, an infection disease on amphibians. • Dust control measures should be implemented where necessary to protect adjacent retained vegetation and water quality in downstream habitats.
	3.2 Protecting the ecological network *Describe how the proposed design establishes ongoing environment protection controls (such as erosion control, or zoning within the site) and addresses human and urban development impacts (such as increased disturbance, noise and light pollution).* *3.2a Human induced threats* *3.2b Restored nature*	The Project design has undergone several changes to reduce potential impacts to MNTs including the realignment of shared user paths which has resulted in a significant reduction to the number of native trees requiring removal. A total of 3505 trees were identified within the Project area of which 308 trees (3.8%) will require removal, including 39 MNTs and 2 hollow-bearing trees. The design allows for the retention of 93% of MNTs and compensatory planting of 642 native trees, 650 medium sized native shrubs and over 20,000 native grasses, low shrubs and forbs. Revegetation of the Athllon Drive corridor will provide additional recruitment for future MNTs and improve connectivity to the nearby Farrer Ridge Nature Reserve and Mount Taylor Special Purpose Reserve. The Project will include sedimentation control to limit sedimentation run-off and impact to the limited aquatic habitat in the Project Area.
Connect people to nature. This Theme has no associated Territory Plan Assessment Outcome: → This Theme assists in achieving the ACT Urban Design Guide's	4.1 Community stewardship *Describe how the proposed design features encourage people to care for their surrounding natural shared spaces.* *Consider BSUD Guide sub-elements:* *4.1a Co-design*	Given the nature of the Project (i.e. upgrades to an existing road), most of the design options for connecting people to nature are not relevant, however, the Project design will: • Acknowledge existing valued features such as HBTs and mature native trees, and connections between the community and the natural elements of the Project Area, in particular members of the community who live in the locality. This includes RAOs being on site during heritage surveys. Identified heritage trees in the project corridor have been retained.

aspirations relating to urban trees, landscaping, active travel, recreation, public amenity and natural features as well as creating positive engagement with nature.	*4.1b Stewardship*	• Promote active travel through and interaction with the natural landscape through the shared path (including underpass) and public transport provisions the Project will provide. • Showcase retained native species and celebrate the local ecology of the Project Area. Additionally, Transport Canberra and City Services (now iCBR) has explored opportunities to collaborate with an Aboriginal organisation to develop a masterplan guided by Indigenous values specific to this Country. Elements of this masterplan are being incorporated into the final landscape design, potentially reflecting Gang-gang cockatoo habitat values, heritage trees, and other culturally significant themes. Community consultation undertaken with Bagariin Consulting has highlighted further opportunities to embed Indigenous narratives and foster meaningful community engagement in the project. Ongoing engagement with both government stakeholders and the broader community remains integral to the project's design process, supporting principles of community stewardship and co-design.
	4.2 Interacting with nature *Describe how the proposed design provides appropriate access to, and opportunities for interactions with the natural environment and cultural heritage, and balances this with the need to protect priority areas from disturbance.* *Consider BSUD Guide sub-elements:* *4.2a Respectful connections* *4.2b Interactive infrastructure*	The proposed works consist of duplication and upgrades to Athllon Drive including the provision of connecting shared user paths. The Project design ensures that native vegetation is retained where possible and provides compensatory planting using 642 native trees to increase connectivity and reduce the heat island effect.
	4.3 Environmental education *Describe how the design provides opportunities for the residents to learn about natural environment and cultural heritage.* *Consider BSUD Guide sub-elements:* *4.3a Engagement and learning* *4.3b Instilling natural values*	Not applicable. The proposed works consist of duplication and upgrades to Athllon Drive.

Table 1 - Habitat Impact Summary Data

Please use the below table to provide a summary of the Baseline and Proposed changes to habitat communities on the development site. Specify habitat type using ACT Plant Community Type (PCT) codes. Use PCT zone (condition) codes where possible, noting that not all PCTs have zones. This provides a concise habitat summary to aid assessment.

The project area has not been identified as containing any ACT-listed Plant Community Types (PCTs). An application for an Environmental Significance Opinion (ESO) for the Athllon Drive Duplication – Southern Section was submitted on 24 June 2024 and subsequently approved on 29 July 2024 (ESO202342431). For further details, refer to **Appendix E – ESO Report.**

Baseline **Proposed**

Habitat Community (Plant Community Type, or Plant Community Type Zone where applicable)	Total Ha present on site	Ha retained in existing condition	Ha retained and restored	Ha created	Ha lost	Notes
						An Ecological Impact Assessment was prepared by Cardno (2021) for the Athllon Drive corridor, including areas south of Drakeford Drive, to confirm the presence and extent of vegetation communities. This assessment covered areas beyond the current Project boundary and is therefore not reproduced in this document. For further details, please refer to **Appendix E – ESO Application and Approval**.
Totals						

Table 2 - Native Tree and Shrub Impact Summary Data

Please use the below table to provide a summary of the proposed impacts to shrubs and trees on the development site.

Class	DBH class (cm)	Total number present on site	Total number proposed for retention	Total % proposed for retention	Total number proposed for removal	Total % proposed for removal	Replacement ratios	Number of replacement plants required	Number of replacement plants proposed (Totals only)	Deficit of plants required (Totals Only)
Shrubs	<5	NA	NA	NA	NA	NA	1:1		**17670**	-
Trees	<5	4	4	100%	0	0%	1:1	0	-	-
Trees	5 - 20	1031	915	88.74%	116	11.25%	1:3 + relocate as native mulch or at Conservator discretion	348	-	-
Trees	21 - 30	944	861	91.20%	83	9.63%	1:8 + relocate as coarse woody debris or at Conservator discretion	664	-	-
Trees	31 - 40	664	603	90.81%	61	9.18%	1:13 + relocate as coarse woody debris or at Conservator discretion	793	-	-
Trees	41 - 50	379	350	92.34%	29	7.65%	1:40 + relocate as coarse woody debris or at Conservator discretion	1160	-	-
Trees	50+	374	350	93.58%	24	6.41%	1:90 + reinstate as vertical habitat structure or at Conservator discretion	2160	-	-
Trees	100+	36	34	94.44%	2	5.56%	1:180 + reinstate as vertical habitat structure or at Conservator discretion	360	-	-
	Totals	3432	3117	90.82%	315	9.18%	-	5485	18,312	No Deficit (+12,827)

Appendix A

Civil Set

Appendix B

Landscape Drawings and Report

Appendix C

Traffic Report

Appendix D

Air Quality Assessment

Appendix E

ESO Application and Approval

Appendix F

Statement of Heritage Effect

Appendix G

Erosion and Sediment Control

Appendix H

Noise Management Report

Appendix I

Contamination Investigation

Appendix J

Bill of Quantities

Appendix K

Tree Assessment Report

Appendix L

Stormwater Report

Appendix M

Waste Management Report

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