Environmental Impact Statement (EIS) Emergency Services, Maintenance and Training Facility

Block 45 Section 3 Hume

Sheppard Street, Hume, ACT

Proponent:

TRG Bushfire Response and Training

76 Sheppard Street,

HUME, ACT, 2620

Applicant:

Canberra Town Planning

5/32 Lonsdale Street,

Braddon ACT

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CANBERRA TOWN PLANNING

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1 Glossary

Acronym / Abbreviation/ Term	Definition
Development Application (DA)	Application for development as defined under the PD Act
Environment	As defined under the *Planning and Development Act 2007 (*the PD Act), each of the following is part of the environment: a) The soil, atmosphere, water and other parts of the earth; b) Organic and inorganic matter; c) Living organisms; d) Structures, and areas, that are manufactured or modified; e) Ecosystems and part of ecosystems, including people and communities; f) Qualities and characteristics of areas that contribute to their biological diversity, ecological integrity, scientific value, heritage value and amenity; g) Interactions and interdependencies within and between the things mentioned in paragraphs (a) to (f); h) Social, aesthetic, cultural and economic characteristics that affect, or are affected by, the things mentioned in paragraphs (a) to (f).
Environmental Impact Statement (EIS)	As defined under the PD Act
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)
Impact Track	An assessment track that applies to a development proposed defined under the PD Act, Section 123.
Long Term	Greater than 15 years duration
Medium term	Greater that three (3) years to 15 years duration
NCC	National Construction Code
PD Act	Planning and Development Act 2007 (ACT)
Scoping	The process of identifying the matters that are to be addressed by an EIS in relation to the development proposal – see the PD Act, Section 212 (2)
Short Term	Zero to three (3) years duration.

2 Executive Summary

2.1 Project description

The headquarters/operations base provide facilities required for undertaking and coordinating Forestrack operations locally, interstate and nationally including office and administration use, storage and maintenance of equipment (ground and aerial resources and assets), secure storage of operational equipment, scalable areas and facilities (including storage and serving space) required for the mobilisation of assets and resources to support larger emergency operations and or situations when they arise (e.g., 2003 Canberra bushfires) and future capacity to grow as demand for services increase over time with the growth of the Urban areas of the ACT, surrounding regional NSW and impacts of Climate Change become more relevant

The intended use for Block 45 is underpinned by an application to purchase and develop the land for the purposes of and to establish infrastructure to support emergency services for bush fire response activities, training, forestry, and related services, including a helicopter landing / departure area and with ancillary uses supporting these functions including repairs and maintenance of plant and equipment. The notional breakdown of the facility is as follows (and shown in Figure 1 below):

- approx. 3,030m^2 of buildings for offices, training, and associated uses,
- 3,600m^2 hardstand, for vehicle parking and manoeuvring,
- 3,000m^2 storage yard for Forestrack operations and equipment,
- 2,000m^2 (or thereabouts) Emergency Services Training Area,
- 7,600m^2 identified for future possible development (longer term planning to ensure site remains viable in a changing city, regional and global context).

2.2 Environmental Impacts

The assessment of potential environmental impacts as part of this Draft EIS has determined that there would be no threats of serious or irreversible environmental damage as a result of the construction and operation of the emergency services, maintenance and training facility. Mitigation measures and management plans have been incorporated and described in this draft EIS where appropriate.

2.3 Planning Framework

The site is identified as Block 45 Section 3 Hume in the District of Jerrabomberra. It is located at the southwestern corner of Sheppard Street and Lanyon Drive.

The Territory Plan is the key statutory planning document in the ACT, providing the policy framework for planning in the Territory. The purpose of the Territory Plan is to manage land use and development in a manner consistent with strategic directions set by the National Capital Authority, the ACT Government and the community.

Block 45 Section 3 Hume, subject to the application for a direct sale, is unleased land. It is identified to be under the custodianship of TCCS for the purpose of City Presentation.

Block 45 Section 3 Hume is zoned NUZ1 Broadacre and is subject to the Main Avenues and Approach Routes overlay in the ACT Territory Plan being lands fronting onto an approach route and within 200m from the centre line of this roadway.

The proposed development and use of the site are permissible in this zone being primarily an Emergency Services Facility use with Light/General Industrial and Educational Establishment uses supporting this activity, as defined in the Territory Plan.

The assessment track for a development application for any of these uses would ordinarily be a Merit Track assessment, however, as specified above, the proposal has been declared by the planning minister to be an Impact Track Assessment in accordance with section 124 of the Planning and Development Act 2007.

2.4 Biodiversity

A Biodiversity Assessment Report has been prepared by PATH Co Pty Ltd, and is contained in Appendix A.

Preliminary recommended measures for consideration to avoid or reduce impacts to biodiversity during the construction phase include primarily the development of a construction flora and fauna management plan. This plan should ideally include the following measures:

- During construction, vegetation clearing should be minimised to the extent required to complete the works. In particular, any trees (proposed to be retained) are to be protected in accordance with applicable ACT Tree Protection Guidelines.
- During clearing of trees in Area 2, a fauna spotter should be engaged to ensure that (in the unlikely event) any resident fauna are captured and relocated, or otherwise managed in a manner to avoid death to injury to fauna.
- A fauna spotter should also be employed for the removal of the rocky outcrops in Area 2. Ideally, the fauna spotter should conduct a pre-clearance of rocks (where possible, i.e. can be easily turned over), to ensure no fauna are residing beneath them that could be injured or killed during the rock removal.
- Removed rocks should be collected for replacement elsewhere as supplementary habitat. The location of this should be discussed with the ACT Government, as it may be that there is more benefit in relocating the rocks into a nearby reserve area where records of threatened reptiles occur, rather than seeking to place them elsewhere in the site (where they would not be of as great value).
- Establishment of sediment and erosion controls (in accordance with best practice) to prevent impacts of earthworks on adjacent stormwater system.

- Establishment of appropriate weed management measures to ensure that weeds are not spread from the works area.

2.5 Air Quality

An Air Quality Assessment has been prepared by Lanterra Consulting Pty Ltd, and is contained in Appendix A.

Emissions of particulate matter associated with construction of the proposed development/ operations and the proposed helicopter landing site were quantified using publicly available emission estimation data. Atmospheric dispersion modelling predictions of air pollution emissions for proposed activities were not undertaken as it is considered that this would not provide any further useful information.

Construction works are likely to generate particulate matter of varying size fractions (TSP, PM10 and PM2.5). Best management practices (refer section 6.1) would be implemented to ensure potential impacts on the receiving environment and nearest sensitive receptors are minimised.

The potential impacts on air quality due to minor helicopter operations related to the Project were considered for air traffic levels. Given the limited number of aircraft movements, pollutants were found to have negligible potential for impact in an industrial estate setting.

The management measures outlined in section 6.2, if implemented should provide appropriate mitigation against adverse air quality emissions.

Based on outcomes of this assessment, it is concluded that the operational base would present a low risk of exceeding the adopted assessment criteria in the immediate area and at identified sensitive receptors during construction works and operation of the base.

2.6 Aboriginal cultural heritage

An Aboriginal Culture Heritage Assessment has been prepared by Past Traces Heritage Consultants, and is contained in Appendix A.

No identified Aboriginal heritage sites or areas of significance are located on Block 45 Section 3. Furthermore, there is low potential for any unrecorded heritage sites to be present within the site boundaries. Notwithstanding, an Unexpected Finds Protocol for discovery of Aboriginal cultural heritage will be implemented.

2.7 Visual

A Landscape Character and Visual Impact Assessment has been prepared by Lanterra Consulting Pty Ltd, and is contained in Appendix A.

The application is of scale and low overall visibility in the context of the existing industrial estate. The most evident visual effect of the use of the site would be the minor arrival and departure of a helicopter. For the majority of the time, there would be no evidence of this activity. The presence of the helicopter hard stand area would not be marked by the visibility of an aircraft parked on it, as the hard stand area adjacent to the helicopter hard stand area is the designated area.

The proposal is appropriate in the location and has no negative impacts on the natural setting: it would be of appropriate materials consistent with and compatible with the adjacent industrial development and the National Development Code.

The development is of potentially high-quality design and the retaining of existing vegetation in the northern corner, western boundary and verge areas will assist in the mitigation of visual impacts from the proposed development.

2.8 Soil and Hydrology

A Geotechnical Investigation has been undertaken by Douglas Partners Pty Ltd, and is contained in Appendix A.

A Preliminary Site Investigation has been prepared by Lanterra Consulting Pty Ltd, and is contained in Appendix A.

Based on these findings, Lanterra considers that the site is suitable for the land uses permitted under the NUZ1: Broadacre Zone which includes residential use.

Prior to construction works commencing, it is recommended that a Construction Environmental Management Plan (CEMP) with a suitable unexpected finds procedure is prepared by a suitably qualified environmental consultant to assist construction workers with managing soil that may exhibit visual or olfactory indications of contamination.

2.9 Noise and vibration

A Noise Assessment has been undertaken by SLR Consulting Australia Pty Ltd, and is contained in Appendix A.

The assessment included the following components:

- Establish applicable noise assessment locations, ACT zone noise standards and helicopter noise criteria.
- Prediction of operational noise from the site and helicopter operations.
- Assessment of the predicted noise levels.

An assessment of noise from the helicopter departure and landing site and helicopter operations has been undertaken, with the findings summarised in the following points:

- Design criteria for operational noise has been based on AS 2021.
- In addition maximum (LAmax) noise criteria from AS 2363 (since superseded and subsequently withdrawn) have also been adopted as is common and appropriate.
- Noise modelling was carried out to assess the acoustical impact of the helicopter operations for the proposed helicopter type and movements, which consist daily of up to two arrivals and departures to the northeast, and up to two arrivals and departures to the east-northeast of the helicopter departure and landing site.
- The predicted operational noise levels from the helicopter would comply with the project noise criteria at the nearest and/or most-impacted residential and industrial receptors, and at nearby planned NSW residential developments.
- A Noise Management Plan, including procedures for helicopter operations and handling noise-related complaints, has been proposed in accordance with the Planning Requirements described in the ACT Government Scoping Document (Application Number 202000027) for the development.

The following mitigation measures have been identified to reduce helicopter noise impacts:

- Minimising engine warm up and shutdown durations.
- Increasing altitude as soon as possible.
- Utilising rates of climb and descent that minimise noise over residential areas.
- Utilising slower, steeper descents to reduce or avoid blade slap where practicable.
- Maintaining correct flight paths after take-off.
- Avoiding flying over residential areas, hospitals and schools when departing from and approaching the site.
- Selecting the least noise sensitive route when flying over populous areas.
- When repeated flying over the same area is necessitated, varying the flight path to avoid overfly the same structures.

Forestrack will be responsible for handling noise complaints associated with ground-based activities, such as ground running of helicopters and servicing and other on-site noise. Where a complaint relating to noise is received, Forestrack will:Record all verbal and telephone complaints in writing, together with details of the circumstance leading to the complaint and all subsequent actions.

- As an initial step, investigate the complaint in order to determine whether a criterion exceedance has occurred or whether noise has occurred unnecessarily.
- Plan and implement corrective action, as necessary.
- Inform Complainants that their complaints are being addressed, and (if appropriate) that corrective action is being taken.
- Where the activity will occur again, carry out noise monitoring and/or other investigations to confirm the effectiveness of the corrective action and the compliance status of the activity with the project criteria.
- Inform Complainants of the implementation of the corrective action that has been taken to mitigate any adverse effects and monitoring outcome.

2.10 Bush Fire

A Bushfire Protection Assessment has been prepared by Eco Logical Australia, and is contained in Appendix A.

The report proposes the following recommendations:

- The proposed development is exposed to BAL-LOW, there is insufficient bushfire threat to warrant the application of specific construction standards. As such, the construction standards in AS 3959-2018 do not apply in this case.
- The entire site and any proposed landscaping should be managed to Inner APZ standards in perpetuity as detailed in Section 4.
- Electrical services should be underground;
- Gas services are to be installed and maintained in accordance with AS 3959;
- Water supply is required to meet the Utilities Act 2000;
- Access and egress to be provided as detailed in Table 12;
- Aerial access to be provided as detailed in Table 5;

2.11 Traffic and Parking

A Traffic Impact Assessment has been prepared by JJ Ryan Consulting Pty Ltd, and is contained in Appendix A.

The report includes the following key findings:

- The proposed site will be a relocation from the existing site to improve training facilities and ancillary amenities
- Upgrades are currently underway along the Lanyon Drive and Monaro Highway
- The proposed travel route will go south toward Monaro Highway / Sheppard Street intersection (like the current route from 78 Sheppard Street)
- The peak hour traffic generation will be approximately 5-6 trips in the peak hours
- The existing background traffic along the Monaro Highway / Sheppard Street will put the intersection above capacity thresholds in the future regardless of the relocated development trips
- The proposed relocation of the emergency services facility does not exacerbate the current forecast of traffic conditions in the future.

2.12 Utilities

During the preparation of this draft EIS consultation was undertaken with utility service providers. As the block is not equipped with a nearby substation to supply enough power for the proposed facility, the focus was on power supply arrangements to the site. It is proposed to install a kiosk substation with a suitable capacity to supply the facility. Other services for the proposed facility require approval from the respective entity providers.

The overhead electrical lines through the site require to be relocated to maximise the available developable are on the block. The overhead electrical lines could be undergrounded and installed parallel to the western boundary of the block. John Raineri and Assoc., Consulting Engineers discussed the proposed project with Evo Energy.

Based on DBYD enquiries and ACTPLA Plumbing records it appears that the site has not been provided with service ties except for a sewer tie and an electrical supply. There are however services surrounding and through the site from which service ties could be provided.

It is proposed that a water tie could be provided from the 225mm dia. watermain in Sheppard Street and located adjacent the proposed driveway in the southern corner of the site. The water tie would provide for both potable water and fire hydrants / sprinklers within the site.

Due to the size of the block area (35,163sqm), stormwater retention, stormwater detention and stormwater quality has been assessed and is shown in Refer to DA Drawing CA 030 Hydraulic Master plan and refer to DA Water Reduction and Stormwater Modelling Report.

DA Drawing CA010General Arrangement Plan has been prepared to indicate the utilities on site.

2.13 Waste

A Waste Management Report has been prepared by John Randall Consulting Pty Ltd.

As the development is a commercial facility, the ACT Government waste collection contractor does not undertake the waste and recycling collection, and it is the lessee's responsibility to arrange for the waste collection. In this situation, the building owner / developer and the lessee are the same party.

The operation of the TRG Bushfire Response and Training Facility requires the use of articulated and rigid vehicles to enter the site hence access for 12.5metre rigid waste and recycle trucks is accommodated. All vehicles entering and exiting the site can undertake the manoeuvre in a forward manner.

The waste generated from the building will be stored in MGB's / hoppers or within the workshop. A dedicated waste enclosure is provided on site as detailed in Figure 2 (orange rectangle).

2.14 Human Health Impact

The construction phase of the development, including demolition and handover is important in two respects:

- The hazards which arise in the construction process can result in significant levels of risks to workers on the site and surrounding land use: and
- For the facility operate safely, it is essential that construction work is undertaken in accordance with the design intent, and to the appropriate level of quality.

These matters will be addressed in preparation of a Construction Management Safety Plan (CMSP) should approval be granted for the proposed development. It is expected that the CMSP together with the company's safety quality system will provide information on the following areas.

In the event of a serious incident involving the helicopter site it is most likely that either an internal incident or major incident will need to be declared. The decision to declare either of these will be made by the company Executive on Call.

If it is clear that the Fire/ Ambulance / Police are required immediately personnel on site/ in Charge should dial 000 and request immediate assistance. The Emergency site plan will immediately be activated.

- Actions relating to the liaison with families of those involved.
- The recovery phase for the aircraft
- The post incident documentation. The above list is not exhaustive, and each incident will have a different scenario which dictates that some actions may be excluded, or additional items added.

2.15 Climate Change

An Impact Assessment has been prepared by Lanterra Consulting Pty Ltd, and is contained in Appendix A.

It is recommended that the actions outlined in this assessment and recommendations relating to design, construction, and operation of the proposed emergency facility to mitigate the impacts of climate change / greenhouse gas variables be transferred to the respective management plans for implementation.

Tree canopy and permeability is an indicator of improved Urban Heat Island Effect conditions. Retainment of existing trees will provide shade to approx. 22% of the site. This is in keeping with the Living Infrastructure Report recommendations that promotes maximising tree canopy and permeability. Furthermore, verge areas surrounding the site are heavily vegetated and will largely be retained, exempt in the area of the proposed driveway entrance to the site.

The implementation of initiatives proposed in this assessment towards improving materials used, procurement requirements, design considerations, construction plant, equipment, and methodologies, all greatly contribute towards the overall growth of sustainable infrastructure development in an age of climate change variability.

2.16 Sustainable Development

The proposed development is consistent with the Sustainability Policy as it would be designed and operated in accordance with the following ecologically sustainable development principles that are applicable in the policy:

- Dealing cautiously with risk, uncertainty and irreversibility,
- Integrating environmental, social and economic goals in policies and activities;
- ensuring intergenerational equity,
- valuing and conserving biodiversity and ecological integrity, and
- committing to best practice and the principles of continuous improvement.

To be in line with the Commissioner for Sustainability and the Environment, and the Environment Protection Authority (EPA), the proposed development will consider the following actions to improve ecologically sustainable development performance:

- Improving energy efficiency
- Improving water efficiency
- Improving recycling, reduce waste

2.17 Stormwater

A Stormwater Impact Assessment has been prepared by Lanterra Consulting Pty Ltd, and is contained in Appendix A.

Mitigation measures during construction include:

- The works will be undertaken under the controls of a sediment and erosion control plan in accordance with industry best practice.
- A sediment and erosion control plan will be endorsed by the EPA prior to construction commencing.
- Ongoing management requirements for sediment and erosion control will be documented in Construction and Operational Environmental Management Plans that will be endorsed by the EPA.
- The works will be undertaken under the controls of a construction and environmental management plan which will details measures to prevent spills or mishandling, and emergency response procedures in the event of an incident.
- Ongoing management requirements for the control of toxic or hazardous substances will be documented in Construction and Operational Environmental Management Plans that is commonly required as a condition of approval in DA and for endorsement by the EPA.

The report concludes that if Forestrack's proposed management practices and Lanterra's recommendations are implemented during the construction and operation phases of the proposed emergency services, maintenance and training facility, there is a low risk of the site's development adversely impacting the stormwater network.

2.18 Hazard and Risk

The scoping document identifies the following hazard and risk considerations:

- Impacts to public safety from operation, including helicopter usage
- Impacts on the facility from fire on adjacent / adjoining site
- Impact from fire or explosion at the facility

In addition to these, the following have been identified as part of the drafting of the EIS:

- storage of hazardous materials/chemicals on the site that poses an impact on surrounding area;
- insufficient water supply from tanks and mains for fire suppression in the event of an emergency;
- failure to meet emergency services requirements for the site (e.g., emergency access, location of hydrants, etc.,);
- cease of operations due to critical infrastructure failure, or failure to secure/maintain emergency services operations; and
- `pilot distraction from adjacent street.

In addition to the abovementioned reports, the following reports are utilised to assess hazard and risk:

- The following reports have been prepared and are contained in Appendix A.
    - Land Contamination
    - Noise
    - Traffic
    - Flora and Fauna
    - Helicopter down wash
    - Helicopter flight path assessment
    - Air Quality
    - Stormwater
    - Visual
    - Climate Change
    - Heritage
    - Bird Strike
    - Bush Fire
    - Geotechnical

Several recommendations are made in relation to the mitigation of risk for:

- fire or explosion on the site impacting on surrounding land;
- risk of fire on neighbouring premises impacting the proposed facility;
- storage of hazardous materials/chemicals on the site that poses an impact on surrounding area;
- insufficient water supply from tanks and mains for fire suppression in the event of an emergency;
- failure to meet emergency services requirements for the site (e.g., emergency access, location of hydrants, etc.,);

2.19 Conclusion

Overall, the risks to the environment and human health associated with this proposal are low. There are several benefits that mean that on balance, the project will result in a positive impact.

3 Introduction

3.1 Objective of the Proposal

The proposed acquisition of Block 45 Section 3 Hume is required by TRG Bushfire Response and Training (TRG) for the establishment of a new headquarters and operations base in the ACT.

These facilities are considered necessary to accommodate the day-to-day business operations of the Bush Fire Response and Training Centre (an Emergency Services Facility).

Figure 1: Pictures of Cooma post the 2013 Bushfires

Figure 2: Photo of Cooma post the 2013 Bushfires

The proposed development of the site would meet the needs of the business providing specialist bushfire response, hazard reduction and forestry services across Canberra and regional NSW, particularly during times of extreme emergency.

The centre in part will facilitate the operation of the proposed single helicopter movements to support the base's operational demands which include training services.

3.2 Description of the Proposal

The headquarters/operations base provide facilities required for undertaking and coordinating Forestrack operations locally, interstate and nationally including office and administration use, storage and maintenance of equipment (ground and aerial resources and assets), secure storage of operational equipment, scalable areas and facilities (including storage and serving space) required for the mobilisation of assets and resources to support larger emergency operations and or situations when they arise (e.g., 2003 Canberra bushfires) and future capacity to grow as demand for services increase over time with the growth of the Urban areas of the ACT, surrounding regional NSW and impacts of Climate Change become more relevant

The intended use for Block 45 is underpinned by an application to purchase and develop the land for the purposes of and to establish infrastructure to support emergency services for bush fire response activities, training, forestry, and related services, including a helicopter landing / departure area and with ancillary uses supporting these functions including repairs and maintenance of plant and equipment. The notional breakdown of the facility is as follows (and shown in Figure 1 below):

- approx. 3,030m^2 of buildings for offices, training, and associated uses,
- 3,600m^2 hardstand, for vehicle parking and manoeuvring,
- 3,000m^2 storage yard for Forestrack operations and equipment,
- 2,000m^2 (or thereabouts) Emergency Services Training Area,
- 7,600m^2 identified for future possible development (longer term planning to ensure site remains viable in a changing city, regional and global context).

Figure 3: Site Plan (*AMC Architecture, October 2021*)

Some of the trees located in the north-eastern portion of the site will likely require removal to facilitate safe take-off and landing of the helicopter, however it is expected that many of the existing trees would be retained.

3.3 Proponents Background

TRG Bushfire Response and Training (TRG) is a Canberra-based business that provides specialist bushfire response services across Canberra and the surrounding NSW region. The company is looking to relocate the business and operations base from Shepherd Street, Hume. The base would be located on Block 45, Section 3 in Hume.

TRG is the parent of Secure Aviation (Holdings) Pty Ltd and Forestrack Pty Ltd that provide both airborne and ground-based services to a range of emergency and strategic response operations. To meet growing demand, a strategic operations base is required at a suitable location within the ACT. Block 45 Section 3 Hume has been identified as a potential location for development.

Forestrack Pty Ltd is a company that is deeply involved in forestry and bushfire management and response operation in Australia. Forestrack holds contracts with the ACT Government for rapid fire response and other forestry related services; a relationship dating back from the clean-up of the 2003 bushfires. The company also holds substantial contracts with Forestry Corporation of NSW and major private forestry companies and are highly active in the forestry areas in regional NSW and around the ACT and southern NSW region.

Secure Aviation, in conjunction and integrated with Forestrack deliver services and support for ground based fire suppression, disaster relief and incident control and digital multispectral mapping services.

The group has a Quality and Safety Management System that includes a fitness for duty policy and Environmental Management plan.

An inhouse engineering team provide engineering coverage 24 hours a day for our ground based heavy plant fleet.

TRG provide services in response to requests from government organisations - such as the ACT Emergency Services, ACT Parks, NSW RFS, Forestry Corporation NSW and the Australian Maritime Safety Authority - and private landholders. These services include Firebreaks and construction of fire access roads; Air-based fire logistics, support and personnel transport; disaster relief and incident control; and digital multispectral mapping services.

TRG also deliver services including fire response planning and training; the design and manufacture of specialist earth moving and vegetation clearing equipment; and site preparation.

Figure 4: Fire support vehicles proposed

The establishment of a secure and permanent facility will allow the creation of advanced and specialised response programs and training that will create spin-off opportunities to Canberra, in what is a key strategic geographic location.

3.4 Environmental Assessment Process

Emergency facility use is set as a “Merit Track” accessible use in the development table for the applicable Land-use zone relevant to the site.

Whilst this development in it-self does not trigger the requirement for an Environmental Impact Statement, the Minister for Planning and Land Management in correspondence dated 20/09/2018, advised that the likely impact of the proposed facility that may follow the Direct Land Sale is associated with likely impacts and hazards relating to the operation, noise and impact on surrounding land uses that warrant a more extensive assessment process. The Minster, in accordance with Section 124 of the Planning and Development Act 2007 (P&D Act), trigger a requirement that the impact track be followed for assessment of the development as an emergency services facility with associated helicopter landing facilities.

This declaration is intended to provide a clear statutory assessment pathway for the proposals while providing opportunity for public consultation prior to the submission of the proposal.

In line with this correspondence, the proponent is required to prepare an Environmental Impact Statement (EIS) in line with the requirements set out in the P&D Act and Environment Planning and Sustainable Development Directorate's (EPSDD) requirements. The proponent has been issued with a Scoping Document for preparation of an EIS on 24 March 2021.

The scoping document is an instrument used by EPSDD to:

- identify the general matters and requirements that need to be addressed within an EIS in relation to the proposal; and
- outline how the EIS report should be formatted

This draft EIS has been prepared in response to the Scoping Document. Appendix 13.2 provides a table which cross-references the requirements of the scoping document against the sections of this draft EIS as required by the statute.

The subject land/proposed site is located in the NUZ1: BROADACRE land use zone and all activities in relation to the proposal are consistent with the objectives of this zone.

3.5 Justification

Establishing the organisation's headquarters and operations base within the ACT ensures that the assets and services will be locally available in a timely fashion in the case of emergency or other tactical operation scenarios as well as provide the ACT with the ability to house and manage this highly skilled operation within the Territory's boundaries and economy.

An operation such as this provides unprecedented opportunities to ACT Government and Territory based Commonwealth emergency response agencies, including ACT Fire service, Rural Fire Services, Federal Police etc, with an instant and cost-effective access to tactical, emergency and rapid response services and solutions as and when required.

This service will be available all year and at all times of the day and night as well as in all weather contexts. This service is currently not readily available from a local service provided with this level of access – and often the unique offering that the organisation brings is not available in Australia.

This consideration is very prudent when, for example, considering fire support.

The establishment of the proposed operation will result in access to locally based ground and aerial support services all year round and specifically outside the current, very short, fire season contract period. A local presence provides access to this service at no additional cost to the community but increases the security blanket generated.

The need for this facility was assessed and agreed as part of the Direct Land Grant application that progressed to a notional offer subject to this EID and a Development Application being progressed and approved.

Employment Opportunities and Economic Value to the ACT

The envisioned facility will initially employ 30 full time persons and numerous part time people (subject to contracts, tenders, training and employees that are showing substantial potential for growth) and controls the group's operations across Australia.

Many more economic connections and employment opportunities will be generated through the construction and establishment of this facility by using local contractors and services (where available).

3.6 Public participation during the preparation of the EIS

A public participation process was undertaken during the preparation of the EIS.

The objectives of this engagement program were to:

a. inform the local community and key stakeholders about the proposed scope and development of the TRG Bushfire and Response Training Centre.
b. gather and record initial feedback, thoughts and concerns from stakeholders to help advise of any challenges that may impact the EIS planning phase of the project.

Figure 1 below indicates the stakeholder organisations that were contacted during the public participation.

Stakeholder	Relationship to project
Canberra Model Aircraft Club	The club is located 2.5km from the proposed site and may be affected by increased helicopter activity in the area.
Hume Traders Association	Will have significant interest in the construction and operational impacts.
Inner South Canberra Community Council	The inner-south residents of Canberra are located approximately 5.7km from the proposed helicopter base and may harness perceptions of increased noise pollution.
Jerrabomberra Residents Association	Has significant interest in the noise and vibration impacts, considering there is some concern over existing noise levels from current aviation activity.
Tuggeranong Community Council	Residents of Macarthur and Gilmore are located within 5 kms of the proposed site and may harness perceptions of increased noise pollution.
Village Building company	Village Building Company will have significant vested interest as its new suburban development, South Jerrabomberra, is located less than 1km from the proposed site.
Riverview Developments (The Poplars)	Riverview Group own and operate the Poplars retail and innovation precinct which is currently being developed on Tompsitt Drive, Jerrabomberra. This new site is located approximately 2 kilometres from the proposed TRG Bushfire Response and Training Centre operations base.
ACT Rural Landholders Association Inc	The ACT Rural Landowners Association represents rural landholders within the ACT. The proposed site for the new TRG Bushfire Response and Training Centre operations base sits adjacent to a significant area of grazing land.
Government Paddocks User Group	Represents horse owners agisting their animals on Government owned broadacre-zoned land. The proposed site for the new TRG Bushfire Response and Training Centre operations base sits adjacent to a significant area of grazing land.

Figure 5: Stakeholder organisations contacted for feedback

3.7 Guidelines for making a submission

If you wish to make a written submission, it would be helpful if you would include, as relevant:

- the nature of your interest in the proposal;
- your opinions on the proposed development;
- any suggestions you wish to make about alternatives or improvements on the proposal;
- any additional measures you consider beneficial to protect the environment;
- any errors or omissions in the information presented in the documents;

- any additional factual information you have that could help with the assessment (and its source); and
- any other matters that you consider relevant to this proposal and its determination.

In order to make it easier for the matters raised in your submission to be analysed and properly considered:

- list points wherever possible – this makes the issues clear;
- refer each point to the relevant section (or sub-section) of this document and/or appendices; and
- include your name, address and date if you want your submission to be acknowledged.

All submissions will be treated as public documents unless it is requested explicitly that they be regarded otherwise. Anyone making a submission should indicate if they wish their submission to remain confidential. In this case, Flexible will attempt to keep it confidential, unless legislative or other legal justification for the release of the information, for example under the Freedom of Information Act 1989 or under subpoena or statutory instrument.

The address for written submissions on the EIS is:

Environment, Planning and Sustainable Development Directorate
GPO Box 158
Canberra City ACT 2601

All submissions received on the EIS will be taken into consideration prior to any decision to proceed with the project.

Any telephone inquiries can be directed to the Customer Services Centre on 02 6207 1923.

4 Proposal Details

4.1 Project Description

A full list of the uses sought for the operation of the proposed Emergency Services, Maintenance and Training Facility at Block 45 Section 3 Hume is included in **Table 1**.

4.1.1 Use of the Site

TRG Bushfire Response and Training (TRG) provides both airborne and ground based services to a range of emergency services and strategic response operations, forestry contracting and management services.

Growing demand for services, particularly in the areas of bush fire-fighting and other emergency services response and management, has meant that the business requires a strategic operations base at a suitable location within the ACT.

The proposal involves an application to purchase and develop land for the purposes of developing a helicopter operations base to provide support for emergency services, forestry and related services, educational institution and uses with ancillary uses supporting these functions.

Specifically, the services to be provided from the new headquarters will commonly relate to the following activities

- firebreaks and construction of fire access roads;
- support and personnel transport;
- disaster relief and incident control;
- digital multispectral mapping services;
- fire response planning and training;
- design and manufacture of specialist earth moving and vegetation clearing equipment; and
- site preparation

In relation to the flying of helicopter in an out of the site for the foreseeable future will primarily be to fly machines in and out for maintenance. This is expected to be at a maximum of about 2 in-and-out flights per day on average.

The site plan shows the emergency gate access /break out section of the southwestern boundary fence. This provides another access point for emergency services for the helicopter operation and will be documented in the emergency site plan for the site controller to notify the required parties in the event of an emergency need.

Figure 6: Fire Support proposed

With regard to emergency response operations (on demand as and when required and most likely fire response and search/rescue events), this is expected to involve about 2 flights per week on average, although this is seasonally dependent in relation to fire risks. Rescue events are as and when required.

For fire response flights, the team generally would stay overnight near the fire location and therefore there is typically no return to base flight on each of those days/nights.

Flight directions into and out of the site will generally be to/from the north, north-east (prevailing winds being considered, per the Helicopter Operation Assessment prepared by Forestrack personnel with an understanding of the technical issues involved which is included in Appendix A).

4.1.2 Ancillary Uses

There are ancillary uses included in this application including uses that will be operating as a result of the emergency services facilities operations. This may include office type use, short term accommodation of staff during 24-hour emergency operations, storage of equipment and materials, training operations (internal and external entities), maintenance activities and light industrial uses (e.g., augmentation and customisation of equipment for the specific tasks at hand in the operations envisioned).

Repair and maintenance uses are ancillary to the main proposed development.

4.1.3 Application Process and Consistency with Crown Lease

The site is currently unleased Territory land. The land custodian is TCCS for the purpose of City Presentation.

The land is subject of a Direct Sale application with the proponent found to be eligible for the direct sale of the subject site in 2017.

The direct sale and subsequent offer of a Crown Lease is pending completion of the following conditions:

1. The proponent securing an approved environmental impact assessment for an emergency services facility over Block 45 Section 3 Hume;
2. The proponent securing an approved Development Application over Block 45 Section 3 Hume for the development of an emergency services facility;
3. The proponent demonstrating with confirmation from the relevant entity in relation to the operation of aircraft on the site, including the operation of helicopter in non-controlled airspace the suitability of the stie for airborne operations; and
4. Payment for the land at market value to be determined by the highest of three valuations.

An Impact Track Development Application will be submitted for the proposed development following the completion of the EIS. This Development Application may be submitted concurrently, however decision will only be made once the EIS is completed.

The future crown lease will be consistent with the proposed use of land.

Table 1: Uses sought for operation of proposed Emergency Services, Maintenance and Training Facility – Block 45 Section 3 Hume

Use (as permitted in NUZ1)	Definition (under the Territory Plan)	How use is aligned with proposal
Ancillary Use	means the use of land for a purpose that is ancillary to the primary use of the land.	Providing onsite outbuildings for the purpose of storing and maintaining mechanical objects and machinery that are required for operating the facility. Another interpretation of this use in the context of this proposal is that this facility can serve as ancillary to emergency services response in the form of aerial assistance in the form of moving teams to ground and response taskforce. Aerial and ground assistance to be provided.
Communications Facility	means the use of land for the provision of facilities for postal, telecommunications and other communication purposes including facilities used for receiving and transmitting radiated signals using radio masts, towers, and antennae systems but does not include cabling or ducting used for the carrying of electromagnetic signals.	This type of facility requires for the installation of communications system for correspondence with emergency services and tracking of aerial and ground-based vehicles. Common terminology associated with this use includes: – Aviation navigation communication - provide pilots with navigation assistance. – GPS tracking - for tracking of fleet vehicles. Such facility will be operated on site to help facilitate the primary operations being proposed.
Education Establishment	means the use of land for the purpose of tuition, training or research directed towards the discovery or application of knowledge, whether or not for the purposes of gain, and may include associated residential accommodation.	The proposal seeks to incorporate an in-house facility for the purpose of providing professional and vocational training. The educational facility will provide training courses in site preparation including fire fighting. Training will be used for ground training only. Common terminology that can be associated with Education Establishment are: – Other Specialist college – professional and vocational training

Emergency services facility	means the use of land for the purpose of providing emergency services and protection for the community.	Providing on-site operations to facilitate and support emergency responses.
Sign *(not a use required to be included the Crown lease)*	means any device or representation openly visible to the general public for the purpose of direction or control or information, or displaying an advertisement.	Future site operations may require signage/s to be placed along the site frontages for individuals and emergency professionals to recognise the facility from public view. Any proposed signs will comply with the Signs General Code and NUZ1 zoning and the relevant Development Application will be submitted to permit and proposed signs.
Tourist Facility	means the use of land for providing entertainment, recreation, cultural or similar facilities for use mainly by the general touring or holidaying public and may include a restaurant, café, bar, service station, tourist accommodation and the retail sale of arts and crafts, souvenirs, antiques and the like.	The proposed use may also include public openings for community members and interstate/international tourists. This will be open to the public. Such use under *Tourist Facility* may include galleries and displays.
Helicopter Landing and Departure Zone	A designed area which has been designed and sited for the departure and landing of a helicopter.	This use may also be considered in relation to longer term parking of vehicles that are used in the transportation of helicopter or their associated components in relation to the proposed facility.

4.1.4 Confirmation of Development Assessment Track

There are 5 types of development application that are required to be assessed in the Impact Track; all of these are required to be accompanied by a completed EIS (or be exempted from this requirement by the Minister). These 5 types are listed in the relevant zone development table and are discussed below with relevance to the proposal.

Table 2: Development Assessment Track applicable

Development	Commentary
1. A development that is not an Exempt, Code Track or Merit Track development where the development is allowed under an existing lease.	**Not applicable.** **The development would ordinarily be a Merit Track Assessment proposal under the relevant IZ1 zoning development assessment table (on the assumption a lease granted for the intended use upon completion of the direct sale application).** **A Ministerial EIS declaration over-rides this requirement.**
2. A development that would be permissible under the National Capital Plan but which is identified as prohibited development in the relevant zone Development Table.	**Not applicable.** **The proposed development is not prohibited by the Territory Plan HOWEVER,** **A Ministerial EIS declaration over-rides this requirement.**
3. Development specified in Schedule 4 of the Planning and Development Act 2007 and not listed as prohibited development in the relevant zone Development Table.	**Not applicable.** **The proposal would not trigger an Impact Track assessment under the criteria prescribed in Schedule 4 of the PD Act as demonstrated below HOWEVER,** **A Ministerial EIS declaration over-rides this requirement.**
4. Development declared under Section 123 and Section 124 of the Planning and Development Act 2007 and not listed as prohibited development in the relevant zone Development Table.	**Applicable.** **The proposed work is not listed as prohibited in the IZ1 zone development table AND** **the Minister for Planning made a declaration under Section 124 of the Act that the proposal is to be assessed in the Impact Track.**
5. Any development not listed in the relevant zone Development Table	**Not applicable** **The intended development is identified as including Industrial use, an Emergency Services Facility, Educational Establishment and Ancillary Uses. These development types are permissible subject to a Merit Track assessment as depicted in the NUZ1: Broadacre Zone development table; HOWEVER,** **A Ministerial EIS declaration over-rides this requirement.**

The project has been declared by the Planning Minister to be in the Impact Track under Section 124 of the PD Act and require the completion of an EIS. Notwithstanding, other Impact Track assessment triggers may still apply to the proposal, summarised below. In relation to Impact Track Assessment Triggers under Schedule 4 of the PD Act, it is noted that under Part 4.2 *Development proposals requiring EIS — activities*, Item 4 was considered for relevance and dismissed.

Under Item 4, an EIS is required for:

> *…proposal for construction of an airport or airfield (other than a helicopter landing facility used exclusively for emergency services purposes, including medical evacuation, fire fighting, retrieval or rescue)*

The proposal is not for an airport or airfield and no public passenger service and/or commercial freight collection will be undertaken at the site; it will not be registered as an airport for civil aviation operations. The proposed use involve an industrial type use relating to Bush Fire Response and Training Centre operations (maintenance/servicing), actions that is specifically exempt from the Schedule 4(4.2)(4) trigger as listed above.

With regard to potentially relevant environmental triggers for an EIS from Schedule 4, Part 4.3 for *Development proposals requiring EIS — areas and processes,* one potential trigger is identified, as summarised in the Table below.

Table 3: Trigger for EIS

	Trigger	Commentary
1	**proposal that is likely to have a significant adverse environmental impact on 1 or more of the following, unless the conservator of flora and fauna produces an environmental significance opinion that the proposal is not likely to have a significant adverse environmental impact:** **(a) a species or ecological community that is endangered;** **(b) a species that is vulnerable;** **(c) a species that is protected;** **(d) a species with special protection status;** **(e) a species or ecological community if a threatening process has been declared under the Nature Conservation Act 1980, s 38 (4) in relation to the species or community;** **(f) a species or ecological community if the flora and fauna committee has stated criteria for assessing whether the committee should recommend the making of a declaration under the Nature Conservation Act 1980, s 38;** **(g) an endangered species, …, if the potential impact of the proposal will be on the species or community in New South Wales**	**Not Triggered** **A biodiversity assessment of the site has been undertaken by a qualified ecologist to support the project. The site assessment has concluded that the site is unlikely to support any listed threatened flora or fauna or ecological community that would be likely to be significantly adversely affected by the development.** **In particular, a targeted survey for the Striped Legless Lizard (*Delma impar*) was undertaken through Spring-Summer 2019 and failed to detect the species. This result combined with the site's small size and relative isolation suggest the species is unlikely to be present at the site.** **Consultation with Dr David Albrecht from the CSIRO Herbarium has also confirmed that *Dianella amoen*a is unlikely to (naturally) occur in the ACT, No other known listed threatened species in the local area is considered likely to be significantly adversely affected by the proposed Bush Fire Response and Training Centre operations of the site.** **Based on these conclusions, the project is not believed to trigger an EIS on this particular item.**

2	**proposal involving—** **(a) the clearing of more than 0.5ha of native vegetation ... unless the conservator of flora and fauna produces an environmental significance opinion that the clearing is not likely to have a significant adverse environmental impact; or** **(b) the clearing of more than 5.0ha of native vegetation on land that is designated as a future urban area under the territory plan unless the conservator of flora and fauna produces an environmental significance opinion that the clearing is not likely to have a significant adverse environmental impact.**	**Possible** **The subject site supports areas that would meet the definition of Native Vegetation under the Nature Conservation Act. This includes the treed areas across the northern half of the site which comprise predominantly native trees.** **Some of these trees are proposed to be removed for the helicopter landing / departure area as well as to ensure a safe take-off and landing angle above the treed areas in the eastern portion of the site.** **Based on the project design, it is possible that up to about 1,000m² of this vegetation could be removed, and therefore this trigger would not apply. In general, all attempts will be made to minimise the extent of tree removal and it is expected that this 0.5 ha threshold trigger can be avoided.**
3	**proposal for development on land reserved under s315 for the purpose of a wilderness area, national park, nature reserve or special purpose reserve, unless the conservator of flora and fauna produces an environmental significance opinion that the proposal is not likely to have a significant adverse environmental impact**	**Not Triggered** **The site is not located in on reserved land under s315 of the PD Act.**
4	**proposal that is likely to have a significant adverse environmental impact on—** **(a) a domestic water supply catchment; or** **(b) a water use purpose mentioned in the territory plan …; or** **(c) a prescribed environmental value mentioned in the territory plan … of a natural waterway or aquifer**	**Not Triggered** **The proposal will not be a significant water user or generator of additional runoff. Nor is it likely to have a significant impact on water quality.**
5	**proposal that is likely to result in environmentally significant water extraction or consumption, other than a proposal for an urban lake, pond or retardation basin or a wastewater reuse scheme—** **(a) in an existing urban area or on land that has been designated as a future urban area; and** **(b) that is designed in accordance with the water sensitive urban design general code under the territory plan**	**Not Triggered** **The proposal will not be a significant water user.**
6	**proposal that is likely to have a significant adverse impact on the heritage significance of a place or object registered under the Heritage Act 2004, unless the heritage council produces an environmental significance opinion that the proposal is not likely to have a significant adverse impact**	**Not Triggered** **The proposal is not likely to have a significant adverse impact on any registered place or object.**
7	**proposal involving land included on the register of contaminated sites under the Environment Protection Act 1997**	**Not Triggered** **The site is not included on the register of contaminated sites.**

8	**proposal, other than on land in an existing urban area or land that is designated under the territory plan as a future urban area, with the potential to adversely affect the integrity of a site where significant environmental or ecological scientific research is being conducted by a government entity, a university or another entity prescribed by regulation**	**Not Triggered** **The site is not being used for any research purpose.**

In summary the primary trigger for this proposal to be assessed in the Impact Track is the Ministerial Trigger under Section 124 of the P&DA, as secondary consideration of a trigger in relation to P7DA Schedule 4 Item 4.3(2) is specifically considered in this study.

4.1.5 Site Location

The site is identified as Block 45 Section 3 Hume in the District of Jerrabomberra. It is located at the southwestern corner of Sheppard Street and Lanyon Drive. Block 45 Section 3 Hume is zoned NUZ1-Broadacre and is subject to the Main Avenues and Approach Routes overlay in the ACT Territory Plan.

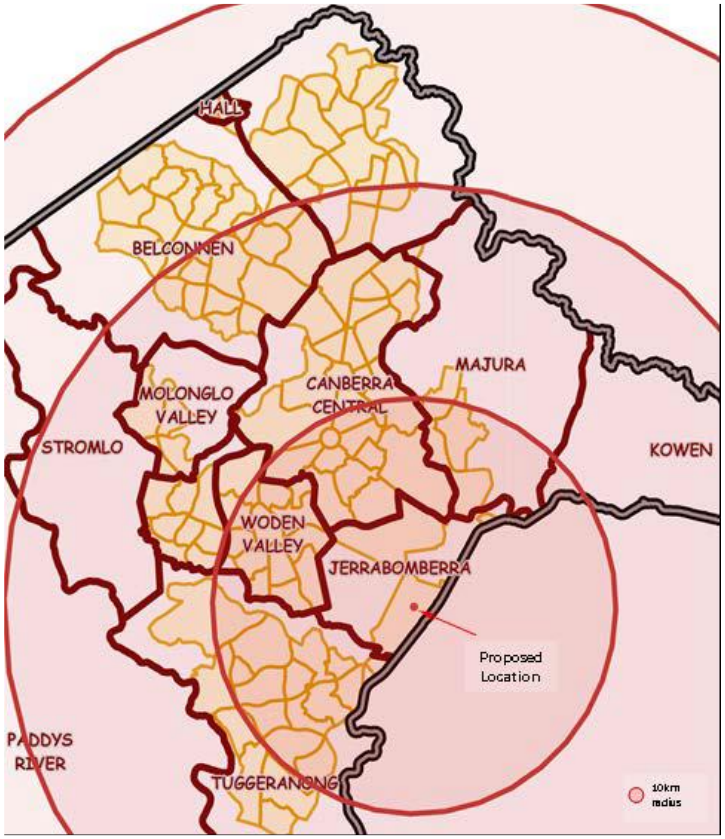

Figure 7: Site Locality

4.1.6 Site Description

The site is identified as Block 45 Section 3 Hume in the District of Jerrabomberra.

4.1.7 Crown Lease/Title Details

The land is currently unleased.

4.1.8 Land Custodian

Block 45 Section 3 Hume, subject to the application for a direct sale, is unleased land. It is identified to be under the custodianship of TCCS for the purpose of City Presentation.

4.1.9 Allowed Uses

Block 45 Section 3 Hume is zoned NUZ1 Broadacre and is subject to the Main Avenues and Approach Routes overlay in the ACT Territory Plan being lands fronting onto an approach route and within 200m from the centre line of this roadway.

The proposed development and use of the site are permissible in this zone being primarily an Emergency Services Facility use with Light/General Industrial and Educational Establishment uses supporting this activity, as defined in the Territory Plan.

The assessment track for a development application for any of these uses would ordinarily be a Merit Track assessment, however, as specified above, the proposal has been declared by the planning minister to be an Impact Track Assessment in accordance with section 124 of the *Planning and Development Act 2007*.

4.1.10 A clear identification of all lands subject to direct disturbance from the proposal

All works proposed are to be contained within the boundary of the future Lease other than works required to services the site such as engineering services relocation and reticulation and driveway/access infrastructure to the south of the block. Such works are identified on the Site Plan (A100) submitted in support of the concurrent Development Application. There are no disturbances to adjoining blocks.

4.1.11 Proponent related development

The proponent operates infrastructure and support businesses in Hume and near Murrumbateman in regional NSW. The Block 11 Section 2 Hume (76-78 Shepard Street) undertake engineering works, machinery servicing and supply storage for the Forestrack operations in the ACT and adjoining NSW region.

The Murrumbateman operation is currently the main operational office for the TRG operations.

This facility will replace the activities in Murrumbateman as well as those located at 76-78 Shepard Street.

4.1.12 Other related development within proposal area and more broadly in region

There is no other related development proposed within the area or more broadly within the region relation to this operation at this time.

4.1.13 Description of proposed and future uses for the proposal

The headquarters/operations base will be required to provide facilities for the TRG operations, storage of equipment (including secure (operational) equipment associated with tactical and security operations) as well as a scalable areas and facilities (including storage and serving space) required for the mobilisation of assets and resources to support larger emergency operations and or situations when they arise (e.g., 2003 Canberra bushfires and 2019-2020 ACT and NSW fires).

Based on the plans submitted in support of the concurrent Development Application, the proposed development comprises the following features (including estimates of the development footprint for each element):

- 4,400m^2 of buildings for offices, training and associated uses,
- 3,600m^2 hardstand, for vehicle parking and manoeuvring,
- 3,000m^2 storage yard for Forestrack,
- 2,000m^2 (or thereabouts) Emergency Services Training Area,
- 7,600m^2 identified for future possible development (longer term planning to ensure site remains viable in a changing city, regional and global context).

*: Subject to DA

Some of the trees located in the north-eastern portion of the site will likely require removal to facilitate safe take-off and landing of the helicopter. However, as identified in the Visual Impact Assessment prepared by Lanterra and included in Appendix A, it is expected that many of the existing trees can be retained as a consequence of the carefully considered siting of the facility on the block. The significant retention of existing vegetation in the northern corner, western boundary and verge areas will assist to mitigation the visual impacts of the proposed development and is also consistent with Canberra's Living Infrastructure Plan: Cooling the City.

4.1.14 Location of any Works

The existing trees and vegetation in the northeast corner of the site are retained together with significant undisturbed areas of the site.

Figure 8: Proposed works

4.1.15 A description of the construction methodologies for the proposal

The construction methodologies envisioned to be used in developing the operations base include standard concrete slab flooring, carpark and driveway construction, conventional prefabricated concrete and metal construction techniques with conventional cladding, roofing and fit out for office, training and storage (warehouse) building and facilities. The front building is an aircraft hanger for the helicopter.

4.2 Alternatives to the Proposal

4.2.1 Alternatives to the proposal and reason for selecting preferred option

The process behind site assessment and eventual selection of this site and its suitability for the intended purpose and uses involved finding a site with the following key characteristics:

- Land with the correct zoning and locality to support the operation.
- Direct road access with a strong preference to be located close to a main/arterial road to facilitate good access for support and ground operations and facilitate good access for emergency response vehicles, transportation of heavy equipment for use in fire management and deliveries of equipment.
- Areas to support operational training.
- Adequate land area to establish a coordination and operations office, hanger space and storage for equipment and land based assets/resources, landing facilities and the like,
- Central location in relation to the ACT geographically to permit low response time targets,
- Location away from sensitive (primarily residential) receivers to minimise impacts from flight operations (although this is considered a relatively low impact use).

The proponent worked with officers from the (former) LDA and ACT Planning and Land Authority investigating multiple land options including parts of Blocks 13 and 15 Section 18 Hume, Land to the west of the Molonglo and Murrumbidgee rivers and the like.

Block 45 Section 3 Hume was found to meet all of the above site requirements (as confirmed from the Direct Sale process and notional eligibility for a land grant), being located close to Lanyon Drive and subsequently Monaro Highway, provides sufficient land area with manageable ecological constraints (as demonstrated in Section 4 of this report) to achieve the site building construction and operational requirements, is located centrally within the ACT (***Figure 1***).

The site is also considered ideal in that it is located within the outer margins of the Hume Industrial Precinct, with (main) roads on all but one boundary, and therefore the operations are considered unlikely to affect any sensitive nearby users and provide approach-routes that can generally steer clear from build-up sites.

Its central location will also see an opportunity to have a response time of generally less than 10 minutes to the entire urban area of Canberra which is vital for the emergency service roles in particular that are proposed to be operated from the site.

The proposed development and in particular the operation of the helicopter will not impact (see assessment report conclusions) on the upgrade of Lanyon Drive / Overpass.

Figure 16 in the visual assessment report (submitted in support of this application) shows the proposed upgrade which comprises intersection upgrades at key locations along the Monaro Highway from Johnson Drive through to the access road to the Alexander Maconochie Centre. This includes the intersections with Lanyon Drive and Isabella Drive and intersections with Mugga Lane, Tralee Street and Sheppard Street into Hume. An overpass is proposed for the Southbound carriageway over Lanyon Drive as shown in figure 16. Helicopter flight path considerations described in 5.2.5 indicate that the overpass is approx. 320m from the proposed helicopter arrival and departure site and not located in the preferred helicopter flight paths. Moreover, these paths have been assessed to achieve an obstacle free gradient of 2.5º (4.5% or 1:22 vertical to horizontal), including the proposed overpass located at approx. RL 595.21 @ch14200 in relation to the proposed helicopter departure / landing site at RL 590.35.

The purpose of approach/departure airspace is to provide sufficient airspace clear of hazards to allow safe approaches to and departures from landing sites. The proposed Approach/departure paths are such that downwind operations are avoided and crosswind operations are kept to a minimum. Moreover, the preferred flight approach/ departure path is aligned with the predominate wind when taking account of potential obstacles. The proposed helicopter operation will have no material impact on aviation activities at Canberra aerodrome. The helicopter landing/departure sight is sufficiently distant from Canberra aerodrome such that arriving and departing aircraft will not realise any traffic confliction with helicopters operating to and from it.

A downwash report is submitted in support of this application that assesses the impact on pedestrian and bike rider traffic adjacent to the site. A bike lane is adjacent to the north west site boundary. The helicopter downwash assessment demonstrates that the proposed helicopter landing / departure area located to the northeast of the proposed operations base area are within CASA's recommended maximum wind velocity and will not have an impact on the proposed buildings and helistands.

4.2.2 Site Selection Criteria

The process behind the selection of the subject site and its suitability for the intended purpose and uses involved finding a site with the following key characteristics:

- Land with the correct zoning and locality to support the operation.
- Direct road access with a strong preference to be located close to a main/arterial road to facilitate good access for support and ground operations.
- Areas to support operational training.
- Central location in relation to the ACT geographically to permit low response time targets,
- Location away from sensitive (primarily residential) receivers to minimise impacts from flight operations (although this is considered a relatively low impact use).

Block 45 Section 3 Hume was found to meet all of the above site requirements, being located close to Lanyon Drive and subsequently Monaro Highway, provides sufficient land area with manageable ecological constraints (as demonstrated in Section 4 of this report) to achieve the site building construction and operational requirements, is located centrally within the ACT. The site is also considered ideal

in that it is located within the outer margins of the Hume Industrial Precinct, with (main) roads on all but one boundary, and therefore the operations are considered unlikely to affect any sensitive nearby users and provide approach-routes that can generally steer clear from build-up sites.

Its central location will also see an opportunity to have a response time of generally less than 10 minutes to the entire urban area of Canberra which is vital for the emergency service roles in particular that are proposed to be operated from the site.

4.2.3 Any matters considered to avoid or reduce potential impacts prior to the selection of the preferred site

The proposed site is well positioned to house the operations base and headquarters for the TRG operations while readily facilitate opportunities to mitigate any potentially significant impacts that may emanate from, and be associated, with conducting the use of the land as set out in the proposal for use.

4.2.4 Consequences of not proceeding with the development.

There is currently no facility of this nature (bushfire and forestry training, with the use of heavy machinery specifically adapted to forestry operations, to mitigate the spread of bushfire) supporting Emergency Facilities and reaction operations in the ACT. This proposal seeks to relocate the existing facility within the NSW. As a result, if the facility is not supported, operations would continue from outside the ACT resulting in a sub-optimal emergency response.

The siting of this operation in this strategic location will benefit Canberra as it grows and experience the impacts form Climate Change that is likely to bring hotter and longer summers and an increased risk for bushfires through a longer bushfire season.

5 Legislative and Strategic Context

5.1 Statutory Requirements

5.1.1 Planning and Development Act 2007

It is noted this application does not trigger the requirement for an Environment Impact Statement.

The *Planning and Development Act 2007* (**P&D Act**) determines if a development requires development assessment and which assessment track is applicable. Chapter 7, Part 7.1, outlines the possible assessment tracks for development approvals: code track, merit track and impact track. Schedule 4, of the Act dictates what activities are to be assessed via the impact track and would require an EIS.

However, this application and submission of an EIS is as a response to a ministerial recommendation for the inclusion of an EIS for submission.

This Draft EIS has been prepared in accordance with the Scoping Document dated 24 March 2021 (Application Number: 2020000027). The requirements detailed in the Scoping Document and the details of where these requirements have been included in this EIS can be found in Appendix 1 and Appendix 2.

5.1.2 Planning and Development Regulation 2008

This Environmental Impact Statement has been prepared in response to the requirements of the Scoping Document and relevant requirements of Chapter 4 of the *Planning and Development Regulation 2008*.

In particular, Chapter 4 requires:

[f]or each potentially significant environmental impact identified in the scoping document for the development proposal-

(i) an identification of the relevant environmental values; and
(ii) an identification of the findings and results of any environmental investigation in relation to the land to which the proposal relates; and
(iii) a description of the effects of the environmental impact (including cumulative and indirect effects) on physical and ecological systems and human communities; and
(iv) an analysis of the significance of the potential environmental impact of the development; and
(v) a statement of the approach proposed to be taken to the environmental management of the land to which the proposal relates.

Furthermore, *the Planning and Development Regulation* gives effect and detailed guidance to particular areas of *the Planning and Development Act 2007*, and highlights the relevant entities involved in the preparation of scoping documents, the time for consulting such entities, the criteria for consultants and the content of scoping documents.

5.1.3 Environmental Protection Act 1997

The proposed development supports the main objectives of the Environmental Protection Act 1997:

- Protect and enhance the quality of the environment; and
- Prevent environmental degradation and risk of harm to human health by promoting the following:
    - Pollution prevention;
    - Clean production technology;
    - Reuse and recycling of materials;
    - Waste minimalization programs; and
    - Require people engaging in polluting activities to make progressive environmental improvements;

Schedule 1 of the Environmental Protection Act 1997 outlines activities that require environmental authorisation (from the Environmental Protection Agency). Forestrack currently holds a Standard Environmental Authorisation for activities associated with their business.

The team are responsible for ongoing regulation and compliance monitoring of Forestrack activities and ensuring that the company's Environmental Management Plan (EMP) is to an acceptable level.

5.2 Climate Change

Section 8.1.7 of the EIS Scoping Document requires that the EIS describe the potential impacts on climate change and how the proposal is consistent with associated ACT and national policies such as the ACT Climate Change Strategy 2019-2025 and the ACT Climate Change Strategy 2016.

The ACT Climate Change Strategy 2019-2025

The ACT Climate Change Strategy 2019-2025 outlines the next steps the community, businesses and government will take to reduce emissions by 50-60% (below 1990 levels) by 2025 and establish a pathway for achieving net zero emissions by 2045.

The *ACT Climate Change Adaptation Strategy* (ACT Government, 2016) identifies the key adaptation policy challenges for the ACT and aims to help the community, city and natural environment adapt to climate change and become more resilient to projected impacts. The Adaptation Strategy adopts a sectoral assessment approach to identify climate change risks and consider adaptation actions, with actions developed for many sectors including the water assets and natural resources and infrastructure which are relevant for the Project.

The ACT is committed to setting ambitious greenhouse gas emission reduction targets to achieve its goal of zero emissions by 2050. *Action Plan 2* provides a pathway for the ACT to achieve the targets by setting out a number of actions. Of these actions, the proposed development will be accountable to contribute towards Low Emission Vehicle Strategy and the ACT Waste Management Strategy – as discussed further in Section 5.3.5 below.

A Climate Change assessment is submitted in support of this application. Tree canopy and permeability is an indicator of improved Urban Heat Island Effect conditions. Retainment of existing trees will provide shade to approx. 22% of the site. This is in keeping with the Living Infrastructure Report recommendations that promotes maximising tree canopy and permeability. Furthermore, verge areas surrounding the site are heavily vegetated and will largely be retained, exempt in the area of the proposed driveway entrance to the site.

The implementation of initiatives proposed in this assessment towards improving materials used, procurement requirements, design considerations, construction plant, equipment, and methodologies, all greatly contribute towards the overall growth of sustainable infrastructure development in an age of climate change variability.

Canberra's Living Infrastructure Plan: Cooling the City

Canberra's Living Infrastructure Plan: Cooling the City (the Plan) provides strategic direction to help our expanding and densifying metropolitan areas become better prepared for and more resilient to climate change. It identifies options and opportunities provided by living infrastructure measures to enable us to continue to enjoy the benefits of:

- climate resilience
- the amenities of nature
- economic prosperity and
- health and wellbeing

The goals that underpin the actions within this Plan are to achieve a Climate-wise city, Prosperous city, Nature in the city and Healthy city. A key goal of this Plan is to adopt and progress towards targets by 2045 that provide Canberra's urban footprint with:

- The equivalent benefits of a 30% tree canopy cover; and
- 30% permeable surfaces.

The Plan represents a whole of government policy which seeks to integrate living infrastructure (e.g. trees, wetlands, vegetation, soil systems etc) into urban planning, design and development. It includes targets of 30% tree canopy cover (or equivalence) and 30% permeable surfaces to be achieved by 2045 within the urban footprint.

The Plan advocates for the equitable distribution of living infrastructure across the urban footprint to ensure that health, cooling, energy usage and cost, environmental and amenity benefits are enjoyed by all of the community.

The future development of the site will need to consider using climate change initiatives satisfy the government initiative. Opportunities to improve climate performance in new buildings can be facilitated for example with the inclusion of planting areas and green infrastructure.

5.3 Other Requirements

5.3.1 Territory Plan 2008

The proposed site (Block 45) is zoned NUZ1: BROADACRE under the Territory Plan.

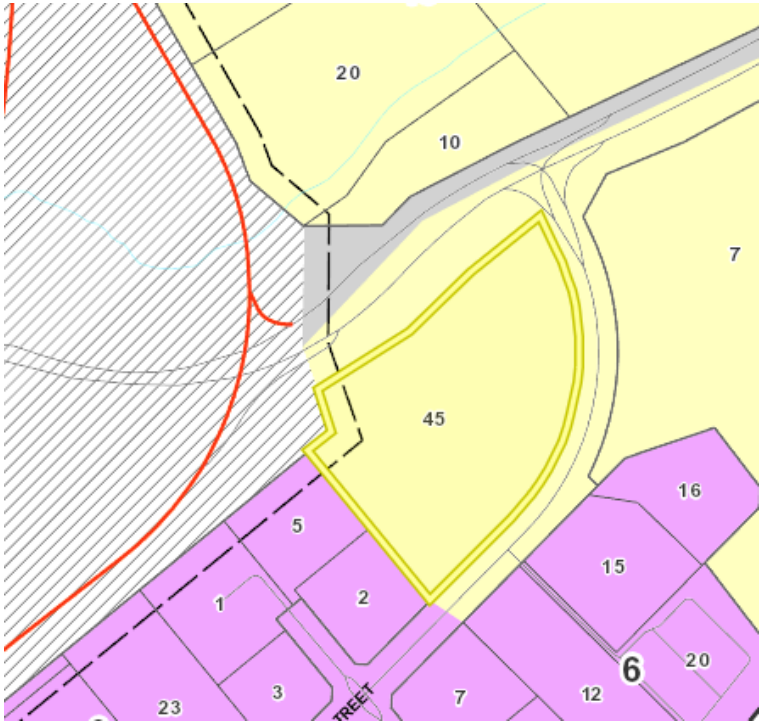

Figure 9: Territory Plan (site in yellow) (ACTMAPi 2021)

Permissible uses within the zone include:

Development	
agriculture	minor road
ancillary use	minor use
animal care facility	municipal depot
animal husbandry	nature conservation area
caravan park/camping ground	outdoor recreation facility
cemetery	parkland
communications facility	place of worship
community activity centre	residential care accommodation
consolidation	scientific research establishment
defence installation	service station
demolition	sign
development in a location and of a type identified in a precinct map as additional merit track development	subdivision
educational establishment	temporary use
emergency services facility	tourist facility
farm tourism	transport depot
health facility	varying a lease (where not prohibited, code track or impact track assessable)
land management facility	veterinary hospital
major road	woodlot
MAJOR UTILITY INSTALLATION	

Figure 10: Development table permissible uses

The proposed activity meets the definitions of ***'Emergency services facility***' under the Territory Plans definition.

Emergency services facility means *…"the use of land for the purpose of providing emergency services and protection for the community."*

The use of Emergency services facility is ordinarily a use that is subject to assessment in the Merit Track on land zoned NUZ1. In this instance (and mostly related to the nature of the operation including helicopter operations), the Minister triggers a requirement for the proposal to be assessed in the Impact Trak and the preparation of an EIS (This document) is required.

The Territory Plan has been assessed and is considered consistent with the objectives of the NUZ1 – Broadacre Zone as shown in the table 3 below:

Table 4: NUZ1 – Broadacre Zone development objectives

Objective	Comment
Make provision in a predominantly rural landscape setting for a range of uses which require larger sites and/or a location outside urban area	The proposed development will be of a scale and form that is conducive to the surrounding landscape with a central operations base and facility being establish with undeveloped and tree planted parts of the site remaining at the site perimeter. The surrounding context of the precinct comprises the Hume industrial estate and this facility will tie-in seamlessly with the character of this estate.
Make provision for activities requiring clearance zones or protection from conflicting development	The proposed development is permitted on the site and will not conflict with surrounding uses. The site frames by roads to the north, east and west and its aspect allows for good access to both ground and aerial (helicopter) traffic needed to conduct the on-site operations. The shape of the site allows ample space for clearance requirements associate with siting the helicopter landing area and approach paths to this landing area away from on-site operations and other surrounding uses.
Ensure that development does not adversely impact or visually intrude on the landscape and environmental quality of the locality	The proposed development will not negatively impact the surrounding landscape. All provisions have been made to ensure the development will be consistent with the consultant reports and recommendations. The style of development envisioned is similar and complementary to the type and style of development built and expected in the surrounding Hume industrial estate that abuts the site to the east and south.
Ensure, where appropriate, that development and the use of land does not undermine the future use of land which may be required for urban and other purposes	The proposed development will not negatively impact the surrounding landscape. All provisions have been made to ensure the development will be consistent with the consultant reports and recommendations. The use of the site for the intended purpose will benefit the growing urban area of the ACT in providing a dedicated emergency services hub and operations management and coordination operation within the boundaries of the ACT, a use that currently does not exist and one that will support the city and its growing urban edge, as it experiences the impacts from climate change being a longer bushfire season and longer, hotter conditions.

5.3.2 ACT Planning Strategy

The ACT Planning Strategy sets out the broad objectives for the future planning of the ACT by specifically providing direction on housing, transport and climate change. The five themes discussed in the strategy include:

- Compact and efficient
- Diverse
- Sustainable and resilient
- Liveable
- Accessible

The proposed facility is considered to be consistent with directions related to these key themes identified in the strategy as shown below:

- Compact and efficient: the proposed development is to be located in a rural area adjoining an industrial area. The proposed development includes the required facilities that are necessary for the full operation of the Emergency Facilities and ancillary activities.
- Diverse: There is currently no facility of this nature for Emergency Facilities in the ACT. As a result, operations must continue from outside the ACT resulting in a sub-optimal emergency response.
- Sustainable and resilient: the proposed buildings are designed to be sustainable.
- Liveable: the proposed development will is designed and to be managed to ensure that residential development is not severely impacted by the uses.
- Accessible: the facility is located close to the Monaro Highway, considered a major highway connecting regional NSW and Canberra.

5.3.3 National Capital Plan

In the ACT, all land is subject to planning controls defined by the National Capital Plan (NCP) which is administered by the National Capital Authority (NCA) (Federal Government) and/or the Territory Plan that is administered by the Environment, Planning and Sustainable Development Directorate (Territory Government).

The National Capital Plan (NCP) sets out the broad land use and urban design framework for planning and development of the National Capital.

The subject block is located along the Monaro Highway which is identified as an Approach Route. Development, except in relation to the Federal Highway, is to conform to Development Control Plans agreed by the National Capital Authority, which seek to enhance the surrounding predominantly rural character and landscape outside the urban areas. As the Approach Routes enter the built-up areas, the emphasis will shift to a more formal character.

Block 45 Section 3 Hume is subject to Development Control Plan 171/94/853.

5.3.4 Sustainable Policies

The ACT's Sustainability Policy was originally released in 2003. This policy outlined the ACT's 'Triple Bottom Line' approach to sustainability and key projects and objectives that the ACT Government hope to achieve. This Policy was updated and amended in 2009, to show the achievements made over the previous six years and to identify projects the government propose to look at in the near future.

The proposed development is consistent with the Sustainability Policy as it would be designed and operated in accordance with the following ecologically sustainable development principles that are applicable in the policy:

- Dealing cautiously with risk, uncertainty and irreversibility,
- Integrating environmental, social and economic goals in policies and activities;
- ensuring intergenerational equity,
- valuing and conserving biodiversity and ecological integrity, and
- committing to best practice and the principles of continuous improvement.

5.3.5 Canberra Airport 2014 Master Plan 2014-2034

The Canberra Airport 2014 Master Plan and Environment Strategy was prepared by Canberra Airport Pty Limited as part of the Airport's internal strategic planning processes and in accordance with the provisions of Part 5 of the Airports Act 1996 (Airports Act) and the Regulations made under that Act.

The proposed development will be in line with the Master Plan as it will assist the current services within the ACT for Emergency Facilities across the ACT.

5.3.6 Other relevant planning and environmental guidelines and management plans

5.3.6.1 Environmental Protection and Biodiversity Conservation Act, 1999 (Cth).

The Environmental and Biodiversity Conservation Act, 1999 (EPBC Act) outlines matter of National Environmental Significance (NES). A referral for approval is to be made to the Commonwealth Department of Environment and Energy if any of these matters are impacted. Matters of NES that may be relevant to the proposed development include:

- World heritage properties;
- National heritage places;
- Wetlands of international importance (listed under the RAMSAR Convention);
- Listed threatened species and ecological communities;

A review of these matters in the context of the site and its unique characteristics conclude that a referral to the commonwealth minister for the Environment is not required.

5.3.6.2 Sustainable Development

Sustainable development means:

"The effective integration of social, economic and environmental considerations in decision-making processes, achievable through implementation of the following principles":

- precautionary principle;
- the inter-generational equity principle;
- conservation of biological diversity and ecological integrity
- appropriate valuation and pricing of environmental resources

The precautionary principle means that, 'if there is a threat of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.'

The assessment of potential environmental impacts as part of this Draft EIS has determined that there would be no threats of serious or irreversible environmental damage as a result of the construction and operation of the emergency services, maintenance and training facility. Mitigation measures and management plans have been incorporated and described in this draft EIS where appropriate.

Inter-generational equity means "the current generation should not compromise the ability of future generations to meet their needs in material and non-material terms" and is one of the sustainable development principles which identifies that we must leave future generations with potential assets from our development processes rather than potential liabilities.

This draft EIS has determined that the proposed development would not result in environmental or social impacts that would be detrimental to the future generations.

Conservation of biological diversity and ecological integrity - This principle provides that 'conservation of biological diversity and ecological integrity should be a fundamental consideration when planning developments.'

The vegetation at the site is characterised into two broad categories, being the cleared central parts of the site, and the outer eastern and northern portions of the site which retains a relatively intact native tree canopy. The vegetation within the former area is in a highly modified condition, being cleared of any native trees, and dominated by introduced grasses and numerous weed varieties. The latter portion area, although intact, supports a relatively intact, does not naturally conform to any recognised vegetation community type.

There was no evidence of any local threatened flora species within the site or threatened ecological communities.

The fauna species occurring at the site is predominately limited to common fauna. No threatened fauna species were recorded within the site during the survey. The site is not regarded as being important in maintaining any existing natural process or systems of the ACT.

Adverse ecological impacts will be avoided, where possible, or minimised as far as practicably possible throughout the construction and operation of the facility through the appropriate management plans.

Appropriate valuation and pricing of environmental resources - The principle of improved valuation, pricing and incentive mechanisms provides that 'environmental factors should be included in the valuation of assets and services.

Design, construction and operation of the development utilises best environmental practice, as detailed in the assessment provided.

A range of mitigation measures for each identified risk in the Scoping Document has been addressed in Chapter 8 of this report.

5.3.7 Ecologically Sustainable Development (ESD)

The directorate has a Resource Management Plan and its associated Action Plan. The plan sets out the key principles of integrating efficient and effective use of resources within our operations, including energy, water, waste and recycling, sustainable transport, procurement and events.

The directorate also participates in the Carbon Neutral Government Implementation Committee, the Climate Change Working Group, the development of a Climate Risk Assessment tool and the implementation of the ACT Zero Emission Vehicles Action Plan.

To align with the Carbon Neutral ACT Government Framework target to achieve zero emissions in its operations, CMTEDD has identified actions and initiatives to improve energy efficiency across priority facilities. The directorate actively monitored progress against set targets via the regular Carbon Budget reports provided to the Carbon Neutral Government Implementation Committee and reporting to the directorate's Executive Management Group.

To be in line with the Commissioner for Sustainability and the Environment, and the Environment Protection Authority (EPA), the proposed development will consider the following actions to improve ecologically sustainable development performance:

- Improving energy efficiency
- Improving water efficiency
- Improving recycling, reduce waste

5.3.8 Territory Plan Strategic Directions

The Territory Plan has an overarching Statement of Strategic Directions, which sets out the plan's main objective and key principles for sustainable development. This statement complements the principles and policies that are set out in the National Capital Plan. Planning policies which specifically relate to the development include:

- Efficient use of resources, reduce consumption, waste minimalization, encouraging reuse and recycling
- Development is to reflect land compatibility constraints i.e. topography, drainage, geotechnical factors and consider conserving resources such as water
- Land and water resources will be planned in accordance with integrated catchment management principles and water sensitive urban design. Policies will also focus on opportunities for multi-purpose use of resources and protection of ACT water supply.
- Appropriate activities to reduce greenhouse gas emissions will be encouraged
- Support the preferred pattern of development and maximise accessibility
- Minimising pollution and protecting public health and safety
- Creating new industries, markets and products leading to new revenue streams and creation of jobs

The proposed emergency facility is compatible and reflective of the policies mentioned above and has been addressed previously throughout Chapter 5 and in more detail in Chapter 8 of this report.

6 Investigation of Risks and Assessment of Impacts

Central to the assessment process is the consideration of whether the project is likely to cause a significant adverse environmental impact. This is irrespective of the scale, or type of development and is undertaken by considering the likely impacts from the project in the context of a project impact risk assessment matrix.

6.1 Risk Control Procedure/ Methodology

Risk control involves the following tasks:

- Risk identification;
- Risk assessment; and
- Risk management.

Accounting for the existing site conditions and the proposed emergency services support base use, all activities which may result in a negative impact to the environment or human health should be identified.

Environmental risks may include adverse effects on the following elements:

- Air;
- Fauna;
- Flora;
- Land; and
- Water.

Human health risks may arise as a consequence of:

- Air quality;
- Contaminated soil;
- Human error;
- Noise and vibration;
- Stormwater quality;
- Traffic;
- Waste.

The risks identified will be considered during the construction and operation of the proposed development, and appropriate measures implemented to reduce or prevent these risks. The assessment and management of risk are detailed below.

The Table below identifies the matters identified by the Authority in the Scoping Document, as potentially being associated with a likelihood for significant risk or impact as a result of establishing and undertaking the proposed use. The risks and their associated risk levels were determined from the information submitted with the PRA, comments received from entities on the request for scoping document application and the Authority's assessment.

Table 5: Risks identified

Environmental Theme	*Risk Identified*	*See section/s below for further detail*
Planning and land status	• Sterilisation of existing and future land uses • Impacts on building height limitations for development in adjacent areas	7.11
Traffic and transport	• Traffic safety impacts during operation, including traffic distractions • Increased traffic congestion during construction	7.2
Utilities	• Impacts to existing utilities from construction	03
Materials and Waste	• Hazardous chemicals / materials from construction	7.4
Landscape and visual	• Visual and landscape impacts on the surrounding area, including lighting.	05

Soils and geology	• Erosion and sediment impacts from construction • Existing contamination impacts from previous land uses • Contamination impacts from operations	06
Water quality and hydrology	• impacts on waterways from operations • impacts from stormwater runoff	7.77
Climate change and air quality	• Impacts from climate change • Air quality impacts from operation • Dust and impact to air quality from construction	7.88
Noise, vibration and lighting	• Noise impacts from operation	09
Heritage	• Impacts on unknown heritage value	7.100
Biodiversity and nature conservation	• Impacts from clearance of native vegetation • Impacts on flora and fauna	01
Hazard and risk	• Impacts to public safety from operation, including helicopter usage • Impacts on the facility from fire on adjacent / adjoining site • Impact from fire or explosion at the facility	02

6.2 Risk Assessment

The matrix methodology outlined below has been adopted from The ACT Government's Proponent's Guide to Environmental Impact Statement (EPSDD, 2017). It is consistent with AS/NZS ISO 14004:2004 (environmental management systems) and AS/NZS ISO 13000:2009 (risk management).

In identifying possible impacts of a project, the consideration must be given to all of the likely activities that will be involved across all stages/timeframes, including the construction, operation and decommissioning, including both direct and indirect impacts.

The possible impacts associated with the project have been identified using a number of resources including the Ministerial trigger advice received, commissioned assessments by environmental and noise consultants, information on operational parameters provided by the proponent, reviews of available information by desktop assessment including ACTmapi and other databases, and early consultation with agencies.

Significant Environmental Impact

The interpretation of significance is context dependent and relative to multiple elements (e.g. spatial, temporal, cultural, ecological, social, economic or institutional). Section 124A of the Planning and Development Act provides guidance on how the significance of an adverse impact is to be determined for the purposes of the Act. Section 124A states:

An adverse environmental impact is significant if—

- the environmental function, system, value or entity that might be adversely impacted by the development proposed is significant, or
- the cumulative or incremental effect of the development proposed might contribute to a substantial adverse impact on an environmental function, system, value or entity.

In deciding whether an adverse environmental impact is significant, the Minister must consider the following:

- the kind, size, frequency, intensity, scope and length of time of the impact
- the sensitivity, resilience and rarity of the environmental function, system, value or entity likely to be affected.

The consideration of 'significance' is relevant as the assessment of potential impacts is appropriately focused on impacts that are potentially significant.

Evaluating Likelihood

The likelihood of an impact occurring is best described in terms of probability. Overlaying this is the need to recognise the uncertainty that may be associated with potential impacts, particularly during the preliminary risk assessment process. Best practice dictates that where there is scientific uncertainty, a cautious approach is warranted which will in turn identify a higher level of risk.

Each identifiable potential impact can be assigned a likelihood between 'remote' and 'almost certain'.

Table 5 identifies the criteria used to determine the likelihood of an impact.

Table 6: Likelihood of impacts from risks

Likelihood	Description	Probability
Remote	**May occur in exceptional circumstances**	**<1%**
Unlikely	**Not expected to occur in most circumstances**	**1-20%**
Possible	**May occur**	**21-49%**
Likely	**Probably will occur**	**50-85%**

Almost Certain	**Expected to occur**	**>85%**

Evaluating Consequence

The consequences of an impact require a degree of subjective assessment as they may consist of several elements.

For the purpose of the risk assessment, the elements considered are described in Table 7 and Table 8. Several of the elements are interrelated and a consequence is considered to be major if any one of the elements can be expected to be a major impact. A subjective decision is needed for each possible impact as to the level of consequence taking a balanced view of the impact against each of the elements.

Table 7: Impacts and related elements

Element	Criteria	Description
Magnitude	**Spatial**	**The area over which the impact will occur, from square metres to square kilometres.**
	Intensity	**The level of impact within the spatial area, from minor disruption to total destruction.** **A low intensity impact over a large area could be worse than a high intensity impact in a small area, depending upon other elements.**
Temporal	**Duration**	**The length of time of the impact, from a single event to a permanent change.**
	Timing	**Short term events may create significant impacts if they occur often. They may also coincide with particularly sensitive times in the receiving environment such as breeding cycles.**
Ecological	**Values**	**The quality of the receiving environment, generally identified through the declaration of conservation areas, identification of protected species and other features of natural conservation value.**
	Sensitivity	**The capacity of the receiving environment to regenerate or adapt to the impact (resilience). The sensitivity of an environment to a potential impact will require informed judgement.**
Social	**Number of people**	**The number of people/places directly or indirectly affected through lost opportunities for enjoyment or other values such as equity or existence values.**
	Heritage	**The impact on known or possible items of heritage or cultural value.**
	Political	**The measure of the likely political implications or level of community interest.**
Economic		**The financial cost of the impact through lost productivity or the cost of remediation.**

Table 8: Element impact likelihood

Consequence	Minimal	Minor	Moderate	Major	Catastrophic
Magnitude					
Spatial	**A single point**	**Less than half a hectare**	**More than half a hectare, but less than 20**	**More than 20 hectares**	**Hundreds of hectares**
Intensity	**Low level behavioural, lifespan or condition effect**	**Acute impacts on some species**	**Moderate impacts on growth, recruitment or survival rates**	**Lethal impacts on some species**	**Lethal for individuals or communities**
Temporal					
Duration	**Single incident or transient event**	**Short term impact, single generation**	**Medium term**	**Long term, multiple generations**	**Permanent**
Timing	**Occurs outside breeding times**	**Occasional interruption of feeding or breeding**	**Interrupts one life cycle**	**Regularly interrupts life cycle**	**Permanent interruption of life cycle**
Ecological					
Values	**Previously disturbed areas**	**Parkland**	**Nature conservation area**	**Conservation area, listed species or other conservation feature of ACT significance**	**Wilderness, nationally threatened species or other conservation feature of national significance**
Sensitivity	**Will recover completely**	**Will recover with some changes**	**Moderate change to ecosystem functioning**	**Significant change to ecosystem functioning**	**Will not recover**
Social					

Number of people	**Some people indirectly impacted**	**Some people directly impacted or several indirectly**	**Several people directly impacted or many indirectly**	**Large number of people directly impacted or a small number of people heavily impacted**	**Loss of life /large number of people heavily impacted**
Heritage	**Impact on item of minimal significance**	**Impact on multiple items of low significance**	**Impact on significant item**	**Impact on multiple significant items**	**Major impact on protected item**
Political	**Single negative press article or well informed public event**	**Multiple negative press articles or well informed public events**	**Significant public interest and ongoing, well informed public interest**	**Public interest that leads to an inquiry**	**Change of government**
Economic					
	Minimal losses	**Several thousand dollars lost revenue or remediation costs**	**Half million dollars in lost revenue or remediation costs**	**One million dollars in lost revenue or remediation costs**	**Several million dollars in lost revenue or remediation costs**

Based on the assessment of likelihood and consequence as described above, any foreseeable impact can be assigned a risk rating.

Table 8 illustrates the risk rating process as a matrix. Increased consequence from left to right and increased likelihood from top to bottom. The resulting juncture of consequence and likelihood produces the risk rating on a scale of negligible to significant.

Table 9: Risk rating process

Consequence	Minimal	Minor	Moderate	Major	Catastrophic
Likelihood					
Remote	**Negligible**	**Negligible**	**Very low**	**Low**	**Medium**
Unlikely	**Negligible**	**Very low**	**Low**	**Medium**	**High**
Possible	**Very low**	**Low**	**Medium**	**High**	**Very high**
Likely	**Low**	**Medium**	**High**	**Very high**	**Significant**
Almost certain	**Medium**	**High**	**Very high**	**Significant**	**Significant**

The unmitigated risk associated with project on each of these factors are addressed in Table 9 below.

Table 10: Unmitigated risk associated with project

	Identified Risks	Commentary	Likelihood	Consequence	Unmitigated Risk
	Road Traffic and Transportation				
1	**Transport – damage to road infrastructure by construction or delivery vehicles.**	**While some machinery will be brought to site for civil works these are unlikely to exceed the bearing capacity of the existing roads, given the relatively small area/scale of built form, and the relatively level nature of the site requiring minimal earthworks.** **The local road network already frequently accepts large heavy vehicles given the existing industrial uses of the Hume precinct. As such, impacts to roads are considered likely to be minor in nature.** **All vehicles attending the site will be road registered and of a type/class that is permitted to use the road network surrounding the site.**	**Possible**	**Minor**	**Low**
2	**Traffic – increased traffic, delays and road safety issues.**	**There will be a minor increase in road traffic during construction related to material delivery and construction workers.** **Once constructed, the operational traffic requirements of the development are likely to be in line with the use of the land for industrial type uses. This level of traffic is not expected to cause any notable delays or adverse impacts to existing traffic users in the local area – addressing this matter is required by legislation by consideration in Merit Track Development Proposals and will be assessed as part of the Development Application for the site.** **Given the low speeds of the local roads, as well as improvements to nearby intersections at Sheppard Street and Lanyon Drive, as well as adequate sightlines, there are no obvious traffic safety issues associated with the proposed development of the site.** **Finally, as the proponent is proposing to relocate to the site it is likely that not net increase in traffic associated with the proponents activities would occur.**	**Possible**	**Minor**	**Low**

	Identified Risks	Commentary	Likelihood	Consequence	Unmitigated Risk
3	Traffic safety - Distraction to motorists from helicopter take-offs and landings	Helicopter taking off and landing at the site will be visible to motorists travelling along the western end of Lanyon Drive and northern end of Sheppard Street as well as vehicles travelling south along Monaro Highway, between the AMC and the Lanyon Driver intersection, including through and shortly after the intersection. Motorists travelling eastbound along Monaro Highway approaching the intersection may have some limited views, although existing trees in the median strip (which will grow further over time) and warehouse buildings, combined with take-off and approaches generally being to the northeast and away from drivers, mean that views from this section of road will be limited/restricted. Some screening vegetation along the outer margins of the site as well as driver adaptation to the presence of helicopter and the typically infrequent/low volume of flights would limit the magnitude and frequency of potential impacts. The major intersection to the immediate north of the site will result in traffic frequently slowing down in this area. Reducing/slowing vehicle speeds may assist in limiting distraction or severity of crashes if they occur. The instance of similar activities is well established at Block 16 Section 18 Hume (nearby and to the north of the site). We are not aware of any specific instances where the flight operations from that land caused traffic safety considerations within the adjoining road network. The low frequency of operation is unlikely to cause significant impacts on the road network and the safe use there-off.	Unlikely	Major	Medium
Utilities and infrastructure					
4	Energy (electricity & gas) – excessive demand for energy during construction and operation	The total demand for energy during the construction is not expected to be excessive given the relatively small scale of development, involving mainly an office and training building, with some associated hardstand and storage structures.	Unlikely	Minor	Very Low

	Identified Risks	Commentary	Likelihood	Consequence	Unmitigated Risk
		Energy demands during operation are also not anticipated to be excessively high, with the base expected to (typically) support at full capacity up to 30 full-time staff on a regular/daily basis, and up to 20 visitors at any one point in time (including part-time staff, contractors and customers) and on a less frequent. The anticipated servicing needs would be in line to what would be needed to establish an industrial use on the land that is similar to other industrial uses in the Hume precinct. Addressing this matter is required by legislation and assessed during the Development Application process. The existing electricity network is expected to be able to cater for this demand comfortably without any need for augmentation for increased delivery/supply demands.			
5	Mains Water – excessive consumption during construction or operation	The total demand for mains water supply will increase as a result of the development however the level of consumption will be in line with that of a typical commercial nature for uses supporting similar numbers of residents/staff and will be in line to what would be needed to establish an industrial use similar to other industrial uses in the Hume precinct. Addressing this matter is required by legislation and assessed during the Development Application process. The existing main water supply network is expected to be able to cater for this demand comfortably without any need for augmentation for increased delivery/supply demands.	Unlikely	Minor	Very Low
6	Stormwater – pollution of stormwater	Construction will not require the use of any known (or otherwise significant) potential pollutants. During construction, sediment and erosion is considered the most likely risk to stormwater quality, however given the relatively flat nature of the site and minimal earthworks requirements, as well as low overall block ratio of impermeable to permeable surface areas, the volumes and quality of stormwater that could leave the site are not expected to present any notable concerns.	Possible	Moderate	Medium

	Identified Risks	Commentary	Likelihood	Consequence	Unmitigated Risk
		During operation, the site will provide some emergency services training. This could involve the use of some fire retardants which may contain chemicals that could pollute stormwater systems.			
7	Stormwater – inadequate flood contingency arrangements	Significant rainfall events during construction could lead to uncontrolled release of stormwater from site, although given the relatively flat nature of the site and minimal earthworks requirements, as well as low overall block ratio of impermeable to permeable surface areas, the volumes of stormwater that could leave the site are not expected to be large. It is further noted that the site is not in a flood prone area.	Possible	Minor	Low
8	Sewerage – inappropriate management	Sewerage connections for the office and training building will (need to) meet Icon Water requirements. The anticipated servicing needs would be in line to what would be needed to establish an industrial use on the land that is similar to other industrial uses in the Hume precinct. Addressing this matter is required by legislation and assessed during the Development Application process.	Unlikely	Minor	Very Low
9	Service Relocations – interruption to existing utilities	Overhead powerlines are to be relocated underground, in proximity of internal driveway.	Unlikely	Minor	Very Low
10	Damage to utilities	The urban development area site is located away from existing major utilities.	Unlikely	Minor	Very Low

	Identified Risks	Commentary	Likelihood	Consequence	Unmitigated Risk
	Material Use and Waste				
11	Material Use – excessive consumption of raw materials	The quantities of raw materials (and the embodied energy of those materials) to be utilised by the project would be comparable to other urban development projects. The anticipated construction works would be in line to what would be needed to establish an industrial use on the land that is similar to other industrial uses in the Hume precinct. Addressing this matter is required by legislation and assessed during the Development Application process.	Unlikely	Minimal	Negligible
12	Waste Management – inappropriate generation, reuse and disposal of waste streams	Any development project will generate waste streams. Waste management systems are in place for all developments in the Territory and are to be managed in accordance with the relevant guidelines. This proposal is of a size/scale that is not expected to generate significant or otherwise inappropriate waste streams. The anticipated waste generation and waste management requirements would be in line to what would be needed to establish an industrial use on the land that is similar to other industrial uses in the Hume precinct. Addressing this matter is required by legislation and assessed during the Development Application process.	Possible	Moderate	Medium
13	Toxic and Hazardous Materials – inappropriate handling leading to pollution event.	Hydrocarbons and other potentially hazardous materials will be used onsite during construction and operation of the facility. Management of fuels and other hazardous materials for operational requirements are required by law and undertaken in line with industry best practice methodologies, Australian Standards, EPA requirements and operational plans as may be required.	Possible	Moderate	Medium
14	Dispersal of litter and other gross pollutants	The development of the area and subsequent operation could result in the dispersal of litter and other gross pollutants into the receiving environment.	Possible	Minor	Low

	Identified Risks	Commentary	Likelihood	Consequence	Unmitigated Risk
		The site and operations generally require a well-designed, set out and managed proposal that includes careful litter and waste management practices (aerial vehicles are carefully managed and maintained and the areas in which they operate are kept clear of litter and gross pollutants).			
	Landscape and Visual Impacts				
15	Landscape Character – negative impacts on the visual amenity from vantage points.	The development will be visible from surrounding areas, including from some limited sections of major roads such as Monaro Highway and the western end of Lanyon Drive, as well as from the northern end of Sheppard Street but will present industrial in scale and nature. The site is however well removed and not visible from any established residential areas or any recreational open space areas where visual amenity values are more important.	Likely	Minimal	Low
16	Land Values – changes to the value of land in the locality	The presence of the development could impact upon land values in the area either positively or negatively. As the site is currently vacant undeveloped land, potential decreases in land value of Block 45 are not considered likely. There is no evidence that the establishment of this facility will have any impact on land values in the vicinity of the site or elsewhere.	Possible	Minor	Low
	Soils and Geology				
17	Land Disturbance – unacceptable loss of vegetation and topsoil resources	The proposal will require the clearing of vegetation for development. This clearing may result in the loss of top soil and could potentially impact native regeneration from the natural soil seedbank. This matter is commonly considered and addressed by hand of a CEMP and/or CMP that is often condition as part of a Development Assessment and approval.	Possible	Minor	Low
18	Erosion	The site contains only gentle slopes where development will occur, limiting the potential for substantial erosion to occur.	Possible	Minor	Low
19	Soil compaction during construction	Soil compaction of areas not to be developed, and/or to be landscaped post-development may affect existing vegetation or limit potential for revegetation success.	Possible	Minor	Low

	Identified Risks	Commentary	Likelihood	Consequence	Unmitigated Risk
	Water Quality and Hydrology				
20	Groundwater – interception and altered drainage regimes	The project will not utilise or otherwise interfere with groundwater resources.	Unlikely	Moderate	Low
21	Groundwater – pollution	The site is elevated well above the water table under adjacent land and there is a very low risk of water table recharge.	Possible	Moderate	Medium
22	Surface Water Flows – alteration of natural drainage regimes	There are natural drainage lines that would be affected by the site development.	Unlikely	Moderate	Low
23	Surface Water Quality – water quality impacts downstream	The installation of impervious surfaces may increase runoff in some storm events. The site does not drain directly to any natural waterway, with surface drainage intercepted by the existing road drainage systems, limiting the potential for run-ff to impact on downstream waterways. Stormwater management on leases land are specifically considered in relation to run-off quantity and water quality in the Territory Plan and proponents are required to address these matters as part of a Development Application by the statute.	Unlikely	Moderate	Low
	Climate Change & Air Quality				
23	Planning for extreme weather events (storms)	The buildings, infrastructure and vegetation may be susceptible to damage by extreme wind, rain or hail events. The frequency of these events may increase as a result of predicted climate change but is not considered a significant outcome of progressing this proposal.	Possible	Minor	Low
24	Managing protracted drought	People (users), buildings and infrastructure, and surrounding flora and fauna are susceptible to the impacts of protracted drought and associated water scarcity.	Possible	Minor	Low
25	Greenhouse Gas Emissions – project contribution to greenhouse gas emissions.	The construction and operation of the proposal will contribute to greenhouse gas emissions through the use of materials and resources (energy) for the construction of the facility.	Likely	Minimal	Low

	Identified Risks	Commentary	Likelihood	Consequence	Unmitigated Risk
		The ongoing operation of the facility will also require the consumption of energy (electricity and gas) for powering buildings and will use fossil fuels for running the helicopter.			
26	Bushfire	The development is within a bushfire prone area and may be susceptible to damage in the event of a bushfire. This matter is required by legislation and can be readily addressed as part of the DA assessment (as typically approached). The use propose is for an operation that is geared for bushfire management. Assets and trained operators will be on-site as part of the day-to-day operations and will be skilled in bushfire management at the site if required. The Bushfire Protection Assessment, prepared by Eco Logical Australia, concludes that the development can be designed to comply with all bushfire planning requirements.	Possible	Minimal	Low
	Hail damage		Possible	Minor	Low
27	Air Quality – emissions of dust or odour during construction or operation.	Works within the construction footprint will potentially generate dust and odours. During operation some dust may be generated by helicopter take-offs and landing. Noting that the landing pads are hardstand surrounded generally by grasses areas the likely impact form this activity will be mitigated by design and implementation.	Likely	Minor	Medium
28	Release of sequestered carbon	Removal of vegetation and disturbance of top soil will result in the release of sequestered carbon.	Likely	Minimal	Low
	Noise Vibration and Lighting				
29	Noise and vibration – Impacts of construction activity on urban amenity and sensitive receivers.	No blasting or work in bedrock is anticipated. The site is relatively flat in the area where the development will take place and therefore noise and vibration resulting from construction earthworks would be minimal. There are no nearby sensitive receivers likely to be affected by constriction works given the location of the site within an industrial precinct and well away from any residential areas.	Likely	Minor	Medium

	Identified Risks	Commentary	Likelihood	Consequence	Unmitigated Risk
30	Impacts of construction activity on local biodiversity.	No blasting or work in bedrock is anticipated. The site is relatively flat in the area where the development will take place and therefore noise and vibration resulting from construction earthworks would be minimal. The local biodiversity of the site was found to support relatively common species that are already well-adapted to urban and peri-urban environments, and therefore unlikely to be significantly affected by the noise and vibration levels anticipated.	Likely	Minor	Medium
31	Noise from operation of helicopter on urban amenity, sensitive receivers.	The anticipated operational noise levels and footprints of the operational helicopter models to be used (Bell 206 B Long Ranger) are including compliance certificates with the EASA (European Equivalent of CASA) guidelines that include static and “fly-over” noise specifications. The certificates demonstrate that generally noise levels (as measured by EASA methods) are generally around the 90dBA, and under 92dBA. For perspective, the allowable noise level for a registrable car is 96dBA, and for a motorbike up to 100dBA. The noise limits at compliance point for uses in industrially zoned land (Zone A as per the Environmental Protection Regulations) are 65dB(A) Monday-Saturday 7am to 10pm and Sundays between 8am and 10pm. Noise management is commonly undertaken by hand of endorsed Noise Management Plans that is assessed and approved as part of the Development Application processes. Most flights (take-off and landing) will be to the northeast, over Sheppard Street and Lanyon Drive, and then over undeveloped rural broadacre areas and will be well separated from neighbouring industrial uses. Helicopter operations will occur between 7:00 am and 5:30 pm only, and will comprise a maximum of two take-off and two landing movements to and from the northeast; and a maximum of two take-off and two landing movements to and from the east-northeast. Predicted noise levels at residential and light industrial receptors show compliance with the applicable standards.	Almost certain (without a NMP)	Minor	High

	Identified Risks	Commentary	Likelihood	Consequence	Unmitigated Risk
32	Noise from operation of helicopter on biodiversity	As stated above, the noise levels are below the allowable noise level for a registrable car is 96dBA, and for a motorbike up to 100dBA, and likely less than the accumulative traffic noise from the adjacent roads, which have regular start/stop traffic flows and carry high numbers of heavy vehicles. Although there will be some impact to local biodiversity from noise, the potentially affected species include mainly common birds, which either already have some adaption to nearby similar uses (Southcare helicopter and Canberra Airport) and can likely adapt to the noise from this operation. Importantly, no significant (i.e., listed threatened) species are known or considered likely to be affected by noise from the helicopter operations. Predicted noise levels show compliance with all relevant standards.	Likely	Minor	Medium
33	Lighting – Impacts on urban amenity and nocturnal fauna during construction and operation	The development area will require minimal and infrequent lighting during construction. During operation, normal business hours for the office uses will apply with some safety lighting of the car-park for afterhours use. This lighting will be designed in accordance with applicable Australian Standards for lighting, as shown on the Site Plan submitted in support of the concurrent Development Application. Lighting required for helicopter flights are minimal and will be used very infrequently. As stated, night-time flights will not occur under any condition.. For firefighting services in remote or distant sites, often the team will stay overnight and return the following day limiting the amount of night-time flying required.	Likely	Minor	Medium
	Biodiversity and Nature Conservation				
34	Native vegetation - Impacts on native vegetation from clearing activities during construction	The proposed development of the site will impact native vegetation through the removal of some of the existing native trees in the north-eastern portion of the site.	Almost Certain	Minor	High

	Identified Risks	Commentary	Likelihood	Consequence	Unmitigated Risk
		The overall nature conservation values of this vegetation are considered to be minimal as previously described, and consequently, the impacts to biodiversity consideration are considered to be acceptable.			
35	Threatened Species and Communities - Yellow Box - red Gum Grassy Woodland Endangered Ecological Community (EEC).	No listed threatened species or ecological communities are known or considered likely to occur at the site or rely on the site as important habitat. As stated, the vegetation at the site does not meet the criteria for classification as being part of the (critically) endangered Box Gum Woodland ecological community. Additionally, targeted surveys for the Striped Legless Lizard have been undertaken in accordance with prescribed guidelines and failed to locate the species. No other listed threatened species are likely to occur at the site	Unlikely	Moderate	Low
36	Native fauna - habitat disturbance and fragmentation	Although some (mainly common) native species are known occur at the site and will suffer some disturbance from the construction and operation of the facility, the site is not considered important in terms of maintaining the viability of any local populations of native species. The site is not considered important in maintaining local fauna connectivity, given its location at the outer margins of an industrial precinct, and surrounded by busy (main) roads and existing industrial uses on all sides. Extensive areas of undeveloped rural lands and reserved land occurs further to the north and west of the site (on the other side of the roads) which would provide more important regional and local connectivity. The works would not fragment these areas. The operation of a helicopter may result in some minor and most likely temporary noise disturbance. In extreme circumstances, this can lead to habitat alienation/avoidance by some species, and therefore can be a form of habitat sterilisation. Existing aircraft operations already occur close by which may have enabled some habituation of local fauna to these uses already.	Possible	Minor	Low

	Identified Risks	Commentary	Likelihood	Consequence	Unmitigated Risk
		Risks of collisions with fauna are possible, although as noted above, given existing similar uses nearby and the ability of avifauna (the group of animals at greatest risk), some adaptation to these uses could be expected, noting the length of time is likely to vary between different species).			
37	Invasive Species – introducing or encouraging the presence of invasive flora or fauna.	Construction activities and future human habitation could potentially introduce invasive pest species. Some areas of the site are already dominated by weeds. Additional disturbance could encourage their spread over the site. No ecological communities or habitat for threatened species is known to occur within the site that may be affected by the spread of weeds within the site.	Possible	Minor	Low
38	Aquatic Biology – causing change in the aquatic biology downstream.	No waterways occur in the site. Jerrabomberra Creek is located about 250 m to the east, and separated from the site by roads with stormwater management systems. Hydrocarbon spills within the site could have the potential to enter the stormwater system which may affect downstream waterways.	Unlikely	Moderate	Low
	Aboriginal and Cultural Heritage				
39	Places and Objects – unplanned impacts on cultural heritage places or objects.	Although registered Aboriginal heritage sites are present within the wider locality, none are located within ton the site. The Aboriginal recorded sites in the region consist of artefact scatters or isolated finds of lithic artefacts, the majority of these sites were considered to be of low significance. The site's location and (likely) history of disturbance make it unlikely additional Aboriginal sites of high conservation value will be found.	Unlikely	Moderate	Low
40	Values – impacts on cultural values	There are no known cultural values within the proposed development area.	Unlikely	Moderate	Low

	Identified Risks	Commentary	Likelihood	Consequence	Unmitigated Risk
	Social				
41	Failure to incorporate requirements of other stakeholders	Public consultation processes will be undertaken to appreciate, acknowledge, address or otherwise respond to stakeholder requirements. Stakeholders, in particular the ESA have specific requirements that are required to be met.	Unlikely	Moderate	Low
42	Level of Interest – interest from community not catered for	Major or otherwise significant projects such as this (as declared by the Minister) typically provide a portal for information to the community. A lack of information provided by the proponent can result in misinformation being propagated by vested interests.	Unlikely	Moderate	Low
43	Recreational Opportunities – loss of recreational amenity or area	The land and immediate surrounds are not used for recreational purposes.	Unlikely	Minimal	Negligible
44	Human Error - damage to the environment through ignorance, carelessness or failure to follow instruction.	Construction Workers or Plant Operators may undertake works outside their instructed scope without understanding the consequences. The air assets are registered aerial vehicles that are maintained to the requirements of CASA and are being operated within their design specification. The aerial operations will be in accordance with CASA requirements and other Civil aviation standards. Standard requirements include minimising operations over build-up areas, structures, people and places where people or property can be damaged by operational incidents (including emergencies).	Possible	Minor	Low
45	Malicious Act	The proposal could be the target of sabotage or vandalism. The facility will operate as a high security space with workers and operators trained and certified to operate within a high clearance security environment.	Unlikely	Moderate	Low
46	Failure to meet community needs and expectations	The community will have expectations in relation to emergency services delivery and response, and particularly, bushfire management services and tactical security, as well as demand from other business sectors to support commercial outcomes.	Unlikely	Moderate	Low

	Identified Risks	Commentary	Likelihood	Consequence	Unmitigated Risk
	Health				
47	Contaminated Land - the project occurs on contaminated land, exposing workers or the environment to potential toxins.	The land is not known to be, or assessed as being, contaminated.	Unlikely	Moderate	Low
48	Public Safety - accidental harm to the public	The project may present a risk to public safety through accidents, including possible helicopter crash. All flights will be undertaken in accordance with CASA standards and guidelines in a strictly managed environment. Thereby minimising risks to public safety.	Unlikely	Major	Medium
	Economic Impacts				
49	Cost Benefit Analysis – Project returns a negative value.	The project is a self-funded private enterprise, and will not utilise public (government) funds. The development will occur on previously undeveloped land. The land value would not be diminished through development and is expected to present a unique opportunity and service to the ACT economy.	Unlikely	Moderate	Low
	Compliance				
50	Failure to adhere to guiding documentation	Failure to comply with project documentation, may lead to unforeseen impacts.	Possible	Moderate	Low

7 Required Detail for Assessing Impacts

The Scoping Document (202000027) identifies a non-exhaustive list of information required to accurately detail the impacts of the proposed development in relation to the following.

- Planning and land status.
- Traffic and transport.
- Utilities.
- Materials and waste.
- Landscape and visual.
- Soils and geology.
- Water quality and hydrology.
- Climate change and air quality.
- Noise and vibration.
- Biodiversity and nature conservation.
- Heritage.
- Hazard and risk.

The required data is included in **Section 7.1** to **Section 0** ,below.

7.1 Planning and Land Status and Custodianship

Potentially significant planning and land status risks identified in the scoping document are sterilisation of adjacent land uses and impacts on building height limitations for development in adjacent areas. The following discussion assesses these potentially significant risks.

7.1.1 Planning Context of the Site and surrounding areas

Block 45 Section 3 Hume is located at the southwestern corner of Sheppard Street and Lanyon Drive. The land, currently under the custodianship of TCCS for the purposes of City Presentation, is subject to a notional grant of Direct Sale.

In accordance with the ACT Territory Plan, Block 45 Section 3 Hume is zoned 'NUZ1 - Broadacre' and is subject to the Main Avenues and Approach Routes overlay.

Land surrounding the subject site to the south and south-east are predominantly subject to private Leasehold parcels held under Crown Lease (the Hume Estate) with lands to the north of Lanyon Drive and to the immediate north-east of the stie held under the custodianship of EPSDD Parks and Conservation and ACT Government JACS. The Monaro Highway Road reserve is Designated land under the custodianship of TCCS Roads ACT and land to the west of the site on the opposite side of the highway are subject to privately held Rural lease holdings.

As identified in Figure 6 below, the site is immediately surrounded by 'Designated', 'IZI - General Industry' and other 'NUZ1 - Broadacre' zoned lands with a single parcel of 'CZ4 - Local Centre' land situated some distance way to the south.

The Broad-acre land to the north-east of subject site is undeveloped with no specific use for this land currently identified. The industrial land to the south and south-east of the site is developed as what is known as the Hume industrial estate and is used for general industrial uses as permitted by the Territory Plan. The Parks and Conservation land to the north of Lanyon Drive is undeveloped while the JACS land is used for emergency response training and is the base for the Toll emergency response helicopter operations in the ACT.

The proposed use of Emergency Facility use is generally subject to a Merit Track assessment in NUZ1 zoned lands thus signifying that the use is unlikely to have a significant impact on the planning context of the site.

The application is of scale and low overall visibility in the context of the existing industrial estate. The most evident visual effect of the use of the site would be the minor arrival and departure of a helicopter. For the majority of the time, there would be no evidence of this activity. The presence of the helicopter hard stand area would not be marked by the visibility of an aircraft parked on it, as the hard stand area adjacent to the helicopter hard stand area is the designated area.

The proposal is appropriate in the location and has no negative impacts on the natural setting: it would be of appropriate materials consistent with and compatible with the adjacent industrial development and the National Development Code.

The development is of potentially high-quality design and the retaining of existing vegetation in the northern corner, western boundary and verge areas will assist in the mitigation of visual impacts from the proposed development.

In terms of Planning Policies, the site is subject to the provisions of:

- The National Capital Plan
    - Part 4.24 - Special Requirements for Approach Routes
- The Territory Plan
    - NUZ1 – Broadacre Zone Objectives and Development Table
- Non-Urban Zones Development Code
- Parking and Vehicular Access General Code
- Bicycle Parking General Code
- Access and Mobility General Code
- Crime Prevention Through Environmental Design General Code
- Community and Recreation Facilities Location Guidelines General Code
- Waterways: water Sensitive Urban Design General Code

These controls will be addressed by way of a concurrent submission and the proposed facility can be designed to meet all of the relevant controls of the Plan as required by the P&D Act with no specific departures of any controls required to facilitate its development and operation. Summarily, the proposed development and use of the site for the purposes of an emergency services facility is permissible in the NUZ1 zone and can be developed in the context of the current planning controls applicable for the site.

The particular use includes activities that carries a perception of impact and risk and the impact of these activities on the site and surrounding use context is separately considered in this assessment.

This includes a Helicopter Operation Assessment undertaken by Forestrack personnel with an understanding of the technical issues involved. This assessment considers the likely impact of helicopter operations on the site and surrounding lands, uses and road infrastructure.

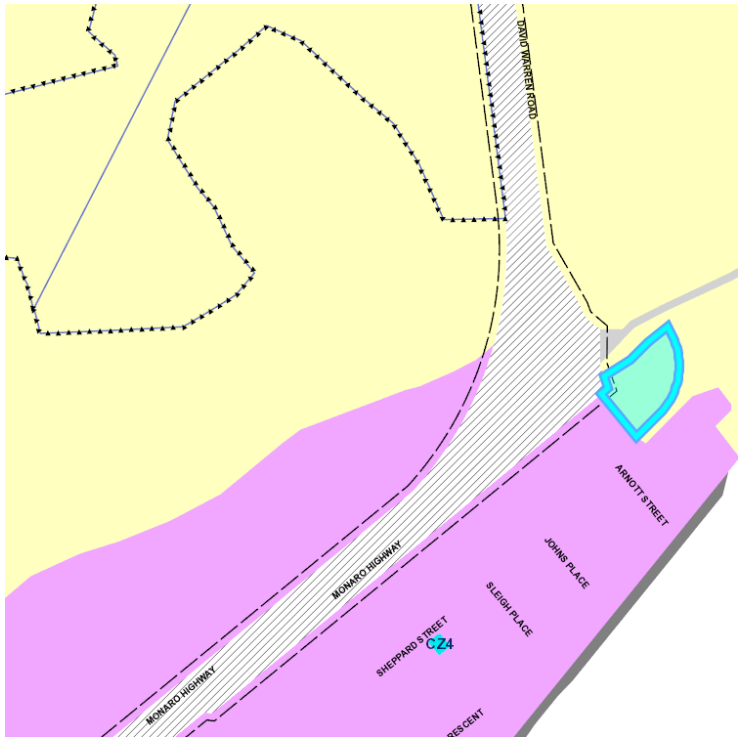

Figure 11: Territory Plan (Site in Blue)

7.1.2 Potentially Significant Risks (unmitigated)

7.1.2.1 Sterilisation of existing and future land uses

The proposed development will directly impact upon the site and surrounding verge areas (servicing requirements such as engineering services provision and driveway access) but is not expected to affect adjacent land uses in any material manner including visually, by way of noise impacts and by operational requirements associated with the use itself (Please See section 7.9).

Noting that the use natively attracts a Merit track assessment in NUZ1 zoned land and in policy is situated alongside the IZ1 zoned lands as per the Territory Plan map and considering that the proposed development is highly compatible with the adjoining Industrial and Broadacre land uses already established it is unlikely that the use will have a significant impact on the adjoining land uses already established.

The impact of the aerial (helicopter) operations has been separately assessed (See the Helicopter Operation Assessment - including Flight Path Assessment, prepared by Forestrack inhouse personnel and contained in Appendix A) and is also unlikely to have a significant impact on any of the existing (or future) land uses developed and/or permissible in NUZ1 and IZ1 Noted lands.

7.1.2.2 Impacts on building height limitations for development in adjacent areas

There are no development controls relating to building height for the 'Designated' and 'NUZ1' zoned lands in the locality of the site. Rule complaint development in IZ1 zones are 12 metres in height, as measured from natural ground level. However, higher buildings are permissible when of an appropriate scale for the area. Sections 1, 2 and 3 Hume are subject to Development Control Plan (DCP) 171/94/853. This DCP limits the height of buildings constructed on the relevant Sections, including the subject site, to 10 meters above natural ground level. Minor variations to this height may be approved on large sites where it can be shown that the development will not detract from the quality appropriate for the Monaro Highway Approach Route. The proposed development does not need buildings of excessive scale with the operational requirements for use being similar to buildings constructed in the adjoining industrial area in terms of bulk, scale and height, form and materiality.

It is noted the site is bound by roads on all sides but one (southern boundary is shared with the existing IZ1 industrially zoned land of the Hume estate. The preferred flight path to the helicopter landing facility does not traverse the side boundary as the general direction of approach to the site does not require overflying the land to the south.

An overpass is proposed for the Southbound carriageway over Lanyon Drive as shown in figure 16. Helicopter flight path considerations described in 5.2.5 indicate that the overpass is approx. 320m from the proposed helicopter arrival and departure site and not located in the preferred helicopter flight paths. Moreover, these paths have been assessed to achieve an obstacle free gradient of 2.5º (4.5% or 1:22 vertical to horizontal), including the proposed overpass located at approx. RL 595.21 @ch14200 in relation to the proposed helicopter departure / landing site at RL 590.35.

As identified by the Helicopter Operation Assessment - including Flight Path Assessment, prepared by Forestrack inhouse personnel and contained in Appendix A, the preferred flight path achieves an obstacle free gradient of 2.5^{o} based on a max performance take off. However, where required, a vertical take-off can be performed to clear obstacles.

Consequently, the proposed development is considered unlikely to impact upon building height limitations for adjoining lands and development of rule and criteria compliant buildings on the adjoining industrially zoned and will still be viable and unaffected by the proposal that is the subject of this assessment.

7.1.3 Potentially Significant Risks (with mitigating measures implemented)

There are no mitigation measures identified as being required in relation to the residual impact of this item to manage the risk to an acceptable level as the assessed impact is not considered to be significant by nature.

The residual risk assessment with nil mitigation measures required are as follows:

Table 11: Potentially significant risks

Planning and Land Status (with Mitigation)			
Adverse Impact on existing and future land use on surrounding lands	**Likelihood: Unlikely**	**Consequence: Moderate**	**Risk: Low**
Impacts on building height limitations for development in adjacent areas	**Likelihood: Unlikely**	**Consequence: Moderate**	**Risk: Low**

7.2 Traffic and Transport (Road and Air)

The scoping document identifies potentially significant traffic and transport risks such as increased traffic congestion during construction and increased air traffic. These risks are assessed in the following discussion and are assessed in the supporting Helicopter Operation report.

7.2.1 Existing Traffic Conditions

In relation to Traffic assessment and Lanyon Drive Upgrade preliminary information was obtained by our consultant Engineer and is included in the Helicopter Operation Assessment and Visual assessment. These reports are submitted in support of this application. A Traffic Impact Assessment has been prepared by JJ Ryan (JJR) Consulting Pty Ltd, and is contained in Appendix A. This report identifies that Block 45 Section 3 Hume is in close proximity to several National Heavy Vehicle Regulator approved Higher Mass Limit routes. There are no public transport services operating close to the site and no active travel infrastructure exists in the locality. JJR note that future upgrades to the Monaro Highway and Lanyon Drive, including the Sheppard Street intersection, are proposed. Further information as to theses upgrades is not yet available for external viewing and, therefore, could not be utilised for traffic modelling.

This proposal is for the relocation of the existing operation in Hume due to its unsuitability to establish the bush emergency services operation in its current location.

7.2.2 Potentially Significant Risks

7.2.2.1 Type, Volume and distribution of Traffic generated by the proposal (light and heavy vehicle traffic) – including 24/7 operations

Due to the location of the site in an area with industrial character that is serviced by a good road network and the anticipated short construction period, JJR conclude that the peak construction traffic will not significantly impact the safety and efficiency of the surrounding road network.

Traffic generated by the construction activities is anticipated to be relatively low and comparable to typical traffic levels generated by industrial developments. There are no significant cut-fill operations identified that will require off-site traffic movement as part of development of the facility. The construction period will be relatively short, it is not anticipated that the peak construction traffic will significantly impact the safety and efficiency of the surrounding road network.

The proposed operating hours of the site is from 7:00am to 6:00pm, Monday to Friday, 50 weeks per year. Operational vehicular traffic movements will not impact on the overall peak hour movements as the operational hours do not sit directly on the peak hour period. Standard practice typically assumes that 20% of the daily movements operate in the peak hour. This development however will operate whenever an emergency response is required which may occur off peak times as well.

Normal daily operational trips are to be in the order of 12 light vehicles used by staff, 6 public/visitor light vehicle trips for a total of circa 18 light vehicle trips daily). Daily heavy vehicle trips include 2 low loader trips and 12 delivery vehicle trips per day.

Days associated with emergency operations is anticipated to generate 12 light vehicle staff trips and 12 public training vehicle trips along with heavy vehicle trips being 3 low loader and 15 delivery vehicle trips.

Traffic distribution will be along Sheppard Street (north and south) from a new (future) driveway with traffic utilising the existing Sheppard Street/Monaro Highway intersection as the preferred route. The existing background traffic along the Monaro Highway / Sheppard Street will put the intersection above capacity thresholds in the future regardless of the relocated development trips. SIDRA analysis indicated that proposed development off the emergency services facility does not exacerbate the current forecast of traffic conditions in the future.

7.2.2.2 Transit Routes used by the development

The Monaro Highway, Sheppard Street and Lanyon Drive are all National Heavy Vehicle Regulator (NVHR) approved Higher Mass Limit routes in proximity to the subject site. Siting the use at the subject site will provide direct access to this network from the future facility. This is for one helicopter only.

7.2.2.3 Airborne Vehicles (Helicopter)

The following section considers airborne vehicles (helicopter) and the Air Traffic Control procedures for operations and conflict management with existing Air Facilities and Canberra Airport.

Helicopter traffic makes up a small but important part of the future Emergency Services facility operations. The flying of the helicopter in an out of the base will primarily be to fly the helicopter in and out for Airborne bushfire surveillance operations management support as well as maintenance and refurbishment. This is expected to be at a maximum of 30-35 flights per month or an average 2 in-and-out flights per day on average.

Normal operating hours of the facility would be 7am – 5.30 pm Mon – Friday.

The Civil Aviation Safety Authority (CASA) have published 'Guidelines for the establishment and operation of onshore Helicopter landing / departure areas' CAAP 92-2(2), February 2014 (CASA Guidelines). The guidelines provide guidance, interpretation, and explanation to the aviation industry, including setting out factors that may be used to determine the suitability of a place for the landing and taking-off of helicopter. The CASA Guidelines rely on the pilot in command to have sound piloting skills and sound airmanship, and those visual meteorological conditions exist for flight.

The proposed helicopter landing / departure point is located approx. 30m from the north and east site boundaries, allowing for a managed safety zone in accordance with guidelines for the establishment of helicopter hard stand area.

The design principles include:

- No person is within 30 m of the closest point of a hovering or taxiing helicopter, other than persons who are essential to the safe conduct of the operation or the specific nature of the task and who are trained and competent in helicopter operational safety procedures.
- Defined areas belong to one of four main categories:
    - FATO – the area over which the final approach is completed, and the take-off conducted
    - TLOF – the surface over which the touchdown and lift-off is
    - Stand(s) – the area for parking and within which positioning takes place
    - Taxiways and associated taxi routes – the surfaces and areas for ground or air taxiing.
- An additional safety/protection area: - for a FATO – a safety area surrounds the FATO and compensates for errors in manoeuvring, hovering and touchdown.
- have sufficient obstacle free approach and departure gradients to provide for safe helicopter operations into and out of the site under all expected operational conditions.
- have approach and departure paths that minimise the exposure of the helicopter to meteorological phenomena which may endanger the aircraft and provide escape flight paths, if a non-normal situation arises, which maximise the potential for using suitable forced landing areas.

There is a temporary concern relating to the location of overhead power lines for which pending approval are to be relocated underground. Should this request be denied the positioning of Power Line Hazard Markers (balls) may be necessary.

7.2.2.4 Impacts on surrounding receivers and existing traffic (including driver distraction and interaction of use with existing road users)

The planned flight paths from the proposed development to allow for *… approach and departure paths that minimise the exposure of the helicopter to meteorological phenomena which may endanger the aircraft and provide escape flight paths, if a non-normal situation arises, which maximise the potential for using suitable forced landing areas*.

Primary considerations in selection helicopter landing / departure area approach and departure paths include:

- Direction of prevailing winds,
- Availability of emergency landing areas,
- Location of vertical structures and obstacles/hazards,
- Airspace restrictions and limitations,
- Avoidance of areas sensitive to noise and vibration, and
- Avoidance of ecologically and environmentally sensitive areas.
- Bird Strike

No night flying of the helicopter is envisaged, therefore street lighting and nearby traffic lights are not considered to be an issue requiring further assessment. The location of the helicopter departure and landing area is located away from fixtures / luminaries and at an elevation which would not impact on helicopter operations.

Assessment of the max performance take off allows transition from the helicopter landing / departure area surface to a maximum performance climb to clear barriers in the flightpath. As a variation to the maximum performance take-off manoeuvre the pilot may perform a vertical take-off which sees the helicopter climb vertically and not be allowed to accelerate forward until the surrounding obstacles have been cleared. The pilot may also descend vertically back into the confined area of the landing pad if the helicopter does not have the performance to clear the surrounding obstacles.

The helicopter Operation Assessment consider impacts on road-users and surrounding land uses and did not identify any matters of significant impact on these uses/receivers. This will be achieved by establishing a Fly Neighbourly Advice (FNA) operations procedure. An FNA is a voluntary code of practice established between aircraft operators and communities or authorities to negotiate a reduction of disturbance or adverse amenity impact in an area. It may be instigated by the local government, business operator or community group that is affected by the operation of the aircraft.

A downwash report is submitted in support of this application that assesses the impact on pedestrian and bike rider traffic adjacent to the site. A bike lane is adjacent to the north west site boundary. The helicopter downwash assessment demonstrates that the proposed helicopter landing / departure area located to the northeast of the proposed operations base area are within CASA's recommended maximum wind velocity and will not have an impact on the proposed buildings and helistands.

The application is of scale and low overall visibility in the context of the existing industrial estate. The most evident visual effect of the use of the site would be the minor arrival and departure of a helicopter. For the majority of the time, there would be no evidence of this activity. The presence of the helicopter hard stand area would not be marked by the visibility of an aircraft parked on it, as the hard stand area adjacent to the helicopter hard stand area is the designated area.

The proposal is appropriate in the location and has no negative impacts on the natural setting: it would be of appropriate materials consistent with and compatible with the adjacent industrial development and the National Development Code.

The development is of potentially high-quality design and the retaining of existing vegetation in the northern corner, western boundary and verge areas will assist in the mitigation of visual impacts from the proposed development.

7.2.3 Potentially Significant Risks (with mitigating measures implemented)

The road traffic impact assessment did not identify any specific mitigation measures required to be implemented for the site or the proposed use.

Proposed helicopter operations itself will be managed during landing and take-off to ensure adequate safety is maintained for all persons. The establishment of a helicopter landing facility and airborne operations by helicopter require the following mitigation measures to be implemented:

- In the event that undergrounding of powerlines in locations that cause concern to helicopter operations are not granted, the positioning of 12" Power Line Hazard Markers (balls) may be necessary.
- Operational management issues associated with helicopter operations require the establishment of a Safe helicopter operations training program and an Emergency Planning and Training Plan for personnel. Safe helicopter operations training consists of:
  - Orientation to the site;
  - Communication and HLS facility equipment;
  - How to manage emergencies;
  - How to work safely around aircraft; and
  - How to manage passenger transfers to/from helicopters with rotors running and rotors stopped. Upkeep and use of the fire extinguishers will also be included in the training.

- Establish a Fly Neighbourly Advice between the operator of the facility and stakeholders, communities and Government representatives that will set out an agreed operations methodology and limits to actively manage any adverse impacts flowing from the airborne operations activity.

The residual risk assessment with mitigation measures implemented is as follows:

Table 12: Residual risk assessment with nil mitigation measures required

Traffic and Transport (Road and Air) (with Mitigation)			
Traffic Volume generated resulting in unacceptable road traffic impacts on the Monaro Highway, Sheppard Street and Lanyon Drive	**Likelihood: Low**	**Consequence: Medium**	**Risk: Low**
Transit Route Availability inadequate	**Likelihood: Low**	**Consequence: Medium**	**Risk: Low**
Impact from Helicopter Operations resulting in unacceptable impacts on surrounding uses and sensitive receivers/users of surrounding lands and infrastructure.	**Likelihood: Low**	**Consequence: Medium**	**Risk: Low**
Unacceptable impacts on Canberra Airport traffic and surrounding aircraft facilities (Toll Emergency helicopter operations)	**Likelihood: Low**	**Consequence: Medium**	**Risk:: Low**

7.3 Utilities (Engineering services, access and waste management)

In relation to utilities, the scoping document identifies impacts to existing infrastructure during construction and operation as a potentially significant risk. Utility services availability, capacity and augmentation of the existing network is discussed below.

7.3.1 Existing utilities

Veris was engaged to investigate the location of services within the block. The detailed site survey prepared identifies the following utility assets located on-site or within the adjacent verge area:

- access chambers;
- communication cabling;
- communication pits;
- electricity poles and overhead cables;
- fire hydrants;
- stop valves;
- underground water pipes; and
- water pits.

Based on ACTmapi records, there does not appear to have been any easements created over the services running through the block.

On the basis of enquiries to relevant agencies, it appears that the site has not been provided with service ties except for a sewer tie and an electrical supply. However, there are services surrounding and through the site from which service ties could be provided. These are described below.

Electricity

The following existing electricity assets have been identified:

- overhead high-voltage electrical line angled through the western end of the site;
- overhead low- and high-voltage electricity lines in the southern verge of Sheppard Street;
- overhead low-voltage streetlight cables in the south Sheppard Street verge;
- overhead service line to the block located midway along the Sheppard Street boundary;
- overhead service line to a water valve station located in the verge of Sheppard Street; and
- multiple overhead and underground electrical lines in the northern verge of Lanyon Drive.

Gas

The following gas assets exist in the locality of the site:

- a 75 millimetre diameter, 210kPa gas main along the western boundary which crosses Sheppard Street and runs west along the southern verge;
- a 150 millimetre diameter, 1,050kPa gas main in the northern Lanyon Drive verge; and
- a District Regulator in the southern verge of Lanyon Drive, which is connected to the above mains.

Please refer to the General Arrangement Plan accompanying the concurrent Development Application.

Lighting

Existing streetlights and associated cables are situated in both verges of Sheppard Street and in the adjacent verge of Lanyon Drive.

Sewer

Existing sewer assets in the vicinity of the site include a 300 millimetre diameter sewer pipe in the Sheppard Street verge; and a 300 millimetre diameter sewer pipe crossing Sheppard Street and terminating in a manhole approximately halfway along the Sheppard Street boundary.

Stormwater

A network of pipes and pits is located on Sheppard Street and Lanyon Drive.

Telecommunications

Existing telecommunications services near the site are located as follows:

- Government fibre optic network.
- Telstra pits and cables through the site along the western boundary; in the Sheppard Street verge; and in the Lanyon Drive verge.
- NBN pits and cables through the site along the western boundary; in the Sheppard Street verge; and in the Lanyon Drive verge likely co-located with Telstra assets.
- Nextgen pits and cables through the block along the western boundary, in third party conduits along the same alignment as the Telstra / NBN assets.
- Optus pits and cables through the site along the western boundary, in third party conduits along the same alignment as the Telstra / NBN / Nextgen assets.
- Transact overhead cables along the electrical lines in Sheppard Street.

Please refer to the General Arrangement Plan supporting the concurrent Development Application.

Water

The following assets are noted near the site:

- a 750 millimetre diameter trunk watermain in Lanyon Drive;
- a 225 millimetre diameter watermain along the western boundary of the site, with sluice valves at the northern and southern property boundaries; and
- a 225 millimetre diameter watermain, and associated valves and hydrants, in the Sheppard Street verge.

7.3.2 Proposed utilities

Electricity

Consultation with Evoenergy was undertaken during the preparation of this draft EIS. Existing assets do not have the capacity to supply enough power for the proposed facility. Additionally, the relocation of overhead electrical lines is required to maximise the available developable area on the site. Evoenergy advises that a new pad mount substation is required for the facility. It is proposed to site the required substation in the northwest corner of the block.

Evoenergy further advise that there is no objection to undergrounding the aerial electrical cables. It is proposed to relocate the aerial electricity lines underground, parallel to the western boundary.

Please refer to the General Arrangement Plan and Existing and Proposed External Services Plan submitted in support of the concurrent Development Application. In this location, a public access way of circa 10 metres is proposed, subject to the agreement of the ACT Government to retain ownership of this land.

Lighting

It is proposed to relocate one (1) streetlight in Shepard Steet which is too close to the proposed verge crossing.

Please refer to the General Arrangement Plan accompanying the concurrent Development Application.

Sewer

A sewer tie may be provided from the existing sewer manhole along the Sheppard Street boundary or in the southern corner of the site near the proposed driveway. The latter option would require the construction of a sewer across Sheppard Street and connection into an existing manhole; and a sewer along the verge of Sheppard Street, connecting into the manhole at the corner of Sheppard Street and Arnold Place.

Please refer to the Hydraulic Master Plan supporting the concurrent Development Application.

Stormwater

It is proposed to discharge stormwater from the site into stormwater infrastructure in Sheppard Street.

Please see the Hydraulic Master Plan and Water Reduction and Stormwater Modelling Report submitted with the concurrent Development Application.

Water

A water tie could be provided from the 225mm diameter watermain in Sheppard Street and located adjacent the proposed driveway in the southern corner of the site. This water tie would provide potable water and water for fire suppression equipment within the site.

7.3.3 Potentially Significant Risks (with mitigating measures implemented utilities)

7.3.3.1 Impacts on existing utilities from construction

A Stormwater Impact Assessment has been prepared by Lanterra Consulting Pty Ltd, and is contained in Appendix A. This report identifies the following mitigation measures to mitigate the risk of stormwater pollution during construction.

- Works will be undertaken under the controls of an EPA endorsed sediment and erosion control plan.
- Ongoing sediment and erosion control management requirements will be documented in EPA endorsed Construction and Operational Environmental Management Plans.
- Ongoing toxic or hazardous substance management requirements will be documented in EPA endorsed Construction and Operational Environmental Management Plans.
- Spill kits maintained on-site will be used to remove any minor leak.
- Emergency services will be engaged to manage any serious spill.

The residual risk assessment with mitigation measures related to utility infrastructure and access are as follows:

Table 13: Residual risk assessment with nil mitigation measures required

Utilities (Engineering and Access) (with Mitigation)			
Impacts on existing utilities from construction	**Likelihood: unlikely**	**Consequence: medium**	**Risk: low**

7.4 Materials and Waste

The scoping document identifies the requirement to consider the proposed use of hazardous materials and chemicals on-site and in the operation during both the construction and operational phases of the development. This is discussed in detail below.

7.4.1 Existing Conditions relating to Materials and Waste

There are no hazardous materials and chemicals stored or in use on-site at present.

The site adjacent to the proposed facility includes a potential asbestos fragment on the driveway that indicates that the site may have been exposed to illegal domestic waste dumping and present a contamination risk.

7.4.2 Potentially Significant Risks

7.4.2.1 Need and use of hazardous materials and chemicals during construction

The proponent is not foreseeing the need to store and / or use any specific hazardous materials and chemicals during construction of the development.

Hazardous substances commonly used or found in the building and construction industry include paints, solvents, glues, sealants, particle fibreboard, medium-density fibreboard, insulation material, concrete, cements, cement finishes, grease, oils, fuels, asbestos and wood dust.

7.4.2.2 Need and use of hazardous materials and chemicals during operation

The fuel tanker will only be used in rare cases to refuel the helicopter. The preference is to refuel the helicopter at Canberra airport. As a consequence, the prospect of a serious fuel spill is not a possibility requiring a response from a third party. If refuelling the helicopter is required it will take place on the hard stand area below the helicopter landing/departure site. The area is graded towards a sump which is connected to the SPEL to prevent the uncontrolled migration of fuel from the area.

Should a fuel leak occur, then spill kits maintained onsite would be used to remove the leak, then it is anticipated that emergency services would be contacted to manage the spill.

Used oil filters will be contained in 200 litre drums and stored in the designated waste area prior to disposal at a recycling facility. The waste area will be managed in accordance with the facility operation plan.

There is no identified need to store and use *Work Health and Safety Regulation 2011* Schedule 11 chemicals and substances to the quantities listed during construction phase of the development. It is noted that a person conducting a business or undertaking must notify WorkSafe ACT if hazardous chemicals[1] are used, handled or stored at the workplace in quantities exceeding a manifest quantity limit shown in Schedule 11. Manifest quantity workplace notifications are made under Section 348 of the *Regulation* and must be accompanied by a copy of the hazardous chemicals manifest which is kept at the workplace. The quantity of hazardous substances stored on the site do not exceed the manifest quantity limit. All hazardous substances stored have corresponding safety data sheets on file which is accessible by employee.

7.4.3 Potentially Significant Risks (with mitigating measures implemented)

Potential threats to human health will be comprehensively addressed in a Facility Operation Management Plan.

The residual risk assessment with mitigation measures related to Materials and Waste are as follows:

Table 14: Residual risk assessment with identified mitigation measure implemented

Materials and Waste	**During construction and in operation (with Mitigation)**		
Need and use of hazardous materials and chemicals during construction	**Likelihood: unlikely**	**Consequence: Medium**	**Risk: Low**
Need and use of hazardous materials and chemicals during operation	**Likelihood: unlikely**	**Consequence: Medium**	**Risk: Minor**

[1] ***hazardous substance*** means a substance that:

- is listed in the *List of Designated Hazardous Substances*
- fits the criteria set out in the *Approved Criteria for Classifying Hazardous Substances*, as published by the National Occupational Health and Safety Commission.

7.5 Landscape and Visual Impact (with Lighting)

Visual impacts on the surrounding area and roads from proposed facility and operations has been highlighted by the scoping document as a potentially significant risk. This risk is assessed in the following discussion.

7.5.1 Existing Conditions - Visual assessment

A Landscape Character and Visual Impact Assessment has been prepared by Lanterra Consulting Pty Ltd, and is contained in Appendix A.

The site is identified as Block 45 Section 3 Hume and is located at the southwestern corner of Sheppard Street and Lanyon Drive. This "greenfield" site is characterised into two broad categories, being the cleared central parts of the site, and the outer eastern and northern portions of the site which retain a relatively intact native tree canopy.

The southern (and central) cleared parts of the site is described in the PATH -Co assessment (Appendix A) to be in a highly modified condition, being cleared of any native trees, and dominated by introduced grasses and numerous weed varieties, with a few (<10) small introduced/ornamental shrubs/saplings (such as apples/plums) observed to be scattered lightly through this area.

The northern portion of the site supports a relatively intact native tree canopy, comprising two distinct, but contiguous patches with different species composition. The eastern parts of this treed area support a tree species composition including predominantly Blakely's Red Gum (E. blakelyi), with some occasional Red Box (E. polyanthemos) and Yellow Box (E. melliodora) individuals.

The north, north-western parts of Area 2 support a tree species composition including predominantly Brittle Gum (E. mannifera) with some occasional Argyle Apple (E. cinerea) and very occasional Yellow Box (E. melliodora) individuals.

PATH Co observed that none of these trees are considered likely to be remnant trees (i.e. occurring pre-development of Canberra) and have a moderately modified understorey with the eastern parts of the treed area, extending north to the intersection of Lanyon Drive and Sheppard Street, supported a relatively dense shrubby understorey, consisting primarily of Cootamundra Wattle (Acacia baileyana) and Wedge-leaf Wattle (Acacia pravissima) with some minor regrowth specimens of the eucalypt species mentioned above. Some (occasional) introduced exotic shrub varieties including Briar Rose (Rosa rubiginosa) and Hawthorn (Cratageus spp.) were also observed to be present.

No listed threatened communities are identified as occurring within the site.

The site is partially surrounded by industrial development to the east and south (Hume industrial estate) and the nearest dwelling is a rural residence located about 900m to the north west of the site on the opposite site of the Monaro Highway.

7.5.2 Risk Assessment – Landscape and Visual Impact, including lighting.

7.5.2.1 Visual Impact of the proposal from the site and visual impacts from operations

The overall scale of the proposed development is detailed in the proposal description at Sections 3 and 4 of this report. The scale, size, style and materiality envisioned for the proposed development is of moderate compatibility with the existing non- urban and natural features of the site and high compatibility with existing industrial features of the immediate area located immediately to the south and east of the site.

The building components of the proposed development are not of particular interest given the context of the site and the nature of building development associate with Emergency Services Facilities that are Merit Track permissible development in the NUZ1 zone.

The retaining of existing vegetation adjacent to the northern and eastern boundary has the effect of minimising the visibility of other proposed structures.

The use of the helicopter hard stand area for landing and take-off of a helicopter is the feature that would be most responsible for unique visual effects of the application and occasional presence of a helicopter on the site and the approach and departure of the helicopter, would be visual effects unique to the application. The helicopter hard stand area proposed is similar in appearance to existing nearby structure (Toll Emergency Services operations base to the north of the site at Part Block 16 Section 18 Hume.

The proposed helicopter landing / departure area is not visually distinctive or unique and is located in the northeast section of the block in a locality that is hidden from view from Lanyon Drive and Shepard Street. In many views, the structures including the helicopter hard stand area would not be easily perceived in the context of adjacent similar and more extensive structures. The helicopter hard stand area would not be visible from residential areas to east, as a result of blocking of the view by existing vegetation.

The proposed development is of medium scale and considered to deliver a high-quality design utilising materials consistent with, and complementary to, the surrounding industrial development. Lanterra conclude that the most evident visual effect of the use of the site would be the minor arrival and departure of a helicopter, and there is expected to be limited impact from such activities.

7.5.2.2 Viewsheds and Visual Exposure

For the visual assessment the consultant undertook a desktop assessment of the ZTV (Zone of Theoretical Visibility) for the proposed permanent elements envisioned for the development where each viewpoint selected for investigations were required to fall within the visual catchment defined by the ZTV, based on an eye level position for an observed located 1.5m above the ground. Once points were selected a site visit was undertaken and an assessment of the sensitivity and impact of the proposal, in terms of magnitude from key viewpoints were made.

Noting the siting, bulk and scale of the envisioned, the development and proposed structures would be visible in close-range viewpoints from Shepard Street and Lanyon Drive with the foreground/verge dominated by relatively dense shrubby understorey, consisting primarily of Cootamundra Wattle (Acacia baileyana) and Wedge-leaf Wattle (Acacia pravissima) with some minor regrowth specimens of the eucalypt species. As a result, the proposed helicopter hard stand area is not easily discernible from most viewpoints.

Views form the immediate area somewhat more distant than close-range observation points will yield a minor but not significant change when compared to current views. Arrivals and departure of helicopter movements may be partly perceivable above proposed buildings in the industrial estate and from the surrounding road network. Distant views of the project site and in particular helicopter movements would be apparent from residences in certain landscape areas in Jerrabomberra.

The general visual exposure, the proposed structures would not cause any substantive change to views from the wider visual catchment. The scale and character of the structures in the proposal is expected to have minimal visibility in views from the wider catchment. Aircraft arriving and departing would be the most evident visual effects, both because of the contrast in form between them and infrastructure and given the perception of movement against the sky and background.

7.5.2.3 Consideration of National Capital Plan specific Policies and Planning Controls.

The Landscape Character and Visual Impact Assessment has been prepared by Lanterra Consulting Pty Ltd includes a detail assessment of the proposals performance against the visual aspects of the National Capital Plan Development Control Plan 171/94/853 for Monaro Highway East.

Building scale, materiality and colour, boundary setbacks, coverage and siting of supporting facilities and activities on-stie are all able to be presented in a manner that is fully complaint with the DCP planning provisions relevant to the site. The assessment did not identify any risk points or non-conformity of the envisioned proposals when considered against the provisions of the DCP.

7.5.2.4 Effects and Impact of proposed on-site lighting

Apart from compliance with normal site lighting associated with external lighting for the building that is controlled under Australian Standard AS1158: Lighting for Roads and Public Spaces (as applicable) and Australian Standard AS4282: The Control of Obtrusive Effects of Outdoor Lighting, no lighting is proposed other than warning lights shown prior to and during take-off and landing of the helicopter.

Two red flashing lights would be visible from close range for a short period, primarily in the immediate vicinity of the access to the helicopter hard stand area only. It is noted that night flying of the helicopter is not envisaged.

7.5.3 Potentially Significant Risks related to visual impacts (with mitigating measures implemented)

The proposal is of scale and low overall visibility when considered in the context of the existing industrial estate and non-urban character of the locality of the site. The most evident visual effect of the use of the site would be the minor arrival and departure of a helicopter from time to time.

For the majority of the time, there would be no evidence of this activity. The presence of the helicopter hard stand area would not be marked by the visibility of an aircraft parked on it but the landing pad is not visible generally from off-site viewing points.

The proposal is appropriate in the location and has no negative impacts on the natural setting: it would be of appropriate materials consistent with and compatible with the adjacent industrial development and the NCP DCP.

The development is of potentially high-quality design and the retaining of existing vegetation in the northern corner, western boundary and verge areas will assist in the mitigation of visual impacts from the proposed development.

No specific mitigation measures have been identified to reduce visual impact as not matters of significant impact was identified in the assessment of this matter by the visual assessment expert.

The residual risk assessment with no mitigation measures related to Visual Assessment and Lighting impacts are as follows:

Table 15: Residual risk assessment with nil mitigation measures required

Materials and Waste	**During construction and in operation (with Mitigation)**		
Significant impact of buildings from viewsheds and vantage points	**Likelihood: Unlikely**	**Consequence: Minimal**	**Risk: Negligible**
Significant impact of helicopter operations from viewsheds and vantage points	**Likelihood: Unlikely**	**Consequence: Minor/Moderate**	**Risk: Low**
Impact of Lighting associated with building structures (noting that Australian Standards are required to be implemented)	**Likelihood: Unlikely**	**Consequence: minor**	**Risk: Very Low**
Impact of Lighting associated with building structures helicopter operations	**Likelihood: Unlikely**	**Consequence: Moderate**	**Risk: Low**

7.6 Soils and Geology

The scoping document identifies erosion due to clearance of vegetation, soil contamination from previous uses, and soil contamination from operations as potentially significant risks. These are discussed below.

7.6.1 Existing Site Conditions

The digital topographic map presented in ACTMAPi (available at http://www.actmapi.act.gov.au/) indicates the site has an elevation of approximately 586-592 m above the Australian Height Datum (m AHD). The general topography of the block is relatively flat with a gentle slope to the south, southwest of about 5% fall from the low crest in the northern corner of the site. A short, steeper slope of generally up to 20% falls from the crest to the north, northwest along the block boundaries with Lanyon Drive and Sheppard Street.

The Geology of the Canberra 1:100,000 Sheet Area[2] shows the site as being within the Canberra Block Formation and identifies the majority of the site as consisting of tuff, tuffaceous sandstone, shale and ashstone which are part of the Laidlaw Volcanics Suite formed in the Mid-late Silurian age.

The Symonston HGL contains the Burra and Williamsdale soil landscapes. Within these soil landscapes, Red Chromosols and Red Kurosols (Red Podzolic Soils) and Red Kandosols (Red Earths) occur from crests to mid slope positions whilst Brown Chromosols (Yellow Podzolic Soils and Brown Kandosols (Yellow Earths) on better drained lower slopes and poorly drained Sodosols (Solodic Soils) in the lowest slope positions.

Due to sodicity, slope position and imperfect drainage the Sodosols have the greatest potential for land degradation and dryland salinity. However, in general there is little evidence of salinity in this HGL with the main areas of concern likely to be associated with the Jerrabomberra Wetlands and other low-lying poorly drained areas (ACT Government[3]). A review of the Australian Soil Resource Information System (ASRIS) map shows the subject site to be situated in an area of 'extremely low' probability for acid sulfate soil. Based on the topography of the site, acid sulfate soil is not expected to be present on-site. The nearest surface water receptors are Dog Trap Creek to the north of the site and a small creek to the east, both within a 150 m radius from the site. These creeks are tributaries of Jerrabomberra Creek which is located approximately 230 m east of the site. Surface water on the site is expected to follow the topographic contours of the site and flow towards the east in the northernmost corner of the site and south to south-east in the rest of the site.

The proposed development is located predominantly in the southern and western half of the site where slopes are less than about 5% and therefore are not a major concern for the proposed works.

[2] Geology of the Canberra 1:100 000 Sheet area, New South Wales and Australian Capital Territory By Robert S. Abell 1991 AUSTRALIAN GOVERNMENT PUBLISHING SERVICE CANBERRA
[3] http://app.actmapi.act.gov.au/Hydrogeological_Landscape_Reports/Reports/Salinity/24_Symonston_Salinity_160131.pdf

7.6.2 Potentially Significant Risks

7.6.2.1 Existing contamination impacts from previous land uses (Areas of Environmental concern)

A Preliminary Site Investigation has been prepared by Lanterra Consulting Pty Ltd, and is contained in Appendix A. Following a site visit on 11 May 2020, Lanterra conclude that there was no evidence of fuel storage tanks or chemical storage on the site. Fragments of asbestos-containing materials were observed outside the front boundary of the site. No hazardous materials were observed on-site during the assessment.

Based on the information presented in the Lotsearch report and contaminated land search, there are thee areas of environmental concern (AECs) identified.

AEC 1

The unknown source of stockpiles SP1, SP2 and SP3 imported to the site circa 1908s present a contamination risk to the site. The stockpile locations are shown in Figure 2 and 4, Appendix A of the investigation report.

AEC 2

The site has been subjected to earthwork activities since the 70s, with potential material imported to the site during the access road construction. This creates a potential contamination risk to the site.

AEC 3

The present of waste debris across the site including the potential asbestos fragment on the driveway indicates the site may have been exposed to illegal domestic waste dumping and present a contamination risk.

Based on the AECs identified, the following contaminants of potential concern (COPC) associated with imported fill and unknown source are:

- Total recoverable hydrocarbons (TRH);
- Benzene, toluene, ethylbenzene, xylene (BTEX);
- Polycyclic aromatic hydrocarbons (PAH);
- Polychlorinated biphenyls (PCB);
- Phenols;
- Organochlorine pesticides/organophosphorus pesticides (OCP/OPP);
- Heavy metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc);
- Asbestos.

The site investigation included site walk and surface observation, soil sampling via borehole drilling (24 samples taken) and Sampling from stockpile areas (11 samples taken). The assessment criteria adopted for the investigation was based on the most sensitive land use under the zoning NUZ1: Broadacre Zone being for residential care accommodation which include following criteria adopted from the ASC NEPM 2013:

- Health Based Investigation Levels for Residential Sites (HIL A).
- Health Based Screening Levels for Residential Sites (HSL A) for a clay lithology and a depth of 0 m to <1 m below ground level. This assumption is considered appropriate as the soil was predominantly silty clay.
- Ecological Investigation Levels (EIL) for Urban Residential and Public Open Space.
- Ecological Screening Levels (ESL) for Urban Residential and Public Open Space for fine soil based on the clay content of the soil.

The site was vacant and could be divided into two sections corresponding to a cleared grass-covered land in the central south-west portion of the site and an area where trees and volcanic rock outcrops are observed in the north-east side of the site.

Possible imported fill material was encountered across the site that resembles material likely corresponds to transferred topsoil. This material is largely classified as a silty clay, dark brown to brown in colour, with a dry to moist and soft texture.

A more compact natural material was encountered at around 1.0 m bgl in the cleared central area of the site. The surroundings of bedrock outcrops and tree plantation areas showed natural material from 0.5 m bgl. This soil was generally described as a brown to orange silty clay, dry to moist and soft to hard.

At five (5) borehole locations the soils appear to be a crystal tuffaceous volcanic rock. The presence of this rock unit caused refusal in some boreholes. Material from these boreholes was a grey to pale grey silt, dry and hard, with a high amount of plagioclase and quartz crushed crystals.

In relation to the 24 primary soil samples, concentrations of BTEX, Phenols, OCP/OPP, PAH, TRH, PCB and Asbestos were below the laboratory limit of reporting (LOR) and therefore below the adopted assessment criteria. No materials suspected of containing asbestos were encountered during sampling. Heavy metals were detected in each sample analysed; however, these were all below the adopted assessment criteria.

For the eleven (11) samples from stockpiles concentrations of BTEX, Phenols, OCP/OPP, TRH, PCB and Asbestos were below the laboratory limit of reporting (LOR) and therefore below the adopted assessment criteria. No materials suspected of containing asbestos were encountered during sampling. Concentration of PAH compounds were found above the LOR for samples SP1-5 and SP3-1. However, these values were all below the adopted assessment criteria. Heavy metals were detected in each sample analysed; however, these were all below the adopted assessment criteria.

In summary and based on the historical use of the site and the sampling of twenty-four (24) soil samples and eleven (11) stockpile samples undertaken during the PSI the site condition is summarised as follows:

- Asbestos-containing materials (ACM) were found outside the site in the vicinities of the lockable gate.
- Patches of rubbish (plastics, bricks, roof tiles, tin, wood) were scattered across the site.

- Possible fill material was encountered across the site that resembles topsoil. This material was largely a silty clay, dark brown to brown in colour, with a dry to moist and soft texture.
- Natural material was encountered at around 1.0m bgl in the cleared central area of the site. However, in the area surrounding the rocky outcrops and tree covers, natural material was found from 0.5m bgl. This soil was described as a brown to orange silty clay, dry to moist and soft to hard.
- No anthropogenic material and no olfactory signs of contamination were observed during soil or stockpile sampling.
- Concentrations of COPC were below the adopted assessment criteria in all samples.

Consequently, the site is suitable for the land uses permitted under the relevant zone development code.

7.6.2.2 Erosion and sediment impacts from construction

A Stormwater Impact Assessment has been prepared by Lanterra Consulting Pty Ltd, and is contained in Appendix A and considered the potential impact (if any) from stormwater discharge from the site on the surrounding stormwater network and the Jerrabomberra Creek catchment, particularly the Jerrabomberra Wetlands. The potential for the occurrence of substantial erosion is considered low due to the geography of the development area.

During the construction phase of the aviation and forestry base, there is a risk that without adequate sediment and erosion controls, the stormwater network quality from the site could be impacted. Details of the activities and aspects of the construction works that could potentially lead to erosion, sediment transport, siltation and contamination at the site and the stormwater network may include the following:

- Earthworks undertaken immediately prior to rainfall periods.
- Work areas that have not been stabilised, sealed, or covered.
- Bulk earthworks may expose erosive soils which may lead to sediment/contaminant runoff.
- Maintenance of construction equipment.
- Dirt from vehicle tyres may lead to sedimentation of street stormwater systems.
- Inadequate maintenance of environmental control measures.
- Inappropriate location of stockpiles.

The proponent advised that construction will not require the use of any known (or otherwise significant) potential pollutants. Given the relatively flat nature of the site and minimal earthworks requirements, as well as low overall block ratio of impermeable to permeable surface areas, the volumes and quality of stormwater (due to erosion and sediment migration) that could leave the site are not expected to be large and present any notable concerns. The site contains only gentle slopes where development will occur, limiting the potential for substantial erosion to occur. The site does not drain directly to any natural waterway, with surface drainage intercepted by the existing road drainage systems, limiting the potential for run-off to impact on downstream waterways.

Post construction the use of the site for the intended activities is associated with two key stormwater/contamination risks being:

7.6.2.3 Fuel use on-site and.

The fuel tanker will only be used in rare cases to refuel the helicopter. The preference is to refuel the helicopter at Canberra airport. As a consequence, the prospect of a serious fuel spill is not a possibility requiring a response from a third party. If refuelling the helicopter is required it will take place on the hard stand area below the helicopter landing/departure site. The area is graded towards a sump which is connected to the SPEL to prevent the uncontrolled migration of fuel from the area.

Should a fuel leak occur, then spill kits maintained onsite would be used to remove the leak, then it is anticipated that emergency services would be contacted to manage the spill.

Used oil filters will be contained in 200 litre drums and stored in the designated waste area prior to disposal at a recycling facility. The waste area will be managed in accordance with the facility operation plan.

7.6.2.4 Uncontrolled stormwater run-off from storage areas

Stormwater that accumulates on the sealed areas of the site will by design be diverted to stormwater retention tanks where any overflow could be discharged in the Hume stormwater system.

The expert consultant identified a risk should the storage area is used to store chemicals and if these products were to enter the surrounding stormwater network, then this could provide a contamination risk to the stormwater network.

It is understood that truck wash chemicals and degreasers would be stored within enclosed bunded sealed containers. Therefore, potential contamination due to spills and/or runoff off these chemicals to the stormwater system is unlikely to occur.

Lanterra considers that if this controls (or similar ones) is implemented across the site, the risk of contamination to the human health and environment through the stormwater network is low.

Based on the information provided by the client and previous investigations, the likelihood of contaminated material leaving the site, entering the stormwater system and ultimately Jerrabomberra Creek is minimal thereby resulting in a low risk that the proposed development will adversely impact the Jerrabomberra Creek.

7.6.3 Potentially Significant Risks related to soils and geology (with mitigating measures implemented)

Based on these findings, Lanterra considers that the site is suitable for the land uses permitted under the NUZ1: Broadacre Zone which includes residential use and thus will support the use of the land for an Emergency Services Facility which is of a lesser sensitivity. Lanterra also considers that if the listed onsite stormwater management controls are implemented, they would be sufficient to not adversely impact surrounding Creek networks.

Lanterra recommend that:

- Prior to construction works commencing, it is recommended that a Construction Environmental Management Plan (CEMP) with a suitable unexpected finds procedure is prepared by a suitably qualified environmental consultant to assist construction workers with managing soil that may exhibit visual or olfactory indications of contamination.
- The investigation was not been completed with the intention of removing soil from the site. Should the removal of soil be necessary, then the soil must be assessed in accordance with the ACT EPA (2019) Information Sheet 4 'Requirements for the Reuse and Disposal of Contaminated Soil in the ACT' and a soil assessment report approved in writing by the ACT EPA.
- Ongoing sediment and erosion control management requirements will be documented in EPA endorsed Construction and Operational Environmental Management Plans.
- All refuelling activities will be conducted within an area graded to a SPEL interceptor to prevent the uncontrolled migration of fuel.
- Truck wash chemicals and degreasers will be stored within enclosed bunded sealed containers.
- Runoff water / chemicals collected from truck washing activities will be treated prior to off-site disposal. It is envisaged that a trade waste agreement will be negotiated with the entity to discharge treated effluent to sewerage network. A coalescing plate separator will be necessary to meet oil and grease discharge levels.
- Spill kits maintained on-site will be used to remove any minor leak or in the event of a major spill, Emergency services will be engaged to manage serious events (if needed).

The residual risk assessment with no mitigation measures related to Visual Assessment and Lighting impacts are as follows:

Table 16: Residual risk assessment with nil mitigation measures required

Soils and Geology	**During construction and in operation (with Mitigation)**		
Existing geology and soils rendering the site unsuitable for the intended use	**Likelihood: Unlikely**	**Consequence: Minimal**	**Risk: Negligible**
Existing site contamination rendering the site unsuitable for the intended use	**Likelihood: Unlikely**	**Consequence: Minor/Moderate**	**Risk: Low**
Inadequate Sediment Control measures resulting in off-site contamination of waterways	**Likelihood: Unlikely**	**Consequence: minor**	**Risk: Very Low**
Onsite use of fuels and chemicals resulting in leakage into surrounding soils.	**Likelihood: Unlikely**	**Consequence: Moderate**	**Risk: Low**

7.7 Water Quality and Hydrology

Impacts on groundwater and waterways from operations and impacts from stormwater runoff have been identified as potentially significant risks. These risks are assessed below.

7.7.1 Existing Site Conditions

The site lies within the Jerrabomberra Creek catchment which is situated within the Symonston Hydrogeological Landscape (HGL) which extends from south of Hindmarsh Drive and to the east the boundary coincides with the ACT border. The HGL covers an area of 39 km^2 and receives 600 to 750 mm of rain per annum (ACT Government[4]).

The site is located approximately 250m to the east of Jerrabomberra Creek with direct flow from the site to the creek not possible. There are no mapped watercourses or other depressions or drainage lines within the site that might contain intermittent water flows.

Surface flows and drainage would be primarily to south, southwest, and collected in the stormwater drainage systems of Sheppard Street.

A Hydrogeology Report has been undertaken by Lanterra Consulting Pty Ltd, and is contained in Appendix A. Existing contaminants of potential concern are below adopted assessment criteria and are unlikely to pose a contamination risk to groundwater.

7.7.2 Potentially Significant Risks

A Stormwater Impact Assessment has been prepared by Lanterra Consulting Pty Ltd, and is contained in Appendix A.

7.7.2.1 Current groundwater quality and measures proposed to maintain and monitor ground water quality

A Hydrogeology Report has been undertaken by Lanterra Consulting Pty Ltd, and is contained in Appendix A. This report concludes that the site is elevated well above the water table under adjacent land and there is a very low risk of water table recharge. Based on the results of this hydrogeological assessment, the risk that groundwater may be adversely affected by the construction and operational phase is considered to be low. As no large scale fuel storage or other chemical storage facilities are proposed for the site, groundwater monitoring is not considered necessary. However, should there be a major contaminant release during the construction or operation phases of the facility whereby there is a possible risk that groundwater would be adversely affected, then a groundwater investigation would be warranted.

[4] http://app.actmapi.act.gov.au/Hydrogeological_Landscape_Reports/Reports/Salinity/24_Symonston_Salinity_160131.pdf

No free groundwater was observed during the site investigation undertaken, which is included in Appendix A.

A Preliminary Site Investigation has been prepared by Lanterra Consulting Pty Ltd, and is contained in Appendix A. Based on the topography of the site and data obtained from a groundwater bore search, this report conservatively estimated groundwater to be present in fractured aquifers approximately 15 metres below ground level or deeper. Although the quality of groundwater is variable, the general total dissolved solids is anticipated to be between 500 – 1000 milligrams per litre and the yield is estimated to be less than 0.5 litres per second.

Per the Hydrogeology Report prepared by Lanterra Consulting Pty Ltd, groundwater contamination at the site is unlikely. As the risk of contamination to groundwater is considered negligible, ongoing monitoring of groundwater on the site is not considered necessary.

7.7.2.2 Present and potential water uses and users within affected catchment

As noted above, the site lies within the Jerrabomberra Creek catchment. Located within a 150 metre radius of the site, the nearest surface water receptors are Dog Trap Creek to the north and a small creek to the east. These channels are tributaries of Jerrabomberra Creek, which is situated 230 metres east of the site.

Given the site contours, surface water is expected to flow east over the northernmost corner of the site and south to south-east over the rest of the site. Direct flow from the site to Jerrabomberra Creek is not possible.

Water uses within the Jerrabomberra Creek catchment include:

- Stockwater supply.
- Irrigation water supply.
- Wastewater discharge.
- Stormwater discharge.
- Aquatic habitat.

7.7.2.3 Stormwater and wastewater management during construction and operation

During the build phase, water quality could be impacted by the use of pollutants during construction; erosion releasing sediment into the stormwater network; and significant rainfall causing the uncontrolled release of stormwater from the site. Furthermore, downstream water quality may be impacted.

In relation to these perceived risks, the proponent states:

- Known or otherwise significant potential pollutants will not be utilised for construction.

- Volumes and quality of stormwater leaving the site is not expected to cause concern due to the topography of the site, the minor extent of earthwork proposed and high proportion of site permeability.
- Potential for the occurrence of substantial erosion is low due to the geography of the development Area.
- There is a low likelihood of site run-off to impact upon downstream waterways as the site does not drain directly to a natural waterway.
- Potential impact from silt loss/sediment/road grime from stormwater sumps/pits if not maintained / desilted on a regular basis

Potential sources of water contamination during operation include the use of fuel on-site.

7.7.2.4 Hydrocarbon spillage prevention controls

Aviation or other fuels will not be stored on the site and that any refuelling activities will be conducted by mobile fuel trucks. All refuelling activities would be conducted within areas graded to a SPEL interceptor to prevent the uncontrolled migration of fuel from the area.

Should a fuel leak occur, spills are to be managed by the activation of the spill management plan. Spill kits for this purpose are to be maintained onsite.

7.7.2.5 Stormwater contamination mitigation measures

Stormwater Management under Sediment Control Management measures are considered in Section 7.6 above.

7.7.3 Potentially Significant Risks (with mitigating measures implemented)

Impacts on Water Quality and Hydrology will be managed by hand of the following mitigation measures:

- Ongoing sediment and erosion control management requirements will be documented in EPA endorsed Construction and Operational Environmental Management Plans.
- All refuelling activities will be conducted within areas graded to a SPEL treatment tank to prevent the uncontrolled migration of fuel.
- Truck wash chemicals and degreasers will be stored within enclosed bunded sealed containers.
- Runoff water / chemicals collected from truck washing activities will be treated prior to off-site disposal. It is envisaged that a trade waste agreement will be negotiated with the entity to discharge treated effluent to sewerage network.
- Spill kits maintained on-site will be used to remove any minor leak or in the event of a major spill, Emergency services will be engaged to manage serious events (if needed).

Table 17: Residual risk assessment with nil mitigation measures required

Water Quality and Hydrology (with Mitigation)			
Impacts on waterways from operations	**Likelihood: Unlikely**	**Consequence: Moderate**	**Risk: Low**
Impacts from stormwater runoff	**Likelihood: Unlikely**	**Consequence: Moderate**	**Risk: Low**

7.8 Climate Change and Air Quality

Potentially significant risks in relation to climate change and air quality include dust and impact to air quality from construction; operations reducing air quality; and impacts on climate change, including from greenhouse gas emissions during operation. These risks are assessed below.

The climate change variables for the project are considered to be temperature, rainfall, hail, bushfire, flooding and high wind speed.

Based on long-term observations, temperatures in the ACT have been increasing since the 1950s. The ACT is projected to continue to warm into the near future compared to recent years. Extreme heat has potential for: fatalities; impact on health, significant impact on vulnerable communities; impact on energy consumption and resulting disruption in supply; impact on the provision of essential services and infrastructure; increased risk to the environment, animals; and increased risk of bushfire.

Canberra's rainfall averages 52.4 mm per month and 629 mm annually. The average is 108 rain days per year, however local variability can mean no rain in some months and the whole season's rain in just a few days.

Climate projections for the water cycle indicate even more reduced reliability of evenly spread rain throughout the year. In the mid to longer term, winter and early spring rain will decrease, but there will be more intense rain events in the warmer months of spring and summer.

Longer term projections for water cycle changes include tropical cyclones reaching further south, thereby increasing the frequency of storms over a lengthened storm season and potentially increasing the likelihood of hail. More frequent intense storms with hail and intense rain can impact on infrastructure.

The current ACT average severe fire days of 1.1 is expected to increase to 7 days per year by 2030 and 19 days per year by 2070. Bushfires have potential for: loss of Life, property damage, loss of infrastructure and utilities and supply; environmental, cultural, business, and economic impact; disruption to transport by evacuation etc.

Severe storms with flooding have potential for: loss of life, injuries, property damage, loss of infrastructure and utilities, impacts on vulnerable communities, local community, local businesses, and local economy; disruption to transport and closure of roads; impact on the environment; and impacts on domestic animals and livestock.

7.8.1 Background Air Quality

An Air Quality Assessment has been prepared by Lanterra Consulting Pty Ltd, and is contained in Appendix A. Emissions from motor vehicles, domestic wood heaters, agricultural activities, and other commercial or industrial activities are the primary sources of air pollutants in Hume and the surrounding area.

7.8.2 Potentially Significant Risks

7.8.2.1 Potential impact of proposal on air quality

During construction, site establishment; earthworks; and material disposal are considered to be likely generators of particulate and exhaust emissions. Small quantities of dust particles of various sizes are typical for construction sites.

During operation, heavy vehicle movements; helicopter movements; and repairs/maintenance to plant/machinery are considered to be likely generators of particulate and volatile organic compound emissions.

Emissions from the use of vehicles and other on site are likely to include nitrogen oxides, carbon monoxide, sulphur oxides and hydrocarbons.

7.8.2.2 Microclimate, urban heat and other climate change considerations

A Climate Change Assessment has been undertaken by Lanterra Consulting Pty Ltd, and is contained in Appendix A. Microclimate conditions which may be impacted by the built environment include wind speeds, reflective solar radiation and local shading. The Lanterra report concludes that the potential contribution of the development to urban heat island effect is negligible due to the scope and design of the development, the location of the site within an industrial estate and extensive retention of existing vegetation.

Although the proposed development poses an increase in urban heat due to the creation of hard stand surfaces, this is considered minimal risk due to the surrounding land use.

The construction and excavation works are expected to contribute to greenhouse gas (GHG) emissions. However, GHG emissions from a proposal will be assessed where they exceed 100,000 tonnes of emissions each year measured in CO2-e. The proposed project will generate will below 100,000 tonnes.

7.8.2.3 Mitigation of impacts from climate change

To mitigate this risk the design of the emergency facility plant building aims to minimise radiation reflectivity by extended counter leaver awnings from the building providing shading and effective roof sheeting, cladding and concrete walls. Further opportunity to reduce heat island contributions are found in the landscape design as well as the proposal to retain much of the existing vegetation in the northern section of the site/northern boundary and in verges surrounding the site.

Furthermore, the following mitigation measures have been identified to decrease emissions:

- Use of energy and fuel-efficient construction plant and equipment.
- Use of biofuels in plant and equipment.
- Use of grid-sourced renewable energy supply for construction and/or on-site renewable energy generation.
- Use of efficient fans and motors for the facility.
- Source construction materials from locations close to site.
- Use of construction materials with lower embodied emissions such as low-carbon concrete, recycled metals and recycled construction aggregate.
- Reuse of soil and excavated material on-site.
- Recycling of construction waste.
- Development of Green Travel Plans for construction and maintenance staff.

7.8.2.4 Dust and impact to air quality from construction

The mitigation measures identified below are to be incorporated into the Construction Environmental Management Plan for the project.

- Utilising water sprays on stockpiles and road surfaces to supress dust.
- Scheduling known dust generating activities during favourable meteorological conditions.

The implementation of such practices ensures that impacts on nearby sensitive receptors and the environment are minimised.

7.8.2.5 Mitigation of air quality impacts from operation

The following mitigation measures are proposed to reduce the risk of air quality impacts from the proposed operation:

- Design and siting of helicopter landing area to ensure adequate dispersion of emissions and avoid erosion.
- Landscaping.
- The refuelling of the helicopter will take place in a designated area which is graded to capture a fuel spillage.
- Enclosed wash bays for cleaning of plant and equipment which capture sediment.

- Offsite disposal of sediment from wash bays.
- Sealed surfaces for all internal site traffic movements.
- Maintenance of all hard stand surfaces.
- Welding processes to take place in appropriated located enclosed building with air ventilation/extraction/dispersal.
- Diesel fuelled vehicles would be fitted with diesel particulate filters.
- Company vehicles to be serviced to ensure emission control equipment is maintained in accordance with manufactures requirements.

The application of these measures provides appropriate mitigation against adverse air quality emissions.

7.8.3 Potentially Significant Risks (with mitigating measures implemented)

Table 18: Residual risk assessment with nil mitigation measures required

Climate Change and Air Quality (with Mitigation)			
Impacts from climate change	**Likelihood: Remote**	**Consequence: Moderate**	**Risk: Very Low**
Air quality impacts from operation	**Likelihood: Unlikely**	**Consequence: Moderate**	**Risk: Low**
Proposal likely to impact the micro climate in a manner that significantly increase heat island effect.	**Likelihood: Unlikely**	**Consequence: Moderate**	**Risk: Low**

7.9 Noise and Vibration

Noise impacts during operation are identified by the scoping document as potentially significant risks. These are assessed in the following discussion. The assessment require consideration of interstate examples of where such a facility is located immediately adjacent to a developed urban area, noise from on site use in accordance with EPA requirements, and noise from airborne operation in accordance with Commonwealth requirements.

• The noise impact assessment must consider the surrounding development and sensitive receivers such as Tralee/West Queanbeyan residential development (NSW)as well as a consideration of the operational noise contours to demonstrate that the site and site layout is suitable including helicopter starting, warming up and stopping on the ground against any available Commonwealth aviation guidance for siting, in particular but not limited to the 2014 CASA Guidelines for the establishment and operation of onshore Helicopter landing / departure areas.

7.9.1 Potentially Significant Risks

The site will include a workshop facility , together with an administration building, an aircraft hangar and hardstand apron areas for the manoeuvring of vehicles to the south of the workshop building and to the east of the hangar.

The most significant noise generating activities are:

- Trucks arriving or departing the site
- Loading/unloading of trucks
- External compressor
- Activities within the workshop building including:
- Use of hand tools (eg rattle gun)
- Spray cleaning.

The flying of the one helicopter in an out of the site for the foreseeable future will primarily be to fly machines in and out for maintenance and refurbishment associated with bush fire response/surveillance. This is expected to be at a maximum of 30-35 flights per month or an average 2 in-and-out flights per day on average. The design helicopter is a BELL 206 L 4 Long ranger and two potential flightpaths are proposed, one to the north east and one to the east-north-east.

Normal operating hours of the facility would be 7:00 am – 5:30 pm Monday – Friday.

The nearest building to the site is an industrial building located approximately 147 metres away. The closest dwellings are situated circa 900 metres from the site.

It is noted that there are no standards or guidance for vibration associated with the construction or operation of an activity or development that apply specifically in the ACT.

7.9.1.1 Interstate examples of similar development adjacent to urban area

Similar existing helicopter landing / departure areas include the Southcare Rescue Helicopter Base and the ACT Rural Fire Service, which are located approximately 600 metres to the north of the site.

7.9.1.2 Noise Impact Assessment On-site use – Ground Activities

A Noise Assessment has been undertaken by SLR Consulting Australia Pty Ltd, and is contained in Appendix A. A three-dimensional noise model was implemented using the SoundPLAN software package to predict the operational noise to the residences and nearby commercial receptors. The DIN 456841 algorithm was utilised for the prediction of helicopter noise, as this is recognised as a current best practice model and suitable for the assessment of helicopter operations. Noise from the workshop and associated activities was predicted using the ISO 96132 algorithms within SoundPLAN. The noise model includes details of the topography and receptors including those in Tralee and West Queanbeyan. Nearby commercial developments have been included in the modelling.

Noise levels at residential and light industrial receptors are compliant with the applicable Australian Standards. In relation to operational noise, there are no requirements relating to noise contained within the ACT Hume Precinct Map and Code, the Non-Urban Zones Development Code, or the objectives of the NUZ1 – Broadacre Zone.

To demonstrate that noise from the general operations at the development would not impact on neighbouring land uses, noise emanating from the facility will be required to comply with the ACT Environmental Protection Regulation 2005, an assessment based on ACT land zonings and their respective noise acceptance criteria.

For the purposes of the assessment, it has been assumed that all sources of noise at the workshop facility may occur at the same time (thus representing a “worst-case” scenario) for the day period. The acoustically-significant sources of noise and their associated sound power level (SWL) values were generally obtained from measurements undertaken by SLR at the existing Forestrack workshop in Sheppard Street, Hume.

The heater, rattle gun and spray cleaning will occur sporadically within the workshop building, which will be clad with metal sheeting and have large access openings to the apron area, usually left open. It is assumed the roof will have an insulation blanket layer or similar between the purlins and metal roof decking.

Trucks will arrive at and depart the site from Sheppard Street. Some will access the workshop on the apron area and others will travel around the rear, northside of the buildings to the hangar apron. The compressor enclosure which is a modified shipping container is located near the rainwater tank adjacent to the workshop building near to the western boundary for this assessment, with the ventilation opening facing to the northwest.

All noise sources associated are assumed to operate continuously for the 10 minute assessment period. One truck would be expected to either arrive or depart the site in that time.

From the assessment it is apparent that noise from the workshop and associated activities was predicted to comply with the daytime zone noise standard at all assessment locations.

7.9.1.3 Noise requirements for the operation of aircraft

The design helicopter is a BELL 206 L4 Long Ranger and two potential flight paths are proposed, one to the northeast and one to the east-northeast. Helicopter operations are proposed for between 7:00 am to 5:30 pm only, which is within the daytime period described in the EP Regulations, and comprise a maximum of 2 take-off and 2 landing movements to and from the northeast; and a maximum of 2 take-off and 2 landing movements to and from the east-northeast.

Each of the movements includes a hover take-off and landing operation at the helicopter landing / departure area, which would be considered 'worst case' arrival and departure conditions. To simulate the maximum potential noise from helicopter ground operations such as starting, warming up and stopping, a scenario with the helicopter operating at full power at the helicopter landing / departure area was included. Buildings proposed for the development were not included in the model.

Noise assessment criteria has been developed based on the following documents:

- Australian Standard (AS) 2021:2015 Acoustics – Aircraft noise intrusion – Building siting and construction (AS 2021)
- AS 2363:1999 Acoustics - Measurement of noise from helicopter operations (AS 2363:1990, withdrawn)
- AS 2363:1990 Acoustics - Assessment of noise from helicopter landing / departure areas (AS 2363:1999, superseded)
- "Environmental Principles and Procedures for Minimising the Impact of Aircraft Noise" issued by Airservices Australia.

In considering noise criteria for aircraft, including helicopter it is necessary to distinguish between ground-based and air-based noise. Ground based noise consists of engine testing and maintenance or similar related noise. Noise from airborne operations is the responsibility of Airservices Australia. Similarly, as the pilot commences pre-flight checks, conducts the flight and then completes post-flight checks, those operations are also the responsibility of Airservices Australia

Noise from airborne operations is assessed in terms of the Australian Noise Exposure Forecast (ANEF) criteria in Australia. Whilst no longer current, Airservices Australia's "Environmental Principles and Procedures for Minimising the Impact of Aircraft Noise" document has also been referenced for this assessment, as it provides numeric criteria (LAeq) that references AS 2021. These criteria and guidelines have been adopted in the absence of current specific criteria for noise from heliport operation in the ACT. This approach represents the current 'best practice' for the setting of noise goals for helicopter noise.

AS 2021 is concerned with land use planning and building treatments in the vicinity of an air transport infrastructure. The objective is to provide guidance to regional and local authorities, organisations, communities and others associated with urban and regional planning and building development, on the siting and construction of new buildings against aircraft noise intrusion and on the acoustical adequacy of existing buildings in areas potentially impacted by aircraft noise.

The standard uses the ANEF system, which is a single number index for predicting the cumulative exposure to aircraft noise in communities near airfields during a specified time period (normally one year). Computation of the ANEF index includes:

- measurements of aircraft noise (expressed in Effective Perceived Noise Decibels, EPNdB), which take account of the spectral, temporal and spatial aspects of the noise;
- estimates and generalisations of aircraft type groups and mix, number of operations, runway utilisation, flight paths and operational procedures; and
- time of day, ie daytime (0700 hours to 1900 hours) or evening/night-time (1900 hours to 0700 hours).

Airservices Australia provides fundamental principles to be used in the environmental assessment of proposals for new air routes and as the basis for selecting preferred noise abatement procedures. Principle 6 states "*no residential area should receive more than 60 Leq 24*", whilst principle 7 provides '*there should be a current agreed aircraft noise exposure level above which no person should be exposed, and agreement that this level should be progressively reduced. The goal should be 95 dB(A).*' Therefore, an LAeq(24hr) noise level of 55 dBA is deemed acceptable.

Subsequently, the following numerical criteria can be established:

- The "unacceptable limit" for residential receptors in AS 2021 is above 25 ANEF. Therefore 25 ANEF + 35 = LAeq(24hr) noise level of 60 dBA.
- The "acceptable limit" for residential receptors in AS 2021 is less than 20 ANEF. Therefore 20 ANEF + 35 = LAeq(24hr) noise level of 55 dBA.

The scoping document refers to Australian Standard 2363, which has been superseded. The 1999 version does not provide an evaluation of the noise compatibility of sites considered for helicopter operation as criteria for the assessment of helicopter sites are governed by the environmental authority in each State. Whilst the 1999 version of the standard did not contain maximum noise level targets, and recommended limits be set by the planning authority, the noise targets of the superseded 1990 version have been be considered by this acoustic assessment.

The superseded 1990 version of the standard identified maximum noise level targets (LAmax (Hel)) and time-averaged sound level targets (LAeq,T (Hel)) for different receptors during day and night periods

For daytime operations, the LAeq(24hr) noise level derived from AS 2021 is more stringent than the daytime LAeq,T (Hel) noise level from AS 2363:1990, as the same operations performed over a 12-hour period will produce a noise level 3 dB higher than over a 24 hour period.

The criteria of AS 2363:1990 are 5 dB higher than the AS 2021 derived limits (for example a residence is 60 dBA compared to 55 dBA, and commercial 65 dBA compared to 60 dBA).

7.9.1.4 Type, magnitude, duration and frequency of noise in Operation at receivers

Helicopter noise levels have been predicted for all sensitive receptors in the assessment area for the project. Predicted noise levels at the nearest receptors are presented in terms of the of LAeq(24hr) noise levels and by use of noise contours for the northeast and east-northeast flight paths respectively. Maximum noise levels for the high-power ground operations at the helicopter landing / departure site is also declared in the assessment.

The predicted noise levels at residential and light industrial receptors show compliance with the applicable AS 2021 criterion, in addition to the criteria from the (superseded) AS 2363:1990, for residential and commercial receivers. In addition, the noise contour assessment indicate predicted noise levels would be comfortably below 50 dBA (15 ANEF + 35 dB) at surrounding residential areas and the "worst-case" noise level during warming up would be below 75 dBA LAmax at the nearest light industrial receptor.

7.9.1.5 Noise and vibration impacts during operation

The primary generators of noise impacts during operation are helicopter aircraft and workshop activities. Helicopter noise generation will occur at aircraft start up, warming up, hover take-off, landing and stopping. Helicopter noise impacts can be minimised as per the abovementioned measures noted in **Section 7.9.2.1.**

Noise generating workshop activities include heavy vehicle arrival and departure; forklift manoeuvring; external compressors; and use of hand tools, heaters and spray cleaners. Heating, rattle gun use and spray cleaning will occur sporadically within the workshop building. Trucks will arrive at and depart the site from Sheppard Street. Some will access the workshop and others will travel around the rear, northside of the buildings to the hangar. All noise sources are assumed to operate continuously for the 10 minute assessment period, with one truck would be expected to either arrive or depart the site in that time. The following image identifies noise compliance for these sources.

SLR Consulting predict that noise will comply with the daytime zone noise standard.

There are no standards or guidance for vibration associated with the construction or operation of an activity or development that apply specifically in the ACT. The nearest residences are located approximately 900 m from the project site, and the nearest commercial structure is an industrial building approximately 15 m from the location of the works. No blasting or work in bedrock will be required during the construction program. Other construction activities including earthworks and site preparations, and the proposed operational activities would not be expected to generate significant levels of vibration at nearby receptors. Accordingly no vibration impacts are anticipated.

7.9.2 Potentially Significant Risks (with mitigating measures implemented)

Noise management initiatives to be undertaken by and proposed by the proponent in relation to planning and operation at the airport as required by the Planning Requirements of the ACT Government Scoping Document are as follows:

7.9.2.1 Operational management plan

The proponent will implement the "Fly Neighbourly"3 procedures for helicopter which would include:

- Minimising engine warm up and shutdown durations.
- Increasing altitude as soon as possible.
- Utilising rates of climb and descent that minimise noise over residential areas.
- Utilising slower, steeper descents to reduce or avoid blade slap where practicable.
- Maintaining correct flight paths after take-off.
- Avoiding flying over residential areas, hospitals and schools when departing from and approaching the site.
- Selecting the least noise sensitive route when flying over populous areas.
- When repeated flying over the same area is necessitated, varying the flight path to avoid overfly the same structures.
- Implementation of a noise complaints procedure.

7.9.2.2 Management of noise complaints

The proponent will be responsible for handling noise complaints associated with ground-based activities, such as ground running of helicopter and servicing and other on-site noise.

The proposed noise complaints management procedure will encompasses the following:

- Recording all complaints in writing, along with details of the circumstance leading to the complaint and all subsequent actions.
- Investigate the complaint in order to determine whether a criterion exceedance has occurred or whether noise has occurred unnecessarily.
- Planning and implementing corrective action, as required.
- Informing complainants that their complaints are being addressed and advising what, if any, corrective action is being undertaken.
- Carrying out noise monitoring to confirm the efficacy of corrective actions and the compliance of activities with the relevant criteria.
- Inform Complainants of the implementation of the corrective action that has been taken to mitigate any adverse effects and monitoring outcome.

Table 19: Residual risk assessment with nil mitigation measures required

Noise and Vibration (with Mitigation)			
Noise impacts from operation	**Likelihood: Unlikely**	**Consequence: Moderate**	**Risk: Low**

7.10 Heritage

The scoping document identifies impacts on unknown objects or places with heritage value as a potentially significant risk. This has been assessed in the following discussion. Past Traces Pty Ltd has been engaged by the proponent to prepare a Cultural Heritage Assessment (CHA) to identify constraints and provide planning information for the proposed Bushfire and Response Training Centre to be located in Hume ACT.

This assessment reviewed previous work in the area to gain background information, inform predictive modelling and completed a field survey across the project area to determine if any heritage constraints apply to the project area or the potential to impact on any heritage sites is present.

Archaeological site patterning in the region shows a landscape dominated by low density artefact scatters focused on the areas of Dog Trap Creek to the north west of the project area and Jerrabomberra Creek to the north east. Heritage studies have been undertaken in the surrounding areas for the future developments within the Hume Valley (Ozark 2012, Ironbark 2014, NOHC 2004 a and b) which have located numerous small artefact sites focused on ridge lines, spur crests and reflecting a concentration on creek line utilisation.

7.10.1 Known Heritage Significance of the Site

There are no Registered or Provisionally Registered Heritage Sites, or any sites nominated for registration within or adjacent to the site (based on the ACTmapi Heritage layers, November 2018).

Field survey was undertaken on the 16 March 2021 to confirm the findings of the desktop assessment and consultation with the Aboriginal Representative Aboriginal Organisations (RAOs) has been undertaken in accordance with ACT Heritage guidelines and the Heritage Act 2004. The RAOs were provided with report details, participated in the field survey and provided guidance in regard to significance and appropriate management strategies.

Low to moderate surface visibility (GSV) was present throughout the alignment as a result of intermittent and sparse grass coverage. Small areas of exposure, due to displaced soils, vegetation clearance, old vehicle tracks and areas of erosion were present throughout the project area. Based on the previous levels of disturbance through the project area, no areas of potential archaeological deposit (PAD) were identified within the project area. The field survey located no Aboriginal or historical sites. There are no known heritage impacts from the proposed project and as a result no submission of a Statement of Heritage Effects (SHE) for approval to the ACT Heritage Council is required.

7.10.2 Potentially Significant Risk

7.10.2.1 Impacts on unknown heritage values

Following a desktop review and field survey, Past Traces Heritage Consultants conclude there is low potential for any unrecorded heritage sites to be present within the site boundaries.

Noting that all Aboriginal objects and places are protected under the ACT Heritage Act 2004, it is an offence to disturb an Aboriginal site without approvals granted by the ACT Heritage Council. Should any Aboriginal objects be encountered during works then works must cease immediately in the vicinity of the find, and the find should not be moved until assessed by a qualified archaeologist with the participation of the RAOs. Adherence to the Unexpected Discovery Plan (UDP) is required.

In line with the above mitigation measures recommended are as follows:

- Implementation of an Unexpected Finds Protocol for discovery of Aboriginal cultural heritage.
- Implementation of an Unexpected Finds Protocol for discovery of historical cultural heritage.
- The CHA to be submitted to ACT Heritage Council for endorsement prior to works commencing.

7.10.3 Potentially Significant Risks (with mitigating measures implemented)

The residual risk assessment with the implementation of the above mitigation measures is as follows:

Table 20: Residual risk assessment with nil mitigation measures required

Heritage (with Mitigation)			
Identification of unrecorded heritage sites / Impacts on unknown heritage values	**Likelihood: Unlikely**	**Consequence: Moderate**	**Risk: Low**

7.11 Biodiversity and Nature Conservation

Impact on biodiversity from removal of native vegetation; impacts on ACT and Commonwealth protected flora; and impacts on ecological communities are identified within the scoping document as potentially significant risks. These risks are assessed below.

7.11.1 Existing Site Conditions

A preliminary assessment of the biodiversity values of the site was completed in October 2018 by PATH-Co (Attachment 1). The assessment included a combination of desktop and field-based survey methods. A summary of the site's vegetation values and habitat for native fauna is provided below.

7.11.1.1 Vegetation

The vegetation at the site is characterised into two broad categories, being the cleared central parts of the site, and the outer eastern and northern portions of the site which retain a relatively intact native tree canopy, as described further below, and as shown in the figure below.

Figure 12: Existing Site conditions

The vegetation within the southern (and central) parts of the site 'Area 1' on Figure A of the report is in a highly modified condition, being cleared of any native trees, and dominated by introduced grasses and numerous weed varieties, with a few (<10) small introduced/ornamental shrubs/saplings (such as apples/plums) observed to be scattered lightly through this area.

In general, there was very little native species observed in these central cleared areas, comprising (very) occasional native grasses such as Spear Grass (*Austrostipa spp.*), Poa (*Poa spp.*) and Common Wheatgrass (*Elymus scaber*). On the whole, exotic species were observed to account for well over 50% of the overall species composition in this area, and it would not qualify as being part of any threatened ecological community (see further below for details of listed threatened communities that were considered for possible occurrence at the site).

The northern portion of the site 'Area 2' supports a relatively intact native tree canopy, comprising two distinct, but contiguous patches with different species composition. The north, north-western parts of Area 2 which accounts for most of the trees at the site, supports a tree species composition of predominantly Brittle Gum (*Eucalyptus mannifera*) with some occasional Argyle Apple (*E. cinerea*), Red Box (*E. polyanthemos*) and very occasional Yellow Box (*E. melliodora*) individuals.

Given the observed typical age and size class (approx. 12-16 m height and on average less than 500 mm trunk diameters (dbh) even for large specimens), across Area 2 none of these trees are considered likely to be remnant trees (i.e. occurring pre-development of Canberra).

Many of these trees are likely to be planted specimens as noted from the ACTmapi Vegetation Communities layer database (based on the mapping of Baines et al, 2013) which identified the northern treed parts of the site as supporting *APN: Amenity planting native*. Given this, the treed parts of Area 2 would not naturally conform to any recognised vegetation community type.

Some of the younger trees at the site are likely to have naturally regenerated from the plantings or the soil seed bank from the former vegetation at the site, pre-clearing.

Almost all of Area 2 were observed to have a moderately modified understorey. The central and eastern parts of Area 2, and extending north to the intersection of Lanyon Drive and Sheppard Street, supported a relatively dense shrubby understorey, consisting primarily of Cootamundra Wattle (*Acacia baileyana*) and Wedge-leaf Wattle (*Acacia pravissima*) with some minor regrowth specimens of the eucalypt species mentioned above. Some (occasional) introduced exotic shrub varieties including Briar Rose (*Rosa rubiginosa*) and Hawthorn (*Cratageus spp.*) were also observed to be present. The other parts of Area 2 supported little or no shrubby understory layer.

The groundcover layers throughout Area 2 were observed to support predominantly introduced grasses and weed varieties, generally similar to those mentioned for Area 1 above, with very few native groundcover species observed in Area 2, including only a small number of Speargrass and Kangaroo Grass (*Themeda triandra*). Very few native forbs were observed in Area 2, including common varieties such as Native Geranium (*Geranium solanderi*) and Bluebells (*Wahlenbergia sp.*). As with Area 1, the exotic species accounted for well over 50% of the overall species composition in this area.

Threatened flora

There was no evidence of any local threatened flora species within the site.

A review of the ACTmapi Significant Species database also does not identify any records of any listed threatened flora as occurring either within or immediately adjacent to the site. With regard to threatened flora species included in the EPBC PMST results, given the previous clearing of large parts of the site, including the degree of weed infestation in the understorey layers throughout the site, as well as other features such as lack of suitable habitat for certain species, suggest that there is little potential of any of these species occurring at the site. Refer to Attachment 1 (Appendix B) for further information on the potential likelihood of threatened species occurring at the site.

Threatened ecological communities

The site does not support any identifiable threatened ecological communities.

A review of the ACTmapi Significant Species database also does not identify any listed threatened communities occurring in or near this area and as stated above, shows the treed parts the site as supporting *APN: Amenity planting native*.

The EPBC PMST revealed two listed threatened ecological communities that may have the potential to occur in the area, these include the following:

- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (critically endangered ecological community (CEEC) under the EPBC Act); and/or Yellow Box Red Gum Grassy Woodland (endangered ecological community (EEC) under the ACT NC Act); and
- Natural Temperate Grassland of the South-eastern Highlands (critically endangered ecological community (CEEC) under the EPBC Act); and/or Natural Temperate Grassland (endangered ecological community (EEC) under the ACT NC Act).

The highly modified nature of the open grassland areas across Area 1 which is dominated almost exclusively by introduced species means that this area would not qualify as being part of either of the communities listed above.

For Area 2,the woodland vegetation supports a canopy species composition dominated by Brittle Gum, as well as some Argyle Apple and Red Box (all of which appear to have been planted) and would not meet the definition of the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland community (Box Gum Woodland) as per the criteria set out in the *EPBC Act Policy Statement: White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* (DEH 2006).

7.11.1.2 Fauna and habitats

The fauna species encountered during the site survey or considered likely to occur at the site on a regular basis, is limited mainly to common fauna types, as described below.

Avifauna

The avifauna species observed during the site survey included primarily common species that are well-adapted to urban and peri-urban environments and are often seen throughout the ACT and surrounding region (refer to Section 3.2 of the Biodiversity Assessment report included at Attachment 1).

The northern parts of the site (i.e. Area 1) provides relatively good tree cover for shelter/resting/roosting habitat for birds, as well as some suitable foraging habitat for granivorous and nectivorous bird species though the (limited) variety of flowering trees and shrubs, and grasses (for seed-eating species).

No tree hollows were observed in any of the trees at the site, and so there is no suitable breeding habitat for any hollow-dependent bird species (although these species still may visit to forage at the site from time to time, as evidenced by the presence of Galahs and Rosellas for example).

Mammals

No mammals were directly observed at the site during the brief daytime inspection, although some evidence of mammals visiting the site was observed (by burrows and scats). The inspection noted that the site generally provided minimal suitable habitat features for native mammals as summarised below.

There was limited arboreal habitat features for native mammals. No tree hollows were observed in any of the trees, which is an important breeding habitat requirement for many native arboreal mammals, and consequently, the site is considered unlikely to support any breeding habitat for arboreal, hollow-dependent native mammal species.

The site provides limited habitat for native ground-dwelling mammals. This includes marginal foraging habitat for kangaroos and wombats for which there was some evidence of use at the site by observations scats as well as scratchings/diggings by these species. Other evidence of use of the site included scratchings made presumably by a Short beaked echidna (*Tachyglossus aculeatus*), as well as burrows and scats of the introduced European Rabbit (*Oryctolagus cuniculus*).

There are some rocky outcrops located along the northern margins of the site in Area 2, however, these rocks were typically heavily embedded with little crevices or other holes/burrows beneath the rocks observed which would limit their suitability as potential nesting habitat for any small mammals. No other suitable ground structures such as fallen logs, required for shelter for many smaller ground-dwelling mammals was observed and consequently, the site is considered unlikely to support any smaller native ground-dwelling mammal species.

Reptiles

The site provides some habitat for reptiles, limited mainly to the occurrence of the rocky outcrops mentioned above. As noted above, the majority of these rocky areas contained large heavily embedded boulders/bedrock, with fewer loose/partially embedded surface rocks. Consequently, there is limited opportunities for reptiles to shelter beneath these rocks (particularly for longer-term winter hibernation etc), although they do provide good basking habitat (an important requirement for many reptile species).

Targeted surveys were undertaken at the site for the Striped Legless Lizard (*Delma impar*). These surveys were undertaken in accordance with the *Commonwealth's Survey guidelines for Australia's threatened reptiles: Guidelines for detecting reptiles listed as threatened under the Environment Protection and Biodiversity Conservation Act 1999* (CoA 2011) and which (preferentially) prescribes the use of the artificial shelter site technique.

The surveys involved the placement of roof tiles (as artificial shelter sites) in grids consisting of 50 tiles, at five metre spacing between tiles, arranged in a grid of 10 tiles by five. The guidelines prescribe as a minimum, two tile grids for sites less than 2 hectares in size, or one grid per 3 hectares for sites up to 30 hectares. For this study, three grids (totalling 150 roof tiles) were deployed within the open grassland areas across the south-western portion of the site.

The survey was undertaken from September to December 2019.

During these surveys, the target species, D. impar, was not recorded at the site (or any other threatened reptile species), although a number of more common reptiles were recorded during the tile surveys, but in very low numbers. These included the Delicate Skink, *Lampropholis delicata* and Grass Skink, *L. guitchenoti*, Eastern Brown Snake *Pseudonaja textilis*, Boulenger's Skink *Morethia boulengeri* and Lined Skink *Ctenotus robustus*. A single Jacky Lizard *Amphibolurus muricatus* was also briefly glimpsed amongst a pile of broken concrete/rocks/rubble in the central western portion of the site and a single record was also made of a medium-sized Eastern Blue-tongued Lizard (*Tiliqua scincoides scincoides*) beneath rocks in the northern portion of the site.

Amphibians

The site does not support any regular or intermittent aquatic habitats. Consequently, the site does not support potential breeding habitat for any amphibians.

Threatened fauna

No threatened fauna species were recorded within the site during the survey.

As noted, targeted surveys for the Striped Legless Lizard were unable to locate the species at the site. Given the results of this survey combined with the site conditions and history of disturbance, including fragmentation from other areas supporting the species, it is considered highly unlikely that the Striped Legless Lizard would be present at the site.

A review of the ACTmapi Significant Species database also does not identify any habitat or records of any listed threatened fauna as occurring either within or immediately adjacent to the site. With regard to threatened fauna species included in the EPBC PMST results, given the habitat requirement of these species and the observed available habitats within the site, it is considered unlikely that any of these species would occur at the site on a regular basis, or would rely on the site for important habitat.

7.11.1.3 Natural Conservation Values of the Site

Existing processes and Natural Systems

The site is not regarded as being important in maintaining any existing natural process or systems of the ACT.

The vegetation at the site is modified, being cleared and supporting predominantly weed groundcovers across the entire southern parts of the site, with the treed northern parts of the site identified as being (likely) planted (Amenity Planting). The vegetation does not meet the criteria for any listed threatened ecological community. Given the modified nature of the site, there is considered to be low potential for any listed threatened flora species to occur at the site, with no records of any listed threatened flora within or nearby to the site. In particular, consultation with Dr David Albrecht from the CSIRO Herbarium was made and it was his belief that *Dianella amoena* (a threatened species believed by ACT Government ecologists as having the potential to occur at the site/in the ACT; though not previously formally recorded here), is not likely to be present (in the ACT).

The site provides minimal habitat values for native fauna. There is some foraging habitat within the treed portions of the site which are used by more common and mobile fauna types, being mainly birds. No tree hollows or other nests were observed at the site. There is some marginal habitat for native reptiles provided by limited areas of rocky outcrops within the northern portions of the site, however, most rocks were heavily embedded, with few scattered surface rocks. A targeted survey for the Stiped Legless Lizard (Delma impar) was undertaken in Spring-Summer 2019, with a total of 150 roof tiles deployed in three grids (of 50 tiles) across the open grassland areas. The species was not detected during this survey, with only a few common reptiles recorded.

Based on the observations, the site is considered unlikely to support any listed threatened fauna.

The site is not considered to be important in maintaining any local or regional ecological corridors or links. It is located within the north-eastern corner of the Hume Industrial Area and surrounded by busy roads on all but one side, which bordered by a large warehouse on an industrial use site. The main links in the area occur well to the north of the site through the Jerrabomberra and Symonston reserves which would not be affected by development of this block.

No other important biotic or abiotic factures are known or considered likely to occur within or adjacent to the site that would be affected by its development.

Diversity of Flora, Fauna or Landscape

The southern half of the site is cleared and dominated by weeds and therefore is of low floristic diversity or value.

The northern treed parts of the site support a canopy of planted trees, consisting of only a few locally common species.

Other recorded native flora species in the under-story layers in the northern portion of the site were also of common varieties.

A total of 47 flora species were recorded at the site during the brief inspection, including only 12 native species and 35 exotic species.

There is considered to be low potential for the site to support any rare or threatened flora types (with *Dianella amoena* considered unlikely to be present as previously mentioned), and the vegetation does not meet any criteria for any listed threatened ecological community.

A total of 24 fauna species were recorded at the site during the brief site inspection. This included 15 birds (including one exotic species), three mammals (including one exotic species), and six reptile species.

All of the native species recorded are locally common species that are (moderately) well-adapted to urban environments.

As noted, despite targeted surveys being undertaken in accordance with prescribed survey guidelines for the Striped Legless Lizard, the species was not detected at the site and given the site conditions and history of disturbance (including fragmentation for many years from any nearby areas supporting the species), is considered unlikely to be present at the site.

Given the assessment findings, the site is not regarded as being important in displaying a rich or otherwise unusual fauna species diversity.

Additional targeted surveys for listed threatened flora or fauna are not considered necessary and it is unlikely that further survey would provide any notable new records or a change in the overall observed values of the site with regard to the diversity of native flora or fauna. The site also does not support any unusual landscapes, being relatively flat and situated within an industrial precinct and surrounded by busy roads and industrial uses. Development of the site (with the retention of some of the existing trees along the northern margins) would not diminish any existing landscape character or amenity values in the area.

Uncommon Communities, Landscapes or Phenomena

The site does not support any listed threatened or otherwise uncommon ecological community. The treed portions of the site are (most likely) of planted origin (as per ACTmapi website), and does not meet the criteria for the Yellow Box – Blakely's Red Gum Tableland Grassy Woodland ecological community.

The site does not provide any notable landscapes or scenic amenity of significance.

Some visual amenity values are provided by the existing trees across the northern portion of the site which fronts Lanyon Drive and Sheppard Street and forms the outer north-eastern "corner" of the Hume Industrial Area, and currently provides some limited visual buffering to the individual precinct from only a small number of viewpoints from the north (i.e. only the last short section of Lanyon Drive, and first short section of Sheppard Street before/as rounding the bend, as well as limited sections of Monaro Highway southbound).

No other rare or uncommon natural process or phenomena is known or considered likely to occur at the site.

Landscape and Ecosystem Characteristics

The site is not considered important in demonstrating the principal characteristics of any landscapes, environments or ecosystems. It is typical of the modified landscape of the broader area and does not support any noteworthy attributes that would be characteristic of any important class of vegetation, ecological community or other landscape function or value.

Consequently, it does not represent an area whose conservation would be important as a demonstration of a particular natural resource in the ACT.

The site is not considered important for providing information contributing to a wider understanding of the ACT's natural history, by virtue of its use as a research site, teaching site, type locality, reference or benchmark.

7.11.2 Potentially Significant Risks

A Biodiversity Assessment Report has been prepared by PATH Co Pty Ltd, and is contained in Appendix A.

7.11.2.1 Impact from clearance of native vegetation

The treed portions of the site support a small but relatively intact native woodland vegetation community. However, these trees are all common species, and are immature specimens likely to have been planted less than 50 years ago. The proposed clearing of four trees from the site is considered unlikely to significantly affect flora species diversity.

7.11.2.2 Impacts on ACT and Commonwealth protected flora

No local threatened flora species have been observed on the site. Furthermore, the existing trees do not form habitat considered likely to support any listed protected plants.

7.11.2.3 Impacts on ecological communities

No habitat features supporting threatened fauna species were observed at the site, and the site is considered unlikely to support any listed threatened fauna species.

The native fauna habitat values of the site include:

- Limited shelter and foraging opportunities for birds provided by the native tree canopy.
- Limited shelter opportunities for reptiles provided by rocky outcrops.

As a result of earthworks and vegetation clearing during construction, it is likely that some of these habitat values will be lost. However, the fauna affected by this habitat loss are common and could occupy other habitats in the surrounding area.

PATH Co have identified the following mitigation measures to reduce impacts to biodiversity:

- Minimisation of vegetation clearing to the scope required to complete works.
- Engaging a fauna spotter throughout the removal of trees and rocky outcrops to capture and relocate animals as required.
- Implementation of sediment and erosion controls.
- Implementation of weed management measures.

7.11.3 Potentially Significant Risks (with mitigating measures implemented)

The residual risk assessment with mitigation measures required are as follows:

Table 21:Residual risk assessment with nil mitigation measures required

Biodiversity and nature conservation (with Mitigation)			
Impact from clearance of native vegetation	**Likelihood: Possible**	**Consequence: minor**	**Risk: Low**
Impacts on flora and fauna	**Likelihood: possible**	**Consequence: minor**	**Risk: Low**

7.12 Hazard and Risk

The scoping document identifies the following hazard and risk considerations:

- Impacts to public safety from operation, including helicopter usage
- Impacts on the facility from fire on adjacent / adjoining site
- Impact from fire or explosion at the facility

In addition to these, the following have been identified as part of the drafting of the EIS:

- storage of hazardous materials/chemicals on the site that poses an impact on surrounding area;
- insufficient water supply from tanks and mains for fire suppression in the event of an emergency;
- failure to meet emergency services requirements for the site (e.g., emergency access, location of hydrants, etc.,);
- cease of operations due to critical infrastructure failure, or failure to secure/maintain emergency services operations; and
- pilot distraction from adjacent street.

These are assessed in the following discussion.

7.12.1 Potentially Significant Risk

7.12.1.1 Impacts to public safety from operation, including helicopter usage

Forestrack will provide initial and recurrent training aimed at providing the safety personnel with the knowledge and skills necessary to deal effectively with an emergency at the site. This safety training will be included in the helicopter Operation Plan as part of the companies Integrated Management System.

Helicopter Operation Plan / Safety training will address

- Operation of the helicopter site and facilities
- Safety procedures around helicopter(s) during ground operations
- Communication systems at the site
- Site emergency plan
- Operation of the fire protection system

Proposed helicopter operations itself will be managed during landing and take-off to ensure adequate safety is maintained for all persons. A procedures manual will be prepared covering the relevant matters. The relatively small area allocated for the landing and departure of the chosen helicopter is excluded to the public and will be actively managed. The proposed development does not include any permanent fuel storage for the fuelling of helicopter(s). Accidental spills will be managed by site controls and procedures outlined in the helicopter operations manual will also include robust emergency safety and routine procedures.

The purpose of approach/departure airspace is to provide sufficient airspace clear of hazards to allow safe approaches to and departures from landing sites. The proposed Approach/departure paths are such that downwind operations are avoided and crosswind operations are kept to a minimum. Moreover, the preferred flight approach/departure path is aligned with the predominate wind when taking account of potential obstacles.

Pilots are always responsible for the safe conduct of the flight. This includes any effects rotor downwash may have on persons and objects near a landing location. Pilots will need to ensure their flight path is clear of potential objects, and pedestrians.

Helicopter operations into and from the base are expected to be infrequent at best. Forestrack are committed to a Fly Neighbourly procedure and the provision of Fly Neighbourly advice to pilots will be used as a priority. The preferred approach and departure paths have been selected to in accordance with acoustic testing to minimise any inconvenience to surrounding communities. By designing these paths predominately over undeveloped land, the helicopter should operate without travelling over or near populated areas.

A downwash report is submitted in support of this application that assesses the impact on pedestrian and bike rider traffic adjacent to the site. The helicopter downwash assessment demonstrates that the proposed helicopter landing / departure area located to the northeast of the proposed operations base area are within CASA's recommended maximum wind velocity and will not have an impact on the proposed buildings and helistands.

7.12.1.2 Impact from fire or explosion at the facility and Impacts on the facility from fire on adjacent / adjoining site

Permanent fuel storage is not proposed at the site. The fuel tanker will only be used in rare cases to refuel the helicopter. The preference is to refuel the helicopter at Canberra airport. As a consequence, the prospect of a serious fuel spill is not a possibility requiring a response from a third party. If refuelling the helicopter is required (which would be a rare event), it will take place on the hard stand area below the helicopter landing/departure site. The area is graded towards a sump which is connected to the SPEL to prevent the uncontrolled migration of fuel from the area.

Should a fuel leak occur, then spill kits maintained onsite would be used to remove the leak, then it is anticipated that emergency services would be contacted to manage the spill.

Used oil filters will be contained in 200 litre drums and stored in the designated waste area prior to disposal at a recycling facility. The waste area will be managed in accordance with the facility operation plan.

In the event of spillage an emergency spill kit to be kept on site and staff trained in its use.

There are currently no regulatory standards in NSW/ACT for firefighting appliances. The most appropriate fire protection involves foam making equipment such as a Fixed Monitor System (FMS)/oscillating monitor nozzle/s for a concrete helicopter landing / departure area.

The minimum standards currently are as follows:

- a fire water point with fire hose located adjacent to the primary helicopter landing / departure area deck access point.
- firefighting appliances suitable for liquid and electrical fires located in the vicinity of the primary access point, including:
- 1 x CO2 3.5 kg.
- 1 x Dry Powder 9.0 kg.
- 1 x Foam 90 litres
- 1 x Fire Blanket.

Forestrack will provide initial and recurrent training aimed at providing the safety personnel with the knowledge and skills necessary to deal effectively with an emergency at the site. This safety training will be included in the helicopter Operation Plan as part of the companies Integrated Management System.

Helicopter Operation Plan / Safety training will address

- Operation of the helicopter site and facilities
- Safety procedures around helicopter(s) during ground operations
- Communication systems at the site
- Site emergency plan
- Operation of the fire protection system

7.12.1.3 Storage of hazardous materials/chemicals on the site that poses an impact on surrounding area

A Stormwater Impact Assessment has been prepared by Lanterra Consulting Pty Ltd, and is contained in Appendix A. This report identifies potential sources of contamination to surrounding lands including fuel, truck wash chemicals and degreasers.

The following measures are proposed to mitigate contamination risks:

- All refuelling activities will be conducted within an area graded to a SPEL interceptor to prevent the uncontrolled migration of fuel.
- Truck wash chemicals and degreasers will be stored within enclosed bunded sealed containers.
- Spill kits maintained on-site will be used to remove any minor leak.
- Emergency services will be engaged to manage any serious spill.

Lanterra concludes that the risk of contamination of the environment is low with the implementation of appropriate controls.

7.12.1.4 Insufficient water supply from tanks and mains for fire suppression in the event of an emergency

A Bushfire Protection Assessment has been prepared by Eco Logical Australia, and is contained in Appendix A. This report concludes that water supplies can be designed to comply with the relevant standards and requirements. Water supplies are easily accessible and located at regular intervals.

It is noted that a deed of agreement exists between Icon and ACT Fire and Rescue in relation to water supply in the urban area. This agreement details operative provisions which cover:

- Fire Hydrants – general provisions
- Flow rates
- Fire risk classification and fire hydrant spacings
- Fire hydrant testing and maintenance
- Fire hydrant system shutdown / isolation
- Connection to domestic supplies
- Water usage by ACTF&R and ACTRFS
- Provision of plans showing location of fire hydrants on the water network
- Amendments to water supply standards
- The deed of agreement is currently under review by both parties.
- Exposed pipes
- All aboveground water pipes shall be metal as specified in AS 3959-2018.

7.12.1.5 Failure to meet emergency services requirements for the site (e.g., emergency access, location of hydrants etc)

A Bushfire Protection Assessment has been prepared by Eco Logical Australia, and is contained in Appendix A. This report concludes that water supplies, and access and egress for the purposes of emergency services either does comply, or can be designed to comply, with the relevant standards and requirements.

7.12.1.6 Cease of operations due to critical infrastructure failure, or failure to secure/maintain emergency services operations

Operational responses to, and procedures for, aircraft emergencies, medical emergencies, dangerous goods, fires, natural disasters will be contained in an Emergency Planning and Training Plan for safety personnel.

If the operation ceased, bush fire response would largely be handled by ACT/NSW authorities. However, infrastructure failure would not prevent the deployment of machinery to respond to the construction of fire brakes and associated activities, as machinery is largely field based, albeit without back up from the workshop etc.

7.12.1.7 Pilot distraction from adjacent street

A Helicopter Operation Assessment - including Flight Path Assessment has been prepared by Forestrack personnel with an understanding of the technical issues involved and is contained in Appendix A. This assessment concludes that streetlights and traffic lights are the primary cause of pilot distraction from the street. It is noted that such distractions are unlikely as the night-time operation of helicopter is not envisioned. Furthermore, the helicopter landing area is sited to provide distance from luminaries.

7.12.1.8 Bird strike

A Bird Strike Assessment has been prepared by Lanterra Consulting, and is contained in Appendix A. This report notes that:

- The proposed operation base is not considered to be a bird attractant activity.
- The proposed Helicopter landing / departure area is not subject to Civil Aviation Safety Authority requirements.
- Threatened fauna communities are not identified as occurring on the site or within its vicinity.
- The proposed land use does not specifically relate to any of the activities identified in Guideline C.

Lanterra concludes that the risk of the facility attracting birds is very low and no actions are required to mitigate bird attraction due the nature of the development itself. However, five existing land uses within an 8 kilometre radius of the site have been identified as bird attractant activities. Therefore, the activity of flying helicopter to and from the site could be involved in the occurrence of a wildlife incident or accident event. The following recommendations are suggested:

- Development of a Wildlife Hazard Management Plan.
- Incorporation of design options and exclusion devices to prevent roosting, nesting and perching opportunities for birds on lighting, buildings and fences.

- Reassess strike risk on a regular basis to inform management actions, resource allocation and monitoring programmes.

The residual risk assessment with nil mitigation measures required are as follows:

Table 22: Residual risk assessment with nil mitigation measures required

Hazard and Risk (with Mitigation)			
Impacts to public safety from operation, including helicopter usage	**Likelihood: unlikely**	**Consequence: minor**	**Risk: Very Low**
Impact from fire or explosion at the facility and Impacts on the facility from fire on adjacent / adjoining site	**Likelihood: unlikely**	**Consequence: moderate**	**Risk: Low**
Storage of hazardous materials/chemicals on the site that poses an impact on surrounding area	**Likelihood: unlikely**	**Consequence: minor**	**Risk: Very Low**
Insufficient water supply from tanks and mains for fire suppression in the event of an emergency	**Likelihood: unlikely**	**Consequence: minor**	**Risk: Very Low**
Failure to meet emergency services requirements for the site (e.g., emergency access, location of hydrants etc)	**Likelihood: unlikely**	**Consequence: minor**	**Risk: Very Low**
Cease of operations due to critical infrastructure failure, or failure to secure/maintain emergency services operations	**Likelihood: unlikely**	**Consequence: minor**	**Risk: Very Low**
Pilot distraction from adjacent street	**Likelihood: unlikely**	**Consequence: minor**	**Risk: Very Low**
Bird strike	**Likelihood: unlikely**	**Consequence: minor**	**Risk: low**

8 Investigating Risks

8.1 Mitigation and Residual Risk

Table 9 below presents the identified risks from Table 8 that have been assessed to have an unmitigated risk level of Medium or higher. For each risk a number of mitigation measures are discussed, resulting in a Mitigated Risk level.

The mitigation measures identified in this table will be adopted by the proponent in the design, construction and operation of the development. Additional controls may apply to future owners of the land or land managers.

The majority of risks considered in the PRA were determined to be mitigated through the implementation of environmental management controls both during construction and occupation and operation of the area.

Table 23 - Mitigated Risk Assessment

				Residual Risk Assessment		
	Identified Risks	Unmitigated Risk	Mitigation Measures	Likelihood	Consequence	Mitigated Risk
Traffic and Transport						
3.	**Traffic safety impacts during operation, including traffic distractions**	**Medium**	**-Helicopter landing / departure area is sited with over 30m clearance to roadways (this is higher in elevation that the adjacent roadways).** **-Establishment of a Fly Neighbourly Advice between the operator of the facility, stakeholders, communities and Government representatives that will set out an agreed operations methodology to actively manage any adverse impacts flowing from the airborne operations activity.**	**Low**	**Medium**	**Low**

				Residual Risk Assessment		
	Identified Risks	**Unmitigated Risk**	**Mitigation Measures**	**Likelihood**	**Consequence**	**Mitigated Risk**
4.	**Impacts from Increased air traffic**	**Medium**	**-In the event that undergrounding of powerlines in locations that cause concern to helicopter operations are not granted, the positioning of 12" Power Line Hazard Markers (balls) may be necessary.** **-Operational management issues associated with helicopter operations require the establishment of a Safe helicopter operations training program and an Emergency Planning and Training Plan for personnel.** **-Establish an Fly Neighbourly Advice between the operator of the facility and stakeholders, communities and Government representatives that will set out an agreed operations methodology and limits to actively manage any adverse impacts flowing from the airborne operations activity**	**Low**	**Medium**	**Low**
Utilities						
5.	**Impacts on existing utilities from construction**	**Medium**	**-Works will be undertaken under the controls of an EPA endorsed sediment and erosion control plan.** **-Ongoing sediment and erosion control management requirements will be documented in EPA endorsed Construction Environmental Management Plan.**	**unlikely**	**medium**	**low**

				Residual Risk Assessment		
	Identified Risks	Unmitigated Risk	Mitigation Measures	Likelihood	Consequence	Mitigated Risk
			-Ongoing toxic or hazardous substance management requirements will be documented in EPA endorsed Construction Environmental Management Plan. -Dial before you dig / services locator / clearance certificate to be implemented prior to construction / land disturbance. -In the event that undergrounding of powerlines in locations that cause concern to helicopter operations are not granted, the positioning of 12" Power Line Hazard Markers (balls) may be necessary.			
Materials and Waste						
6.	Hazardous chemicals/materials impacting on health and environment	Medium	-Ongoing toxic or hazardous substance management requirements will be documented in EPA endorsed Construction and Operational Environmental Management Plans. -Spill kits maintained on-site will be used to manage any minor leak. -Emergency services will be engaged to manage any serious spill. -Truck wash chemicals and degreasers will be stored within enclosed bunded sealed containers -Runoff water / chemicals collected from truck washing activities will be treated prior to off-site disposal -Known or otherwise significant potential pollutants will not be utilised for construction.	Unlikely	Medium	Minor

	Identified Risks	Unmitigated Risk	Mitigation Measures	Residual Risk Assessment		
				Likelihood	Consequence	Mitigated Risk
Soils and Geology						
8.	Erosion and sediment impacts from construction	Medium	Ongoing sediment and erosion control management requirements will be documented in EPA endorsed Construction and Operational Environmental Management Plans.	Unlikely	Moderate	Low
9.	Existing contamination impacts from previous land uses	Medium	- The investigation was not completed with the intention of removing soil from the site. Should the removal of soil be necessary, then the soil must be assessed in accordance with the ACT EPA (2019) Information Sheet 4 'Requirements for the Reuse and Disposal of Contaminated Soil in the ACT' and a soil assessment report approved in writing by the ACT EPA. -Prior to construction works commencing, it is recommended that a Construction Environmental Management Plan (CEMP) with a suitable unexpected finds procedure is prepared by a suitably qualified environmental consultant to assist construction workers with managing soil that may exhibit visual or olfactory indications of contamination.	Unlikely	Moderate	Low
10.	Contamination impacts from operation	Medium	All refuelling activities will be conducted within an area graded to a SPEL interceptor to prevent the uncontrolled migration of fuel. -Truck wash chemicals and degreasers will be stored within enclosed bunded sealed containers. -Runoff water / chemicals collected from truck washing activities will be treated prior to off-site disposal.	Unlikely	Moderate	Low

	Identified Risks	Unmitigated Risk	Mitigation Measures	Residual Risk Assessment Likelihood	Consequence	Mitigated Risk
			-Spill kits maintained on-site will be used to remove any minor leak or in the event of a major spill, Emergency services will be engaged to manage serious events (if needed).			
Water Quality and Hydrology						
11.	Impacts on waterways from operations	Medium	-Ongoing sediment and erosion control management requirements will be documented in EPA endorsed Construction and Operational Environmental Management Plans. -All refuelling activities will be conducted within an area graded to a SPEL interceptor to prevent the uncontrolled migration of fuel. -Truck wash chemicals and degreasers will be stored within enclosed bunded sealed containers. -Runoff water / chemicals collected from truck washing activities will be treated prior to off-site disposal. -Spill kits maintained on-site will be used to remove any minor leak or in the event of a major spill, Emergency services will be engaged to manage serious events (if needed).	Unlikely	Moderate	Low
12.	Impacts from stormwater runoff	Medium	-Ongoing sediment and erosion control management requirements will be documented in EPA endorsed Construction and Operational Environmental Management Plans.	Unlikely	Moderate	Low
Climate and Air Change						
13.	Impacts from climate change	Medium	-Use of energy and fuel-efficient construction plant and equipment.	Remote	Moderate	Very Low

				Residual Risk Assessment		
	Identified Risks	Unmitigated Risk	Mitigation Measures	Likelihood	Consequence	Mitigated Risk
			-Use of biofuels in plant and equipment. -Use of grid-sourced renewable energy supply for construction and/or on-site renewable energy generation. -Use of efficient fans and motors for the facility. -Source construction materials from locations close to site. -Use of construction materials with lower embodied emissions such as low-carbon concrete, recycled metals and recycled construction aggregate. -Reuse of soil and excavated material on-site. -Recycling of construction waste. -Development of Green Travel Plans for construction and maintenance staff.			
14.	Air quality impacts from operation	Medium	-Use of energy and fuel-efficient construction plant and equipment. -Use of biofuels in plant and equipment. -Use of grid-sourced renewable energy supply for construction and/or on-site renewable energy generation. -Use of efficient fans and motors for the facility. -Source construction materials from locations close to site. -Use of construction materials with lower embodied emissions such as low-carbon concrete, recycled metals and recycled construction aggregate.	Unlikely	Moderate	Low

			Residual Risk Assessment		
Identified Risks	Unmitigated Risk	Mitigation Measures	Likelihood	Consequence	Mitigated Risk
		-Reuse of soil and excavated material on-site. -Recycling of construction waste. -Development of Green Travel Plans for construction and maintenance staff. -Utilising water sprays on stockpiles and road surfaces to supress dust. -Scheduling known dust generating activities during favourable meteorological conditions. -Design and siting of helicopter landing area to ensure adequate dispersion of emissions and avoid erosion. -Landscaping. -Aircraft to refuel from mobile fuel tank within a designated area. -Enclosed wash bays for cleaning of plant and equipment which capture sediment. -Offsite disposal of sediment from wash bays. -Sealed surfaces for all internal site traffic movements. -Maintenance of all hard stand surfaces. -Welding processes to take place in appropriated located enclosed building with air ventilation/extraction/dispersal. -Diesel fuelled vehicles would be fitted with diesel particulate filters.			

	Identified Risks	Unmitigated Risk	Mitigation Measures	Residual Risk Assessment		
				Likelihood	Consequence	Mitigated Risk
			-Company vehicles to be serviced to ensure emission control equipment is maintained in accordance with manufactures requirements.			
Noise and Vibration						
15.	Noise impacts from operation	Medium	-Minimising engine warm up and shutdown durations. -Increasing altitude as soon as possible. -Utilising rates of climb and descent that minimise noise over residential areas. -Utilising slower, steeper descents to reduce or avoid blade slap where practicable. -Maintaining correct flight paths after take-off. -Avoiding flying over residential areas, hospitals and schools when departing from and approaching the site. -Selecting the least noise sensitive route when flying over populous areas. -When repeated flying over the same area is necessitated, varying the flight path to avoid overfly the same structures. -Implementation of a noise complaints procedure.	Unlikely	Moderate	Low
Heritage						
16.	Impacts on unknown heritage value	Medium	-Implementation of an Unexpected Finds Protocol for discovery of Aboriginal cultural heritage.	Unlikely	Moderate	Low

	Identified Risks	Unmitigated Risk	Mitigation Measures	Residual Risk Assessment		
				Likelihood	Consequence	Mitigated Risk
			-Implementation of an Unexpected Finds Protocol for discovery of historical cultural heritage. -The CHA to be submitted to ACT Heritage Council for endorsement prior to works commencing.			
Biodiversity and Nature Conservation						
17.	Impacts from clearance of native vegetation	Medium	-Minimisation of vegetation clearing to the scope required to complete works. -Engaging a fauna spotter throughout the removal of trees and rocky outcrops to capture and relocate animals as required. -Implementation of sediment and erosion controls. -Implementation of weed management measures.	Possible	Minor	Low
18.	Impacts on flora and fauna·	Medium	-Minimisation of vegetation clearing to the scope required to complete works. -Engaging a fauna spotter throughout the removal of trees and rocky outcrops to capture and relocate animals as required. -Implementation of weed management measures.	Possible	Minor	Low
Hazard and Risk						
19.	Impacts to public safety from operation, including helicopter usage	Medium	Safety training will be included in the helicopter Operation Plan as part of the companies Integrated Management System. Helicopter Operation Plan / Safety training will address	Unlikely	Minor	Very Low

				Residual Risk Assessment		
	Identified Risks	Unmitigated Risk	Mitigation Measures	Likelihood	Consequence	Mitigated Risk
			-Operation of the helicopter site and facilities -Safety procedures around helicopter(s) during ground operations -Communication systems at the site -Site emergency plan -Operation of the fire protection system			
20.	Impacts on the facility from fire on adjacent/adjoining site	Medium	-Initial and recurrent training aimed at providing the safety personnel with the knowledge and skills necessary to deal effectively with an emergency at the site. -Site emergency plan.	Unlikely	Moderate	Low
21.	Impact from fire or explosion at the facility	Medium	-Initial and recurrent training aimed at providing the safety personnel with the knowledge and skills necessary to deal effectively with an emergency at the site. -Site emergency plan.	Unlikely	Moderate	Low

8.2 Entity Requirements

Entity requirements are indicated in the Appendices.

9 Community and Stakeholder Consultation

Communication Link was engaged to undertake a community and stakeholder engagement program to seek community and stakeholder feedback to assist with the preparation of this EIS. A Community and Stakeholder Engagement Consultation Report; an Addendum to Final Report: Additional Stakeholder Engagement; and a Second Addendum to Final Report: Follow Up Stakeholder Engagement are included at Appendix A of this report.

9.1 Consultation Strategy and Methods

The following groups and people within the community were identified as being potentially impacted by the development:

- ACT Rural Landholders Association Inc;
- Canberra Model Aircraft Club;
- Government Paddocks User Group;
- Hume Traders Association;
- Inner South Canberra Community Council;
- Jerrabomberra Residents Association;
- Queanbeyan-Palerang Regional Council;
- Riverview Group;
- Tuggeranong Community Council;
- Village Building Company.

The community and stakeholder engagement program was undertaken between 18 November and 18 December 2019; 29 January 2020 and 19 February 2020; and December 2021 and February 2022.

This program was prepared in accordance with the Pre-DA Consultation Guidelines for Prescribed Developments 2007, under Section 138AE of the Planning and Development Act 2007. The community consultation undertaken comprised one-on-one project briefings with key stakeholders, supported by promotional activities to notify nearby businesses and the general public. Such activities are described below.

Table 24: Community Consultation Methods and Details

Method	Details
One-on-one briefings	Communication Link emailed invitations to provide feedback to a list of identified organisations and community representative groups located close-to or having a vested interest in the area surrounding the proposed development.
Door knocks	Communication Link sought feedback from local businesses located within 400 metres of the proposed development, to obtain their feedback on the proposal. Twenty businesses were door knocked along Sheppard Street and Arnott Street.
Community pop-up	A community information pop-up was hosted at the Jerrabomberra Village shopping centre to gather feedback from residents of Jerrabomberra. The suburb of Jerrabomberra is the closest residential area to the proposed development.

9.2 Consideration of Community Feedback

A summary of each of the stakeholder feedback is below.

Table 25: Community Consultation Feedback

Stakeholder	Feedback Received
One-on-one Briefing	
Inner South Canberra Community Council	The project did not appear to hold significant interest for the Inner South Canberra Community Council. Communication Link was advised that there was no need for further engagement.
Jerrabomberra Residents Association	Concern was raised regarding night-time operation of helicopter; increased risk of driver distraction; environmental impacts; and the removal of trees and native vegetation.
Queanbeyan-Palerang Regional Council	No immediate concerns were raised by this stakeholder. However, clarification was required in relation to weekend flights and modelled noise levels.
Riverview Group	Initially, concern was raised in relation to noise and vibration impacts. Following subsequent engagement, Communication Link was advised that there were no immediate questions or overarching concerns.
Village Building Company	Initially, concern was raised in relation to noise impacts to future residential sites; and ongoing engagement. Following subsequent engagement, the stakeholder noted that helicopter may be more audible for homes at a higher elevation within South Jerrabomberra.
Door Knocks	

Stakeholder	Feedback Received
Local Businesses	**Of the 19 people that provided feedback during the door knock of Hume businesses, 11 indicated their support for the proposal. Concern was raised regarding vibration impacts.**
Community Pop-up	
General Public	**All respondents indicated in-principal support for the proposed development. Concern was raised regarding helicopter movements at night. One respondent was supportive only if helicopter movements were related to bushfire and emergency response.**

10 Recommendations

In relation to the proposed emergency services, maintenance and training facility, a comprehensive discussion of potentially significant risks and suggested mitigation measures is presented in Sections **6** and **8** of this draft EIS. The following table provides a summary of the recommendations and commitments to reduce the impacts of the proposed facility.

Table 26: Recommendations

Aspect	Commitment
Utilities	– A Construction Environmental Management Plan (CEMP) is prepared to assist construction workers with managing soil which displays indications of contamination. – Works will be undertaken under the controls of an EPA endorsed sediment and erosion control plan. – Ongoing sediment and erosion control management requirements will be documented in EPA endorsed Construction and Operational Environmental Management Plans. – Ongoing toxic or hazardous substance management requirements will be documented in EPA endorsed Construction and Operational Environmental Management Plans. – Spill kits maintained on-site will be used to remove any minor leak. – Emergency services will be engaged to manage any serious spill.
Materials and Waste	– A Construction Environmental Management Plan (CEMP) is prepared to assist construction workers with managing soil which displays indications of contamination. – A soil assessment report is prepared, in accordance with ACT EPA Information Sheet 4 'Requirements for the Reuse and Disposal of Contaminated Soil in the ACT' (2019), should removal of soil be proposed. – All refuelling activities will be conducted within an area graded to a SPEL interceptor to prevent the uncontrolled migration of fuel. – Truck wash chemicals and degreasers will be stored within enclosed bunded sealed containers. – Spill kits maintained on-site will be used to remove any minor leak. – Emergency services will be engaged to manage any serious spill.
Landscape, Visual and Lighting	– Limited number of warning lights for use during helicopter arrival and departure, for short periods of time. – Substantial retention of the existing site vegetation.
Soils and Geology	– A Construction Environmental Management Plan (CEMP) is prepared to assist construction workers with managing soil which displays indications of contamination.

Aspect	Commitment
Water Quality and Hydrology	– A soil assessment report is prepared, in accordance with ACT EPA Information Sheet 4 'Requirements for the Reuse and Disposal of Contaminated Soil in the ACT' (2019), should removal of soil be proposed. – All refuelling activities will be conducted within an area graded to a SPEL interceptor to prevent the uncontrolled migration of fuel. – Truck wash chemicals and degreasers will be stored within enclosed bunded sealed containers. – Spill kits maintained on-site will be used to remove any minor leak. – Emergency services will be engaged to manage any serious spill. – Works will be undertaken under the controls of an EPA endorsed sediment and erosion control plan – Ongoing sediment and erosion control management requirements will be documented in EPA endorsed Construction and Operational Environmental Management Plans. – Measures to prevent spills or mishandling, and emergency response procedures in the event of an incident, are to be detailed within a construction and environmental management plan under which all work will be conducted. – Ongoing toxic or hazardous substance management requirements will be documented in EPA endorsed Construction and Operational Environmental Management Plans. – All refuelling activities will be conducted within an area graded to a SPEL interceptor to prevent the uncontrolled migration of fuel. – Truck wash chemicals and degreasers will be stored within enclosed bunded sealed containers. – Spill kits maintained on-site will be used to remove any minor leak. – Emergency services will be engaged to manage any serious spill.
Climate Change and Air Quality	– Utilising water sprays on stockpiles and road surfaces to supress dust. – Scheduling known dust generating activities during favourable meteorological conditions. – Design and siting of helicopter landing area to ensure adequate dispersion of emissions and avoid erosion. – Landscaping. – Aircraft to refuel from mobile fuel tank within a designated area. – Enclosed wash bays for cleaning of plant and equipment which capture sediment. – Offsite disposal of sediment from wash bays. – Sealed surfaces for all internal site traffic movements. – Maintenance of all hard stand surfaces. – Welding processes to take place in appropriated located enclosed building with air ventilation/extraction/dispersal. – Diesel fuelled vehicles would be fitted with diesel particulate filters. – Company vehicles to be serviced to ensure emission control equipment is maintained in accordance with manufactures requirements.
Noise and Vibration	Possible noise impacts are primarily in relation to the operation of helicopter aircraft. – Minimising engine warm up and shutdown durations. – Increasing altitude as soon as possible. – Utilising rates of climb and descent that minimise noise over residential areas. – Utilising slower, steeper descents to reduce or avoid blade slap where practicable. – Maintaining correct flight paths after take-off. – Avoiding flying over residential areas, hospitals and schools when departing from and approaching the site. – Selecting the least noise sensitive route when flying over populous areas. – When repeated flying over the same area is necessitated, varying the flight path to avoid overfly the same structures.

Aspect	Commitment
	– Implementation of a noise complaints procedure. –
Heritage	– Implement Unexpected Finds Protocol.
Biodiversity and Nature Conservation	– Minimisation of vegetation clearing to the scope required to complete works. – Engaging a fauna spotter throughout the removal of trees and rocky outcrops to capture and relocate animals as required. – Implementation of sediment and erosion controls. – Implementation of weed management measures.
Hazard and Risk	– All refuelling activities will be conducted within an area graded to a SPEL interceptor to prevent the uncontrolled migration of fuel. – Truck wash chemicals and degreasers will be stored within enclosed bunded sealed containers. – Spill kits maintained on-site will be used to remove any minor leak. – Emergency services will be engaged to manage any serious spill. – Development of a Wildlife Hazard Management Plan. – Incorporation of design options and exclusion devices to prevent roosting, nesting and perching opportunities for birds on lighting, buildings and fences. – Reassess strike risk on a regular basis to inform management actions, resource allocation and monitoring programmes. – Implementation of Emergency Planning and Training Plan for personnel addressing aircraft emergencies, medical emergencies, dangerous goods, fires and natural disasters.

11 Other Relevant Information

This Environmental Impact Statement application is submitted with the following information:

- Title Sheet
- 3d Views
- Demolition Plan
- Site Plan
- General Arrangement Plan - Ground Level
- General Arrangement Plan - First Level
- Roof Plan
- Notification Plan - Ground Level
- Notification Plan - Level 01
- Street Elevations
- North & East Elevations
- South & West Elevations
- Building Sections
- Building Sections
- Signage Details
- Waste Enclosure
- External Finishes
- Bushfire Protection Assessment
- Detail Survey With Aerial
- Detail Survey Without Aerial
- Report On Geotechnical Investigation
- Access And Mobility Report
- Community And Stakeholder Engagement Stakeholder Report Inc Addendums
- Air Quality Assessment Ver 1 Final
- Epbc Act Protected Matters Report
- Bushfire Report
- Ca000 Cover Sheet
- Ca010 General Arrangement Drawing
- Ca015 Existing And Proposed External Services Drawing
- Ca030 Hydraulic Masterplan Drawing
- Ca040 Vehicle Movements And Parking
- Ca050 Drivewway Plan
- Ca060 Bulk Earthworks
- Ca070 Firefighting Site Coverage
- Cx020 Proposed Site Levels Layout Plan
- Cx024 Proposed Site Levels Longsections Sheet 1
- Cx024 Proposed Site Levels Longsections Sheet 2
- Cx024 Proposed Site Levels Longsections Sheet 3
- Cx024 Proposed Site Levels Longsections Sheet 4
- Cx024 Proposed Site Levels Longsections Sheet 5
- Cx024 Proposed Site Levels Longsections Sheet 6
- Erosion And Sediment Plan Ver 1
- Climate Change Assessment Final Sept 21
- Consultation With Canberra Airport
- Contamination Report
- Helicopter Operation Assessment
- Heritage Hume Emergency Training Centre
- Hume Sec 3 Bl 45 - Iz1 Stormwater And Water Reduction
- Hume Sec 45 Block 3 Waste Report

- Humeem_1 Ab And Cult Heritage Assess
- Infrastructure Plan Indicating Potential Groundwater Impacts
- Downwash Assessment Report V0.2
- Hume Street - Traffic Impact Assessment
- Landscape Management And Protection Plan
- Landscape Plan
- Noise Report
- Hydrogeology Report
- Preliminary Site Investigation
- Stormwater Impact Assessment
- Biodiversity Assessment Report
- Street Elevations Helicopter Montage
- Visual Assessment Final Ver B
- Wild Life Assessment Final Cg Review Pending Nov 21

12 References

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Environmental Protection Act 1997 (ACT).

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Environment Protection and Biodiversity Conservation Act 1999 (Cth).

National Capital Authority. *National Capital Plan*. ACT Government.

Planning and Development Act 2007 (ACT).

Planning and Development Regulation 2008 (ACT).

13 Appendices

Appendix 13.1 Scoping Document

Appendix 13.2 – Scoping Document Reference

Appendix 13.3 – Proponents Environmental History

Appendix 13.4 - Team Experience

Appendix 13.5 – Information Sources

Appendix 13.6 – Research

Appendix A – Specialist Studies

Appendix B – Entity Requirements

Appendix 13.1 Scoping Document

Appendix 13.2 – Scoping Document Reference

#	General Requirements for the EIS	Cross Reference
1.	**Cover Page**	Page 1
2.	**Glossary**	Chapter 1
3.	**Executive Summary**	Chapter 2
4.	**Introduction**	Chapter 3
5.	**Proposal Details**	Chapter 4
5.1.	Project Description	Section 4.1
5.2.	Alternatives to Proposal	Section 4.2
6.	**Legislative and Strategic Context**	Chapter 5
6.1.	Statutory Requirements	Section 5.1
6.2.	Climate Change	Section 5.2
6.3.	Other Requirements	Sections 5.3
6.3.1.	Ecologically Sustainable Development (ESD)	Section 5.3.7
6.3.2.	Territory Plan Strategic Directions	Section 5.3.8
7.	**Risk Assessment**	Chapter 6
7.1.	Risk Assessment Methodology	Section 6.1 and Section 6.2
8.	**Assessment of Impacts**	Chapter 7
8.1.	Required Detail for Addressing Impacts	Sections 7.1 to Section 7.12
8.1.1.	Planning and Land Status	Section 7.1
8.1.2.	Traffic and Transport	Section 7.2
8.1.3.	Utilities	Section 7.3
8.1.4.	Materials and Waste	Section 7.4
8.1.5.	Landscape and Visual	Section 7.5
8.1.6.	Soils and Geology	Section 7.67.6.1

#	General Requirements for the EIS	Cross Reference
8.1.7.	Water Quality and Hydrology	Section 7.7
8.1.8.	Climate Change and Air Quality	Section 7.8
8.1.9.	Noise and Vibration	Section 7.9
8.1.10	Heritage	Section 7.10
8.1.11.	Biodiversity and Nature Conservation	Section 7.11
8.1.12.	Hazard and Risk	Section 7.12
8.2	Investigating Impacts	Chapter 7 and Chapter 8
8.2.1.	Environmental Conditions and Values	Sections 7.1.1; 7.2.1; 7.3.1; 7.4.1; 7.5.1; 7.6.1; 7.7.1; 7.8.1; 7.9.1; 7.10.1; and 7.11.1
8.2.2.	Investigations	Sections 7.1 to Section 7.12
8.2.3.	Impacts	Sections 7.1.2; 7.2.2; 7.3.2; 7.4.2; 7.5.2; 7.6.2; 7.7.2; 7.8.2; 7.9.1; 7.10.2; 7.11.2; and 7.12.1
8.2.4.	Mitigation	Sections 7.1.3; 7.2.3; 7.3.3; 7.4.3; 7.5.3; 7.6.3; 7.7.3; 7.8.3; 7.9.2; 7.10.3; 7.11.3; and 8.1
8.2.5.	Residual Risk	Sections 7.1.3; 7.2.3; 7.3.3; 7.4.3; 7.5.3; 7.6.3; 7.7.3; 7.8.3; 7.9.2; 7.10.3; 7.11.3; and 8.1
8.3	Entity Requirements	Section 8.2 and Appendix B
9.	**Community and Stakeholder Engagement**	Chapter 9
9.1	Consultation must be undertaken with:	Section 9.1
9.2.	Provide a consultation report that includes:	Section 9.2
9.3.	Consideration of Public Representations from Draft EIS	N/A
10.	**Recommendations**	Chapter 10
11.	**Other Relevant Information**	Chapter 11
12.	**References**	Chapter 12
13.	**Required Appendices**	Chapter 13
13.1.	Scoping Document for the EIS	Appendix 13.1
13.2.	Scoping Document Reference	Appendix 13.2

#	General Requirements for the EIS	Cross Reference
13.3.	Proponent's Environmental History	Appendix 13.3
13.4.	Information Sources	Appendix A – contained within specialist studies.
13.5.	Study Team	Appendix 13.4
13.6.	Specialist Studies	Appendix A
13.7.	Research	N/A
Attachment A.	**Entity Requirements**	Section 8.2 and Appendix B
A1.	ACT Health	Sections 7.4; 7.6; 7.7; 7.8; and 7.12
A2.	ACT Heritage Council	Section 7.10
A3.	ACT Emergency Service Agency	Section 7.12
A4.	Canberra Airport	Section 7.2 and Section 7.12
A5.	Conservator of Flora and Fauna	Sections 7.4; 7.6; 7.11; and 7.12
A6.	Environment, Planning and Sustainable Development Directorate	Section 7.2 and Section 7.9
A7.	Environment Protection Authority	Sections 7.4; 7.6; 7.7; 7.8; and 7.12
A8.	Evoenergy (Gas)	N/A – no comment provided.
A9.	Icon Water	Sections 7.3; 7.4; 7.6; 7.7; 7.8; and 7.12
A10.	National Capital Authority	Section 7.1
A11.	Transport Canberra and City Services	Sections 7.2; 7.4; 7.6; 7.7; 7.11; and 7.12
Attachment B.	**Glossary**	Chapter 1

Appendix 13.3 – Proponents Environmental History

Research[5]

Forestrack is constantly researching improved modifications to machinery used for siliviculture/forestry operations to improve efficiency, safety and environmental outcomes to the forest floor. Furthermore, research is also undertaken to improve the manner in which bush fire hazard reduction is achieved in an environmentally sound manner. For example, by minimizing the amount of fuel (biomass) remaining on the forest floor following clearing activities.

Environmental Compliance History

Forestrack / TRG is a local family – owned business in which the directors have been involved in forestry activities for approximately 40 years. Presently, the company operates from a number of bases throughout NSW and employs over 60 personnel. The company offers a unique service which combines normal forestry operation business activities[6] with specialist bushfire response services across Canberra and the surrounding region. In operating these services Forestrack recognise the potential to adversely impact on the environment as well as safety. To address these concerns Forestrack operate an informal Integrated Quality Management System (IQMS) which is currently being transformed to meet accreditation standards. The IQMS describes the quality, safety, environmental and general risk management procedures including control mechanisms, policies, objectives, plans, and the continuous improvement methodologies used by the company. The Management practices described are aimed at being compliant with ISO9001, AS/NZS4801, ISO18001, ISO14001, and ISO31000 which are fully integrated into one system.

Forestrack's IQMS is a proactive systematic vigilance response to manage environmental and safety risks in a comprehensive manner to demonstrate all due diligence. This response has resulted in a clean (no pins–infringements/prosecutions-actual/pending) environmental record across all business activities (fixed sites and site activities).

[5] Group directors, Les Rolleston, and his brother Glenn have been active in forestry related earthmoving and agriculture activities since 1982.
Forestrack was founded in the 1980's and enjoys a reputation as being recognised as one of the leading forest site preparation companies in Australia and is the largest forest conversion contractor in Australia.

[6] Activities that Forestrack have experience in include:

- Forestry site preparation including clearing, rough stacking, contour ripping, direct ripping, mound conditioning and second cultivation.
- Conversion of savannah and more heavily timbered lands for use in other activities such as plantation forestry or mining.
- Civil Earthmoving contracting.
- Soil stabilisation and rehabilitation projects.
- Plantation establishment and forest maintenance including planting as well as mechanised planting.
- Fire-fighting, control and prevention projects including fire access road construction.
- Weed control including spraying, slashing and use of farm animals to reduce potential fire fuel loads.
- Assessment and conversion of failed forests to other purposes.

Appendix 13.4 - Team Experience

Chris Gunton

BSc (Hons), PhD | CEnvP (SC Specialist)

Lanterra Consulting Pty Ltd - Principal Environmental Scientist

Chris is an accredited EIANZ Certified Environmental Practitioner (CEnvP) Contaminated Sites specialist. He has more than 17 years of combined experience as a geologist in the mining and environmental consulting industries. He has spent more than 11 years in the environmental consulting sector, working on contaminated sites projects in the ACT, NSW and Queensland. He has extensive experience in soil and groundwater assessment and remediation. Chris has fulfilled the role of assistant for NSW EPA Accredited Contaminated Sites Auditors, working on approximately ten audits in the past 3 years.

Matthew Bryce

Bachelor of Science (AES) – Griffith University | Graduate Diploma (Environmental Quality) – Griffith University | Member Australian Acoustical Society, Association of Australasian Acoustical Society (AAAC, member firm).

SLR Consulting - 20 years of experience as an acoustic consultant.

Matthew has 20 years of experience as an acoustic consultant. He has been involved in a large number of environmental and industrial projects, including many relating to waste and recycling projects. These projects have included measurement, prediction and analysis of noise and vibration emissions together with the design of mitigations, including acoustic enclosures for compactors, shredders and other similar plant, and acoustic screens such as earth bunds.

Matthew is extremely competent in the use of the noise prediction modelling software (Sound PLAN, ENM, INSUL) and is particularly experienced with the application of environmental and industrial noise legislation in the ACT. He has demonstrated a high level of skills relating to project management, community consultation, and report preparation.

Robert (Bob) H Thompson

Forestrack - Project Manager / Environmental Planner

Bob is a project development manager/environmental planner (Certified Practising Planner, CPP, PIA) with more than 25 years' experience in the environmental, waste management and civil construction sectors. Bob has a broad range of experience across these sectors having worked in legal policy, planning, design, construction, operations/quality control, research and development and consulting on numerous waste plants processing both hazardous and nonhazardous waste on greenfield and brownfield sites throughout Australia.

In recent years, Bob has assisted organisations in establishing Integrated Quality Management Systems (IQMS) – Safety – Quality – Risk - Environment. He has a particular focus on risk management and legal compliance having completed a master's degree in Environmental and Local Government law – Macquarie University School of Law. With this knowledge, Bob was appointed environmental advisor/planner for the Lake George Federal Highway Upgrade Project, where his skills focused on achieving compliance with Federal and State project environmental approvals and permits together with the demanding environmental quality requirements of NSWRTA (now NSWRMS) and NSW EPA.

Bob holds qualifications in Industrial chemistry, Env legal Policy, Environmental and Local Government Law and he is a Certified Practising Planner.

Alastair MacCallum

AMC Architecture

The key members of the AMC team include Alastair MacCallum, Dean McPherson, Craig Perrott, Luke Stanton and David Anderson who have worked together extensively in the design and delivery of high quality architectural and interior design commissions in Canberra and interstate.

Alastair MacCallum is a founding Director of AMC and will lead the project team as one of Canberra most experienced and intuitive design architects with significant experience in the residential sector having been responsible for a broad range and scale of projects. Alastair will lead the briefing, master planning, design development, public consultation and authority negotiations and retain an active involvement throughout the project. He will be available as required. Alastair is engaged in the Canberra property and construction industry through key leadership and committee roles in the ACT Chamber of Commerce, PCA (Division Council and Retirement Living Committee), AIA (Chapter Council) and MBA and is able to bring other parties to the table to support this project.

Jason Ryan, Tracey Baxter

JJ Ryan Helicopter Downwash Assessment

JJR have significant experience in airport and associated infrastructure design, including aircraft swept path analysis, development of Obstacle Limitation Surfaces (OLS), airspace risk assessments, pavement marking and movement area design.

Jason Ryan, Managing Director & Principal Engineer (Aviation)

Jason has a range of experience in the planning, design, construction, asset management, project management and operation management of airports. At Queensland Airports Limited Jason was General Manager of Planning & Projects and was responsible for overseeing planning, as well as the engineering, design and delivery of both aeronautical and non-aeronautical projects. Jason has extensive knowledge of aerodrome assets for a variety of operational categories. Jason is a Chartered Professional Engineer (CPEng) Civil/Structural, Registered Building Practitioner (Engineer Civil) and responsible for overall project success.

Tracey Baxter, Senior Consultant (Aviation)

Tracey has 18 years' experience in airport management, operations, business development, marketing and commercial negotiations. Tracey has gained comprehensive knowledge of international and domestic airport operations, including airport design, procedures, and facilities management. Tracey has a Bachelor of Business (Human Resource Management), is a QMS Provisional Auditor (RABQSA Certified) and is a qualified Aerodrome Reporting & Works Safety Officer. Furthermore, Tracey has considerable knowledge of legislation, rules and guidelines for Aerodromes.

Damian Brugman, Senior Designer (Aviation)

Damian is a highly skilled survey draftsperson experienced in field surveys, large scale civil drafting, compliance and management of extensive drafting databases. Damian has over 20 years' experience in surveying and drafting with more than 5 years' experience in aviation operations and design. He specialises in CASA compliance airspace protection and asset management, particularly the development of Obstacle Limitation Surface plans and 3D maps. Damian also has broad drafting and design experience across a wide range of civil infrastructure.

Nicholas Stone

JJ Ryan Traffic Assessment

Nicholas Stone Engineer (Civil) Nicholas is highly proficient in writing Traffic Impact Assessments, responses to information requests, technical memorandums, safety reviews, and development approvals. He has University and 18 months consulting experience in Word, Excel, Google Earth, QGIS, AutoCAD, SIDRA and AimSun. Nicholas successfully attended and completed workshops to model real life scenarios using the following: Spacegass, Strand7, Rocscience, SolidWorks, SolidEdge, and VISUM. He has significant experience in Swept Path analysis using AutoTurn Pro in AutoCAD as well as completing design sketches with urban development clients, Pavement Impact Assessment calculations using the Guide to Traffic Impact Assessments, and Sign Design using TrasiCad and Australian Standards

John Randall

John Randall Consulting Pty Ltd

John Randall B.E. (Hons), FIE Aust, CPEng, NER, APEC Engineer IntPE(Aust), RPEQ Director

David Sloan

Land Data Surveys

Managing Partner / Registered Surveyor David is LANDdata Surveys Managing Partner and a Registered Surveyor in the ACT and NSW. After graduating with a degree in surveying in 1982, David was involved in numerous demanding survey projects including high-rise buildings, major roads, residential estates and residential apartment developments. In the early 1990's David focused more on business development and practice management, which culminated in establishing a survey practice in Canberra in 1992. In 2006 Land Data Surveys was established and has now grown to be the largest survey practice in the ACT and Southern NSW with 40 staff in offices located in Canberra and Sydney.

Pieter van der walt, Ingrid Shelton, Alexzandra Hull

Canberra Town Planning

Founded in 2015, Canberra Town Planning have extensive experience and expertise encompassing strategic planning across commercial, industrial, mixed-use and residential development, as well as major transport and water infrastructure projects, significant recreational projects and large infill developments.

Pieter van der Walt

A native of South Africa, Pieter is a qualified town and regional planner with more than 20 years' experience in urban and regional planning, CAD design and geographic information systems, and has worked in a wide variety of arenas internationally and in Australia. Pieter has worked across a wide range of commercial, industrial, mixed use, aged care, and residential developments as well as on major transport and water infrastructure projects. Pieter's experience includes strategic planning assessments, statutory planning and development approvals, community consultation, crown lease consideration and land demand analysis, development potential appraisal, and transportation and strategic urban planning.

Ingrid Shelton

Ingrid is a qualified Town Planner and Urban Designer, with 9 years' experience in urban management, land use and statutory planning, and urban design, across multiple countries. As a certified Project Manager through the Project Management Institute, she brings a level of professional organisation to all projects. With her qualifications, she is specialised in Project Management, Placemaking, Urban Management and Urban Design. Ingrid's experience at Canberra Town Planning includes development applications across a broad range of projects, public consultation, drawing planning constraint diagrams, development proposals and strategic planning advice.

Alexzandra Hull

With legal qualifications and a strong client service background, Alexzandra has a zeal for statutory frameworks and a passion for building relationships with stakeholders. Alexzandra is committed to delivering high-quality support and achieving project targets.

Appendix A – Specialist Studies (contains information sources)

- Appendix A(1) – Land Contamination
- Appendix A(2) – Noise
- Appendix A(3) – Traffic
- Appendix A(4) – Flora and Fauna
- Appendix A(5) – Helicopter down wash
- Appendix A(6) – Helicopter flight path assessment
- Appendix A(7) – Air Quality
- Appendix A(8) – Stormwater
- Appendix A(9) – Visual
- Appendix A(10) – Climate Change
- Appendix A(11) – Heritage
- Appendix A(12) – Bird Strike
- Appendix A(13) – Bush Fire
- Appendix A(14) – Geotechnical
- Appendix A(15) – Community consultation

Appendix A(1) – Preliminary Site Investigation, prepared by Lanterra Consulting

Appendix A(2) – Noise Assessment, prepared by SLR

Appendix A(3) – Traffic Impact Assessment, prepared by JJ Ryan Consulting

Appendix A(4) – Biodiversity Assessment Report, prepared by PATH Co

Appendix A(5) – Helicopter Downwash Impact Assessment, prepared by JJ Ryan Consulting

Appendix A(6) – Helicopter Operation Assessment, prepared by R H Thompson

Appendix A(7) – Air Quality Assessment, prepared by Lanterra Consulting

Appendix A(8) – Stormwater Impact Assessment, prepared by Lanterra Consulting

Appendix A(9) – Landscape Character and Visual Impact Assessment, prepared by Lanterra Consulting

Appendix A(10) – Climate Change Assessment, prepared by Lanterra Consulting

Appendix A(11) – Aboriginal Cultural Heritage Assessment, prepared by Past Traces Heritage Consultants

Appendix A(12) – Bird Strike Assessment, prepared by Lanterra Consulting

Appendix A(13) – Bushfire Protection Assessment, prepared by Ecological Australia

Appendix A(14) – Geotechnical Investigation Report, prepared by Douglas Partners

Appendix A(15) – Community and Stakeholder Engagement Consultation Report, prepared by Communication Link

Appendix B – Entity Requirements

- Appendix B(1) – ACT Health
- Appendix B(2) – ACT Heritage Council
- Appendix B(3) – ACT Emergency Services Agency
- Appendix B(4) – Canberra Airport
- Appendix B(5) – Conservator of Flora and Fauna
- Appendix B(6) – Environment Planning and Sustainable Development Directorate
- Appendix B(7) – Environment Protection Authority
- Appendix B(8) – Evoenergy (Gas)
- Appendix B(9) – Icon Water
- Appendix B(10) – National Capital Authority
- Appendix B(11) – Transport Canberra and City Services

Appendix B(1) – ACT Health

A1. ACT Health

HPS has reviewed the documents and advises the applicant that the following be appropriately considered at the Development Application stage or incorporated within a revised EIS:

- *Appropriate management measures must be considered to prevent hydrocarbons and other hazardous material land contamination during construction and operation. This is to be addressed in the Construction and Operation Environmental Management Plan (CEMP).*
- *As the facility is proposed to support emergency services such as firefighting, the applicant is advised that the facility must consider appropriate storage of firefighting foams (if required onsite) which may contain per- and polyfluoroalkyl substances (PFAS) to prevent land contaminations risks. The applicant is also advised to consider areas where foams may need to be used in the case of a fire emergency onsite and apply measures to minimise land contamination risks.*
- *An Unexpected Finds Protocol (UFP) is recommended to be developed and implemented before the proposed works commence.*
- *All reasonable and practicable measures are to be taken to suppress dust and minimise detrimental impacts to air quality during the construction and operation of the facility.*

Appendix B(2) – ACT Heritage Council

A2. ACT Heritage Council

Review of the ACT Heritage Register identifies that the subject area contains no registered or recorded heritage places or objects.

Block 45 was included in a 2010 heritage assessment undertaken by Cultural Heritage Management Australia (CHMA) and Representative Aboriginal Organisations (RAOs), which noted that central and southern parts of the block (identified as 'Area A' in the application) have been disturbed and used for dumping of gravel and refuse.

However, the woodland parts of the block – located in the north and east portions of the block, and identified as 'Area 2' in the referred application – were not described as being disturbed.

CHMA and RAOs did not identify any Aboriginal places in Block 45 in 2010, however, effective coverage was constrained by visibility conditions which were described as being less than 5% at the time.

In this context, the Council considers that portions of Block 45 – and specifically the 'Area 2' woodland areas – have potential to contain unrecorded Aboriginal places; which if present would be subject to Heritage Act 2004 *provisions.*

On this basis the following heritage assessment requirements are identified for inclusion in the EIS scoping document:

- *A heritage inspection of 'Area 2' woodland areas is required, to be undertaken by a qualified archaeologist and RAOs;*
- *A report on the outcomes of this heritage inspection is to be submitted to the Council for endorsement; and*
- *Should this inspection identify Aboriginal places or objects within the proposed development area, opportunities to conserve those places* in situ *should be explored. Should* in situ *conservation not be reasonably practicable, a Statement of Heritage Effect (SHE) approved under Section 61H of the* Heritage Act 2004 *will be required prior to the commencement of works.*

Appendix B(3) – ACT Emergency Services Agency

A3. ACT Emergency Services Agency

ACT Fire and Rescue (ACTF&R) support with conditions. ACTF&R has reviewed the application for EIS scoping documents. It noted the report will address the bushfire risk at the Development Application stage, including the establishment of asset protection zones and construction to AS3959.

ACTF&R will await the Development Application to make further comment.

Building Fire Safety System

Compliance to the National Construction Code (NCC) and inbuilt fire safety systems are outside the scope of this document and will be assessed separately by ACTF&R at the building approval stage.

All significant alterations, construction, alternate building solutions or extensions of buildings greater than 500m2 will require a fire safety review at the building application to ensure NCC compliance.

For further information regarding building fire safety reviews, please contact ACTF&R Fire Safety Section on 62078370.

Appendix B(4) – Canberra Airport *

A4. Canberra Airport

The overarching comment would be in inadequacy of the uploaded documents by Canberra Town Planning. The date of the reports are December 2018, these are 2 and a half years old. The ACT Development and ACT EIS process has changed, and so has the current status of tenancy of Secure Aviation at Canberra Airport. There is a lack of documentation in relation to the flight operations including, ANEF Noise contours, known obstacles in the area and the referred arrival and departure pathways.

- *Secure Aviation are no longer a tenant of Canberra Airport and have no current arrangements to operate from the Airport. Therefore the details throughout the EIS report provided by Canberra Town Planning are wrong about the business activities that would be carried out from their, now prior, location on Canberra Airport. Where will the tourism and sightseeing operations be operating from if they do not occur on Canberra Airport? This will have to be addressed in the EIS documentation.*
- *No consultation with the airport- Secure Aviation were a tenant of the airport, and the potential flight path from the site is within the flight corridor of Canberra Airport, the lack of consultation with Canberra Airport is surprising.*

* no longer required to be considered. Comments have been addressed to satisfy the proponent and Canberra Airport

- *No mention of NASF (National Airport Safeguarding Framework) within the EIS documentation. This proposal should answer how this proposal addresses the NASF and how it mitigates the impact on Canberra Airport's operations. In particular:*
  - *NASF Guideline C- Noise*
    - *Adjoining landowners within the Poplars/Tralee development. As part of the sale contract of the blocks within the area future owners need to be informed that they are underneath the flight path for Canberra Airport. What consultation has been undertaken with the owners of the land re-noise from helicopter operations caused by Secure Aviation?*
    - *Has Flight path approval been discussed with CASA or Air Services? What are the flight paths from the site?*
  - *NASF Guideline H- Protecting strategically important helicopter landing sites. How will this be achieved?*
    - *It is Canberra Airport's opinion that due to the proximity to the airport and the high frequency of helicopters taking off and landing on the site guideline H has to be addressed*
- *Consideration of Air Traffic Control. Has the proponent discussed the operational overview of a private entity flying within the approach path of Canberra Airport and the potential conflict of flights approaching the airport from the south?*
- *There appears to have been no consultation with CASA/Air Services- There is no documentation provided in the EIS package in relation to discussions with CASA or Air Services about the proposed use of the site as a heliport. Due to the nature of the site, it would be prudent for the proponent to engage with both entities.*
- *There doesn't appear to be any consultation with Emergency Services Agency- ACT*
- *The Bio-diversity assessment states that '…without detailed knowledge of the proposed frequency/scale of operations proposed, as well as having an understanding of the current level of flights and the existing impacts these may be having on native species, it is not possible to quantify the potential cumulative impacts of operations that would occur if the development were to proceed.' The bio-diversity assessment – All documents need to be re-done with the detail about the flight operations so the consultants can provide a better assessment of the proposal on the local area.*
- *Canberra Airport will take this matter to the CACG (Community Aviation Consultation Group). We would appreciate a representative from EPSDD to provide a presentation of the proposal with updated date and approval from Casa and Airservices. Steve Gianakis is a member of the group and regularly updates on ACT Planning items and initiatives.*

Canberra Airport is not against the concept, in principle, but the severe lack of consultation, documentation and with the location of the site directly under the Flight Path would need serious assessment before this application can progress.

Appendix B(5) – Conservator of Flora and Fauna

A5. Conservator of Flora and Fauna

There are several concerns which have been identified and are required to be included in the Scoping Document and addressed in the EIS process. The specific items for inclusion are:

1. Impacts to native vegetation:

Small patches surrounding rocky outcrops in Area 2 are dominated by Tall Speargrass and a low diversity of native forbs. Trees have been planted across this area, however given its landscape position and proximity to Jerrabomberra East grassland reserve, it is likely these patches are remnants of the original natural grassland vegetation.

The EPBC listing advice for the Natural Temperate Grassland endangered ecological community (EEC) require a patch to be a minimum of 0.1 hectares. The patches on Area 2 probably meet this requirement. The Floristic Value Score (FVS) for the native dominated patch is 2.8. Patches with a FVS of 5 or greater are considered part of the EEC. Therefore, the patch does not quite meet the requirements for classification.

The native dominated patch/patches are in rocky areas on the western edge of the site and are not within the area proposed for disturbance. It is difficult to determine if the patches are within or just outside the block boundaries.

***Requirement:** The EIS should clarify their location and consider committing to establish temporary fencing around rocky patches outside of the development envelope for the duration of construction.*

2. Bushfire considerations:

Section 7 of the supplementary Application for EIS Scoping Document identifies Bushfire as a potential risk. It should be noted that the idea that staff of the proposed base would fight a bushfire if the base was threatened does not detract from requirements to meet bushfire regulations. A risk of company staff taking independent action to fight a bushfire is that efforts may lack coordination with government staff and this may hamper efforts to contain a bushfire.

***Requirement:** It is essential that the bushfire planning take into consideration adequate protection for fuel storages or other stockpiled materials which may produce toxic fumes if ignited by a bushfire.*

***Requirement:** Adequate access and infrastructure to minimise the risk should be considered in planning.*

An example of this problem occurred during the Beard Fire in January 2020 when biosolids and mulch stored at the Queanbeyan sewage works was ignited sending toxic fumes over Queanbeyan for a number of hours simultaneously hampering the firefighting effort and putting the health of residents at risk. This site appears to be exposed to a similar risk.

Appendix B(6) – Environment, Planning and Sustainable Development Directorate

A6. Environment, Planning and Sustainable Development Directorate

Strategic Planning

Whilst helicopter noise is an identified impact, other helicopter impacts, such as rotor wash, on adjacent development and businesses does not appear to be specifically identified. This will need to be considered in the EIS, consistent with the Minister's determination.

Also, there is a proposed major upgrade to the existing 3 way intersection of Lanyon Drive/Sheppard Street and to the Monaro Highway in the vicinity of the site. This will need to be review accordingly.

Appendix B(7) – Environment Protection Authority (EPA)

A7. Environment Protection Authority (EPA)

The EIS should include an environmental assessment in accordance with Environment Protection Authority (EPA) endorsed guidelines to assess its suitability for its proposed use from a contamination perspective. The findings of the assessment must be reviewed and endorsed by the EPA prior to the site being used for the proposed use.

Appendix B(8) – Evoenergy (Gas)

A8. Evoenergy (gas)

No comment.

Appendix B(9) – Icon Water

A9. Icon Water

Icon Water have compiled the following comments:

Environment team

- *The facility mentions the potential for firefighting facilities / usage. Firefighting establishments and the use of firefighting foam in the past has been a source of gross contamination in the environment with the usage of Per- and polyfluoroalkyl substances (PFAS). These are a group of man-made chemicals that includes PFOA, PFOS, GenX, and many other chemicals which are both toxic to humans and highly persistent in the environment (i.e. they don't breakdown for a long time). Whilst PFAS chemicals should not be part of firefighting foam onsite, Icon Water should note the historical context around these establishments.*
- *The facility being built mentions the use of Hydrocarbons and other potentially hazardous materials to be used onsite during construction and operation of the facility. Hydrocarbons, if not managed correctly can be the source of contamination which impact on both Icon Water assets and human health. The 'other' chemicals mentioned should be further described in later development approvals which Icon Water can comment on.*

Developer Services

- *The developer should submit the application for "In principle" approval with proposed development to confirm the capacity of the existing network and WSCC.*
- *The block has a DN225 water running through the western boundary. Previous advise was to relocate the boundary to have the water main in open space or to relocate the water main outside the boundary. This should be done at developer's expense.*
- *Currently the block in not serviced by water and sewer tie. There is water and sewer main along Sheppard Street which can be used to service the block. This should be done at developer's expense.*

Trade Waste

- *All connections to sewer that are classified as Liquid Trade Waste must apply to Icon Water for approval before connection to sewer.*

  Liquid Trade Waste is generally defined as waste that is not domestic in nature (i.e. waste not typically produced in the course of daily residential living). Generally, any activity that is commercial will likely need Icon Water Approval to discharge to sewer. Further information on classifying this waste can be found on the Icon Water website www.iconwater.com.au\tradewaste
- *This development will generate liquid trade waste, as such a trade waste application must be submitted. A consultation may be required to ascertain the likely discharge and discuss what if any pre-treatment is required or if some waste must be collected for off-site disposal.*
- *Icon Water Liquid Trade Waste team contact information; Email: Trade.Waste@iconwater.com.au Phone: 02 6248 3222*

Building Approvals

- *Any work(s) that is likely to impact on the Icon Water infrastructure must have Icon Water acceptance prior to any work being undertaken.*

Appendix B(10) – National Capital Authority (NCA)

A10. National Capital Authority (NCA)

The NCA has no comment for the EIS scoping document.

The site is identified as a broadacre area in the National Capital Plan (the Plan) and the proposed land use is permitted under the Plan. Any future development application on this site will need to consider visual impact to the Monaro Highway and be consistent with Development Control Plan 171/94/853.

Appendix B(11) – Transport Canberra and City Services

A11. Transport Canberra and City Services

On the risks of increased traffic, delays and road safety issues, the report stated that the level of traffic is not expected to cause any notable delays or adverse impacts to existing traffic users in the local area. However we note:

- *the preliminary concept plan for Block 45 Section 3 Hume and the intention of the facility to be a purpose-built facility comprising of emergency facility, tourist facility, education centre and charter recreation flights area, there will be more traffic generated in addition to the traffic movements of the anticipated 30 full time staff and numerous part-time staff and traffic from the 7,600 m2 future development area. Hence the EIS should also determine the extent of traffic generated from the development during the commencement of the operation and into the future and during the AM and PM periods, noting the 24/7 operations nature of the facility.*

  the facility will have road frontage and exposure to the Monaro Highway, Sheppard Street, Hume and Lanyon Drive, and that strategic transport modelling suggests that Monaro Highway and Lanyon Drive will be operating close to capacity in the future. Hence the EIS should also include investigate the traffic impact of the development not only on Sheppard Street but also on Monaro Highway and Lanyon Drive to ensure that the continued safe and efficient movement of vehicles accessing the facility is not impeded by road network arrangements. This is because trucks need more time to pass through intersections and have longer acceleration times to merge with through traffic.

- *the facility will be providing emergency services, therefore EIS should also articulate the types and volumes of heavy and light vehicles that will be coming in and out of the development area and their likely origin and destination, for those vehicles coming from police/fire stations.*

- *the preliminary plan indicated that there will be self-contained hazardous liquid storage within buildings, the EIS should also articulate how these hazardous materials will be transported into the site.*

- *Possible impact of the proposed development on the northern side of the open space must also be included in the EIS. TCCS notes some high-quality trees in this area.*