

Independent review

Fyshwick Materials Recycling Facility

Environmental impact statement

Report | 271672-00 - FYS - RPT - 000001

Final | 5 December 2019

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Non-technical summary

The proposal

We understand that the facility would deal with around 300,000 tonnes of waste every year. This waste would come from Canberra and other areas. People would sort-through the waste and remove around 20 percent, as this can be reused and recycled. The rest of the waste would be transported by rail to Woodlawn in New South Wales where it would be landfilled. Around one quarter of the recovered material would be reused locally, and the rest would be shipped overseas.

The facility would be built on a former fuel depot on Ipswich Street in Fyshwick. This is an industrial area.

Trucks would arrive at site where they would be weighed and inspected. They would then drive into an enclosed building. Each truck would be unloaded onto one of two processing lines. The waste would be inspected and sorted. Any suitable material would be removed. This removed recyclable material and the left-over waste would then be loaded into separate shipping containers and compacted. It would be temporarily stored outside before being loaded onto trains.

Because the left-over waste would include food, a ventilation system would be installed to treat and remove odour. Also, the waste would include a high-water content. A tank would therefore be installed beneath the facility to capture this. This liquid waste would also be transported offsite every day.

Road access to and from site would be improved. A fire safety system, security fencing and lighting and access gates would also be installed.

The proposal would be open between 6am to 10pm Monday to Saturday and 8am to 2pm on Sundays. About 900 tonnes of waste would be delivered to site every day. As there are no plans to store waste onsite, the facility would rely on a vehicle arriving and leaving once every four minutes.

Little information is provided on how the facility would be built. There is also no information on how long it would take to build.

The review

The EIS was reviewed to see if it was complete. It also considered if it included accurate information.

The EIS needed to follow a specific structure set out under Government regulation. It also needed to address key points relating to how the proposal would affect Fyshwick.

The main role of the EIS is to describe how building, running and closing the facility would affect the local environment. This includes its impact on the people living and working nearby.

The EIS needs to clearly describe how negative impacts can be reduced to an acceptable level. It also needs to show how these measures can be checked while the proposal is being built and once it is open.

The content of the EIS

The EIS needed to address 168 requirements. Our review found that about half of these were fully addressed. The rest were only partly addressed. The main issues were as follows.

- The EIS was set out in a different structure to the one requested by the Government.
- The EIS was not written in simple English. This made it hard to understand.
- Different information was provided about the proposal throughout the document. This meant the proposal was not clearly defined.
- The EIS may not potentially identify or correctly assess the proposal's impacts because different information is used in parts of the EIS.
- The main EIS does not describe the proposal's impacts, it just assesses the risks.
- The EIS does not clearly assess the impacts from building the proposal. It also may not fully assess the impacts when the proposal is open. It also does not consider the impacts in the future when closing the facility.
- The EIS does not confirm why it is better to transport waste and materials interstate and overseas.
- The EIS does not clearly assess the proposal's visual impact on the local area.
- The assessment does not consider if treating and transporting materials interstate and overseas would use more energy and generate more greenhouse gas than dealing with it in the ACT.
- The EIS does not provide clear information on similar facilities that process similar amounts and types of waste in urban areas.

There were over 100 issues where we felt the EIS had not accurately assessed the proposal's impacts. While many of these were minor in nature, the main issues were as follows.

- There was no clear or accurate information on the specifics of the waste arriving at the site. This included detailed information on where the waste would come from and what it would contain. There was also little information to show there would be sufficient waste in the ACT to process in the future.
- That many of the conclusions made in the EIS would need checking once the above information was confirmed.
- That the accuracy of various conclusions made in the EIS could not be made or checked without additional assessment.
- That it may not be possible to transport waste to Woodlawn as it does not have a licence to landfill material from the ACT.
- That there is petrol underneath the site, which if disturbed, may spread or it may affect the health of contractors and staff. While there are appropriate measures to prevent this from happening, the assessment did not fully appreciate that the main building would be enclosed to stop odours, and therefore petrol fumes (vapours), from escaping.
- That water may not be stored onsite to deal with a fire. Also, there may not be a back-up power supply onsite to run the fire-fighting equipment in an emergency.
- That the facility may not be able to deal with delivery delays or several trucks arriving at once. This is because the operator has no control when vehicles arrive onsite.
- That the specific studies prepared to support the EIS may not be using the correct or consistent information. Therefore, the EIS may not be fully assessing the proposal's impacts.

Overall, there are a lot of questions that need confirming about the proposal. This is to ensure its impacts are correctly identified and assessed.

That all said, there are many materials recycling facilities in Australia and overseas. Some are in built-up areas. They operate safely and with few complaints.

In summary, it should be possible to build a materials recycling facility in Fyshwick, providing the necessary controls are put in place to minimise its impacts. Unfortunately, the current EIS does not contain the information needed to provide the comfort that all the impacts have been correctly identified and assessed. It is also unclear if the necessary controls have been described to build, run and close the facility without any unacceptable negative or lasting impact on the local area.

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1 Introduction

The report forms an independent review of Capital Recycling Solutions' updated draft environmental impact statement (EIS) relating to its proposed materials recycling facility at Fyshwick.

1.1 Purpose

The review confirms the EIS' consistency and adequacy in addressing:

- The terms of the *Final Scoping Document* issued on 19 January 2018.
- Statutory requirements relating to *impact-track development applications* made under the *ACT Planning and Development Act 2007*.
- Requirements relating to the preparation of an EIS set out under Section 50 of the *ACT Planning and Development Regulation 2008*.
- The principles of ecologically sustainable development (ESD).
- The technical robustness and accuracy of four specialist studies relating to; traffic, waste management, odour and the fire systems.

The review has not verified the accuracy and validity of source or primary data.

Where required, reference has been made to environmental statements prepared to support other approved materials recycling facilities; principally in New South Wales (NSW).

1.2 Approach

A four-step review was carried out.

- Step 1: consistency in approach
 - A briefing was provided to each reviewer describing the approach to ensure consistency and remove subjectivity.
- Step 2: high-level review
 - A *consistency review* was carried out to identify any key omissions or issues across all documentation.
- Step 3: detailed review
 - The main EIS and specialist studies were reviewed in detail to confirm their *adequacy* in addressing the five requirements set out under **Section 1.1**.
- Step 4: review consolidation
 - A cross discipline review was carried out between each contributing specialist and the main reviewers to provide greater consistency.
 - An overall summary was provided to highlight:
 - Omissions or errors that were considered sufficient to be inconsistent with statute, regulation, governance, policy, and/or reasonable good practice, such that the assessment

documentation is deemed inadequate in terms of assessing the proposal's impacts.

- Information is either incomplete or insufficient; however, it is generally consistent with statute, regulation, governance, policy and/or reasonable good practice such that gaps could be clarified, or conditions of approval set in the development application process.
- Information is broadly consistent and adequate however it still contains minor points of inadequacy. Nonetheless, it is considered that the gaps can easily be addressed in the development application process.

1.3 Report structure

The report is structured as follows:

- **Chapter 1** introduces the report's purpose, approach and structure.
- **Chapter 2** outlines our understanding of the proposal context.
- **Chapter 3** summarises the key findings.
- **Chapter 4** presents a detailed review of each EIS chapter.
- **Chapter 5** presents a detailed technical study review.
- **Chapter 6** summarises the review and includes recommendations.

Appendix A forms a detailed review of the EIS' consistency with the *Final Scoping Document*.

Appendix B includes four technical specialist study review memos.

Bolded text cross-references to sections in this report. For other references, the named report is included.

2 Proposal overview

This chapter outlines our understanding of the proposal based on the description provided in the main EIS. The chapter also describes certain elements of the proposal description that appear to be missing. We have requested points of clarification where required.

2.1 Proposal overview

We understand that Capital Recycling Solutions is proposing to build a materials recycling facility on Block 9 and Block 11 of Section 8 at Fyshwick. The facility is described as “receiving, sorting, separating, and exporting a significant proportion of the ACT’s waste that is currently going to the Mugga Lane landfill as well as wastes currently landfilled in surrounding regions”.

The proposal is to receive and process up to 300,000 tonnes of waste every year and recover upwards of 60,000 tonnes (or 20 percent). This conservative recovery rate of 20 percent, as well as an average recovery rate of 40 percent, are both referenced throughout the EIS. The remaining 240,000 tonnes (residual waste) would be compacted and transported to the Woodlawn Bioreactor (landfill) at Tarago by rail. The facility is expected to process up to 900 tonnes of waste every day.

The facility aims to process two defined waste streams: municipal solid waste (MSW) and commercial and industrial waste (C&I) waste.

About one quarter (15,000 tonnes) of the recovered materials would be reused locally and the remainder (45,000 tonnes) would be sent to a coastal port for export overseas.

Overview

The proposal appears to comprise:

- A materials recycling facility building with a supporting ancillary research centre, including waste processing equipment and intermodal container loading equipment.
- Container storage area.
- Two weighbridges with a supporting administration building fronting Ipswich Street.

Ancillary development appears to include the:

- Upgrade and extension of the hardstand areas; to facilitate movement between the facility and the rail freight terminal (refer to the heading below) to support vehicle movement and circulation and to provide staff car and bicycle parking.
- Installation of:
 - Security fencing as needed along the site boundaries.
 - Security-controlled gateways from Lithgow Street and Ipswich Street.
 - A noise wall along the full-extent of the southern boundary.
- Provision of:
 - A back-up power supply in the form of generators, which appear to be hired into the facility when needed.
 - External lighting.
 - Utility and services connections.

The materials recycling facility would include:

- Two separate processing lines, one for each principal waste stream.
- Two compactors to load shipping containers.
- A 200,000-litre leachate tank.
- A ventilation system to extract odours and manage dust.
- A partially-automated infra-red firefighting system.

Materials recycling facility building

The materials recycling facility would be banded, it would operate under negative pressure and it would include automated roller doors. A vapour barrier would be installed to prevent the migration of volatile hydrocarbons which remain onsite.

The materials recycling facility would be odour and noise controlled. All waste would be unloaded, sorted, compacted, and reloaded in this building.

Temporary storage of residual waste and leachate

Up to 28 sealed shipping containers would temporarily store the residual waste and recovered leachate onsite. These containers would include a rubber seal to contain leachate and a carbon-filter vent to control odour emissions.

The containers would be stacked close to the rail freight terminal (refer to **Figure 1**). No more than three containers would be stacked on top of each other. The containers stored outside of the building would be transported by rail to the landfill every day. There is no information on whether the storage area would be banded or covered.

Traffic management and access

Waste would be delivered to site either via Ipswich Street or Lithgow Street depending on whether the vehicles would be travelling northbound from Canberra Avenue or southbound from Newcastle Street. All traffic would leave site via a signalised exit to Ipswich Street where it would be allowed to travel northbound or southbound.

While numbers are provided, there is no clear statement relating to the overall traffic arriving and leaving site every day that accounts for:

- Waste vehicle movements in and out of the facility including origin and destination information: *some information provided.*
- Potential transport of residual waste via road over rail in an emergency: *some information provided.*
- Truck movements to transport the 25 percent recovered materials used locally: *some information inferentially provided.*
- Potential transport of the 75 percent recovered materials by road over rail in an emergency that would be sent overseas: *some information inferentially provided.*
- Worker and visitor traffic accounting for shift patterns.
- Incidental service-vehicle movements.
- Trucks removing leachate by shipping container if needed.

Indicatively, it appears that there is only one vehicle bypass lane at the weighbridge servicing the Ipswich Street entrance, while there is no clear provision for truck parking on the approach to either weighbridge. The facility also appears not to include a load-compliance inspection area.

Rail freight terminal

A separate development application was made to the ACT Government to build a rail freight terminal next to the materials recycling facility. The rail freight terminal would export the facility's residual waste and recovered materials respectively to Woodlawn and coastal port(s) for export overseas. This application was approved on 5 June 2019 (DA201835108).

The rail freight terminal has only formed part of the review insofar that the materials recycling facility relies on its operation to export waste and recovered materials from site. Its impacts are independent of the proposal other than in the context of cumulative effects on the receiving environment.

Leachate management

The proposal includes a 20,000-litre leachate tank installed belowground in the materials recycling facility building. This would provide capacity to store around four days' worth of operational leachate. There appears to be no proposed leachate treatment plant onsite as is typical for similar facilities. Instead, the proposal is to remove 5,200 litres of leachate from site every day. It is assumed the facility could produce up to 2,000 litres of leachate each day, based "on Cardno's experience".

Odour and air management

A stack would be installed on the materials recycling facility building to discharge and disperse odour and dust (described as the ventilation outlet in the main EIS). The stack would be 21 metres tall; nine metres above the height of the materials recycling facility building, with a 2.7 metre diameter. It would have an exit velocity of 20 metres per second according to the data used in the air quality and odour modelling. It is unclear what the exit temperature would be. The odour report (Appendix I) suggests it being zero degrees Centigrade (273.15 Kelvin) while the advice note from CASA (Appendix M) suggests it could be 30 degrees Centigrade. The ventilation system would maintain the negative pressure resulting in the rotation of the entire volume of air within the materials recycling facility building five times every hour. The system would include two fans to provide operational redundancy. There is some information provided in the main EIS about the pollution abatement controls (e.g. use of rapid acting roller doors, use of water sprays, active ventilation); however, there is little information on the management and maintenance of the ventilation system and stack. There is also no information on the installation of any scrubbing technology (under the assumption that this is not needed); while there is little detail about the range of operating parameters including unsettled conditions.

Noise management

A 2.7 metre-high "noise proof" fence would be installed along the southern boundary. The fence would provide mitigation to the sensitive receivers located to the south, mainly from site truck movements. Forklifts would be fitted with noise-attenuation equipment to reduce the impact associated with loading and unloading containers. The specific detail of this equipment is not provided in the main EIS.

Overall built form

Little is provided on the detail of the built form, mass, scale, height and overall footprint other than Capital Recycling Solutions "giving significant attention to aesthetics and amenity in the exterior design of the facility", and the intention to "create a series of buildings that are admired, not only for their environmental outcomes but for their clean,

modern appearance”. Figure 11 and Figure 12 in the EIS provides a 3D rendition of the built facility. Appendix F provides additional 3D visual representations of the proposal.

Utility provisions

It appears that the facility would be serviced from a mix of existing and provisioned utilities including: an existing (electricity) grid connection; a high-pressure gas main, which would be under-bored on to site; a telecommunications connection, which would need a lead-in conduit; a water main, which would be supplied via a relocated connection onsite; possibly a sewer connection, however its need is not fully clear; and, refurbishment, and possible augmentation, of the existing stormwater system.

Fire system

The proposal includes for routine waste inspections to detect any biologically active or combustible materials supplemented by thermal detection equipment, which would automatically trigger a response including the use of water cannons that can discharge at a rate of 160 litres per minute.

Three rainwater tanks would be built at the end of the materials recycling facility, which are identified as capturing stormwater for reuse onsite. It is unclear if these would be used as firefighting water or for other routine operations such as dust suppression. Other than this, there is no specific mention in the main EIS of the storage of sufficient firefighting water onsite.

Lighting

There is little information on the final form and location of security and outside lighting, other than “the site must facilitate safe night-time use, as such, an appropriate amount of lighting must be incorporated to achieve relevant Australian Standards”. We believe this is stating that any outside lighting would need to comply with AS 4882:1997 relating to the Control of Obtrusive Effects of Outdoor Lighting.

Security

Mesh fencing would be provided along the entire site perimeter except for the southern boundary which would include the 2.7-metre-high noise wall described above. Wastes would be delivered via security-controlled gateways from Lithgow Street and Ipswich Street. The proposed thermal imaging cameras would also be used as general security cameras.

Other provisions

There appears to be little information on the final landscape planting strategy, other than the intention to retain two areas of existing vegetation as shown on **Figure 1**.

While the main EIS describes the intention to operate an isolated surface water system within the materials recycling facility building, there is no clear description of an effective stormwater management system; including items such as the use of covered drains or the inclusion of traps or oil-water interceptors to offer environmental protection.

2.2 Operation

There is inconsistency reported in the main EIS and specialist studies as to the facilities operation. The information more often quoted appears to suggest the site would operate between 6am and 10pm Monday to Saturday and 8am to 2pm on Sundays. It is presumed that the facility would operate Sunday hours during public holidays, although this is not clearly stated.

During this period, the proposal is to process 900 tonnes of waste for every 16-hour operating day. The process rate would be around 75 tonnes every hour as there is expected to be a 20 percent downtime for maintenance.

It is unclear if Capital Recycling Solutions intends to process a similar amount of waste on Sundays and public holidays. Appendix I indicatively describes the proposal to process around 25 percent MSW and 75 percent C&I waste on average.

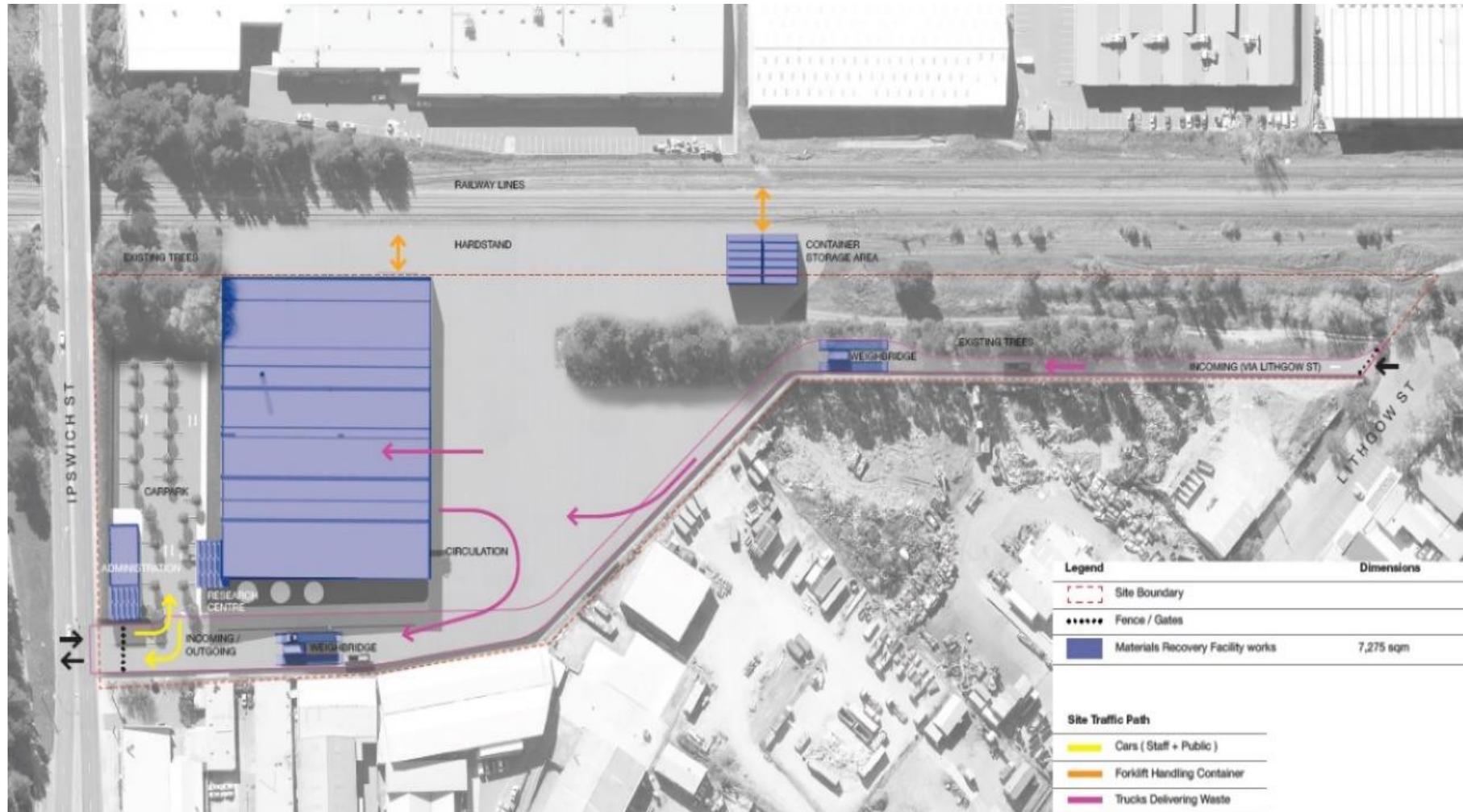
2.3 Construction

There is little detail on the construction works. Specifically, there appears to be no explicit detail on the:

- Proposed construction methods and staging; including a description of early works, temporary works, and main works.
- Construction start date, end date and duration.
- Proposed construction working hours and any out-of-hours works.
- An indicative plant and equipment list for key construction activities.
- Material and equipment sourcing.
- Earthworks volumes and estimates, including the balance of usable material; with the noted exception in describing that there would be no need “for major earthworks”.
- Materials management and handling during construction, including materials storage, waste storage, spoil management, and water management. This is especially important given the residual contamination risk onsite (refer to **Section 4.3.25**).
- Management and access during construction, including estimated traffic volumes and impacts on existing road users, pedestrians and cyclists.
- Need for onsite and offsite ancillary facilities such as specific laydown areas and compounds.

2.4 Decommissioning

There is no mention of how the facility could be decommissioned in the future to demonstrate that it would have no inter-generational impacts other than noting that “decommissioning...is unlikely to be required due to the machinery reaching the end of its useful life. This is due to the ability to maintain the building and equipment indefinitely, with replacement of mobile plant every 10,000 hours or as required.”



Source: Capital Recycling Solutions

Figure 1: Proposal overview

2.5 Local environmental context

The proposal would be located within Fyshwick on land zoned in the Territory Plan for industrial mixed-use development. It is bound to the north by the Canberra-Goulburn Railway line, while to the west is Ipswich Street. To the south and east are existing commercial and industrial land uses. About 80 metres west of the site boundary is the Monaro Highway, which forms a designated area controlled under the National Capital Plan. Canberra Avenue, south of the site, is also a designated area.

Table 1 lists the key land uses and properties local to the site that would be considered sensitive receivers to development. The list is not exhaustive; however, it is intended to present a consistent view to help support our review comments. In summary, the nearest:

- Commercial and industrial receivers border the site to the south and east.
- Residential receiver is about 110 metres to the south.
- Sensitive land use is Jerrabomberra Wetlands about 570 metres west and Jerrabomberra Creek about 500 metres west. Note: there is an area of exotic grassland about 100 metres west of the site that borders the creek. This area is not publicly accessible.

Table 1: Key land uses and properties

Direction	Key land uses and properties
North	
Immediately next to the site	Sydney-Goulburn railway line.
Wider context	Mixed commercial and industrial land uses fronting Barrier Street. <ul style="list-style-type: none"> • <i>Key properties:</i> appliance retailer (Godferys and Bing Lee), a drop-shipping business (Harvey Norman), construction material suppliers, bed retailer, internal lining specialist, furniture stores (including Nick Scali), plumbing and bathroom suppliers (Reece), steel suppliers, carpet and floor suppliers. • <i>Nearest receiver:</i> Harvey Norman: about 60 metres north.
East	
Immediately next to the site	Metal recycling facilities.
Wider context	Various commercial and industrial uses fronting Lithgow Street. <ul style="list-style-type: none"> • <i>Key properties:</i> building suppliers, cement and concrete batching plant, laboratory services, and utility services supplier (ActewAGL). • <i>Nearest receiver:</i> building suppliers: about 250 metres east.
South	
Immediately next to the site	Mixed commercial and industrial land uses fronting Wiluna Street. <ul style="list-style-type: none"> • <i>Key properties:</i> electrical appliance store, equine store, industrial suppliers, auction centre, furniture store, civil engineers, sheet metal distributors and suppliers.

Direction	Key land uses and properties
Wider context	Various commercial and industrial uses fronting Wiluna Street. <ul style="list-style-type: none"> • <i>Key properties</i>: service station, flooring suppliers, blind and awning retailer, and self-move hire firm. • <i>Nearest receiver</i>: service station: about 100 metres south. • <i>Nearest resident</i>: caretaker's house about 110 metres south on the southern side of Wiluna Street.
West	
Immediately next to the site	Ipswich Street: a four-lane divided carriageway.
Wider context	Vegetation, undeveloped land, road infrastructure and residential areas. <ul style="list-style-type: none"> • <i>Remanent verge vegetation</i>: between Ipswich Street and the Monaro Highway: about 20 metres west. • <i>Monaro Highway</i>: four-lane divided carriageway: about 110 metres west. • <i>Jerrabomberra Creek and Wetlands</i>: the wetlands are about 570 metres west and the creek is about 500 metres west. • <i>Narrabundah and North Symonston suburbs</i>: the nearest residential receiver is 630 metres to the south-west.

3 Key findings and comments

This chapter summarises the key review findings and main comments.

3.1 Need and context

There is a need and benefit to recover materials. It is a fundamental part of the waste hierarchy and remains part of a functional economy. The proposal is therefore clearly supported under ACT policy.

A key duty of the ACT Government is to ensure it only approves development that is consistent with the permitted, and to an extent future, land uses in a given area. This is defined by the zoning provisions and codes set out in the Territory Plan. The Government also has the duty to ensure conditions are set that hold the proponent to account to ensure it manages and monitors its environmental impacts and compliance.

Correspondingly, the proponent's duty is to clearly demonstrate that its intended proposal can be built, and it can operate without any significant residual (lasting) environmental effects on the receiving environment. In this case, the mechanism to make this demonstration is in the EIS.

The EIS needs to demonstrate that the proposal is consistent with policy and legislation, otherwise defining the controls that would be used to address any inconsistency. It also needs to assess how the existing environment could be potentially impacted by development now and in the future, and the measures taken to avoid, reduce or otherwise manage impacts. Impact avoidance and reduction starts with the effective selection of options and alternatives. Mitigation and management measures, along with monitoring, are used to manage impacts.

As important is that both Government and the proponent consult with, and respond to comments and advice provided by, technical bodies such as the ACT Environment Protection Authority (referred to as entities), and the public (referred to as representations).

While there is legislation and regulation governing what information must be included in an EIS, the key terms are set out in a scoping document prepared by the Government. This document sets out the expected form and content of the EIS, focussing on site-specific issues. The Government prepared and issued its *Final Scoping Document* for the proposal on 19 January 2018.

3.2 Waste characterisation and availability

Section 2.3.1 of the main EIS describes the waste composition destined for the facility. It states the intention to target two waste streams "currently going directly to Mugga Lane landfill"; MSW and C&I waste. The main EIS presents data "extrapolated from an [ACT Government] market-sounding waste composition audit made available in 2017". However, the exact data source is not referenced or provided. The main EIS and specialist studies also mention the recovery of 'light' construction and demolition (C&D) waste. C&D waste has a different composition to either MSW and C&I waste.

A *conservative recovery rate* of 20 percent is proposed, as well as an *average recovery rate* of 40 percent; a figure that is taken forward into the traffic assessment. This inconsistency in the recovery rate is repeated throughout the main EIS and in the specialist studies. For that reason, we have reported a recovery rate of 20 percent in this report as this figure is quoted more often.

Section 2.3.1 of the main EIS also states that “Capital Recycling Solutions would expect the recovery rates to be higher than 40 percent for inert [material] and metals, and contamination may see other materials lower than 40 percent and that Capital Recycling Solutions has averaged the recovery across the board of these targeted materials”. The ability to recover 40 percent of the material needs justify, as much of the paper, textiles, plastic, and metals (i.e. conventionally recycled materials) is likely to be heavily contaminated with organic waste. This would make it difficult to separate and process using the proposed technology proposed.

With regards to the recovery rate for MSW, the proponent suggests that “while the recyclability of [this] stream may be more complex due to contamination, the recovery from the C&I [waste] should exceed 40 percent of its weight, therefore the overall combined recovery tonnes should be more than 20 percent as predicted”. This may imply a very-low recovery rate for MSW (potentially less than one percent), with most of the waste stream being sent to landfill. This challenges the economic justification for ‘recovering’ MSW waste and it would likely result in most of the material still going to landfill. Transporting the MSW residual waste to the Woodlawn facility would be inconsistent with the proximity principle (refer to **Section 4.3.9**), adding to the overall greenhouse gas footprint.

By sending waste to Woodlawn from the ACT it is not subject to any NSW levy payments. If this situation changes, then the proposal may become uneconomical. There should be some demonstration of a reasonable and feasible alternative for dealing with this outcome, and some assessment of its environmental, social and economic impacts.

Finally, the economics of recycling and recovery are challenging in Australia and Asia. Effectively, they operate on low-margins. Low-quality recovered materials (e.g. those that are contaminated with organic waste) attract a lower payment per tonnage than ‘clean’ recovered materials. This means added transportation costs from Fyshwick to Asia may make recovery unprofitable. If this is the case, then the proponent is unlikely to recover material, which would affect the environmental impacts described in the EIS. The proponent should demonstrate the variability in market conditions and how it would affect recovery rates. This should then be considered in the impact assessment to ensure a worst-case scenario is assessed. That said, there may be future incentives making the recovery of lower-quality materials more economical; which may also affect the impact assessment.

Summary

Each waste source, type and recovery rate should be clarified, and its composition confirmed, as this will influence processing requirements and the impact assessment. It is also unclear how much organic waste would be present in a typical waste stream. These factors would affect the traffic and transport and odour impact assessments.

There is also no demonstration of feedstock availability over the facility’s life. It is recommended that a waste flow model is provided to demonstrate this and justify the facility’s need. This model should forecast expected waste quantities and material composition while accounting for likely impacts that may occur such as changes in policy. The assessment should then clearly demonstrate the net greenhouse gas impact under the National Greenhouse and Energy Reporting Scheme scopes (refer to

Section 4.3.27). This should account for the transport of material to and from site, including down to Woodlawn and overseas to Asian markets.

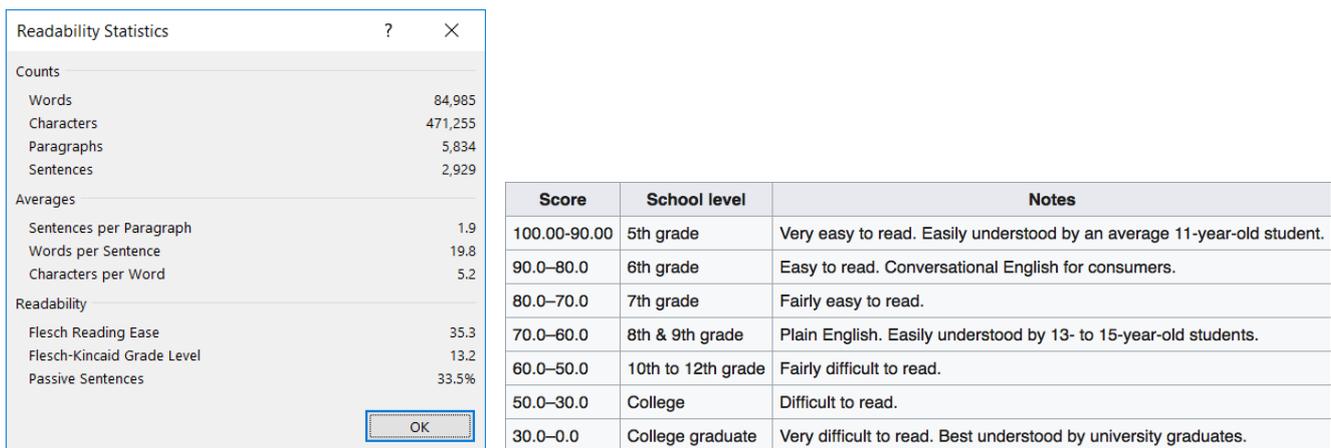
3.3 EIS overview

As a public document, the EIS needs to be written in plain English and by a suitably-qualified independent consultant. Additional technical detail, including relevant data, technical reports and other sources are needed to support the EIS.

While there is no mandated need in the ACT for a suitably qualified consultant to make a certification or declaration on the accuracy or completeness of the EIS, as is typical in other States and Territories, Purdon Planning’s quality assurances disclaimer states that “any representation, statement, opinion or advice expressed or implied in this publication is made in good faith but on the basis that Purdon Planning, its agents and employees are not liable to any person for any damage or loss whatsoever which has occurred or may occur, in relation to that person taking or not taking (as the case may be) action, in respect of any representation, statement or advice referred to in this report”. On reviewing Purdon Planning’s website, it appears that its staff hold various qualifications in statutory and urban and regional planning. Purdon Planning provides a variety of planning advice in the ACT and across Australia.

Plain English is defined as “clear and unambiguous language, without the use of technical or difficult terms” (Oxford Dictionary, 2019) and that the “writing is clear, concise, well-organised, and follows best-practices appropriate to the subject or field and intended audience” (US Plain Writing Act, 2010).

Unfortunately, there is ambiguity, inconsistency, repetition, irrelevancy and contradiction throughout the main EIS. The sentences are often long and difficult to understand, and the structure wanders, seeing non-essential information introduced midway through sections. Section 2.3.2 is a good example of where general information about Capital Recycling Solutions, waste levies, and pricing is introduced midway through a description about the specifics of the proposal. Chapter 3 is a second example, where the section cites and details policies and legislation only to say that it is irrelevant. As a result, the document scores poorly on the readability index (refer to **Figure 2**) making it “difficult to read”. To be considered plain English, the Flesch Reading Ease score should be between 60 and 70.



Source: Microsoft

Figure 2: Readability scores

The ambiguity, superfluous writing and uncertainty weakens efforts to provide a simple and merited assessment of the proposal’s impacts. In addition, the document includes

multiple dismissive statements that simply report adhering to requirements or addressing issues without substantiating or evidencing this; even by providing simple appendix references. Table 4 is a good example of this. It only provides a statement of compliance without providing any evidence as to why the objective has been met. Appendix T is a second example where information is listed but no evidence is provided.

This means the reader is left with an incoherent understanding of the proposal, its impacts and the mitigation measures. By not following normal EIS reporting conventions, it is not possible to see if the environmental assessment process has identified all reasonable and feasible impacts and adequately and specifically provisioned either to avoid, manage or mitigate against them.

Consistent with Clause 50(2f) of the ACT Planning and Assessment Regulation 2008, each potentially significant impact (as defined in Section 8 of the *Final Scoping Document*) must be assessed and reported under the following structure:

- Existing environment: “identify the relevant environmental values” and the “findings of any environmental investigations in relation to the land to which the proposal relates”.
- Impact assessment: “describing the effects (changes) of the [proposal’s] environmental impacts on physical and ecological systems and ecological communities”.
- Assessment of significance (impact ratings): “analysing the significance of the potential environmental impacts of the development”.
- Mitigation measures: “stating the approach proposed to be taken to the environmental management of the land to which the proposal relates, including any proposed impact prevention, mitigation or offsetting measures”.

The main EIS should report under this structure.

Specifically, the existing environment is not described, and elements of the impact assessment introduce design-information that is not provided in Chapter 2 of the main EIS. This means there is limited clarity in describing the environmental values and rating how these would be adversely impacted by the proposal. The main EIS appears to simply present a risk assessment over an impact assessment. Consequently, there is a lack of specific and measurable controls and mitigation measures. This makes it hard for the proponent to demonstrate accountability.

In summary, the main EIS only loosely follows the structural requirements described in Section 8 of the *Final Scoping Document* and Section 50 of the Planning and Development Regulation 2008.

While the proponent describes how it has addressed the *Final Scoping Document* requirements in Appendix T no detail is provided, and in some instances, various requirements are absent (refer **Section 4.1**). A key omission is a clear description of the construction method.

Conversely, as self-contained assessments, most of the appended specialist studies provide the specific information sufficient to carry out a reasonably credible impact assessment. The problem however is that there is inconsistency between the specialist studies and main EIS meaning there is no one single clear unified data source. As such, while the specialist studies appear credible, it is not possible to confirm if they are assessing the impact of what is proposed. **Chapter 4** and **Chapter 5** describe the detail of this.

4 EIS review

This chapter reviews the main EIS. Given that the proponent has not prepared the EIS to directly align with the *Final Scoping Document* we have presented the chapter in two sections.

- The first part summarises our review of the EIS and its **consistency** with the requirements of the *Final Scoping Document*. **Appendix A** provides the full review.
- The second part provides a technical review of the main EIS for its accuracy and **the adequacy** of the presented information. **Appendix B** provides a more detailed review of four specific technical studies.

A key challenge and noted limitation of our review is the relationship between the information presented in each specialist study and how this had been summarised and presented in the main EIS. Typically, the main EIS does not define the environmental baseline condition nor does it provide a clear impact assessment. As noted in the previous chapter, this information is often contained in each specialist study. For that reason, and for simplicity, this chapter focuses on a review of the main EIS while **Chapter 5** reviews four key specialist studies. **Chapter 6** aims to unify and consolidate the information to draw some overall conclusions.

4.1 Consistency review

Table 2 summarises the consistency review. It considers the 168 assessment requirements defined under the *Final Scoping Document*. **Table 2** does not define whether the omissions relate to key information (e.g. the construction method) or include omissions which are minor in nature (e.g. the name and title of the proposal on the cover page).

Table 2: Final Scoping Document consistency review summary

Consistency	Number
Assessment requirements that do not apply to the review (e.g. printing three copies of the EIS).	7 (4%)
Instances where no information is provided against the assessment requirements.	11 (7%)
Instances where some information is provided against the assessment requirements.	69 (41%)
Instances where information is provided to address the assessment requirement.	81 (48%)

Table 3 summarises where the main EIS is inconsistent with the requirements of the *Final Scoping Document* (not including the entity requirements).

Table 3: Final Scoping Document: consistency review

Consistency
<i>No information</i> is provided
<p>1. Cover page</p> <p>The name of the proposal (project title)</p>
<p>5.1: Project Description</p> <p>k) A description of the construction methodologies for the proposal.</p>
<p>6.2 Other requirements</p> <p>The description must also include information on how each of the following has been considered in the preparation of the EIS:</p> <ul style="list-style-type: none"> • Canberra Spatial Plan • Sustainability Policy
<p>8.1.2: Traffic and transport</p> <p>Include a description of the volume of traffic generated during construction.</p>
<p>8.2.4: Mitigation</p> <p>Discuss the proposed safeguards and mitigation measures proposed to be taken for the environmental management of the land to which the proposal relates for the environmental themes identified in Table 1[of the <i>Final Scoping Document</i>]. This is to include:</p> <p>b) A description of the expected or predicted effectiveness of the mitigation measures.</p> <p>c) Any statutory or policy basis for the mitigation measures.</p> <p>f) The name of the agency responsible for endorsing or approving each mitigation measure or monitoring program.</p> <p>g) A description of the cost effectiveness of environmental mitigation or rehabilitation measures proposed and the expected or predicted effectiveness of those measures.</p>
<p>8.2.4 : Residual Risk</p> <p>Assessment guide:</p> <p>Provide a table with the headings... to describe the risks identified and the original risk rating without any mitigation. The residual risk assessment will include the consideration of management, mitigation and monitoring strategies applied to each risk identified. The residual risk rating describes the final risk with the mitigation measures in place.</p> <ul style="list-style-type: none"> • Original risk rating from items identified in 7.1.
<p>13. Required appendices</p> <p><i>Information Sources</i></p> <p>For information given the following must be stated:</p> <ul style="list-style-type: none"> • How the reliability of the information was tested. • What uncertainties (if any) are in the information.
<i>Some information</i> is provided
Format and form of the EIS

Consistency
The Authority requires that the Proponent engage a suitably qualified independent consultant to prepare an EIS OR the proponent submits, with the draft EIS, an independent review of the draft EIS undertaken by a suitably qualified consultant.
<p>Format and form of the EIS</p> <p>The EIS must be prepared in accordance with Section 50 of the <i>Planning and Development Regulation 2008</i>.</p>
<p>Format and form of the EIS</p> <p>The EIS must be written in plain English and avoid the use of jargon as much as possible.</p>
<p>Format and form of the EIS</p> <p>The EIS is required to be provided in the same structure as described in this <i>Final Scoping Document</i> as closely as possible. A table that cross-references the EIS to the <i>Final Scoping Document</i> must be included if the structure is different.</p>
<p>Format and form of the EIS</p> <p>Additional technical detail, including relevant data, technical reports and other sources of the EIS analysis must be provided in appendices.</p>
<p>Format and form of the EIS</p> <p>Maps, diagrams and other illustrative material should be included in the EIS to assist readers to interpret information.</p>
<p>5.1: Project description</p> <p>g) Clearly identify all lands subject to direct disturbance from the proposal and associated infrastructure and geomorphic features such as waterways and wetlands.</p> <p>h) An outline of any developments that have been, or are being, undertaken by the proponent, or other person(s) or entities, within the proposal area and broadly in the region. Describe how the proposal relates to those in the region affected by the proposal.</p> <p>i) A description of all the components of the proposal, including the proposal specifications, the predicted timescale for implementation (design, approvals, construction and decommissioning) and project life.</p> <p>j) A plan/description of the precise location of any works to be undertaken, structures to be built or elements of the proposal that may have relevant impacts.</p>
<p>5.2: Alternatives to the proposal</p> <p>a) Any alternatives to the proposal and provide reasons for selecting the preferred option with an analysis of site selection as an attachment to the EIS.</p> <p>c) Any matters considered to avoid or reduce potential impacts prior to the selection of the preferred option.</p>
<p>6.2 : Other requirements</p> <p>The description must also include information on how each of the following has been considered in the preparation of the EIS:</p> <ul style="list-style-type: none"> • Territory Plan 2008
<p>6.2.1: Ecologically sustainable development</p> <p>Provide a description of the proposed action in relation to the long-term and short-term considerations of economic development, social development and environmental protection. The proponent should ensure that the EIS adequately addresses the principles of ecologically sustainable development as defined by Section 9 of the ACT <i>Planning and Development Act</i>.</p>

Consistency
<p>7.1: Risk assessment methodology</p> <p>Provide a risk assessment in accordance with the Australian and New Zealand Standard for risk management AS/NZS ISO 31000:2009 Risk Management – Principles and guidelines. The proposed criteria for determining which risks are potentially significant impacts must be described. This should be based upon the preliminary risk assessment (PRA) submitted with your request for the scoping application.</p>
<p>7.1: Risk assessment methodology</p> <p>Should any risk levels change during the preparation of the EIS or any new risks become apparent, these must be assessed and included within the EIS, and where relevant, the residual risk assessment.</p>
<p>8. Impact assessment</p> <p>Sufficient information is required to provide the Authority with an adequate understanding of the environmental impacts associated with the proposal. Each potentially significant impact rated with a risk rating of medium and above as identified in the risk assessment must be addressed with the information required by sections 8.1.1- 8.1.11 of this scoping document.</p>
<p>8. Impact assessment</p> <p>Table 1 [of the <i>Final Scoping Document</i>] identifies the issues that the Authority has identified as potentially significant risks, and the relevant sections of the scoping document that must be addressed in the EIS. 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.</p>
<p>8.1.1: Planning and land status</p> <p>Describe planning and development status of any land or project relevant to the proposal.</p>
<p>8.1.1: Planning and land status</p> <p>Describe land use of the proposed land and any land to be affected (including, but not limited to, zoning, lessee(s) or custodian of the land, the permissibility of the proposed use defined in the Territory Plan).</p>
<p>8.1.2: Traffic and transport</p> <p><i>Construction only.</i> Describe arrangements for the transport of construction materials, equipment, products, wastes and personnel during both the construction phase and operational phase of the development proposal.</p>
<p>8.1.2: Traffic and transport</p> <p>A comprehensive Traffic Impact Assessment (TIA) must be prepared in accordance with the Transport Canberra and City Services (TCCS) TIA Guideline.</p>
<p>8.1.3: Utilities</p> <p>Describe any new utilities, removal or realignments required because of this development.</p>
<p>8.1.4: Materials and waste</p> <p>Describe the nature, sources, location and quantities of all materials to be handled, including the storage, stockpiling and disposal of materials and waste</p>
<p>8.1.4: Materials and waste</p>

Consistency
Describe mitigation measures to reduce potential of waste spreading to the surrounding area.
<p>8.1.5: Landscape and visual</p> <p>Undertake a visual assessment of the site and surrounds to describe the current landscape character of the area.</p>
<p>8.1.5: Landscape and visual</p> <p>Identify important view sheds and significant views and vistas to and from the site.</p>
<p>8.1.5: Landscape and visual</p> <p>Conduct a visual impact analysis that details predicted impacts the proposal may have on the landscape character of the site and surrounds.</p>
<p>8.1.5: Landscape and visual</p> <p>Provide perspectives and/or a visual analysis of the proposal from local vantage points.</p>
<p>8.1.5: Landscape and visual</p> <p>Describe measures that are to be adopted to reduce the visual impact from the building bulk and scale, any stockpiling that may be required and lighting the facility.</p>
<p>8.1.6: Soils and geology</p> <p>Describe the soil and geology features of the area.</p>
<p>8.1.6: Soils and geology</p> <p>Discuss the potential impacts associated with soils and geology on the proposed site and surrounding areas.</p>
<p>8.1.6: Soils and geology</p> <p>Provide information on methods of impact reduction and rehabilitation associated with soils and geology.</p>
<p>8.1.7: Water and hydrology</p> <p>Describe the current groundwater quality and measures proposed to maintain and monitor ground water quality.</p>
<p>8.1.7: Water and hydrology</p> <p>Describe the present and potential water uses and users within the affected catchment of the proposal. Include a map of the catchment.</p>
<p>8.1.7: Water and hydrology</p> <p>Provide information on stormwater/waste water management both during construction and operation including any on site detention, treatment systems and water quality protection measures.</p>
<p>8.1.8: Climate change and air quality</p> <p>The air quality and odour impact assessment should consider the ACT Government's proposed East Lake residential development and other surrounding development.</p>
<p>8.1.8: Climate change and air quality</p> <p>An assessment of the effect the proposal may have on climate change and how the proposal is consistent with associated ACT and national policies.</p>
<p>8.1.9: Socioeconomic and health</p>

Consistency
Detailed discussion of the potential social and economic impacts associated with the proposal.
<p>8.1.9: Socioeconomic and health</p> <p>Describe the suitability of the land for the type of proposal described in terms of socio economics and health.</p>
<p>8.1.10: Noise, vibration and lighting</p> <p>Identify any potentially sensitive receivers (including residential dwellings and road users) which may be affected by the construction and operation of this proposal.</p>
<p>8.1.10: Noise, vibration and lighting</p> <p>Discuss the types, magnitude, duration and frequency of any noise and/or vibration during operation phases of the proposal including noise from operation of the facility and vehicle movements (including trains).</p>
<p>8.1.11 : Hazard and risk</p> <p>Provide examples of other similar developments within Australia including:</p> <ul style="list-style-type: none"> • Comparative technology review. • Processing capacities and proximity to other developments and sensitive receivers. • Impacts or failures that they have encountered. • Operational status.
<p>8.1.11: Hazard and risk</p> <p>Describe the potential for hazard and risk associated with the construction and operation of the project including flooding, vandalism and accidents.</p>
<p>8.2: Investigating impacts</p> <p>Each potentially significant environmental impact identified within Table 1 [of the <i>Final Scoping Document</i>] should be addressed/structured as per sections 8.2.1 - 8.2.5.</p>
<p>8.2.1: Environmental conditions and values</p> <p>Describe the environmental conditions and identify the environmental values for the environmental themes identified in Table 1 [of the <i>Final Scoping Document</i>]. This section should discuss the baseline conditions for the area.</p>
<p>8.2.2: Investigations</p> <p>Identify the findings and results of any environmental investigation in relation to the land to which the proposal relates.</p>
<p>8.2.3: Impacts</p> <p>Describe the effects of the environmental impact as a result of construction and operation for the environmental themes identified in Table 1 (including cumulative, consequential and indirect effects) on physical and ecological systems and human communities. Particular emphasis should be placed on the potentially significant impacts identified in the risk assessment. Include a discussion of the timeframes of impacts i.e. short or long term, their nature and extent and whether they are reversible or irreversible, unknown or unpredictable. Include an analysis of the significance of the relevant impacts. Information must include any technical data and other information used or needed to make a detailed assessment of the relevant impacts.</p>

Consistency
<p>8.2.4 : Mitigation</p> <p>Discuss the proposed safeguards and mitigation measures proposed to be taken for the environmental management of the land to which the proposal relates for the environmental themes identified in Table 1 [of the <i>Final Scoping Document</i>]. This is to include:</p> <ul style="list-style-type: none"> a) A description and an assessment of the proposed impact prevention, mitigation or offsetting measures to deal with the environmental impact of the proposal d) An outline of an environmental management plan (EMP) that sets out the framework for continuing management, mitigation and monitoring programs for the relevant impacts of the action, including any provisions for independent environmental auditing e) The frequency, duration and objectives of monitoring proposed
<p>9. Community and stakeholder consultation</p> <p>Consultation must be undertaken with:</p> <ul style="list-style-type: none"> • Any recreational groups which will be affected by the proposal.
<p>9. Community and stakeholder consultation*</p> <p>Describe the community consultation undertaken (methodology and criteria for identifying stakeholders and the communication methods used).</p>
<p>12. References</p> <p>A reference list using standard referencing systems must be included.</p>
<p>13. Required appendices</p> <p><i>Scoping Document Reference</i></p> <p>Include a table that cross-references the EIS to the scoping document.</p>
<p>13. Required appendices</p> <p><i>Proponent's Environmental History</i></p> <p>Provide details of any proceedings under a Commonwealth or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:</p> <ul style="list-style-type: none"> • For an action for which a person has applied for a permit, the person making the application.
<p>13. Required appendices</p> <p><i>Information Sources</i></p> <p>For information given the following must be stated:</p> <ul style="list-style-type: none"> • How recent the information is
<p>13. Required appendices</p> <p><i>Study Team</i></p> <p>The qualifications and experience of the study team and specialist sub-consultants and expert reviewers must be provided.</p>

4.2 Consistency review analysis

This section describes why we consider the main EIS to be inconsistent with the requirements set out in

Table 3. The assessment focuses on key points of inconsistency or instances where there is merit in providing an explanation. For instance, it is not critical or key that the main EIS front-cover does not name the proposal.

4.2.1 General requirements: format and form of the EIS

Table 4 compares of the main EIS structure against the structure requested in the *Final Scoping Document*. While the main EIS generally follows the requested structure, there are slight differences. For example, the request is to present the community consultation after the impact assessment section; however, it is presented as part of the proposal detail.

Table 4: Comparison of the main EIS and Final Scoping Document structure

Final Scoping Document	Main EIS
1 Cover page	Cover page
2 Glossary	Glossary
3 Executive summary	Executive summary
4 Introduction	1.0 Introduction
5 Proposed details	2.0 Proposal details
5.1 Project description	2.3 Project description
5.2 Alternatives	2.5 Alternative to the proposal and criteria
6 Legislative context	3.0 Statutory context
6.1 Statutory requirements	3.0 Statutory context 3.1 <i>Planning and Development Act 2007</i> 3.5.1 Planning and Development Regulation 2008
6.2 Other requirements	3.5 Other statutory requirements
6.2.1 Ecologically sustainable development	3.1.1 Ecologically Sustainable Development
6.2.2 Territory Plan strategic directions	4.2 Territory Plan
7 Risk assessment	5.0 Risk assessment
7.1 Risk assessment methodology	5.1 Risk assessment methodology
8 Assessment of impacts	6.0 Assessment of impacts
8.1 Required detail for addressing impact	6.0 Assessment of impacts
8.1.1 Planning and land status	6.1 Planning and land status
8.1.2 Traffic and transport	6.2 Traffic and transport
8.1.3 Utilities	6.3 Utilities
8.1.4 Materials and waste	6.4 Materials and waste
8.1.5 Landscape and visual	6.5 Landscape, visual and lighting
8.1.6 Soils and geology	6.6 Soils and geology
8.1.7 Water quality and hydrology	6.7 Water quality and hydrology

Final Scoping Document	Main EIS
8.1.8 Climate change and air quality	6.8 Air quality and climate change
8.1.9 Socio-economic and health	6.9 Socio-economic and health
8.1.10 Noise, vibration and lighting	6.10 Noise and vibration
8.1.11 Hazard and risk	6.11 Hazard and risk
8.2 Investigation impacts	Throughout Chapter 6
8.2.1 Environmental conditions and values	Not available
8.2.2 Investigations	Throughout Chapter 6
8.2.3 Impacts	Throughout Chapter 6
8.2.4 Mitigation	Throughout Chapter 6
8.2.5 Residual risk	Throughout Chapter 6
9 Community and stakeholder consultation	2.4 Community consultation
10 Recommendations	7.0 Recommendations
11 Other relevant information	Not available
12 References	Appendix C
13 Required appendices	-
13.1 Final scoping document for the EIS	Appendix A
13.2 Scoping document reference	Appendix T
13.3 Proponent's environmental history	Appendix B
13.4 Information sources	Appendix C
13.5 Study Team	Appendix D
13.6 Specialist studies	EIS appendices
13.7 Research	Not available

4.2.2 General requirements: proposal details

The *Final Scoping Document* requires a description of the construction method. As discussed in **Section 2.3**, this information is lacking.

It is a requirement of any EIS to assess construction impacts. In not presenting sufficient and clear information, it means that the assessment is incomplete and cannot be adequately determined.

Section 2.0 of the main EIS describes the proposal. Some requirements are only partially met in the *Final Scoping Document*. For example, it is a requirement to describe all components of the proposal, including specifications, the predicted timescale for implementation (design, approvals, construction and decommissioning) and the project's life. There is little detail in Section 2.3.6 of the main EIS on decommissioning the proposal.

The project description content and structure is difficult to follow when identifying “the adjacent land subject to direct disturbance” and the “associated infrastructure and geomorphic features such as waterways and wetlands”. This is because the information and figures are presented in Section 2.2 of the main EIS; however, relevant information is scattered throughout various and irrelevant paragraphs. For clarity, it is recommended that the key land uses, and properties be presented in a simple table. This structure would provide a clear summary for the reader of the adjacent land uses. In addition, Figure 7 of the main EIS should be updated to include the sensitive receiver 110 metres south of the proposal (refer to **Table 1**).

4.2.3 Alternatives to the proposal

Alternatives to the proposal are outlined in Section 2.5 of the main EIS including alternative sites without a rail connection. It is stated that this alternative was requested by the ACT Government, however Capital Recycling Solutions “does not consider it appropriate” to address this request. This means the main EIS has not fully addressed the requirements of the *Final Scoping Document* and the *ACT Planning and Development Act 2007* by clearly demonstrating the proposal to be cited in the best location of the range of feasible and reasonable alternatives. The *Final Scoping Document* requires the EIS to include an appendix with its analysis of the site selection process. No such appendix is present. There should also be some demonstration of reasonable and feasible alternatives for dealing with changes in policy and levy payments, which would affect recovery economics as described in **Section 3.2**.

4.2.4 General requirements: legislative context

The *Final Scoping Document* requires the EIS to consider the *Canberra Spatial Plan*. The Plan provides a strategic direction that will help manage change, and provide the growth needed to achieve social, environmental and economic sustainability. By not referring to the Plan, it is not clear if the proposal is consistent with its aims.

The *Final Scoping Document* requires the EIS to consider the detail of the *Territory Plan*. This is particularly important as it provides the basis and foundation for development control in the ACT. The proponent only makes cursory statements to demonstrate how it complies with the land use objectives. These statements are unsubstantiated and there is no cross-reference to evidence the overarching claim that the proposal is consistently supported under the *Territory Plan*.

The *Final Scoping Document* requires the EIS to consider how the proposal would deliver long and short-term economic and social development while protecting the environment. The four ESD principles are not listed out individually or described in adequate detail in Section 3.1.1 of the main EIS. For example, the main EIS simply states that the facility “will have positive economic impacts as it will create jobs, rejuvenate the rail corridor and extend [the] life of [the] Mugga Lane landfill”. However, there is little evidence to justify how the development will create the estimated 48 full time and 10 part-time jobs.

4.2.5 General requirements: (7) risk assessment

The pre-risk assessment in Chapter 5 of the main EIS includes all the risks outlined in the *Final Scoping Document* except for “materials and waste: storage and disposal of non-recyclable waste received at the facility.” There is no explanation why this is not included. It is recommended that this risk be added to the pre-risk assessment to be in accordance with the *Final Scoping Document*.

Section 7 of the *Final Scoping Document* notes that should any risk levels change during the preparation of the EIS, or any new risk become apparent, that they must be re-assessed and included. Section 5.1 of the main EIS notes that an “assessment for the [proposal] was guided by the risks identified within the Scoping Document and the Preliminary Risk Assessment. No new risks have been identified beyond those in these two documents”. It would be unlikely that no new risks emerged over the design and assessment process for the reasons discussed in more detail in **Section 4.3**. This would provide greater certainty and confidence relating to the adequacy of the assessment.

The original risk rating from the risk scenarios identified in the risk assessment are not included in Table 21 of the main EIS; post mitigation assessment strategy. This is required to help the reader understand why the risk rating has changed based on the assessment process and proposed management, mitigation and monitoring strategies.

Section 8.2.1 of the *Final Scoping Document* requires the EIS to describe the environmental conditions and values for the themes identified in Table 1. The EIS should therefore discuss the existing environmental conditions for the area affected by the proposal, plus any changes to the baseline that are expected to take place over the proposal’s lifetime. This information is absent from Chapter 6 of the main EIS. While some the supporting specialist studies (e.g. noise and odour) describe the existing environment, others do not (e.g. the visual impact assessment). This makes the impact assessment inconsistent and incomplete.

4.2.6 General requirements: (8) assessment of impacts

Section 8.2.3 of the *Final Scoping Document* requires the EIS to describe the direct, cumulative, consequential (e.g. secondary, additive, synergistic) and indirect impacts associated with the risks described in Table 1. This information is not provided in **Chapter 6**. While certain impacts are described in the specialist studies, there appears to be no meaningful appraisal of the above in Chapter 6, which presents a risk assessment over an impact assessment.

A second key point is that the specialist study assessments are often not adequately summarised in the main EIS, as reported below. As the principal document the main EIS should avoid over simplifying or potentially misrepresenting the assessment findings and conclusions made in the specialist studies.

Chapter 6 of the main EIS includes 12 sub-headings assessing specific issues and matters.

4.2.7 Planning and land status

The *Final Scoping Document* requires the EIS to describe the planning and development status of any land or projects relevant to the proposal.

The proposed East Lakes residential development is not explicitly assessed in the main EIS; however, the impact on this development can be implied from the information provided, despite the reader needing to understand where the proposal is located.

The *Final Scoping Document* requires the EIS to describe: the land use; any impacts on zoning, leases or custodianship; and land use permissibility as defined in the *Territory Plan*. This appears to only be partially provided in the main EIS and supporting studies.

4.2.8 Traffic and transport

The *Final Scoping Document* requires the EIS to describe the volume of traffic generated during construction.

This information is only talked about generally in the main EIS, and construction traffic impacts are not credibly assessed. Section 6.2.3.1 of the main EIS states that “given the site’s locality in the Fyshwick industrial area, and proximity to major collector streets the construction traffic impact is minor as vehicles will come and go and all activities will take place on site and not require any street space”. This conclusion cannot be drawn without any impact assessment.

Section 6.2.2 of the main EIS argues that the site would provide enough car parking capacity for staff. However, no parking demand is discussed within the document. Again, this conclusion cannot be drawn without any impact assessment.

These inconsistencies should be addressed to confirm the full extent of the proposal’s impact on traffic during construction and operation.

Appendix E states that most of the materials are already available onsite, which would minimise some types of delivery traffic. It is unclear what this means. There is no specific discussion about re-purposing or recovering materials to form the proposal. It is also exceptionally unlikely that the site includes the resources needed to build the proposal, and there would therefore be notable construction traffic movements to support development.

The *Final Scoping Document* requires the Traffic Impact Assessment (TIA) to be prepared in accordance with Transport Canberra and City Services’ (TCCS’) corresponding guidelines. However, the assessment provided in the EIS does not follow the guidelines. This means certain information is not included, namely: an onsite parking analysis (as described above), detailed intersection analysis, and information on access to site via public and active transport.

4.2.9 Utilities

The *Final Scoping Document* requires the EIS to describe locations where existing utilities would need managing because of the development.

Section 6.3 of the main EIS describes the existing utilities including electrical, gas, telecommunications, water supply and sewerage; however, it does not describe which of these would need removing, protecting or relocating during construction.

4.2.10 Materials and waste

The main EIS does not consider the following *Final Scoping Document* requirement: “materials and waste: storage and disposal of non-recyclable waste received at the facility”.

This is the only requirement in Table 1 that is not identified in the appropriate assessment section of the EIS. The introduction of the main EIS states that the non-recyclable residues will be transported to the Woodlawn Bioreactor landfill. However, further detail on the procedure for storing and disposing of non-recyclable waste should be included in Section 6.4 of the main EIS.

4.2.11 Landscape and visual

The *Final Scoping Document* requires the EIS to include a landscape character and visual impact assessment.

This information is neither provided in the main EIS nor Appendix F. Appendix F only provides three viewpoints from surrounding areas, site layouts, elevation diagrams and artistic impressions; effectively urban design information.

There is no written description of the proposal's visual impacts or of the built form including scale, height, materials and finishes. This detailed information is required to identify the measures to reduce the proposal's visual impact and assess their effectiveness.

The *Final Scoping Document* requires the EIS to include measures to reduce light spill impacts. An assessment is therefore needed to predict the impact and test the effectiveness of supporting mitigation. This assessment should reference AS4282: 1997 Control of the Obtrusive Effects of Outdoor Lighting (Standards Australia, 1997¹). Until this information is provided it is not possible to draw the following conclusion made in Section 6.5.4.1 of the main EIS; that “there will be no residual risk in relation to...night lighting as this will promote safety and security in the area and has no impact on night-time hours for residences”.

4.2.12 Soils and geology

The *Final Scoping Document* requires the EIS to describe the soils and geology in the area.

Appendix G details the soil and geological characteristics locally, however this information is not carried forward into the main EIS.

The *Final Scoping Document* requires the EIS to provide information on the methods to reduce impacts and rehabilitate the soils and geology.

Appendix G provides the preferred remedial strategies to render the site suitable for commercial/industrial development. The main EIS simplifies this assessment and it does not include relevant and important information relating to management and mitigation measures defined in Appendix G.

4.2.13 Water quality and hydrology

Appendix H of Appendix H provides most of the required information on water quality and hydrology requested in the *Final Scoping Document*. This information is not carried forward into the main EIS.

Appendix H discusses the present and potential ecological and potable water uses; however, no catchment map is provided. This is a specific requirement of the *Final Scoping Document*.

The *Final Scoping Document* requires the EIS to provide information on stormwater/wastewater management during construction and operation.

Appendix H of Appendix H provides a few general recommendations such as “stormwater collected in excavations or in bunds around stockpiles is likely to be impacted with total recoverable hydrocarbons and [other hydrocarbons, including]

¹ <https://www.saiglobal.com/PDFTemp/Previews/OSH/As/as4000/4200/4282.pdf>

benzene, toluene, ethylbenzene and xylene ...and [it] should not be discharged to stormwater without testing prior to disposal". The main EIS mainly focusses on leachate collection and export from site and not on stormwater and wastewater management. Further clarity should be provided in the main EIS on construction stormwater management. **Section 4.3.26** discusses operational stormwater management.

4.2.14 Air quality and climate change

The *Final Scoping Document* requires the EIS to assess the proposal's effects on climate change and how it is consistent with associated ACT and national policies.

There is no assessment of greenhouse gas emissions and savings across the project-lifecycle in the EIS.

The *Final Scoping Document* requires the EIS to assess the cumulative air quality impacts and hazardous emission from the plant with other developments in the airshed.

The response presented under this heading in Section 6.8.2.3 of the main EIS does not provide a cumulative assessment of odour or hazardous emissions, nor does it justify why this is not an issue. There appears to be no consideration for the combined emission impacts from the proposal and other future committed and approved development in the airshed.

The caretaker's residence is not discussed in either the air quality or odour assessment. While its consideration would be unlikely to affect the outcome of either assessment, as it is less sensitive given its location within an existing industrial area, it still needs fully accounting for. The proposed East Lakes residential development is also not explicitly assessed; however, the impact on this can be implied from the information provided, despite the reader having to hold an understanding of the scheme.

4.2.15 Socioeconomic and health

The *Final Scoping Document* requires the EIS to describe if the site is suitable for development socially, economically and in terms of health impacts. While these requirements are not described in the main EIS, they are assessed in Appendix L.

As noted in **Section 4.3.28** and **Section 4.3.31**, the health assessment relies on several other specialist studies. If the information in any of these supporting assessments is inaccurate then this may affect the validity of the health impact assessment conclusions. This should be checked once the other specialist studies are reconciled.

4.2.16 Noise and vibration

The *Final Scoping Document* requires the EIS to identify potential sensitive receivers which may be affected by the proposal's construction and operation.

Appendix R does not consider the identified caretaker's cottage located 110 meters south of the development. Although this may not change the results of the noise assessment, it is a requirement to identify all potential sensitive receivers.

The *Final Scoping Document* requires the EIS to discuss the types, magnitude, duration and frequency of any noise and/or vibration impacts during the proposal's operational phases.

Appendix R provides most of this information; however, the main EIS does not carry this forward to describe the assessment method and key parameters (e.g. sound power levels

and equipment schedules). Neither Appendix R nor the main EIS presents a credible construction noise and vibration impact assessment.

4.2.17 Hazard and risk

Section 8.1.11 of the *Final Scoping Document* requires the EIS to describe the performance and impact of similar materials recovery facilities operating in Australia. This includes needing to provide: a comparative technology review; processing capabilities and proximity to other developments and sensitive receivers; impacts or failures that they have encountered; and current operational status.

Section 6.11.2.2 of the main EIS provides detail on the steps undertaken by Access Recycling Canberra to reduce the fire hazard on the adjacent site. However, this is the only example provided to satisfy the *Final Scoping Document* requirement. Limited information on similar developments is included in the main EIS to address the above requirements.

The *Final Scoping Document* requires the EIS to describe potential hazards and risk associated with the proposal's construction and operation including flooding, vandalism and accidents.

- There is no information on crime prevention though environmental design in the main EIS. This information would help the discussion associated with vandalism and how it would be mitigated.
- Flooding is only discussed in Section 3.5.10.3 of the main EIS which states “the site is not subject to flooding [or] within a flood plain or flood risk area.” No evidence is provided in the main EIS for this statement. However, upon our review, it was determined that Section 7 of Appendix H provides the modelling of the proposed drainage strategy. The modelling predicts that the flooding risk is ‘low’, providing the stormwater infrastructure upgrade is designed and constructed as part of the development. This information should be brought forward into the main EIS from Appendix H and reconciled to address the inconsistency with the above statement. It should also demonstrate how the stormwater infrastructure would be upgraded to maintain a low flooding risk.

4.2.18 General requirements: (9) community and stakeholder consultation

The *Final Scoping Document* requires the EIS to describe the community consultation carried out and methods used. It also requires the methods used to identify stakeholders to be described.

Appendix N provides the above information and most of this is carried forward into the main EIS. However, the main EIS does not include information on the criteria (i.e. legislation) used for identifying stakeholders.

The *Final Scoping Document* requires consultation to be undertaken for any recreational group that would be affected by the proposal.

Section 2.4.3 of the main EIS states “[no recreational groups] were obviously affected”. While this is a likely conclusion, no information is provided to substantiate this claim.

4.2.19 General requirements: (10) recommendations

As stated above in **Section 4.2.5** the pre-mitigation risk ratings are not included in Table 21 as required under the *Final Scoping Document*.

4.2.20 General requirements: (13) required appendices

A review of the required appendices as outlined in the *Final Scoping Document* confirms the following:

- The table provided in Appendix T cross-referencing where the EIS requirements have been addressed lacks the necessary detail to demonstrate compliance with the *Final Scoping Document*. Specifically, the table only provides the high-level headings and does not list the full 168 terms of reference. **Table 3** outlines the omissions and inconsistencies of the main EIS with the *Final Scoping Document*.
- Appendix B provides the proponent's environmental history. This states that Capital Recycling Solutions is a new joint venture. While a summary of the environmental history (including licenses and penalties) for the parties forming the joint venture partners is provided there is no detail on the penalties given out to with regards to:
 - Benedict Industries on July 2012 and April 2013.
 - Quarry Operations on October 2012 and April 2013.

Benedict Industries and Access Recycling Services have provided their environmental policies. Quarry Operations needs to provide its policy. Capital Recycling Solutions should also provide its policy.

- Appendix T suggests all information and reference sources are provided in Appendix C. This is incorrect as Appendix C does not detail how the reliability of the information was tested and what uncertainties (if any) there are in the data sources.
- Appendix D lists the study team. The appendix provides no detail on their qualifications and experience, including specialist sub-consultants and expert reviewers.

4.2.21 Entity requirements: Attachment A

A1: ACT Health

Most of the requirements set out by ACT Health have only been partially met. For example, the likelihood of cumulative effects of the development within the locality including on surrounding businesses has not been adequately addressed (refer to **Section 4.2.6**). It is noted however that ACT Health is satisfied that the revised EIS has considered the concerns raised by Health Protection Service (HPS) in May 2018 and has detailed the appropriate mitigation measures.

A2: ACT Environment Protection Authority

The ACT Environment Protection Authority requests that land contamination requirements onsite should be fully assessed during the development application process and the site remediated for its intended use before starting construction. Appendix G includes several associated contamination and remediation measures that are not described in the main EIS. The main EIS should be updated to reflect that the proponent

is aware of, and understands, its responsibilities prior to development to ensure they form mitigation measures or conditions of approval.

A3: Transport Canberra and City Services

Transport Canberra and City Services requires details on the impact on existing stormwater assets and easements through Block 9 and 11, and that any changes must be endorsed. Appendix H states that the “drainage strategy has been modelled...and has been proven to have capacity to contain 1-in-100 flood levels. The proposed stormwater upgrades are in-line with The Fyshwick South Stormwater Augmentation Plan and improve the stormwater network capacity in the area.” No reference has been made that identifies the changes and whether they have been endorsed by TCCS.

A4: Environment, Planning and Sustainable Development Direction

Various requirements set out by the Environment, Planning and Sustainable Development Directorate have only been partially met or not met at all for the following ‘divisions’: Environmental Protection Policy, Sustainability and Climate Change, and Strategic Planning.

For example, the Directorate requires information on the destination of inert and non-combustible materials. Little information is provided in the main EIS on this. Section 2.3.2 states “inert non-combustible materials, such as soil fines, glass or aggregates will be conveyed to bins where they will then be transported by truck to an appropriate recycler of these commodities.” It is noted that the Directorate’s comments stand for the first draft EIS stand and that no additional comments were provided for the revised EIS.

B2: ACT Heritage Council

The unanticipated discovery protocol requested by the ACT Heritage Council has not been included in the main EIS. This is a requirement set out in the *Final Scoping Report*.

As a minimum, the main EIS should include the obligations in the *ACT Heritage Act 2004*, which would include that an unanticipated discovery protocol would be completed during future planning. It is understood that this is not a requirement for the EIS and is only noted for the proponent.

B8: Utility Technology Regulation, Access Canberra

It is required that Utilities Technical Regulation within Access Canberra is contacted to provide further information regarding the proposed facility. It is understood that this is not a requirement for the EIS and is only noted for the proponent.

B12: Icon Water

Icon Water has provided requirements in the *Final Scoping Document* with regards to liquid trade waste. The proposal is expected to produce such waste.

Section 6.7.3.1 of the main EIS states that Capital Recycling Solutions would investigate obtaining a trade waste agreement with Icon Water for long-term disposal. However, it is identified that this would not happen until the operational stage as the chemical composition of the leachate would only be measured, monitored and defined at this stage. This appears to contradict the proposal to transport the proposal to transport the leachate to Woodlawn and should be reconciled.

4.3 Adequacy review

This section describes why we consider areas of the main EIS to be inadequate.

4.3.1 (1.0) Introduction

Section 1.1 of the main EIS states that the non-recyclable residual waste would be transported to the Woodlawn landfill, located about 65 kilometres from the site in NSW. This presents two problems.

Woodlawn's landfill licence

The Woodlawn Bioreactor is licenced to accept 900,000 tonnes of putrescible waste by rail from Sydney every year, 100,000 tonnes of residual waste from mechanical biological treatment facilities, and 90,000 tonnes from putrescible regional waste by road.

The licence does not allow for the receipt of waste by rail from the ACT² and the NSW Department of Planning, Industry and Environment, NSW Environment Protection Authority and Councils local to Woodlawn would need to be consulted and agree to this. There is no clear evidence that Capital Recycling Solutions has discussed the movement of waste to Woodlawn. If a licence could not be secured this would mean another disposal location would be needed.

John Holland maintains and controls freight movement on the Canberra to Goulburn railway line. There are restrictions on what freight can be moved by rail out of Canberra. As Veolia (Woodlawn's operators) currently handles two trains out of Sydney, it is unclear how its operations could schedule additional waste arrivals from the ACT. This is due to the unloading speed and capacity needed at Woodlawn to receive and remove waste, which would need to be scheduled-in with the existing freight and passenger rail services on the line.

Proximity principles and lifecycle costs

Ecologically sustainable development (ESD) is a long-standing internationally recognised concept defined under the *Environment Protection and Biodiversity Conservation Act 1999* and carried forward into Territorial planning policy and development control under the *ACT Planning and Development Act 2007*. It requires the "effective integration of economic, environmental, social and equity considerations into the decision-making process". Key to ESD is the principle of "improved valuation, pricing and incentive mechanisms". This defines that users of goods and services pay the price based on their full life-cycle costs. This introduces the concept of the proximity principle.

The proximity principle is also specifically enacted in the ACT under the *Waste Management and Resource Recovery Act 2016*. While it was introduced in NSW under the *Protection of the Environment Operations (Waste) Regulation 2014* there has been a legal challenge to remove it³.

The proximity principle was introduced to minimise the long-distant transport of waste for its disposal. The principle is important as the excessive transport of waste not only displaces issues, it adds to the overall lifecycle impacts; especially in terms of additional, and arguably unnecessary, carbon generation and greenhouse gas emissions that could be avoided through better waste management solutions close to source.

² <https://apps.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=162016&SYSUID=1&LICID=11436>

³ <https://www.claytonutz.com/knowledge/2018/december/nsw-waste-reform-package-takes-effect>

4.3.2 (1.4.1) ACT Waste Management Strategy 2011-2025

The ACT Waste Management Strategy 2011-2025 has four outcomes, six targets and 29 strategies. In general, it appears that the proponent is overstating the proposal's consistency with, or support of, the Strategy. Put simply, the Strategy's aim is to "fully recover resources and deliver a carbon neutral waste sector". Materials recovery facilities are an important part of the waste hierarchy to achieving this outcome, however their benefits need balancing against their impacts.

In this case, the proposal is to only recover 20 percent of the incoming materials (feedstock). Typically, the amount of recovered materials from the proposed facility tends to be low due to contamination. For instance, paper and card within mixed waste is often easily contaminated with glass and organic material and it can be difficult to separate in the sorting process. This can greatly affect the quality, market price and market availability.

Transporting the waste to and from the site adds to the proposal's greenhouse gas footprint; something that is not recognised by the proponent. More specifically, Appendix E of the EIS clarifies that 75 percent of the recovered materials would be transported to a coastal port by rail for shipment overseas, and 25 percent would be transported to local and regional reuse facilities; presumed to be in the ACT and NSW. The feedstock would be transported to the facility by road; either from within the ACT or from "wastes currently landfilled in surrounding regions", suggesting this could include a NSW component.

The proponent makes several over simplified statements suggesting: "removing diesel trucks from the greater regional road network will assist in improving the environment by negating their impact", "the reduction of greenhouse gas is a benefit of the proposal as it is expected that there will be more than 20 percent recovery which will assist in reducing landfill greenhouse gas emissions"; and that a 20 percent recovery "would be a significant boost to recycling rates and contribute to achievement of [the Strategy's] objective" to fully recover resources.

While these statements may be credible, without any assessment consistent with the scopes defined under the National Greenhouse and Energy Reporting Scheme⁴, it is not possible to substantiate the net impact on greenhouse gas emissions. This should be done to clearly demonstrate the proposal's lifecycle impacts, including the shipment of materials interstate and overseas.

The ACT Government has a responsibility to balance and control development across the Territory. This means it must consider how to best achieve the ACT Waste Management Strategy. This includes rationalising and selecting the best forms of policy and development to achieve the least environmental, social and economic impact while delivering most benefit for current and future generations. This is reflected in the Territory Plan's Strategic Directions. While it is not the role for this report to determine if the proposal supports the Government's objectives, the information as currently presented, does not clearly articulate how it strategically supports the ACT Government's strategy for future waste management.

⁴ <http://www.cleanenergyregulator.gov.au/NGER/About-the-National-Greenhouse-and-Energy-Reporting-scheme/Greenhouse-gases-and-energy>

4.3.3 (2.0) Proposal details

General comments

Section 2.3 of the main EIS lacks the clarity and cohesion of a proposal description to provide comfort that the impact assessment is robust. While there is some attempt to describe the functional elements forming the proposal, there is a lack of quantified details. This information is occasionally presented in the technical assessment and studies; however, the reader needs to work exceptionally hard at piecing together what should be simply and functionally set out in the description. The information wanders almost into a sales pitch, which draws away from the pertinent points and section's purpose.

For instance, the proponent should be absolute in defining the source and composition of its feedstock, providing targeted audit information on the waste entering and leaving the facility as well as origin and destination information. Not having an accurate waste characterisation means the traffic numbers to and from site are unclear. Appendix E of the EIS appears to provide definition as to this; however, a full account of all two-way movements appears to be lacking in terms of: waste supply vehicles; vehicles recovering the 25 percent waste used locally; service and trade vehicles; and staff and visitor vehicles. Without clarity or certainty around these data, this weakens the credibility of the assessment of key issues.

Other sections of the main EIS describe the proposal to install a nine-metre 'stack' on top of the main materials recycling facility building, which would comprise two fans that could operate at variable speeds. There appears to be nowhere in the EIS describing the mechanisms that would be used to treat and remove odour, dust or any other fugitive emissions prior to discharge, such as scrubbers. While these may not be needed, this should be clarified.

The proposal description does not provide any substantive written detail on the urban design, built form and landscape strategy. Without this, it is impossible to appreciate such details as expected finishes, forms, mass, scale, build height, and building orientation. Incidental information such as the overall stack height is provided in the technical studies, however the main EIS should clarify the proposal description to ensure its impacts have been clearly assessed.

A major omission (as described in **Section 2.3**) is the lack of construction information. It is a requirement of any EIS to assess construction impacts. In not presenting sufficient and clear information, it means that the assessment is incomplete and cannot be adequately assessed.

There is little detail provided in this chapter on decommissioning the proposal. It is inadequate to state that "decommissioning of the facility is unlikely to be required due to the machinery reaching the end of its useful life." Under ESD principles, the design needs to account for intergenerational equity to ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations. This should be accounted for in the assessment.

4.3.4 (2.2.3) The site

While we appreciate that the proponent was looking to assess the additive and cumulative impacts of both the facility and rail freight terminal, the way in which this is presented is confusing.

This would be best done as part of a specific cumulative impact assessment that should look at the combined residual impacts of both developments on the receiving environment. More specifically, any description of the rail freight terminal should be removed from this section as it does not form part of the development application. It only serves to confuse.

Describing the rail freight terminal in the proposal description means there is no clarity regarding the delimitation between the extent and boundary of the facility and the rail freight terminal. It is not therefore clear if the EIS has assessed the full impacts of the facility in isolation of the rail freight terminal; as required under legislation, and then considered the combined cumulative impact. This also means it is not possible to fully confirm permissibility. Figure 3 in the main EIS should simply present the proposal while any mention of the rail freight terminal should be removed from this chapter.

Section 2.2.3 of the main EIS discusses the adjacent land uses. As reported in **Section 2.5**, the exhibition process confirmed a residential receiver 110 metres from the site boundary (the caretaker's residence). Figure 7 in the main EIS should be updated to show this receiver, and all relevant technical assessment should be updated to assess the associated impacts, even if the impact is deemed negligible.

Section 2.2.5 of the main EIS notes that there are several mature non-native trees onsite; however, there appears to be no subsequent statement or assessment of their ecological value; including the potential for tree-hollows for instance.

Section 2.3.3 of the main EIS states that the facility would operate for 6.5 days without describing the proposed operating hours. Section 6.5.2.1 states the intention to operate from 6am to 10pm Monday to Saturday and 8am to 2pm on a Sunday. Section 6.10.2.1 talks about "noise generated outside day operations" as being between 7am and 10pm. The proponent should provide a consistent description of when the proposal would operate to ensure the impact assessment has consistently considered this.

4.3.5 (2.4) Consultation

Section 2.4.4 of the main EIS summarises the community consultation carried out between February 2017 and June 2018. It does not describe any further consultation after this date.

Section 2.4 of the main EIS states that "Capital Recycling Solutions has implemented a community consultation strategy well above the requirements of the EIS scoping documents" and that "substantial hours have been spent consulting with community groups and other key stakeholders". While there appears to be a clear consultation effort comprising a mix of sharing information and more genuine forms of consultation (e.g. engagement sessions), there is a lack of definition in how this feedback has shaped outcomes.

While Section 2.4.5 of the main EIS provides a brief bullet list of "major areas of concern" it lacks definition. For instance, simply stating "traffic and noise impacts" does not describe if these relate to; traffic noise, operational noise, construction noise, out-of-hours noise, nuisance issues, sleep disturbance or more general amenity-related impacts. Also, the "key issues" presented in the schematic provided in Section 2.4.5 of the main

EIS are inconsistent with the bullet list discussed above. As such, it is not clear if all the issues have been identified and accounted for in the EIS.

While this is an inferred position, and cannot necessarily be supported or substantiated, a brief review of the number, type and content of representations made on the draft EIS suggests that the community's views had not been fully addressed. We do note however that each section of Chapter 6 of the main EIS introduces an outline of certain concerns.

The section of the main EIS would benefit from including the *entity requirements* provided in Attachment A of the *Final Scoping Document*, and to show how consultation was carried-out to discuss and resolve the listed points and matters. The same would be true for the content of the representations (public submissions) made during the EIS exhibition. This should clearly show how and where the EIS was updated to its current form to address concerns.

In summary, it remains unclear from what is presented that the proponent has adequately addressed consultation feedback and feasibly and reasonably modified the proposal accordingly. Nonetheless, it is noted that the entities seem to be broadly satisfied with the revised EIS.

4.3.6 (2.5) Alternatives to the proposal and criteria

Section 2.5 of the main EIS outlines the alternatives considered during the proposal's planning and design phases. This section was revised from the draft EIS to include additional alternatives than those originally proposed. The proponent appears to have considered certain reasonable alternatives and options. Despite there being no summary of why the preferred option provides the best environmental, social and economic outcome; the section presents some logic in the site's selection, the chosen processing method, and the aim to avoid environmental impacts.

The proponent offers the alternative of expanding the Mugga Lane landfill. As Capital Recycling Solutions is not the owner or operator of the landfill this is not a feasible alternative. More relevant, would be describing the role the landfill plays in terms of comparing a strategic alternative of 'doing something' (e.g. progressing with the proposal) over 'doing nothing'. By doing nothing, there is arguably a missed opportunity to increase waste recovery in the ACT by not proceeding with the proposal. The result may be the need to expand the landfill.

The alternatives should also consider the impact on a change in policy, which may make the economics of recovery and end-user markets change. This alternative should adequately describe how the proposal would remain feasible at very-low recovery rates, without simply adding shipment impacts in taking nearly all the feedstock down to Woodlawn by train.

4.3.7 (2.6) Avoidance of potential impacts

The proponent focuses on the generation of construction waste in this section of the main EIS, and its comparability to other similar developments. While this is a valid conclusion, it avoids a more critical point. The facility would still 'generate waste' insofar as a residual component, which the proponent intends to transport to Woodlawn by rail. There is no discussion if the proposal provides the best solution to maximising the amount of recovered resources to benefit the ACT.

As described previously, the lack of clarity over the proposal's total transport footprint (e.g. the origin and destination of waste and recovered resources); plus, the proposal to export residual waste and recovered materials interstate and overseas by rail means that

the preferred option does not reasonably demonstrate avoiding or minimising transport ‘costs’ and impacts. There should be some discussion on why there is no feasible or reasonable alternative to managing the residual waste in the ACT and finding viable local markets for a greater percentage of the recovered materials.

The section also describes the adequacy of the preferred option in avoiding odour and vermin impacts, while managing fire risk and minimising traffic impacts.

Chapter 5 details more information on the adequacy of the proposal to avoid odour, fire and traffic impacts. In terms of vermin management, what is proposed appears to provide an adequate solution to avoid impacts, which would be monitored under a *pest control program*. There also appears to be adequate provision to managing hazardous waste through clear inspection and management processes.

As described under **Section 4.3.24** the corresponding visual assessment is not carried out under the convention of rating impacts. Despite an attempt to qualify how the proposal ‘avoids’ visual impacts, by not describing the urban design character and landscape planting strategy for the site, we cannot confirm the adequacy of the proponent’s conclusion that the solution “creates a modern architectural structure that will set a high development standard for industrial structures and buildings in the precinct and assimilate with the surrounding buildings in scale”.

4.3.8 Statutory context

This chapter of the main EIS presents as convoluted and wandering. Key to this is the chapter’s discussion of irrelevant Acts and Policies (e.g. the *Ozone Protection and Synthetic Greenhouse Gas Management Amendment Act 2010*, Energy Efficiency in Government Operations Policy 2006, Australian Government Data Centre Strategy 2010-2025).

This information is unnecessary and distracts from the core aim of the chapter, which is to clearly set out the legislation and policy governing and controlling the development of a materials recycling facility in Fyshwick.

4.3.9 (3.1.1) Ecological Sustainability Development Principles

We disagree with the overarching statement that the “development addresses the principles of ESD”. The provided information is broad and generalised. It does not address each of the specific ESD principles. The EIS should clearly demonstrate the following.

Precautionary principle	That a worse-case outcome is assessed, and mitigation is used as a precaution where there is design, scientific or assessment uncertainty.
Intergenerational equity	That environmental health, diversity and productivity are at least maintained or enhanced under the proposal for the benefit of future generations.
Conservation of biological diversity and ecological integrity	That biological diversity and ecological integrity conservation is demonstrated in delivering the proposal.

Improved valuation, pricing and incentive mechanisms

That environmental economics are considered in delivering the proposal, including:

- *Polluter pays principle*: where mitigation and management measures are included to ‘avoid, abate and contain’ pollution and waste.
- *Proximity principle*: where consideration is given to purchasing and reusing materials, and managing waste recovery, recycling and disposal as close to the proposal as possible; consistent with *circular economy* aims.
- *Lifecycle costs*: where total environmental and social impacts up and downstream of the proposal directly under the control of Capital Recycling Solutions are accounted for.
- *Environmental goals*: where measures are established and implemented to maximise the proposal’s benefits and minimise its associated environmental, economic and/or societal costs. These are consistent and supported by the *sustainable development goals* set under Transforming our World: 2030 Agenda for Sustainable Development (A/Res/70/1, United Nations, 2015).

4.3.10 (3.1.2) EIS process

While a minor point, the description of what an EIS does is incorrect. The purpose of an EIS is to report on the outcome of an assessment process carried out to identify the potential impacts expected to occur during a proposal’s construction, operation and decommissioning, and the measures that would be set in place to avoid, minimise, manage and monitor impacts. It is also a method to communicate the decision-making process as to the selection of a preferred option that best avoids, or otherwise minimises impacts, and the consultation that has taken place to support this.

The EIS needs to demonstrate that the residual effects on the receiving environment are not significant and any impacts can be effectively mitigated to an acceptable level. We only make this point as this clarity is not provided in this section and as it helps support our comments under **Section 4.3.19**.

4.3.11 (3.3) Territory Plan

Another critical point of the application is to demonstrate the proposal’s compliance, contribution and consistency with the land use objectives and codes set out in the Territory Plan. Table 4 in the main EIS lists the zone objectives.

In response, the proponent only makes cursory statements to demonstrate how it complies with the land use objectives. There is no cross-reference to substantiate the broad claim that the proposal is supported under the Territory Plan. More specifically:

- It is impossible to claim that the proposal would lead to “many flow-on jobs” without a robust economic assessment.
- There is no evidence to demonstrate how the proposal would “contribute towards a broader range of industrial uses”.
- There is not the evidence to confirm that the proposal would result in a net reduction in greenhouse gas emissions.

- There is no evidence to demonstrate that the proposal’s “construction and operation [would be] as energy efficient as possible and [it would not] significantly impact the local area”.
- There is limited detail in the EIS to evidence that the proposal would “adopt modern design principles”.
- There is not the evidence to demonstrate that the proposal would not “jeopardise or interrupt the supply of industrial land in Fyshwick”.

We recommend that the proponent clearly and specifically describes how it intends to comply with the Industrial Mixed-Use Zone Objectives. Also, if the proposal does encroach into the rail corridor, the proponent would need to demonstrate compliance and consistency with the TCZ2 zone objectives.

4.3.12 (3.4) Territory Plan Codes

Section 3.4.2 of the main EIS states that the proposal “complies with all the relevant rules and criteria of the zone”; however, there is no evidence to support this. This should be provided in this section of the EIS. Not being able to demonstrate this means that the ACT Government cannot assess and determine the application.

4.3.13 (3.5.8) Waste Management and Resource Recovery Act 2016

It is crucial that the proponent demonstrates consistency and compliance with the objects of the above Act. The appraisal provided in the EIS does not clarify or detail how, or why, the proposal is consistent with key objects. It is also clear that the proponent has not fully understood the meaning of certain objects and principles made under the Act (e.g. the Conservation of Access Principle, which is about heritage conservation and not about hazardous materials management).

Specifically:

- There is not the evidence to confirm why more than 20 percent of the waste cannot be recovered to “maximise the recovery and reuse of resources”.
- Equally, the proposal does not demonstrate minimising the amount of waste going to landfill given the intention to export 80 percent of the waste to Woodlawn.
- There is no consideration of the five principles set out at the bottom of Page 65 of the main EIS relating to: intergenerational equity, the polluter paying, adopting precaution where there is uncertainty, disposing of waste in proximity to where it is generated and minimising waste where reasonable and feasible.
- As the EIS includes no information on decommissioning it is impossible to demonstrate the “conservation of quality principle”. The response provided that the proposal would reduce greenhouse gas emissions does not consider the full lifecycle and intergenerational impact as required by this principle.
- The EIS needs to describe how the proponent will apply a polluter-pays principle in managing the proposal’s impacts over citing the use of levies to facilitate recycling markets.

- The EIS does not clearly demonstrate how it has adopted the precautionary principle in the impact assessment process. The statement that the proposal would have “no risk of irreversible environmental damage” cannot be substantiated. This is misleading. It could minimise risks to as low as reasonably practical however it could not deliver a ‘no risk’ outcome.
- As described above, we do not feel that the proposal adequately addresses the proximity principle by offering a solution to import waste regionally, and export residual waste and recovered materials interstate and overseas.

4.3.14 Strategic context

The proponent volunteered to include a separate section in the EIS to consider the *other requirements* set out in Section 6.2 of the *Final Scoping Document*. Consistent with **Section 4.3.8**, irrelevant policy and information is presented in this section of the EIS (e.g. the Canberra Sewerage Strategy). We recommend that the proponent makes a more concerted effort to streamline this section and focus on the key points of where the proposal is consistent and inconsistent with relevant policy relating to the development of a materials recycling facility in Fyshwick.

4.3.15 (4.2.1) Statement of Strategic Directions

Section 6.2.2 of the *Final Scoping Document* requires there to be a statement on how the proposal is compatible with the *Strategic Directions* included in Section 2.1 of the Territory Plan. These directions relate to: environmental sustainability, economic sustainability, social sustainability, and spatial planning and urban design.

While Section 4.2.1 of the main EIS outlines the basis of the *Strategic Directions* described above, it does not demonstrate how the proposal: is sustainable; is aligned to ESD principles; would protect landscape and environmental qualities; or would result in a high-quality creative design. These specific points are picked up and discussed elsewhere in this review.

4.3.16 (4.3) ACT Planning Strategy

The EIS needs to demonstrate how it responds to and supports relevant actions in the ACT Planning Strategy. It would also help to redact (remove) any irrelevant actions.

4.3.17 (4.6) Transport for Canberra 2012-2031

Section 4.6 of the main EIS states that “the proposed mode of transport negates a large proportion of heavy vehicle traffic associated with the proposal.” It is unclear what this statement means. The stated review about transferring waste from road to rail would need rationalising in terms of the total traffic impact and benefit delivered.

While it is reasonable to state that transporting goods by rail could reduce the risk of road traffic accidents, the assessment is not adequate. The EIS needs to account for the fact that it would attract road traffic to Fyshwick; independent of directing traffic away from other parts of Canberra. It also needs to account for any road safety upgrades needed to accommodate this traffic. Appendix E includes such an assessment, however as described in **Section 5.1**, there still needs to be a road safety audit of the final design. Therefore, the proponent could make more considered use of the specialist study information to support the statement that the proposal would “increase the safety of people and how they get around”.

4.3.18 (5.0) Risk assessment

Section 5.1 of the main EIS notes that a “risk assessment for the [proposal] was guided by the risks identified within the Scoping Document and the Preliminary Risk Assessment. No new risks have been identified beyond those in these two documents”.

Environmental assessment, by its very nature is iterative. Typically, only broad design principles and outline concepts are known at the scoping and preliminary stages. This limits the risk assessment. As more is learnt about the local environment and concept design, new risks emerge. Further assessment is carried out to understand the risks. If they are proven not to be genuine they are discounted, otherwise the design is refined and/or mitigation measures are defined to avoid and minimise impacts.

In the case of this proposal, there is a clear development history. This has included revising the proposal’s definition and scope and updating the draft EIS.

It would therefore be unlikely that no new risks emerged throughout this process, which should be captured in Section 5.2 of the main EIS. This would help provide greater certainty and confidence relating to the adequacy of the assessment. This process could also be used to demonstrate how the proponent has specifically responded to consultation feedback and comments as described above under **Section 4.3.5**.

Section 5.2 of the main EIS states that the “ACT Government assessed all risks as medium in the scoping [sic] and Capital Recycling Solutions has assessed some as greater or less. Where there is a discrepancy below medium, Capital Recycling Solutions has provided justification for the variation”. The ACT Government appears not rate any risks in the *Final Scoping Document*. We believe the proponent may be referring to a statement in Section 8 that states that “each potentially significant impact...with a ...rating of medium and above, as identified in the [proponent’s] risk assessment, must be addressed with the information required by sections 8.1.1-8.1.11 of this scoping document”.

Section 5.2 and Table 14 of the main EIS should reference the reason for the presented pre-mitigation risk ratings. The chapter would benefit from a summary discussing any pre-mitigation risks rated as ‘low’ to describe why these issues should not be assessed in detail in the EIS. The same would be true for any pre-mitigation risks rated as ‘high’.

A limitation of the risk assessment process is that it is subjective. It is therefore important to validate the applied logic and reasoning. As this is not provided it is therefore not possible to independently and objectively review if the ratings are valid and unbiased. While this is the case, the proponent has largely chosen to assess all the identified risks presented in Table 1 of the *Final Scoping Document*.

4.3.19 (6.0) Impact assessment

As discussed in **Section 4.2**, the information set out in Chapter 6 of the main EIS does not describe the existing environment relevant to the matter (including associated values and receivers) and it does not describe the proposal’s construction, operational and decommissioning impacts. This fundamental inconsistency makes it difficult to determine if the EIS is adequate in reporting on the development’s impacts. For instance, the information from the supporting specialist studies is selectively presented in the main EIS with limited reference or context. Also, it appears that not all the impacts and recommendations (e.g. mitigation measures) of the specialist studies are brought into the main EIS. This provides added complexity for the reader.

To overcome this, we have aimed to only report on issues in the main EIS that we felt were still valid, noting that we have not reviewed all specific technical studies under the direction of the ACT Government.

4.3.20 (6.1) Planning and land status

The sterilisation of land is a general term that refers to the loss of land for its intended use. Indirectly, it may also affect existing or future land uses and land values. It can occur due to impacts such as severance or the creation of isolated land parcels. It can also occur due to indirect actions, such as the creation of safety buffers due to explosion risks for example, or due to amenity-impacts such as overshadowing, odour and noise; which would make the land undesirable for its intended use.

The ACT Government has released *Separation Distance Guidelines for Air Emissions*⁵. These guidelines advise on recommended separation distances between emissive (odour and pollutant) industrial land uses to manage offsite impacts. Released in November 2018, the guidelines were published while the draft EIS was being prepared and updated. They therefore post-date the supporting Odour and Air Quality specialist studies.

Nonetheless, the proponent should ensure the draft EIS is updated to account for current guidelines; especially as these replicate a similar approach carried out as best-practice elsewhere in Australia.

Appendix 1 of the Guidelines notes that there should be a 300-metre separation distance around a materials recovery facility and this should not be adjusted to account for surface roughness and terrain. Importantly, the Guidelines do not provide different separation distances to account for a facility's location (e.g. in a residential area compared to an industrial area). They do however define sensitive land uses, which excludes commercial and industrial land.

The EIS should be updated to ensure it adequately assesses the impact on the receivers within 300 metres of the site boundary. While this should focus on the confirmed residential receiver 110 metres from the site and acknowledge that there are no other sensitive land uses as defined in the Guidelines, there are a several key commercial businesses that are subject to 'regular public use'. The proponent should clearly describe that the guidelines are a simple and transparent way to assess impacts, and "generally more conservative than the separation distances predicted by air pollution modelling"; which appears to be the conclusion reached in Appendix Q.

A key point of these Guidelines is that they assume that Best Available Technology Economically Achievable (BATEA) would be implemented. As noted under **Section 4.3.3**, there is no clarification if the proponent intends to include a BATEA solution to control emissions, even if the modelling confirms there being a minor impact. BATEA should be adopted to comply with the general environmental duty defined under the ACT *Environment Protection Act 1997*.

If the proponent cannot demonstrate either an adequate separation distance or BATEA, then "extra precautions would be required to minimise the potential impact of the activity" as per the Guidelines. As mentioned under **Section 4.3.9**, there is no certainty that the proponent has adopted precaution in the event of uncertainty or used BATEA to demonstrate the precautionary principle.

⁵ https://www.environment.act.gov.au/data/assets/pdf_file/0011/1285391/Separation-Distance-Guidelines-for-Air-Emissions-ACCESS.pdf

4.3.21 (6.2) Traffic and transport

The traffic assessment is limited by not presenting useful information from the specialist study. Even accounting for the information in Appendix E, the EIS still lacks clarity and certainty.

(6.2.1) Site context: traffic and transport

Figure 25 and Figure 26 of the main EIS show that with the development in place the network performance for traffic travelling westbound and southbound towards the Canberra Avenue and Ipswich Street intersection is unacceptable (in the morning and afternoon peak) along with westbound traffic travelling on Wiluna Street (in the morning peak). This is shown by the red and orange shading, which defines the level of service offered by the road for the volume of traffic that would use it.

As Appendix E does not show a network plot to compare the ‘build’ and ‘no build’ scenarios, it is unclear if the proposal is causing the unacceptable level of service. The figures also do not clarify if they show the opening year or design year; typically taken as 10-years post opening.

(6.2.2) Community concerns: traffic and transport

It is unclear how the community concerns have been specifically addressed in the design or modelling from the information presented in the table. In particular:

- Given the unacceptable level of service on Ipswich Street in the morning and afternoon peak period it is unclear if traffic will queue, leading to unacceptable delays and conflicts.
- Whether there would be any loss of on-street parking provisions during construction or operation.
- There is an overarching assumption that the proponent can define and control when vehicles would arrive and leave site. As noted in Appendix E, the expected traffic would form a composition of Government and non-Government suppliers; none of which are controlled by Capital Recycling Solutions. The assessment relies on the assumption that waste vehicles would arrive and leave regularly throughout the day (e.g. it quotes the average number of vehicles per hour). However, this cannot be guaranteed.
- The facility has no ability to store feedstock to account for either an over or undersupply; (e.g. the site may not receive waste due to a road traffic accident, or several trucks may arrive at the site at once from multiple suppliers). With a truck arriving once every four minutes on average, it would only take a small disruption in traffic for trucks to back-up. Sensitivity modelling (Appendix Y) was undertaken for different scenarios where trucks would arrive on a narrower band of hours. It was determined that it is unexpected to impose a sizeable negative effect on traffic conditions in the area. However, it is unclear if this adequately reflects the above scenarios.

(6.2.3.1) Traffic generated during construction

The current assessment is considered inadequate in describing the proposal’s construction-related traffic impacts. An update should therefore be provided to assess temporary traffic-management impacts (including diversions), temporary access loss, and road-user impacts. This is standard practice for comparable development applications that would generate construction traffic and/or require the implementation of temporary traffic

management controls. Such an assessment should be made to confirm if the proposal can be feasibly built without a significant impact.

(6.2.3.2) Reduced network efficiency

Without full clarity relating to the traffic movements to and from site it is not possible to confirm the impact across the wider network; including any benefits on the haulage roads to and from the Mugga Lane landfill. Section 6.2.3.2 states that “the impact of diverted vehicle movement is minor given the site’s connectivity to the wider street network, including arterial roads in Canberra Avenue and Monaro Highway”. However, when considering whether the impacts are significant or not, the increase on individual movement should be considered, which does not appear to have been done in the main EIS.

(6.2.3.3) Reduced road safety

The assessment appears to avoid the key question of whether road safety is at least maintained or improved under the proposal. This needs to account for the increased level of heavy vehicle traffic on the local roads, combined with the proposed accesses to and from site (including turning movements). If there is inadequate storage, traffic may queue across intersections. Just because there have been few accidents on the local roads does not mean this proposal is acceptable.

The road safety assessment should account for total traffic movement, while appreciating the cumulative impact of road traffic to and from the rail freight terminal. It should also account for atypical operations where more traffic would arrive and leave site than the reported hourly average. While sensitivity traffic modelling (Appendix Y) was undertaken to account for alternative scenarios based on different operating hours it does not confirm if it fully accounts for all movements to and from site, and a range of feasible and reasonable atypical operating scenarios.

(6.2.4) Mitigation measures: traffic and transport

The measures are lacking detail. They appear not to mitigate against the proposal’s construction and operational impacts. They do not reference specific best-practice guidelines and they include controls that would be exceptionally hard for the proponent to control or enforce, such as regulating vehicle movements.

4.3.22 (6.3) Utilities

There is no clear description of the proposed stormwater management controls onsite and offsite. There should be clear evidence that the stormwater drains are isolated from all active areas. This could include the use of covered drains or similar controls.

Despite the proposal to carry out all waste management activities in the main building, and to include an entrance bund, the EIS notes the need to manage the site for dust, while using water as a suppressant. This suggests that there is still a risk of pollutant runoff; something that is acknowledged in Section 6.7.2.1 of the main EIS where it states that “as such, large downpours may result theoretically in contaminated stormwater and wastewater egressing [leaving] the site. Overland flow and untreated stormwater could pick up various pollutants including solid material, organic matter and chemicals”.

Sediment traps and oil-water interceptors should be included in the design to protect stormwater discharge offsite. This is typical best practice for sites where there are routine and regular traffic movements and industrial activities taking place, given the spill and leak risk.

As the proposal does not include a treatment plant, more information should be provided on how the leachate would be effectively managed. This includes any concrete protection against chemical attack; something that would benefit the proponent and provide an added layer of environmental protection.

(6.3.3) Mitigation measures: utilities

The EIS states that Cardno has prepared a “waste management strategy”. While this appendix provides some general advice, it would need reworking before being considered a “management strategy”. It is also unclear what the proponent is committing to as mitigation as the EIS only refers to ‘suggestions’ made in the appendix.

Consistent with other sections of the main EIS, the mitigation is unclear and non-specific. To follow an example through. It is typical that utilities need protecting, relocating or provisioning for any development. This means the need for a utilities management plan that includes consultation with the asset owner/suppliers to understand their specifications and access and maintenance requirements. In this case, the proponent makes no recognition of mitigating offsite or third-party utility impacts (e.g. temporary connection losses if relevant). The EIS simply suggests there is “an ample supply” to service the proposal.

The residual risk (section 6.3.4.1) then states “mitigation measures adopted are appropriate in alleviating the impacts and will result in the subject site being a significantly better outcome than [sic] it currently is as a disused facility”. This sentence has no relationship to the mitigation described in the EIS and there is no evidence to support the claim of providing a ‘significantly better’ outcome. It would be hard to believe this to be the case as the proposal would draw from existing utility supplies. This may ultimately place more stress on the existing infrastructure.

4.3.23 (6.4) Materials and waste

Section 5.2 makes a specific assessment of the waste characterisation and feedstock analysis.

Section 6.4.1 of the main EIS notes that the facility would receive waste from the ACT region; without explicitly stating if it would receive waste from NSW or other states and territories. The proponent needs to define exactly where it will source its waste to then allow an assessment of the proposal’s indirect impacts; especially the greenhouse gas emissions as described under the ACT Waste Management Strategy 2011-2025 as discussed under **Section 4.3.2**.

(6.4.2.1) Increased waste to landfill during construction

While the EIS states that the proposal would generate waste during construction, it does not quantify this by stating the expected amounts and types of resources and waste used and generated. As noted in **Section 2.3**, it is typical that resource and waste estimates are determined in an EIS, including the likely classifications. Appendix G notes, that given the residual contamination, the appropriate classification of excavated spoil under the Environmental Standards, Assessment and Classification of Liquid and Non-Liquid Waste (ACT EPA, 2000⁶) would be needed. This is something the proponent would need to account for.

Appendix G outlines the items that should be included when implementing the remediation action plan and working under the construction environmental management plan (CEMP). These measures do not substantiate the stated conclusion that the impact of

⁶ https://www.accesscanberra.act.gov.au/app/answers/detail/a_id/3469

construction waste is “considered minimal and as a result the risk is deemed low”. This conclusion should be reconciled in line with the information presented in Appendix G.

(6.4.2.3) Excessive stockpiling during operations

The proposal is to receive and store materials in the main facility building. As such, the proponent notes that there would be no external stockpiling of feedstock materials onsite.

More critical, which the proponent appears not to acknowledge, is if there is the need to stockpile (or bunker) materials in the facility to allow for continuous operation. The following points should be made clear and explicit:

- As the proponent has no control over traffic conditions, and limited control on suppliers, how is it going to regulate its operation to ensure it can process for 12 hours every day without any additional downtime?
- As there is no suggested bunkering or pre-processing storage, how will the proponent deal with a backlog of trucks or feedstock? This is especially important as no more than 211 tonnes of MSW can be stored in the facility at any stage to ensure there are no odour impacts (refer to **Section 4.3.27**).

(6.4.3) Mitigation measures: materials and waste

While Section 6.4.3.1 of the main EIS includes some definitions around construction waste management, it appears to have no basis. The mitigation measures should be reviewed once the construction impacts are confirmed.

The proponent is relying on the integrity of the “water and airtight sealed containers” that would be used to store residual waste and leachate. As noted in the main EIS, a maximum of 28 containers would be stacked no more than three-high outside the facility. There is no information on whether this area would be covered and bunded, and whether it would be isolated from the stormwater drains and protected to prevent collisions and accidents. These additional controls are consistent with BATEA and would help manage the risk of accidents or failures, which can still potentially occur.

4.3.24 (6.5) Landscape, visual and lighting

A consistent method to assess landscape character and visual impacts has been adopted for the past 20 years, as described in documents such as the Guidelines for Landscape Character and Visual Impact Assessment (Roads and Maritime, 2018⁷) or the Guidelines for Landscape and Visual Impact Assessment (UK Landscape Institute and Institute of Environmental Management and Assessment, 2013⁸). It follows a process of defining the landscape characteristics (often as a set of specific zones) and confirming how sensitive each zone would be to the scale (magnitude) of the changes introduced under the proposal. This allows impacts to be rated on a scale from minor to major. It then confirms the theoretical limit over which the proposal would be visible and identifies the receivers within this *zone of visual influence* that would have a view of the built facility. Again, their sensitivity to the changes introduced under the proposal would be confirmed to determine an impact rating. Urban design and landscape treatments are then defined to assess the residual impact at the point of opening and usually a future point in time when the landscape planting is established and matured.

⁷ <https://www.rms.nsw.gov.au/documents/projects/planning-principles/urban-design/guideline-landscape-character-and-visual-impact.pdf>

⁸ <http://bailey.persona-pi.com/Public-Inquiries/A465-English/10%20-%20Landscape%20and%20Visual%20Impact/10.2.8%20-%20IEMA%202013%20Guidelines%20for%20Landscape%20and%20Visual%20Impact%20Assessment.pdf>

Neither the visual assessment provided in Appendix F nor this section of the EIS follows the convention of this assessment. A landscape character assessment is absent and there is also no written description of the proposal's visual impacts. As such, the assessment is inadequate. A comprehensive assessment under the conventions of the guidelines would need preparing before any conclusion can be drawn on the proposal's impacts.

Section 6.5.3.1 of the main EIS states that the "series of photos clearly show that the scale of this development is barely noticeable amongst the other Fyshwick buildings which are of a similar height and context". Using terms such as "barely noticeable" demonstrates the inadequacy and the basic nature of the assessment.

Security and safety lighting would be needed as the proposal is to operate the facility between 6am and 10pm. There is no evidence of a corresponding light spill assessment in the main EIS or reference to AS4282: 1997 Control of the Obtrusive Effects of Outdoor Lighting (Standards Australia, 1997⁹). This would need providing to ensure there would be no impact on the surrounding area; noting that the industrial setting means the assessment could be likely qualified over providing specific light-spill plots.

Finally, there is no discussion on temporary visual impacts during construction. This is an important consideration as construction works can be visually intrusive. There needs to be some demonstration how any works would be managed to avoid any visual impact on the local area; accepting its industrial character. The open and unscreened character of the site, especially from the elevated position on Ipswich Street (refer to **Figure 3** below) needs considering by the proponent to help define appropriate mitigation.



Source: Google maps

Figure 3: Photo overlooking the site from Ipswich Street (direction: south-east)

⁹ <https://www.saiglobal.com/PDFTemp/Previews/OSH/As/as4000/4200/4282.pdf>

4.3.25 (6.6) Soils and geology

Section 3.2.11 of Appendix G makes a very clear statement that the independent auditor who signed-off on the site's continued commercial and industrial use did so on the basis that "the construction of buildings or enclosed spaces" would be prohibited given the risk of onsite vapour associated with the residual hot spots from petroleum hydrocarbons in the soil and groundwater onsite.

Section 3.3 of Appendix G describes that the proposal would include a new administration building, processing 'shed', and educational/research centre; all of which are enclosed spaces. The appendix makes no mention of the statements provided elsewhere in the EIS to operate under negative pressure while using fast-closing doors to contain odours. This may have the likely effect of concentrating onsite vapours within the main facility building, which is essentially what the site auditor was particularly concerned about.

Section 3.3 of Appendix G also states that "no basement level are [sic] proposed as part of the works, and the structures are proposed to be constructed on slab [at the surface]". Page 197 of the main EIS states "to effectively manage leachate, a 20,000-litre...tank will be installed below the transfer terminal building to capture all leachate from the tipping floor, around the compactors and from machinery wash-down water". The proposal would therefore involve ground excavation. The same is inferred in terms of utility connections across the site. This is concerning as Section 6.7.2.1 of the main EIS states that "there are hydrocarbon impacts in the upper metre of soil". There is also an added risk of leachate migration from the tank if it is not double-skinned or lined. This too should be confirmed.

Any ground-excavation would present a worker-exposure risk and it may also potentially mobilise the existing contaminants of concern beneath the site; especially the "latent fuel plume" that has "remained undisturbed". This is further contradicted by the proponent stating in the main EIS that the building has been designed to "limit any further disturbance"; which would not be the case by installing a belowground leachate tank.

Section 6.6.3.1 of the main EIS notes that the remediation action plan "will determine the extent of the earthworks required and which material is reusable and what must be disposed of". This again suggests the potential for worker exposure risks and contaminant migration. This risk is not quantified as the depth and extent of earthworks (or inground foundations) is not provided. Section 6.6.3.2 of the main EIS is brief in stating that the CEMP would simply be used to deal with spillages. However, Chapter 8 of Appendix G includes eight pages of clear mitigation measures to offer environmental protection during construction. The key concern is that the EIS author and proponent have not appreciated this information given the residual risks onsite.

In summary, Table 6.2 of Appendix G recommends installing vapour barriers within the buildings to provide adequate protection; however, WSP (authors of Appendix G) appears to be unaware of the proposal to install a leachate tank and the need to operate the main facility building under negative pressure. The above should be reconciled to ensure that the offered solution is considered adequate.

4.3.26 (6.7) Water quality and hydrology

This section of the EIS extends discusses the potential for surface and groundwater pollution. The comments in **Section 4.3.25** therefore remain relevant to this section. Also, the comments made in **Section 4.3.22** relating to stormwater management are relevant to this section.

A key point made in Table 6.3 of Appendix G is that groundwater pollution should be managed through monitoring to confirm that it is naturally degrading. This is a valid conclusion providing there would be no additional mobilisation of contaminants during construction. AECOM (as quoted in Appendix G) substantiates that the wetlands and creek would be protected given the 500-metre separation distance as it would be “unlikely that hydrocarbon impacted groundwater will reach the Jerrabomberra Creek or wetlands”. This conclusion should be revisited once more detail is understood about the construction and operational details, which may increase the mobilisation and migration risks offsite.

4.3.27 (6.8) Air quality and climate change

Appendix Q provides a reasonable assessment of air quality (dust) emissions and impacts, using standard methods; however, this is not clearly summarised in the main EIS. Key is that the assessment has not considered the identified caretaker’s cottage. While this is considered a less-sensitive receiver, the assessment should be updated to account for it.

Similarly, Appendix I provides a reasonable assessment of the odour emissions and impacts using standard methods (refer to **Section 5.3**). The summary in the main EIS is also poorly presented.

Effectively, Table 3.5 of Appendix I sets specific limits on the amount of odour-generating waste that could be stored within the main facility at any point. This is defined through data provided to show that MSW contains a higher odour-generating content than C&I waste. The assessment assumes a constant balance of 25 percent MSW and 75 percent C&I waste. However, the precautionary principle should be realised under the assessment; which could feasibly see an entire operational feedstock of MSW at a given point due to unforeseen operating circumstances. This means there should be no more than 211 tonnes of waste in the shed at any point in time according to Appendix I. Also, as per **Section 3.2**, there are questions around the accurate characterisation of the waste streams. This may affect the quantity of odour-generating waste processed at the facility. Once this is confirmed, the above tonnage limit should be revisited.

(6.8.2.2) Impacts on climate change

As noted elsewhere in this section, there is no assessment carried out under the National Greenhouse and Energy Reporting Scheme scopes. This means it is not possible to confirm if the proposal has a ‘beneficial outcome’ in terms of climate change.

(6.8.2.3) Cumulative air quality impacts

As described under **Section 4.3.4**, the lack of a conventional cumulative impact assessment means that the information provided in Section 6.8.2.3 of the main EIS appears not to account for the combined emission-impacts from the proposal and other future committed and approved development in the area.

(6.8.3) Mitigation measures: air quality and climate change

The proponent should confirm the inclusion of any proposed abatement controls (and quantify their effectiveness) prior to the release of odour, dust and other residual fugitive emissions from the ventilation stack. As per **Section 4.3.20**, this should address BATEA principles.

Section 6.8.5 of the main EIS notes that “there are other mitigation measures available and would be implemented if required”. Again, consistent with the **Section 4.3.20**, BATEA should be considered to ensure there is sufficient contingency in the design to minimise impacts to as low as reasonably practical. This should be used to demonstrate why these “other mitigation measures” should not be included at this stage.

Both Appendix I and Appendix Q include sensitivity tests to confirm the impact if emissions were ‘uncontained’. For completeness, there should be some discussion on the probability of this outcome occurring (e.g. equipment failure, poor site operation). While there is commitment to operate under an environmental management plan, there is always the potential for human error. It should be a simple task to confirm that an ‘uncontained’ outcome, as modelled, would have an exceptionally low chance of occurring (e.g. it is infeasible), and if it were to occur it would only last for a short-period. This means that the facility may receive odour complaints, but these would be rare. This should link back to an effective process of operational consultation management and complaints handling.

4.3.28 (6.9) Socioeconomic and health

The points made elsewhere in this **Section 4.3** relating to: human health exposure risks to contaminants of concern; the viability of installing a vapour barrier in the main facility building as it would operate under negative pressure; and the ability to manage waste throughput to limit the quantity of odour-generating waste, are all relevant to ensuring the proposal can effectively mitigate against associated socioeconomic and human health impacts.

The information presented to separate hazardous materials and avoid vermin risks are considered valid and adequate. The only additional point is to demonstrate clear and effective measures to provide training and auditing onsite to ensure these practices are continuously implemented.

4.3.29 (6.10) Noise and vibration

Section 6.10 of the main EIS provides a poor summary of Appendix J. It does not describe the assessment method, report on ambient conditions (as determined through baseline monitoring), define the sensitive receivers, set out the basis of assessment (e.g. combination of equipment schedules and overall sound power levels), or confirm the impact assessment. It also presents no information on construction traffic noise impacts and possible construction vibration impacts.

Appendix J provides some of this information by focussing on an operational noise assessment. The assessment is based on the equipment list set out in Table 11 of Appendix J. The assessment concludes that there are predicted “non-compliances...due to the...proximity of the equipment to the boundary...[The modelling predicts that there would be] morning shoulder exceedances of...up to 22 dBA and daytime exceedances...up to 12 dBA”. By installing a noise barrier along the site’s southern boundary (refer to Figure 5 in Appendix J) there would be improved compliance, however exceedances are still predicted between 6am to 7am. The assessment concludes that this exceedance “may be considered acceptable...[however] some additional screening may [be needed] to

reduce noise levels”. It also states that it is the traffic route through the site being close to the southern boundary that is causing the exceedances. While Section 5.1 of Appendix J sets out the two operational scenarios, it is unclear if the noise assessment has adopted the precautionary principle in assuming all equipment to be operating at the same time, at its maximum output and at its minimum separation distance between the source and receiver.

Section 5.5 of Appendix J quantifies and justifies that the increased truck movements on the local road network would be below the relevant criteria, meaning that impacts are unlikely. This appears to consider the impact of a *single truck movement* to and from site over a relative increase in noise on the network accounting for ambient conditions and the *regular frequency of truck and other traffic movements*. This should be confirmed. Also, **Section 4.3.21** notes as there is unified position in terms of traffic movements into and out of the site the noise traffic assessment may need adjusting or reappraising once this is confirmed.

While Appendix J and the main EIS do not provide a cumulative noise impact assessment of the combined effects of site operations and road and rail traffic movements, this may not be needed; but the proponent should confirm this. This is because away from the site, traffic noise is likely to dominate, and the site’s operations would have a limited influence on the overall noise level. Equally, road traffic noise near the site would have limited influence compared to site-generated noise. This means the closest noise sources tend to ‘dominate’.

A limited assessment of construction noise is provided in Appendix J, which effectively focusses on working under an exemption otherwise working to agreed limits, while controlling noise activities onsite. However, the assessment does not clearly demonstrate that the intended construction activities are aligned with the exemption provisions.

There is also no statement about potential construction traffic noise impacts, or construction vibration impacts; including the ability to demonstrate safe working distances to prevent cosmetic building damage and/or amenity (human comfort) impacts; consistent with *Assessing Vibration: A Technical Guideline* (NSW DECC, 2006¹⁰) and *DIN 4150-3: Vibration in Buildings, Part 3: Effects on Structure* (German Institute for Standardisation, 1999¹¹).

In summary, more detail is needed to confirm the ability to carry out construction works in accordance with the *ACT Environment Protection Regulation 2005*, and that there would be no potential risk of cosmetic building damage or amenity-related vibration impacts. Operationally, the proponent needs to be clear that it has accounted for all traffic movements to and from site during construction and operation and the relative increase this would have on ambient levels.

Appendix J would also benefit from clarifying the overall sound power levels used across the modelling scenarios to ensure all operational noise-generating equipment has been accounted for. For instance, it is unclear if the data in Table 11 of Appendix J are equalised or maximum sound power levels. Also, a single sound power level for a ‘delivery truck’ is provided at 98 dBA, however a refuse truck has an equalised sound power level at 108 dBA and a maximum sound power level of 113 dBA, while a transfer truck has an equalised sound power level of 111 dBA and a maximum sound power level of 116 dBA¹². There also appears to be no sound power level for truck brakes which is

¹⁰ <https://www.environment.nsw.gov.au/resources/noise/vibrationguide0643.pdf>

¹¹ <https://infostore.saiglobal.com/en-au/Standards/DIN-4150-3-1999-02--515801/>

¹² <https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-7075%2120190222T061727.576%20GMT>

potentially the noisiest activity taking place onsite. The final sound power levels should be justified in line with the above alternatives as it would affect the impact assessment.

The EPA did not comment on the residual operational noise exceedance in the letter dated 29 May 2018.

Once the above information is confirmed, this will allow the mitigation measures to be defined and clarified, as the information currently presented does not detail specific measures set out under AS2436:2010 Noise from Construction Work (Standards Australia, 2010¹³) and Assessing Vibration: A Technical Guideline (NSW DECC, 2006¹⁴), while defining any need for verification modelling, validation monitoring and/or forward management plans.

4.3.30 (6.11) Hazard and risk

The purpose of Section 8.1.11 of the *Final Scoping Document* asking that a screening assessment is carried out in accordance with NSW State Environmental Planning Policy 33: Hazard and Offensive Development was to determine if the hazards associated with the storage and transport of dangerous goods are sufficient to require a more detailed preliminary hazard analysis. The above Policy services to assess the risk to people, property and the environment. Where the risks are unacceptable or the controls inadequate, then the proposal is classified a 'hazardous industry'. Equally, if the proposal cannot prevent 'offensive impacts' on surrounding land users, it is classified as an 'offensive industry'.

Table 8 in the main EIS presents the screening test, which according to the analysis, confirms that the dangerous goods stored onsite would be below the threshold requiring further assessment. Table 9 in the main EIS includes the screening test for the transport of dangerous goods. Again, according to the data, the volumes of dangerous goods transported to and from site would fall below the threshold requiring further assessment. While we have not reviewed the source-data provided in Table 7 of the main EIS used to derive these conclusions, there would be benefit in the proponent confirming the validating of the information once the traffic data are fully reconciled.

While not explicitly requested in the *Final Scoping Document*, the assessment should consider if the proposal is likely offensive development. Section 5.1 of the Applying SEPP33 Guidelines (NSW DECCW, 2011¹⁵) defines the three questions used to determine if the facility would be offensive. It is for the consent authority to confirm if it thinks there is adequate mitigation proposed to ensure emissions can be controlled to a level where they are not significant. The second test is if the proposal's emissions need licencing. The Guidelines also ask the consent authority to consider if the level of offense can be reduced by setting more stringent conditions such as restricting operating hours or providing an adequate separation distance.

The ACT Government should be able to determine if it believes the development to be offensive once the proponent has confirmed and addressed the points relating to separation distances under **Section 4.3.20** and the queries and limitations relating to the odour assessment described under **Section 4.3.27**. As the above State policy does not apply in the ACT, this would simply help justify any decision to set more 'stringent conditions' on the facility's operation.

¹³ <https://infostore.saiglobal.com/store/PreviewDoc.aspx?saleItemID=2110815>

¹⁴ <https://www.environment.nsw.gov.au/resources/noise/vibrationguide0643.pdf>

¹⁵ <https://www.planning.nsw.gov.au/-/media/Files/DPE/Guidelines/hazardous-and-offensive-development-application-guidelines-applying-sepp-33-2011-01.pdf?la=en>

There is only a cursory mention of comparable facilities made in the EIS. Section 6.1.2 of the main EIS notes that “developments like the proposal are often placed central to urban areas in Australia, and throughout Europe and the UK. Table 3 of the main EIS then lists “similar facilities in Australia and overseas”. What is presented appears not to address the following points:

- Not all the cited examples in Table 3 are comparable. Only one of the nine reference facilities operate with a 300,000 tonne per annum throughput, while only two facilities process MSW, and only one facility in Perth processes both MSW and C&I waste.
- There is no information in Table 3 to confirm that any of these reference facilities deal with MSW and C&I waste with a similar composition as proposed by the proponent.
- There is no information in Table 3 to confirm if the reference facilities employ similar technologies to deal with the levels of odour-generating waste expected to be received at the proposed facility.
- There is no information on the distance to the nearest receivers associated with the four reference facilities listed in Section 6.1.2. It is therefore not possible to confirm if these sites are comparable in their setting.
- There is no information on the operational performance of any of the sites detailing information on complaints, regulatory exceedances, breeches or notices.

The provided information is therefore inadequate in evidencing the performance, impacts and mitigation effectiveness of comparable facilities and technologies. One or two specific reference facilities should be selected that process MSW and C&I waste with a similar organic (odour-generating) component that operate using the same odour treatment and abatement technologies. This will provide the necessary assurance that nuisance and amenity-related impacts can be adequately managed.

The EIS also inadequately describes construction-related hazards and risks, consistent with other areas. **Section 5.4** provides a technical review of the adequacy of the proposed fire-fighting equipment.

4.3.31 (6.12) Health impact assessment

The health impact assessment is made against many of the specialist studies prepared in support of the EIS. It therefore relies on the accuracy of the information presented in these reports. The validity of the health impact assessment conclusions should be reconsidered once the above points have been considered and addressed.

4.3.32 (7.0) Recommendations

Key for this section is to revisit the residual-risk rankings once the above issues have been addressed. Certain of the discussion points appear to be dismissive of the risks and impacts in simply suggesting that they can be effectively managed.

As there is limited clarity and definition around the mitigation measures provided in the main EIS, and certain of the provisions or ‘recommendations’ provided in the specialist studies are not carried through into the EIS, it is hard to determine if the impacts and risks can be effectively mitigated to support the reduced risk ranking. Therefore, it is not possible at this stage to confirm if the risk assessment is adequate and reflective of the proposal’s predicted construction, operation and decommissioning impacts.

5 Technical study review

This chapter summarises the technical review memos presented in Appendix B. Unlike **Chapter 4**, it reviews the accuracy and adequacy of the specialist studies in assessing the impacts. It does not verify if the accuracy or validity of source data.

5.1 Traffic

A review of the traffic and transport assessment confirmed the following key points.

- The analysis does not include a copy of the SIDRA (traffic modelling) files or detailed outputs to demonstrate that the surrounding road network can accommodate the traffic changes introduced under the proposal. SIDRA outputs are usually provided as part of any traffic assessment report.
- The document indicates that construction traffic will be minimal. Section 6.2.3.1 in the main EIS states that “given the site’s locality in the Fyshwick industrial area, and proximity to major collector streets the construction traffic impact is minor as vehicles will come and go and all activities will take place on site and not require any street space”. It is recommended that more detail is provided to evidence this.
- Section 6.2.2 of the main EIS argues that the site would provide enough car parking capacity for staff. However, no parking demand analysis is provided. It is recommended that approximate quantities of parking bays and staff vehicles included to support this section.

Appendix B includes a full traffic review.

5.2 Waste management

A review of the waste assessment confirmed the following key points.

- The waste feedstock targeted for the facility is inconsistent in how it is described. Residual MSW and C&I waste streams are stated as the main feedstock, but other waste streams such as ‘light’ C&D was also mentioned in the revised EIS and supporting appendices. There should be clarity and consistency on each waste source, type and recovery rate as this will influence processing requirements and the impact assessment. The characteristics of C&I waste can vary considerably depending on the generation source; particularly in the volume of organic material that may be present. Organic material will effectively the recovery rate as it can contaminate material that could otherwise be recycled. It will also affect the amount of generated odour.
- There is no demonstration of feedstock availability over the facility’s life. It is recommended that a waste flow model is provided to demonstrate feedstock availability and justify the facility’s need. This model should forecast expected waste quantities and material composition over the facility’s operational life while accounting for likely impacts that may occur such as changes in policy and collection regimes.
- While the figures vary, the most commonly quoted value is the expected recovery of around 20 percent of the feedstock. The proposal is to sell this to recycling markets, at a split of 25 percent domestic and 75 percent overseas. Recovered materials from a ‘dirty’ materials recycling facility are often of low quality, and current export markets

are weak. It is unclear if there is sufficient market demand for such products and how the risk of this material simply being landfilled or stockpiled would be mitigated.

- The impact assessment for waste and materials does not define the existing environment and does not consider the high likelihood of contaminated land and the impact this could potentially have on the generation of construction waste and/or spoil.
- Greenhouse gas reduction claims should be discussed in detail and substantiated.
- The traffic assessment uses inconsistent data and assumptions around feedstock waste sources and end markets in comparison with the revised EIS, mainly as it accounts for 40 percent recovery. It should be updated to reflect one consistent set of key data.

Appendix B includes the full waste review.

5.3 Odour

A review of the odour assessment confirmed the following key points.

- The odour and air quality assessments capture the potential impacts associated with the construction and operation of this type of facility. These assessments are based on assumptions (i.e. the volume of waste to be handled and its organic content). Any inaccuracy in these data may affect the impact assessment.
- The management measures provided in Table 22 of the EIS accurately reflect those discussed as being required, apart from fitting waste containers with activated carbon filters. However, the measures should describe the expected efficiency of the mitigation, confirm if it follows BATEA principles, accounts for the inconsistency described in **Section 4.3**, and provisions for managing atypical operating conditions.
- The caretaker's residence should be discussed and assessed in the air quality and odour assessment for completeness. However, this would not impact the outcome of the assessment, given that it is in an existing industrial area.
- The proposed East Lakes residential development is not explicitly assessed; however, the impact on this can be implied from the information provided.

Appendix B includes the full odour review.

5.4 Fire management

A review of the fire management systems confirmed the following key points.

- While the proposed fire management system could work in-principal, no justification is provided on its operational performance. Therefore, there is no established benchmark for the system to be assessed against during the facility's detailed design.
- We assume that specific design information relating to the system is missing as the design process is still being carried out. It is expected that the systems and strategies will be further defined as the design and operations of the site is finalised.

- The system would need to comply with the National Construction Code – Building Code of Australia. This is also noted by the ACT Emergency Services in Appendix R. This is important as it is an atypical design for Australia.
- As the main EIS talks about bringing in generators in the event of a power failure, this does not account for the interim-period when there would be no power if there is the need to operate the fire-fighting systems including pumping water.
- There is no information on any permanent water storage tanks for use by fire hydrants or the water cannons.
- The system appears to address the risk of preventing a fire from developing beyond the smouldering stage. However, there appears to be no assessment or test-evidence to support this claim.
- If a fire were to develop past the smouldering stage, and the proposed suppression system is unable to provide adequate containment, it appears the facility would then rely on intervention by the ACT Emergency Services. The ACT Emergency Services has indicated they are “satisfied with water supply, access, hazardous materials, street furniture, landscaping, tree planting and building firefighting systems”. As such, the assumption is that the it would be able to intervene appropriately.
- There are conflicting priorities with respect to fire safety within the facility. As detailed in the revised EIS there is “no incentive to wet the waste stockpiles as it is harder to process and creates leachate”. This conflicts with the fire safety strategy as wetting the waste is the main method of fire prevention. This conflict arises as the water cannons are manually activated during operational hours. This conflict needs reconciling and considering in the building management procedures and training of staff for activation of the water cannons.
- The fire system’s size and performance should be clarified (e.g. its ability to deal with a fire up to a certain rating/size). This would ensure it is fit for purpose in relation to the expected amount of fuel (e.g. combustible material) stored onsite at any point in time, accounting for bunkering in the main facility-building.

Appendix B includes the full fire-system management review.

6 Summary and recommendations

The chapter summarises the review and provides recommendations.

6.1 Summary

This review has considered the consistency and adequacy of the revised EIS prepared to support the proposed Fyshwick Materials Recycling Facility.

The revised EIS comprises a main document and 25 supporting appendices. All 26 documents help inform the development application and approval process.

Specifically, the review comprised two elements. It considered the:

- EIS' consistency against the general requirements defined under Section 50 of the *Planning and Development Regulation 2008* and the proposal-specific terms set out in the *Final Scoping Document* issued by the ACT Government in January 2018.
- Adequacy and accuracy of the assessment of the proposal's impacts on the receiving environment.

Consistency

In terms of consistency, it was concluded that the main EIS only partially complied with the form of assessment required under Section 50 of the *Planning and Development Regulation 2008*, due to the absence of baseline information and an impact assessment.

Of the 168 specified terms in the *Final Scoping Document*, information was only provided to address about half (48 percent) of these. For the rest of the terms, the information was either absent, unclear, partially provided or contradictory. While some of the incomplete and inconsistent information was minor in nature the key points of inconsistency were:

- The lack of clear mitigation in targeting proposal-specific impacts. Also, the effectiveness of the proposed mitigation was not provided along with when the mitigation should be implemented (e.g. during construction/operation) and who should be responsible for implementing and monitoring performance.
- The main EIS not being written in plain English and to the structure requested in the *Final Scoping Document*.
- There being no consolidated or unified description that accounts for the proposal's construction, operation, maintenance and decommissioning; which presents inconsistency in the impact assessment and supporting specialist studies.
- An incomplete consideration or justification for the proposal against ecologically sustainable development principles and especially the proposal's inter-generational equity and lifecycle evaluation impacts.
- A lack of any credible construction impact assessment as required for any EIS and requested under the *Final Scoping Document*.
- A lack of any credible landscape character and visual impact assessment as is consistent with standard best practice guidelines such as the Guidelines for Landscape Character and Visual Impact Assessment (Roads and Maritime, 2018) or the Guidelines for Landscape and Visual Impact Assessment (UK Landscape Institute and Institute of Environmental Management and Assessment, 2013).
- A lack of any credible greenhouse gas assessment against the National Greenhouse and Energy Reporting Scheme.

- A lack of detailed information on comparable reference sites as requested in the *Final Scoping Document* that employ similar technology to process comparable waste streams with similar feedstock throughput in an urban environment.

The overriding concern is that there is no consistent description that describes how the proposal would be built and how it would operate. There is inconsistency in the quantifications presented in the main EIS in terms of traffic numbers, waste streams, and recovery rates. This information is then inconsistently taken into the specialist studies (e.g. the traffic study quotes a recovery rate of 40 percent, when 20 percent is quoted more frequently elsewhere). This means the impact assessments are unlikely to consistently address the proposal's impacts. While the specialist studies are credible, their reference and source data are inconsistent with each other and potentially inconsistent with the proponent's proposal. This means the EIS does not likely fulfil its fundamental role in accurately describing the proposal's impact to ensure that adequate mitigation can be introduced to ensure the residual effects are acceptable.

The weakness in structure and poor language of the main EIS makes it challenging to fully reconcile these inconsistencies to the point of being able to credibly conclude if the proponent has identified all impacts. The best case is that the inconsistencies are insignificant to the impact assessment; however, there remains concern to the contrary that certain impacts are not realised while others may be underestimated.

That all said, the impacts of building and operating a materials recovery facility in an industrial area are well understood and can be likely adequately managed without significant residual effect on the receiving environment. It remains the proponent's job to confirm this to a credible and consistent impact assessment.

Adequacy

The review identified over 100 unique points of inadequacy or inaccuracy in the EIS.

These vary in nature from minor points of clarification, such as justifying the risk ratings, to more substantial omissions and errors, such as not providing a credible landscape character and visual impact assessment.

The main issue is the inadequacy of not providing clear and accurate data on the feedstock availability over the proposal's intended life and the composition of the material expected to enter and leave the facility. While some audit data are provided, it may not relate to the specific feedstock targeted by the facility. This means the source and recovery rates are potentially inaccurate. Also, the EIS does not adequately consider changes in market conditions, which may affect the economics of recovery. This too would affect how the material is managed, transported and disposed of.

As there is limited certainty in these data, it means that the corresponding impact assessment studies maybe inaccurate. The extent of this inaccuracy cannot be verified until the above data are confirmed. This means a waste flow model should be provided to demonstrate feedstock inputs and outputs.

Once this information is clarified the conclusions of the traffic, odour, air quality, socioeconomic, health, noise, and hazard and risk assessments should be checked to ensure the impacts are valid, and that there are no inaccuracies, underestimations or omissions.

The greenhouse gas, and landscape character and visual impact assessments are also inadequate in accurately describing the proposal's impacts. Finally, the soils and geology assessment does not account for some critical points provided in the remediation action plan (Appendix G) to prevent worker exposure risks during construction and operation, while preventing the mobilisation and migration of residual hydrocarbons offsite.

6.2 Recommendations

Section 1.2 set out a simple traffic-light system to help group the adequacy review into:

- Omissions or errors that were considered sufficient to be inconsistent with statute, regulation, governance, policy, and/or reasonable good practice, such that the assessment documentation is deemed inadequate in terms of assessing the proposal's impacts.
- Information is either incomplete or insufficient; however, it is generally consistent with statute, regulation, governance, policy and/or reasonable good practice such that gaps could be clarified, or conditions of approval set in the development application process.
- Information is broadly consistent and adequate; however, it still contains minor points of inadequacy. Nonetheless, it is considered that the gaps can easily be addressed in the development application process.

Table 5 summarises the review against these ratings including the recommendations.

Table 5: Adequacy review summary

Extent of the inadequacy	Number of instances
■ Key omissions or errors	13 (12%)
<p>Waste definition and licencing: the need to demonstrate the agreement or intent for Woodlawn to change its licence to accept waste from Canberra. The need to confirm the alternative plan for disposing of the facility's residual waste if the Woodlawn licence cannot be modified.</p>	
<p>Waste feedstock definition: the need to provide clear and consistent information on each waste source, type, composition and recovery rate entering the facility as this will influence processing requirements and the assessment, especially in terms of traffic impacts, odour impacts, noise impacts and other socioeconomic impacts.</p>	
<p>Waste feedstock availability: the need to demonstrate feedstock availability over the facility's life, through providing a waste flow model to justify the proposal's need. This should account for changes in policy and collection regimes.</p>	
<p>Landscape character and visual impacts: the need to prepare a credible landscape character and visual impact assessment.</p>	
<p>Light spill impact: the need to prepare a credible light-spill impact assessment.</p>	
<p>Contaminated land and ventilation: the need to address the proposal to operate under negative pressure to contain odour, however this would also concentrate any hydrocarbon vapours; if the vapour barrier was inadequate. This is important as the site auditor approved a future industrial use on the proviso that the construction of buildings and enclosed spaces onsite would be prohibited.</p>	
<p>Contaminated land: the need to reconcile the remediation action plan, which is based on there being no in-ground excavation, however the proposal would see excavation works taking place to install the leachate tank and carry out utility works.</p>	

Extent of the inadequacy	Number of instances
Contaminated land: the need to ensure worker exposure impacts and risks are accounted for and appropriately mitigated given the issues onsite.	
Contaminated land: the need to confirm the adequacy of installing a vapour barrier in a negative-pressure enclosed building.	
Air quality: the need to carry out a credible greenhouse gas assessment under the National Greenhouse and Energy Reporting Scheme.	
Noise impacts: the need to confirm construction traffic noise impacts and the ability to employ safe working distances to avoid cosmetic building damage and human comfort (amenity) impacts in relation to vibration.	
Hazards and risk: the need to identify adequate reference facilities that process MSW and C&I waste with a similar organic (odour-generating) component that operate using the same odour treatment and abatement technologies.	
Fire-fighting water supply: the need to demonstrate an adequate water supply onsite to manage and deal with fires.	
<div style="display: flex; align-items: center;"> ■ Incomplete or insufficient information </div>	16 (14%)
Waste Management and Resource Recovery Act 2016: the need to demonstrate compliance with the objects of the above Act in terms of confirming consistent recovery and diversion rates and addressing ESD principles; especially inter-generational impacts (e.g. fully assessing decommissioning impacts) and the adequate application of the polluter-pays principle and proximity principle.	
Operational waste storage: the need to demonstrate how the facility intends to sustain a 12-hour operation if there is either a supply delay or several trucks arriving at site at once, as there appears to be no onsite bunkering, and the proponent cannot control arrival times or external delivery issues (e.g. due to road-traffic accidents).	
Construction waste: realising the likely risks and impacts of dealing with contaminated construction waste as described in Appendix G but not carried forward into the main EIS.	
Application of BATEA principles: the need to demonstrate employing the precautionary principle and operating at to minimise risks to as low as reasonably practical.	
Traffic network performance: the need to clearly show if the proposal causes the unacceptable network performance shown in Figure 25 and Figure 26 of the main EIS.	
Road safety: the need to demonstrate there being no cumulative road safety impact local to the site.	
Contaminated land: the need to ensure the eight-pages of management measures provided in Appendix G are adopted during construction, while their implementation is monitored and independently audited.	
Air quality and odour: the need to confirm that the proponent has employed BATEA principles in addressing air quality and odour emissions.	

Extent of the inadequacy	Number of instances
<p>Air quality and odour: the need to ensure that the sensitivity testing in the specialist studies accounts for feasible and reasonable scenarios including equipment failure and unsettled and atypical operating situations; and the probability for an uncontained release to occur.</p>	
<p>Noise: that the assessment considers the full extent of traffic movement to and from the site.</p>	
<p>Noise: the need to confirm that the proposal can be built and is aligned with the quoted construction noise exemption provisions.</p>	
<p>Noise: the need to justify and reconcile the difference in quoted equipment sound power levels for similar materials recycling facilities and ensure that any discrepancies are accounted for in an updated impact assessment as it may change the outcome.</p>	
<p>Health impacts: the need to confirm the adequacy and accuracy of the health impacts as they rely on several other assessments where various omissions and clarifications have been identified.</p>	
<p>Mitigation measures: the need to ensure the mitigation measures address the proposal’s impacts and that any measures, recommendations or conclusions set out in the specialist studies are taken forward as mitigation or conditions as they are more relevant than the summary provided in the main EIS.</p>	
<p>Fire system management: the need to confirm the ability to operate the fire system during a power failure as the main EIS talks about hiring-in generators over having a back-up power supply onsite.</p>	
<p>Fire control and operational priorities: the need to reconcile the operation proposal not to wet stockpiles and waste as it makes it harder to process and it creates leachate, compared to the strategy of wetting the waste to prevent a fire risk.</p>	
<p>■ Minor points of inadequacy</p>	<p>83 (74%)</p>

Appendix A: assessment requirements

Final scoping document

Terms of reference	Consistency	Reference
EIS form and format		
The Authority requires that the Proponent engage a suitably qualified independent consultant to prepare an EIS OR the proponent submits, with the draft EIS, an independent review of the draft EIS undertaken by a suitably qualified consultant	Partial	Appendix D
The EIS must be prepared in accordance with Section 50 of the <i>Planning and Development Regulation 2008</i>	Partial	Throughout EIS
The EIS document sized A4 with maps and drawings in A4 or A3 format	Not applicable	
The proponent must supply three (3) copies of the draft EIS and four (4) copies of the revised EIS	Not applicable	
The EIS must be presented for circulation and web posting in an electronic format	Not applicable	
The Proponent must supply nine (9) CD/DVD copies of the draft EIS and three (3) CD/DVD copies of the revised EIS. Additional CD/DVD copies must be produced on request.	Not applicable	
Digital files must not exceed 10 MB each.	Not applicable	
The EIS must be written in plain English and avoid the use of jargon as much as possible.	Partial	Throughout EIS
The EIS is required to be provided in the same structure as described in this Final Scoping Document as closely as possible. A table that cross-references the EIS to the final scoping document must be included if the structure is different.	Partial	Appendix T
Additional technical detail, including relevant data, technical reports and other sources of the EIS analysis must be provided in appendices.	Partial	Appendix E to Y
Maps, diagrams and other illustrative material should be included in the EIS to assist readers to interpret information.	Partial	Throughout EIS
General requirements of the EIS		
1. Cover Page		
The cover page must clearly display:		
<ul style="list-style-type: none"> The name of the proposal (project title) 	No	

Terms of reference	Consistency	Reference
<ul style="list-style-type: none"> The block identifier and street address for the proposal 	Yes	Cover page
<ul style="list-style-type: none"> The date of the preparation of the document 	Yes	Cover page
<ul style="list-style-type: none"> Full name and postal address of the designated proponent 	Yes	Page ii
<ul style="list-style-type: none"> Name of the person/organisation who prepared the documents 	Yes	Page ii
<ul style="list-style-type: none"> Address, telephone and email contact details for the person/organisation who prepared the document 	Yes	Page ii
<ul style="list-style-type: none"> Name of person/organisation for whom the document was prepared. 	Yes	Page ii
2. Glossary		
Provide a glossary of technical terms, acronyms and abbreviations used in the EIS.	Yes	Page xi
3. Executive Summary		
Provide a non-technical summary of the EIS including a description of the proposal, key findings and recommendations.	Yes	Page xiii
4. Introduction		
Summarise the proposal background and justification for the proposal.	Yes	Section 1
5. Proposal Details		
5.1: Project Description		
Provide a description of the proposal, including:		
a) The objectives and justification for the proposal.	Yes	Section 2.1
b) The location of the land to which the proposal relates, including detailed maps	Yes	Section 2.2
c) If the land is leased – the lessee’s name	Yes	Section 2.2.2
d) If the land is unleased or public land – the custodian of the land	Not applicable	
e) The purposes for which the land may be used	Yes	Section 2.2.2
f) If the land is leased –		
<ul style="list-style-type: none"> The division name, and block and section number of the land under the <i>Districts Act 2002</i> 	Yes	Section 2.2.2
<ul style="list-style-type: none"> The volume and folio of the lease in the register under the <i>Land Titles Act 1925</i>. 	Yes	Section 2.2.2

Terms of reference	Consistency	Reference
g) Clearly identify all lands subject to direct disturbance from the proposal and associated infrastructure and geomorphic features such as waterways and wetlands	Partial	Section 2.2.3
h) An outline of any developments that have been, or are being, undertaken by the proponent, or other person(s) or entities, within the proposal area and broadly in the region. Describe how the proposal relates to those in the region affected by the proposal	Partial	Section 6.1
i) A description of all the components of the proposal, including the proposal specifications, the predicted timescale for implementation (design, approvals, construction and decommissioning) and project life	Partial	Section 2.3.6
j) A plan/description of the precise location of any works to be undertaken, structures to be built or elements of the proposal that may have relevant impacts	Partial	Figure 9
k) A description of the construction methodologies for the proposal.	No	
5.2: Alternatives to the proposal		
Provide details of any alternatives to the proposal considered in developing the proposal including a description of:		
a) Any alternatives to the proposal and provide reasons for selecting the preferred option with an analysis of site selection as an attachment to the EIS	Partial	Section 2.5
b) The criteria used for assessing the performance of any alternative to the proposal considered	Yes	Section 2.5
c) Any matters considered to avoid or reduce potential impacts prior to the selection of the preferred option	Partial	Section 2.5
d) Details of the consequences of not proceeding with the proposal.	Yes	Section 2.7
6. Legislative context		
A description of the EIS process including any statutory approvals obtained or required for the proposal.	Yes	Section 3.0
6.1: Statutory requirements		
The description must include information on statutory requirements for the preparation of an EIS:		
• <i>Planning and Development Act 2007</i>	Yes	Section 3.1
• Planning and Development Regulation 2008	Yes	Section 3.5.1

Terms of reference	Consistency	Reference
<ul style="list-style-type: none"> Related statutory approvals. 	Yes	Page 3.5
6.2: Other requirements		
The description must also include information on how each of the following has been considered in the preparation of the EIS:		
<ul style="list-style-type: none"> Territory Plan 2008 	Partial	Section 3.3
<ul style="list-style-type: none"> National Capital Plan 	Yes	Section 4.1
<ul style="list-style-type: none"> Sustainability Policy 	No	
<ul style="list-style-type: none"> Sustainable Transport Plan 	Yes	Section 4.6
<ul style="list-style-type: none"> Canberra Spatial Plan 	No	
<ul style="list-style-type: none"> ACT Climate Change Strategy 	Yes	Section 4.5
<ul style="list-style-type: none"> Other relevant planning and environmental guidelines and management plans. 	Yes	Section 4.0
6.2.1: Ecologically sustainable development		
Provide a description of the proposed action in relation to the long-term and short-term considerations of economic development, social development and environmental protection. The proponent should ensure that the EIS adequately addresses the principles of ecologically sustainable development as defined by section 9 of the P&D Act.	Partial	Section 3.1.1
6.2.2: Territory Plan strategic directions		
A statement must be provided regarding the proposal's compatibility with the principles in the Statement of Strategic Directions in the Territory Plan 2008 (Section 2.1 - Strategic Direction).	Yes	Section 4.2
7. Risk assessment		
7.1: Risk assessment methodology		
Provide a risk assessment in accordance with the Australian and New Zealand Standard for risk management AS/NZS ISO 31000:2009 Risk Management – Principles and guidelines. The proposed criteria for determining which risks are potentially significant impacts must be described. This should be based upon the Preliminary Risk Assessment (PRA) submitted with your request for the scoping application.	Partial	Section 5.0
Should any risk levels change during the preparation of the EIS or any new risks become apparent, these must be assessed and included within the EIS, and where relevant, the residual risk assessment.	Partial	Section 5.1

Terms of reference	Consistency	Reference
Assessment Guide		
Provide a table with the headings below to describe the risks identified and the original risk rating without any mitigation strategies in place. This table format is one option, however alternative formats can be used provided the methodology is clearly described and in accordance with AS/NZS ISO 31000:2009 <i>Risk Management – Principles and guidelines</i>	Yes	Section 5.2
<ul style="list-style-type: none"> Risk 	Yes	Section 5.2
<ul style="list-style-type: none"> Likelihood 	Yes	Section 5.2
<ul style="list-style-type: none"> Consequence 	Yes	Section 5.2
<ul style="list-style-type: none"> Risk rating 	Yes	Section 5.2
8. Impact assessment		
Sufficient information is required to provide the Authority with an adequate understanding of the environmental impacts associated with the proposal. Each potentially significant impact rated with a risk rating of medium and above as identified in the risk assessment must be addressed with the information required by sections 8.1.1- 8.1.11 of this scoping document.	Partial	Section 6
Table 1 identifies the issues that the Authority has identified as potentially significant risks, and the relevant sections of the scoping document that must be addressed in the EIS. 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.	Partial	Section 6.4
8.1: Required detail for addressing impacts (Table 1)		
The following items (sections 8.1.1 - 8.1.11), relate to the potentially significant environmental impacts identified in Table 1. They must be addressed in detail in the EIS.	Yes	Section 6
NOTE: The information provided under the following headings is not an exhaustive list of matters that may be required to accurately detail the assessment scenarios.		
8.1.1: Planning and land status		
<ul style="list-style-type: none"> Include a description of planning context of the area where the project will be located 	Yes	Section 6.1.1
<ul style="list-style-type: none"> Describe planning and development status of any land or project relevant to the proposal 	Partial	Section 3.3 Section 6.1
<ul style="list-style-type: none"> Describe land use of the proposed land and any land to be affected (including, but not limited 	Partial	Section 3.3

Terms of reference	Consistency	Reference
to, zoning, lessee(s) or custodian of the land, the permissibility of the proposed use defined in the Territory Plan)		
8.1.2: Traffic and transport		
<ul style="list-style-type: none"> Describe arrangements for the transport of construction materials, equipment, products, wastes and personnel during both the construction phase and operational phase of the development proposal 	Partial (construction) Yes (operation)	Appendix E Section 6.2
<ul style="list-style-type: none"> Include a description of the volume of traffic generated during construction and operation. 	No (construction) Yes (operation)	Section 6.2 Appendix E
<ul style="list-style-type: none"> Include details of vehicle traffic, transit routes and transport of heavy and oversize loads (including types and composition) 	Yes (for operation)	Section 6.2 Appendix E
<ul style="list-style-type: none"> A comprehensive Traffic Impact Assessment (TIA) must be prepared in accordance with the TCCS TIA Guideline. 	Partial	Appendix E
8.1.3: Utilities		
<ul style="list-style-type: none"> Describe the existing utilities located on the land subject to this proposal 	Yes	Section 6.3.2.1
<ul style="list-style-type: none"> Describe any new utilities, removal or realignments required as a result of this development 	Partial	Section 6.3.2.1
8.1.4: Materials and waste		
<ul style="list-style-type: none"> Describe the nature, sources, location and quantities of all materials to be handled, including the storage, stockpiling and disposal of materials and waste 	Partial	Section 2.3 Section 6.4
<ul style="list-style-type: none"> Describe any hazardous materials and dangerous chemicals to be used or stored on site during construction and operation 	Yes	Section 3.5.10 Section 6.4 Appendix P Appendix O
<ul style="list-style-type: none"> Provide further advice on waste management, including assessment, management and disposal 	Yes	Section 6.4 Appendix P
<ul style="list-style-type: none"> Describe mitigation measures to reduce potential of waste spreading to the surrounding area 	Partial	Section 6.4

Terms of reference	Consistency	Reference
<ul style="list-style-type: none"> Outline management procedures in case of oversupply of waste and any consideration to the measures in place when/if the facility ceases operation 	Yes	Section 6.4.3.3
8.1.5: Landscape and visual		
<ul style="list-style-type: none"> Undertake a visual assessment of the site and surrounds to describe the current landscape character of the area 	Partial	Appendix F Section 6.5
<ul style="list-style-type: none"> Identify important view sheds and significant views and vistas to and from the site 	Partial	Section 6.5 Appendix F
<ul style="list-style-type: none"> Conduct a visual impact analysis that details predicted impacts the proposal may have on the landscape character of the site and surrounds 	Partial	Section 6.5 Appendix F
<ul style="list-style-type: none"> Provide perspectives and/or a visual analysis of the proposal from local vantage points 	Partial	Section 6.5 Appendix F
<ul style="list-style-type: none"> Describe measures that are to be adopted to reduce the visual impact from the building bulk and scale, any stockpiling that may be required and lighting the facility 	Partial	Section 6.5
8.1.6: Soils and geology		
<ul style="list-style-type: none"> Describe the soil and geology features of the area 	Partial*	Appendix G
<ul style="list-style-type: none"> Discuss any contamination impacts that are present at the site (soil and groundwater), and how the site will be remediated (if required) 	Yes	Section 6.6 Appendix G
<ul style="list-style-type: none"> Discuss the potential impacts associated with soils and geology on the proposed site and surrounding areas 	Partial	Section 6.6 Appendix G
<ul style="list-style-type: none"> Provide information on measures to limit impact from spills 	Yes	Section 6.6.2.2
<ul style="list-style-type: none"> Provide information on methods of impact reduction and rehabilitation associated with soils and geology 	Partial*	Appendix G
8.1.7: Water and hydrology		
<ul style="list-style-type: none"> Describe the current groundwater quality and measures proposed to maintain and monitor ground water quality 	Partial*	Appendix H in Appendix H
<ul style="list-style-type: none"> Describe the present and potential water uses and users within the affected catchment of the proposal. Include a map of the catchment 	Partial*	Appendix H in Appendix H

<ul style="list-style-type: none">• Outline any potential impacts on Jerrabomberra Creek and wetlands	Yes	Appendix H in Appendix H
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Terms of reference	Consistency	Reference
		Section 6.7.2.2
<ul style="list-style-type: none"> Provide information on stormwater/waste water management both during construction and operation including any on site detention, treatment systems and water quality protection measures 	Partial*	Appendix H in Appendix H
8.1.8: Climate change and air quality		
<ul style="list-style-type: none"> An air quality and odour impact assessment must be completed by a suitably qualified environmental consultant 	Yes	Appendix I Appendix Q
<ul style="list-style-type: none"> The air quality and odour impact assessment should consider the ACT Government's proposed East Lake residential development and other surrounding development 	Partial	Appendix I Appendix Q
<ul style="list-style-type: none"> An assessment of the effect the proposal may have on climate change and how the proposal is consistent with associated ACT and national policies 	Partial	Section 6.8
8.1.9: Socioeconomic and health		
<ul style="list-style-type: none"> Provide a formal Health Impact Assessment (HIA) that includes an analysis of the potential impacts on human health and any measures incorporated into the development to mitigate these impacts 	Yes	Appendix L
<ul style="list-style-type: none"> The HIA will investigate all positive and negative health implications including consultation with relevant stakeholders that may be impacted by the proposal 	Yes	Table 20 Appendix L
<ul style="list-style-type: none"> Provide maps showing impacts on the surrounding sensitive receivers 	Partial	Section 2.2.3 Appendix L
<ul style="list-style-type: none"> Detailed discussion of the potential social and economic impacts associated with the proposal 	Partial*	Appendix L
<ul style="list-style-type: none"> Describe the suitability of the land for the type of proposal described in terms of socio-economics and health 	Partial*	Appendix L
<ul style="list-style-type: none"> Outline risk and mitigation measures relating to potential health impacts associated with harbouring vermin and pest animals 	Yes	Appendix L Section 6.9

Terms of reference	Consistency	Reference
8.1.10: Noise, vibration and lighting		
<ul style="list-style-type: none"> An acoustic impact assessment must be completed by a suitably qualified acoustic consultant. 	Yes	Appendix J
<ul style="list-style-type: none"> The acoustic impact assessment should consider the ACT Government's proposed East Lake residential development and other surrounding development 	Yes	Appendix J
<ul style="list-style-type: none"> Identify any potentially sensitive receivers (including residential dwellings and road users) which may be affected by the construction and operation of this proposal 	Partial*	Appendix J
<ul style="list-style-type: none"> Discuss the types, magnitude, duration and frequency of any noise and/or vibration during operation phases of the proposal including noise from operation of the facility and vehicle movements (including trains) 	Partial*	Appendix J
8.1.11: Hazard and risk		
<ul style="list-style-type: none"> Preliminary Risk Screening – A preliminary risk screening must be undertaken in accordance with NSW Government “State Environment Planning Policy 33 - Hazardous and Offensive Development Application Guidelines” (SEPP 33). If the screening finds the development is potentially hazardous, a Preliminary Hazard Analysis (PHA) will be required to be prepared in accordance with the NSW Government “Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis”. 	Yes	Section 6.11
<ul style="list-style-type: none"> Provide examples of other similar developments within Australia including: <ul style="list-style-type: none"> A comparative technology review. Processing capacities and proximity to other developments and sensitive receivers. Impacts or failures that they have encountered. Current status of the operations. 	Partial	Section 6.11.2
<ul style="list-style-type: none"> Describe the potential for hazard and risk associated with the construction and operation of the project including flooding, vandalism and accidents 	Partial*	Appendix H
<ul style="list-style-type: none"> Describe how the site is suitable for the proposed use by considering identified hazards and risks including risk of fire and adequate fire suppression 	Yes	Section 6.11 Appendix X

Terms of reference	Consistency	Reference
<ul style="list-style-type: none"> Describe management of risk in relation to fire in stockpiled material 	Yes	Section 6.11.3.5
<ul style="list-style-type: none"> Outline impacts on aircraft from the MRF vent plume 	Yes	Section 6.11 Appendix U
8.2: Investigating impacts (Table 1)		
Each potentially significant environmental impact identified within Table 1 should be addressed/structured as per sections 8.2.1 - 8.2.5.	Partial	Section 6
Assessment guide:		
<p>Assessment Scenarios:</p> <ul style="list-style-type: none"> Proponent should describe and use baseline case, application case and planned development case in their EIS to describe and address impacts at all stages of the project (construction, operation, decommissioning and reclamation) 	Partial	Section 6 Specialist Study appendices
<p>Baseline case:</p> <ul style="list-style-type: none"> The baseline case establishes and describes the conditions that exist prior to the development or if the project were not developed. Describe the environmental conditions that include the effects of existing land uses of the area 	Partial*	Specialist Study appendices
<p>Application case:</p> <ul style="list-style-type: none"> The application case describes the baseline case with the effects of the proposal added. Information is provided to allow regulators to determine how project operations should be controlled and how adverse effects can be mitigated and managed. 	Partial	Section 6 Specialist Study appendices
<p>Planned development case</p> <ul style="list-style-type: none"> The planned development case describes the environmental conditions of the project when integrated with the existing conditions and any other planned projects which can be reasonable expected to occur. 	Partial	Section 6 Specialist Study appendices
8.2.1: Environmental conditions and values		
Describe the environmental conditions and identify the environmental values for the environmental themes identified in Table 1. This section should discuss the baseline conditions for the area	Partial*	Specialist Study appendices
8.2.2: Investigations		
Identify the findings and results of any environmental investigation in relation to the land to which the proposal relates.	Partial	Section 6 Specialist Study appendices

Terms of reference	Consistency	Reference
8.2.3: Impacts		
Describe the effects of the environmental impact as a result of construction and operation for the environmental themes identified in Table 1 (including cumulative, consequential and indirect effects) on physical and ecological systems and human communities. Particular emphasis should be placed on the potentially significant impacts identified in the risk assessment. Include a discussion of the timeframes of impacts i.e. short or long term, their nature and extent and whether they are reversible or irreversible, unknown or unpredictable. Include an analysis of the significance of the relevant impacts. Information must include any technical data and other information used or needed to make a detailed assessment of the relevant impacts.	Partial	Section 6 Specialist Study appendices
8.2.4: Mitigation		
Discuss the proposed safeguards and mitigation measures proposed to be taken for the environmental management of the land to which the proposal relates for the environmental themes identified in Table 1. This is to include:	Partial	Section 6 Specialist Study appendices
a) A description and an assessment of the proposed impact prevention, mitigation or offsetting measures to deal with the environmental impact of the proposal	Partial	Section 6 Specialist Study appendices
b) A description of the expected or predicted effectiveness of the mitigation measures.	No	
c) Any statutory or policy basis for the mitigation measures	No	
d) An outline of an environmental management plan (EMP) that sets out the framework for continuing management, mitigation and monitoring programs for the relevant impacts of the action, including any provisions for independent environmental auditing	Partial*	Appendix P
e) The frequency, duration and objectives of monitoring proposed	Partial	Section 6 Specialist Study appendices
f) The name of the agency responsible for endorsing or approving each mitigation measure or monitoring program	No	
g) A description of the cost effectiveness of environmental mitigation or rehabilitation measures proposed and the expected or predicted effectiveness of those measures	No	

Terms of reference	Consistency	Reference
8.2.5: Residual risk		
Provide a table that details the residual risk for the potentially significant impacts identified for the environmental themes in Table 1. A residual risk assessment is only required where the significance of impact is determined as medium or above. The calculation of the residual risk should take into account the influence of implementation of mitigation or offsetting measures on the impacts identified by the risk assessment. A discussion of how the calculations were determined should also be included.	Partial	Section 6 Section 7.1 (Table 21)
Assessment guide:		
Provide a table with the headings below to describe the risks identified and the original risk rating without any mitigation. The residual risk assessment will include the consideration of management, mitigation and monitoring strategies applied to each risk identified. The residual risk rating describes the final risk with the mitigation measures in place.		
<ul style="list-style-type: none"> Risk identified in Section 7.1 	Yes	Section 7.1 (Table 21)
<ul style="list-style-type: none"> Original risk rating from items identified in 7.1 	No	
<ul style="list-style-type: none"> Residual likelihood 	Yes	Section 7.1 (Table 21)
<ul style="list-style-type: none"> Residual consequence 	Yes	Section 7.1 (Table 21)
<ul style="list-style-type: none"> Residual risk rating 	Yes	Section 7.1 (Table 21)
9. Community and stakeholder consultation		
Consultation must be undertaken with		
<ul style="list-style-type: none"> Lease holders and land managers of land potentially impacted by the proposal 	Yes	Section 2.4.3
<ul style="list-style-type: none"> Any recreational groups which will be affected by the proposal 	Partial	Section 2.4.3
<ul style="list-style-type: none"> Any volunteer conservation, landscape management or land care groups active in the area to be affected by the proposal 	Yes	Section 2.4.3
<ul style="list-style-type: none"> The local community 	Yes	Section 2.4.3
Describe the community consultation undertaken (methodology and criteria for identifying stakeholders and the communication methods used).	Partial	Section 2.4.4

Terms of reference	Consistency	Reference
Describe how any concerns have been considered in light of the proposal and any future development planned.	Yes	Section 2.4.5 Section 6
Please note, in addition to undertaking consultation, at the revised EIS stage, the revised EIS must include the representations received, issues raised in the representations and a response to the issues and values identified. The summary response must clearly identify the representation(s) to which the responses relate.	Yes	Appendix S
10. Recommendations		
Provide a summary of any commitments to impact prevention, mitigation measures, offsetting measures and other actions within the EIS.	Yes	Section 7.2
Describe the monitoring parameters, monitoring points, frequency, data interpretation and reporting proposals.	Yes	Section 7.2
11. Other relevant information		
The proponent may wish to include issues outside the scope of the EIS as a separate section of the EIS. This allows the proponent to identify matters not required to be addressed in the EIS, but that would be subject to development assessment consideration and notification. This can provide additional context for members of the public regarding management of environmental issues, by ensuring that the public is aware that these issues will be addressed in the detailed design of the proposal.		
12. References		
A reference list using standard referencing systems must be included.	Partial	Appendix C
13. Required appendices		
<i>Final scoping document for the EIS</i> A copy of the final scoping document should be included in the EIS. Where it is intended to bind appendices in a separate volume from the main body of the EIS, the final scoping document should be bound with the main body of the EIS for ease of cross-referencing.	Yes	Appendix A
<i>Scoping Document Reference</i> Include a table that cross-references the EIS to the scoping document.	Partial	Appendix T
<i>Proponent's Environmental History</i> Provide details of any proceedings under a Commonwealth or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:		
<ul style="list-style-type: none"> The person proposing to take the action 	Yes	Appendix B
<ul style="list-style-type: none"> For an action for which a person has applied for a permit, the person making the application. 	Partial	Appendix B

Terms of reference	Consistency	Reference
If the person proposing to take the action is a corporation, then provide details of the corporation's environmental policy and planning framework. Enough information is required to satisfy s136(4) of the EPBC Act.	Yes	Appendix B
<i>Information Sources</i> For information given the following must be stated:		Appendix C
<ul style="list-style-type: none"> The source of the information 	Yes	Appendix C
<ul style="list-style-type: none"> How recent the information is 	Partial	Appendix C
<ul style="list-style-type: none"> How the reliability of the information was tested 	No	
<ul style="list-style-type: none"> What uncertainties (if any) are in the information. 	No	
<i>Study Team</i> The qualifications and experience of the study team and specialist sub-consultants and expert reviewers must be provided.	Partial	Page x Appendix D
<i>Specialist studies</i> All reports generated based on specialist studies undertaken as part of the EIS are to be included as appendices	Yes	EIS Appendices
<i>Research</i> Any proposals for researching alternative environmental management strategies or for obtaining any further necessary information should be outlined in an appendix.		
Entity requirements		
Where not otherwise identified as a potentially significant impact, provide information in accordance with the requirements of the entities. If the issues raised by entities have been addressed in other sections of the EIS, this must be cross referenced in this section.		
A1: ACT health		
The Health Protection Service (HPS) requests that the EIS for the project consider the following:		
<ul style="list-style-type: none"> Any influence upon the existing air quality, particularly the likelihood of cumulative effects of the development within the locality including on surrounding businesses 	Partial	Section 6.8 Appendix I Appendix Q
<ul style="list-style-type: none"> Potential dust generation or dust movement while the site is under construction 	Yes	Section 6.8 Appendix Q
<ul style="list-style-type: none"> Potential for harbourage of vermin and pests at the facility. 	Yes	Section 2.6 Section 6.9

Terms of reference	Consistency	Reference
<ul style="list-style-type: none"> Details on waste storage and management in the event that there is an oversupply of waste and mitigation measures proposed to manage the risk of fire in the stockpiled material. 	Partial	Section 6.11.3.5
<ul style="list-style-type: none"> All health implications, both positive and negative. The HPS therefore requests that a formal health impact assessment (HIA) is carried out as part of the process. 	Yes	Appendix X
As the proposed development is located within proximity to residential and industrial mixed zone areas, the conduct of a formal HIA would facilitate the appropriate avoidance or mitigation of any identified negative health impacts as well as the promotion of subsequent positive impacts. The risk assessment process would include assessing the severity and likelihood of the identified negative and positive impacts, determining if these have direct or indirect impacts, and assessing the distribution of impacts.	Yes	Appendix X
The community and stakeholder concerns regarding the proposal should also be considered, as part of the HIA process. Community consultation and identification of the potentially affected population as well as risk management options are the important segments of the process.	Yes	Section 2.4 Appendix L
A2: Environment Protection Authority		
The EPA would require the following matters to be considered in the EIS:		
<i>Land contamination</i>		
Environment Protection Authority (EPA) records indicate that the sites were formerly occupied by the Shell Canberra depot and associated raiing siding and contained extensive fuel storage facilities and EPA records indicate that hydrocarbon related impacts to soil and groundwater have been identified at the sites. This issue must be included in the EIS.	Yes	Section 6.6
Please note that as part of the Development Application process, the subject site must be assessed and remediated by a suitably qualified environmental consultant and these works independently audited by an EPA approved contaminated land auditor prior to any change of use. The auditor's findings into the site's suitability from a contamination perspective for its proposed and permitted uses under the Territory Plan must then be reviewed and endorsed by the EPA prior to the commencement of development works and prior to the site being used for other purposes.	Partial*	Appendix G

Terms of reference	Consistency	Reference
<i>Air quality and odour impacts</i>		
An air quality and odour impact assessment must be completed by a suitably qualified environmental consultant.	Yes	Appendix I Appendix Q
<i>Noise impacts</i>		
An acoustic impact assessment must be completed by a suitably qualified acoustic consultant.	Yes	Appendix J
<i>Water quality impacts</i>		
The potential for water quality impacts must be assessed in the EIS.	Yes	Section 6.7 Appendix G Appendix H
<i>Preliminary Risk Screening</i>		
A preliminary risk screening must be undertaken in accordance with NSW Governments “State Environment Planning Policy 33 - Hazardous and Offensive Development Application Guidelines” (SEPP 33). If the screening finds the development is potentially hazardous, a Preliminary Hazard Analysis (PHA) will be required to be prepared in accordance with the NSW Governments “Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis”.	Yes	Section 3.5.10.1
A3: Transport Canberra and City Services		
A comprehensive Traffic Impact Assessment (TIA) must be prepared in accordance with TCCS TIA Guideline.	No	
Any impacts on existing stormwater asset and easement through block 9 and 11 must be investigated and any changes must be endorsed by TCCS.	Partial	Appendix H
A4: Environment, Planning and Sustainable Development Directorate		
<i>Environmental protection policy</i>		
The proposed site was a former Shell fuel depot with associated rail infrastructure. Fuel depots and rail activities are associated with potential land contamination and in accordance with the <i>Contaminated Sites Environment Protection Policy 2017</i> made under the <i>Environment Protection Act 1997</i> which regulated potentially contaminated sites, the site should be assessed, remediated (if required) and independently audited as suitable for the proposed use.	Partial*	Appendix G
The <i>Environment Protection Act 1997</i> (the Act) also regulates activities that have the potential to cause significant environmental harm with certain activities	No	

Terms of reference	Consistency	Reference
required to hold an environmental authorisation (EA) under the Act. Schedule 1 of the Act details activities requiring an EA including the operation of a waste transfer station receiving 30,000 tonnes or more of waste each year.		
The Act also regulates emissions and an assessment of the noise emission from the proposed facility and associated activities at the site should be undertaken to demonstrate compliance with the applicable industrial land use noise zone standard as detailed in the <i>Environment Protection Regulation 2005</i> .	Yes	Appendix J
The scoping documents indicates the facility will emit odours. In accordance with the general environment duty under the Act, which details that a person must take the steps that are practicable and reasonable to prevent or minimise environmental harm or environmental nuisance caused, or likely to be caused, by an activity conducted by that person, the proponent should undertake an odour air quality assessment to demonstrate the facility will not adversely affect neighbouring sites and any sensitive receptors nearby i.e. residential uses.	Partial	Appendix I
Due to the nature of the waste activities at the site details of the waste water treatment systems to manage waste water discharges from the site should also be included in the EIS assessment to ensure discharges to stormwater are appropriately managed and meet the water quality criteria detailed in the <i>Environment Protection Regulation 2005</i> .	Partial	Section 6.7.3.1
<i>Sustainability and Climate Change</i>		
Information is needed on which materials will be sorted for recycling and what will be produced at the facility (e.g. will the facility be exporting refuse-derived fuel?)	Partial	Section 2.3
It is unclear in the document how much of the 300,000 tonnes could be diverted by the facility. On page 7 of the report it is stated that the facility could divert up to 90% of the Municipal Solid Waste (MSW) and Commercial and Industrial (C&I) waste streams, while on page 32 of the report there is mention of over 20% resource recovery. Further detail and evidence to support a claim on estimated recovery rates is needed.	Partial	Section 2.3
To reduce greenhouse gas emissions from landfill it is important to divert organic materials from landfill. According to the waste hierarchy materials should be diverted to their highest value use. In the case of organics, research suggests the highest value use of materials is achieved through source separation of organics for processing, rather than processing with MSW. Issues of contamination have plagued facilities that process organics extracted from mixed MSW, often resulting in an end product of limited value. There is a risk that this facility would discourage source separation	Noted	

Terms of reference	Consistency	Reference
<p>of organic materials. If the facility proposes to have capacity to process source-separated organic materials clarification is required. A comment on page 7 of the report indicates the company's interest in processing organic materials in MSW:</p> <p>- "Importantly, the CRS proposal does not impose a change to the way households and businesses dispose of their waste. CRS contends that imposing further burdens on the users of the waste disposal system opens the system up to error. An example stated previously is the addition of kitchen waste to the green bin trial. As seen in the European example, errors can result in compost which is unsuitable for its intended use. CRS believes that the better option is to sort this waste at the proposed MRF rather than relying on all individuals to use a new system correctly."</p>		
The report mentions exporting 'inert and non-combustible materials' from the site. Further information is required on where these materials are proposed to go and for what purpose so that we can consider lifecycle impacts and benefits.	Partial	Section 2.3
Strategic Planning		
The proposed noise and odour assessments to be undertaken for nearby residential areas needs to be expanded to include the ACT Government's proposed East Lake residential development and surrounding development.	Partial	Appendix J Appendix I
For noting by the proponent only		
B1: Evoenergy (ActewAGL)		
Evoenergy have no objections to this proposal. The feeder in the vicinity of the block currently has approx. 1MVA spare capacity available which could be used to supply the recycling facility, though this will depend on the actual load required.	Noted	
B2: ACT Heritage Council		
The council advises that no places or objects subject to Heritage Act 2004 provisions are located within the subject area; and that unrecorded heritage places and objects are unlikely to occur, given the prior development of the locality.	Yes	Section 2.2.6
In this context, no heritage assessment requirements are identified for inclusion in the EIS scoping document.	Noted	
However, it is noted that the EIS should include an 'Unanticipated Discovery Protocol' for any heritage places and objects that may be encountered during construction works. This Protocol should include the following, at minimum, to reflect Heritage Act 2004 obligations:	No	

Terms of reference	Consistency	Reference
<ol style="list-style-type: none"> 1. Stop works at the heritage site, to allow for assessment and management in accordance with Sections 74 and 75 of the <i>Heritage Act 2004</i>. 2. Report the discovery to the site supervisor immediately. 3. Define an exclusion zone around the heritage site, within which no works or related activities (such as vehicle parking and stockpiling) is to occur. If needed, temporary fencing should be installed to define the exclusion zone. 4. Engage heritage advisors to assess the nature of the heritage site and its potential heritage significance. Advisors should have expertise in the type of heritage encountered, and where an Aboriginal place or object has been found, Representative Aboriginal Organisations should be consulted. 5. Report the find to the ACT Heritage Council on 13 22 81 or heritage@act.gov.au within 5 working days in accordance with section 51 of the <i>Heritage Act 2004</i>. 6. Seek ACT Heritage Council advice on <i>Heritage Act 2001</i> approvals or further advice required prior to commencement of works. 		
B3: Conservator of Flora and Fauna		
The Conservator's office indicated that there aren't any major flora and fauna issues with this proposal.	Noted	
B4: Emergency Services Agency (ACTF&R)		
ACTF&R has reviewed the EIS Scoping Document titled "Capital Recycling Solutions 'Advanced waste management for the ACT' Scoping application" dated Nov 2017 and has no special considerations or objection at this time.	Noted	
B5: National Capital Authority		
This site is partially situated within 200 metres of the centreline of the Monaro Highway which is defined as an Approach Route under the National Capital Plan (The Plan). The NCA has taken the view that this site doesn't front the Approach Route so will not require a Development Control Plan.	Noted	
B6: Office of the National Rail Safety Regulator (ONRSR)		
ONRSR has no comment at this stage of the proposal. As a general comment it is a requirement that all Railway Operations (which includes the construction of a railway tracks and associated structures and the maintenance, repair, modification, installation and operation of rail infrastructure) are carried out in accordance with the Rail Safety National Law.	Noted – not part of the DA	

Terms of reference	Consistency	Reference
B7: Queanbeyan-Palerang Regional Council (QPRC)		
QPRC has no comment at this stage of the proposal.	Noted	
B8: Utility Technology Regulation, Access Canberra		
The proponent should contact Utilities Technical Regulation within Access Canberra on 02 6207 0362 or by email at Techregulator.Utilities@act.gov.au and provide further information regarding the proposed facility. As described in the scoping document, there is a possibility that the proposed facility may constitute a regulated utility service and require an operating certificate.	Partial	Section 6.3
B9: Waste Policy (TCCS)		
Waste policy has no comment at this stage of the proposal.	Noted	
B10: Jemena		
Jemena has no comments at this stage of the proposal.	Noted	
B11: Canberra Airport		
We note that there are no waste furnaces to be included and that the waste arriving at the site will be processed as follows:	Noted	
<ul style="list-style-type: none"> Recyclables extracted 		
<ul style="list-style-type: none"> Residues transported to Woodlawn Bioreactor at Tarago 		
On this basis, Canberra Airport has no objection to the proposal.		
B12: Icon Water		
All connections to sewer that are classified as Liquid Trade Waste must apply to Icon Water for approval before connection to sewer.	Yes	Table 22
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	No	
Icon Water Liquid Trade Waste team contact information; Email: Trade.Waste@iconwater.com.au Phone: 02 6248 3222	No	
Should any water or sewerage infrastructure be placed within potential or actual contaminated land, Icon Water	No	

Terms of reference	Consistency	Reference
must be notified prior to connection to the existing network and/or asset handover to Icon Water.		

Note: Those items marked with an asterisk (*) have the required information within the technical specialist study, however, has not been carried forward in the main EIS.

Entity Consultation

Requirements	
ACT Government Health	
Original EIS: 16 May 2018 Revised EIS: 30 November 2018	Satisfied that the Revised EIS has considered the concerns raised by HPS in May 2018 and has detailed the appropriate mitigation measures. There are no other health concerns in relation to the proposed development.
Environment Planning & Sustainable Development Directorate	
Original EIS: 29 May 2018 Revised EIS: 4 December 2018	The previously submitted comments on the first draft EIS stand. No additional comments.
ACT Emergency Services Agency	
Original EIS: 24 April 2018	No further information is required.
ACT Fire & Rescue	
Original EIS: 4 May 2018	ACTF&R have provided advice for the fire station response area and the fire safety section. ACTF&R have provided requirements in relation to location of street furniture, landscaping, existing trees and tree planting. ACTF&R also requested
ACT Heritage Council	
Original EIS: 24 April 2018	Prior advice dated on 14 December 2017, stated the proposed development was unlikely to diminish the heritage significance of the place, that no heritage places occurred within the subject area and no unrecorded heritage places were likely to occur as a result of the proposed development. The council does not require any further heritage assessment prior to finalisation of the EIS.
National Capital Authority	
Original EIS: 24 April 2018	Advised the approach route will not require a Development Control Plan.
Strategic Planning – Planning Policy Division	
Draft EIS: 24 April 2018	Issues attributed to the Strategic Planning have been responded to by the proponent based on published information. No comments on the draft EIS.

Requirements	
TCCS – Place Coordination and Planning	
Draft EIS: 24 April 2018 Revised EIS: 12 November 2018	Comments relating to Revised EIS still to be completed. Email received by TCCS – Place Coordination and Planning states the response to comments appear to be satisfactory in relation to traffic and transport.
TCCS – Transport Policy	
Draft EIS: 24 April 2018	Traffic assessment is generally good. There are additional comments to be considered in the Revised EIS.
Urban Renewal	
Draft EIS: 17 May 2019	There is no evidence that input from the East Lake Urban Renewal project has been considered in the Revised EIS.
TCCS - ACT No Waste (Waste Policy)	
Draft EIS: 24 April 2018 Revised EIS: November 2018 Revised EIS: 20 August 2019	Satisfied the improvements have addressed concerns related to the proposal's environmental impact. ACT NoWaste states that should the proposal gain approval from the minister, it will remain subject to the following prior to commencing of operations: <ul style="list-style-type: none"> • A DA process for facility construction; and • The waste facility licensing and waste transporter registration processes

Appendix B: technical study review memos

Memorandum

ARUP

To	Chris Fay	Date	17 October 2019
Copies		Reference number	271672-00
From	Vincent Chan/Andy Garcia	File reference	Traffic
Subject	Review of Traffic and Transport Assessment for Fyshwick Materials Recycling Facility Environmental Impact Assessment		

In response to your email request received on 14 October 2019, this memorandum summarises the findings from a review undertaken of the Revised EIS – Capital Recycling Solution (EIS201700053) dated August 2019 in relation to Fyshwick Materials Recycling Facility Project. The memo focusses on reviewing:

- Appendix E: Traffic and Transport Assessment – AECOM
- Appendix E1: Amendment to Appendix E Traffic and Transport Assessment
- Appendix Y: Sensitivity Traffic Modelling

In the review, it was noted that:

- The analysis does not include a copy of the SIDRA (traffic modelling) files or detailed outputs to demonstrate that the surrounding road network can accommodate the traffic changes introduced under the proposal. SIDRA outputs are usually provided as part of traffic assessment reports.
- The document indicates that construction traffic will be minimal - Section 6.2.3.1 within the EIS states that “*Given the site’s locality in the Fyshwick industrial area, and proximity to major collector streets the construction traffic impact is minor as vehicles will come and go and all activities will take place on site and not require any street space*”. It is recommended that more detail is provided to evidence this.
- Section 6.2.2 argues that the site will provide enough car parking capacity for staff. However, no parking demand is discussed within the document. It is recommended that approximate quantities of parking bays and staff vehicles are provided to support this section.
- A road safety assessment (through an analysis of crash history and sight distances) has been conducted, although a Road Safety Audit is not proposed. This may lead to existing road safety risks being exacerbated and/or new road safety risks introduced due to the proposed change in traffic flows.

The following sections of this memo present a summary of the review comments.

Memorandum

Revised EIS – Capital Recycling Solutions, August 2019

Section	Description	Comment
2.3	Site traffic path figure	The figure shows a tight turn in from Lithgow Street. Swept path analysis should be undertaken to confirm that this movement is possible. The proposed driveway design may need to be widened to accommodate left turns by large vehicles.
2.3	View of Ipswich Street	The figure shows a left-turn arrow on entry; however, the roadway appears to continue into the site. This is clarified later in the report, with trucks allowed to turn left into the site at Ipswich Street. The left turn line marking would be inconsistent with the intended operation, which is to allow trucks to proceed straight through. The analysis does not provide further details regarding the intended (internal) route of these trucks (e.g. using an updated version of Figure 9). It is noted that this alternative route into the site will lead to an increase in the number of conflict points within the site, which could lead to road safety implications.
2.3.2	New traffic lights at access	The EIS proposes a new set of traffic lights on Ipswich Street. These will be located within 100 metres of the existing signals at Wiluna Street. There is a need to consider the impact of potential queuing between intersections. It is noted that proposed phasing has been identified which shows that the intersections could work satisfactorily; however, it is unclear why this has not been modelled in the SIDRA model to confirm impacts.
6.2.1	SIDRA analysis	Section 2.3.2 noted that a new set of signals is proposed at the site entrance. The influence of these signals on the adjacent intersections does not appear to have been considered. Should the signals personalities have been programmed to operate in a network (i.e. coordinated), additional movements/interruptions to traffic can unbalance the flow. In this case, the SIDRA model must be calibrated to account for this impact. As such, it could be anticipated that the analysis of the adjacent intersections could be worse than reported.
6.2.2	Community Concerns – Traffic and Transport	<p>It is argued that sufficient storage is provided to negate any queuing on Ipswich Street; however, the SIDRA analysis does not specify current queue lengths at signals.</p> <p>It is alleged that an onsite car park has enough capacity for staff vehicles; however, a ratio is not provided. This general response could result in uncontrolled parking, impacting on on-street parking capacity.</p>
6.2.3.1	Traffic generated during construction	While it is noted that construction traffic is expected to be minimal, the document should specify an approximate number of vehicles/routes to justify this statement.

Memorandum

Section	Description	Comment
		A blanket/unsupported statement could leave the network open to an uncontrolled movement of vehicles if approved. It is recommended that an approximate number of vehicles is obtained to provide context for the level of construction traffic.
6.2.3.2	“The traffic information used already represents the worst case. If the report focused on the peak periods only then we would have to report even lower heavy vehicles numbers.”	<p>It is unclear what this means. Noting that the impacts may be spread throughout the day, a consideration of peak hour impacts is usually necessary, even if it is relatively small, as that is the current worst case in the network.</p> <p>Further, while the peak hour impacts may be low when considering overall volumes, traffic impact assessments typically identify issues relating to critical individual lanes or turns.</p>
6.2.3.3	The crash analysis notes that there was a cluster of rear-end crashes at the access from Ipswich Street.	<p>While adverse environmental factors are noted to be a contributing factor, the presence of a crash cluster at this location indicates that there may be other contributing factors.</p> <p>The segment of Ipswich Street along the site frontage may be compared to the segment of Ipswich Street closer to the railway bridge, which do not have as many crashes despite the road presumably also being wet at the same time as the site access point.</p> <p>Rear end collisions could be due to no dedicated right turn lane for the site access being provided, with right turning traffic queuing in a “through” lane.</p>
6.2.4.1	Traffic generated during construction	It is important to specify a gate management plan to ensure vehicles can access the site without being held on the road for long periods. Inefficient gate operations may impact on the operation of nearby signalised and un-signalised intersections. A plan should ensure constant communication between the driver and the gate operator is maintained.
6.2.4.2	Increase in heavy vehicle traffic	<p>An updated increase of 5.4% of existing heavy vehicle movements at Newcastle Street is discussed and assumed as insignificant.</p> <p>While it is noted that the total peak impact is minimal, such increase in heavy vehicles may impact the operation of the network and as such should be supported with a SIDRA analysis.</p>

Memorandum

Section	Description	Comment
Figure 31	Swept path analysis at the access	The swept path analysis appears to show trucks turning out of the site will drive off the driveway (i.e. the truck cuts the corner) and it is not clear, due to the resolution of the figure, whether a clearance envelope has been accounted for.

Appendix E: Traffic and Transport Assessment – Block 9 and 11 – Section 8 Fyshwick ACT, February 2019

Section	Description	Comment
2.3	Existing traffic network	<p>It appears that the network is already operating above capacity with some movements operating at an unacceptable level of service (LoS E or F).</p> <p>A summary of results detailing increases in factors such as queue length and delays is not provided.</p> <p>The turning movement summary (Figure 3 and Figure 4) does not segregate heavy/light vehicles. As such, it is unclear whether the SIDRA analysis has considered the presence of heavy vehicles on the road network adequately. For example, SIDRA applies Passenger Car Unit (PCU) factors for heavy vehicles to account for the additional length and slower speed of travel. If heavy vehicles have not been modelled in SIDRA, the results may mislead readers that the subject intersection(s) perform better than they would.</p> <p>Further, the SIDRA analysis should include the proposed signalised intersection at the site entry on Ipswich Street as this could have implications on the performance of the overall network.</p>
3	Existing site driveway	A Safety Intersection Sight Distance (SISD) check was completed, which indicated that the available sight distance (130 metres) exceeds the quoted SISD of 123 metres. It should be noted that as there is a downhill grade at this location the SISD should be increased. This may have implications for the traffic signal design to ensure that approaching vehicles can perceive the upcoming intersection.
3.2	Proposed signalisation of exit	<p>NOTE: This comment is partially superseded by the Amendment to the Traffic and Transport Assessment</p> <p>The signal phasing indicates that vehicles, assumed to be mostly staff/visitor light vehicles, can only turn right in to the site during Phase B2. As there is no dedicated right turn lane proposed, there is a risk that these right turning vehicles will queue on Ipswich</p>

Memorandum

Section	Description	Comment
		Street and impact the through traffic capacity. These queued vehicles would also increase the risk of rear-end collisions, which are already noted as occurring at this location. This section should include SIDRA analysis as the proposed signals could have implications on the performance of the overall network. The potential queuing from this intersection may lead to obstruction and worsening of operation of nearby intersections (such as the nearby Wiluna Street intersections).
4.0	Construction	The document states that most of the materials are already available on-site, which would minimise some types of delivery traffic. It is acknowledged that there will be some external traffic impact, but this is not quantified. An estimated number of construction vehicles should be provided to provide context for the expected low construction traffic impact.
6.2.5.3	Reduced road safety	A Road Safety Audit is recommended to accompany the Traffic Management Plan prior to approval. The document provides a high-level/desktop review. A road safety auditor could identify further critical issues from an on-site inspection and recommend solutions to mitigate the consequences.

Appendix E1: Amendment to Appendix E Traffic and Transport Assessment, June 2019

Section	Description	Comment
n/a	Proposed phasing	To address the TCCS comment, the amendment notes that “right turn into the site is not proposed”. It is unclear how this will operate or be enforced given that staff/visitors may still travel from Ipswich Street south of the site. If staff/visitor traffic cannot turn right, then this traffic will affect the operation of intersections to the north, either as u-turns from the south, or re-routed through traffic along Ipswich Street southbound. The traffic assessment contains no detail regarding the existing operation or impact to the road network north of the site.

Memorandum

Appendix Y: Sensitivity Traffic Modelling, June 2019

Section	Description	Comment
2.0	Scenario testing	The analysis does not specify individual movements. While it is acknowledged that the overall impact is negligible, it is not clear whether the average includes critical movements that have exceeded minimum thresholds.

Memorandum

ARUP

To	Chris Fay	Date	25 October 2019
Copies		Reference number	271672-00
From	Giles Prowse, Shaun Rainford	File reference	Waste
Subject	Review of Waste Assessment for Fyshwick Materials Recycling Facility Environmental Impact Statement		

In response to your email request received on 14 October 2019, this memo summarises the findings from a review undertaken of the Revised EIS – Capital Recycling Solution (EIS201700053) dated August 2019 in relation to Fyshwick Materials Recycling Facility Project. The memo focusses on reviewing:

- Appendix E: Traffic and Transport Assessment
- Appendix E1: Amendment to Appendix E Traffic and Transport Assessment
- Appendix G: Waste Report in Appendix H: Advice on EIS
- Appendix Y: Sensitivity Traffic Modelling

In the review, the following key findings were noted:

- The waste feedstock targeted for the facility is inconsistent in how it is described. Residual municipal solid waste (MSW) and commercial and industrial (C&I) waste streams are stated as the main feedstock, but other waste streams such as ‘light’ construction and demolition (C&D) was also mentioned in the revised EIS and supporting appendices. There should be clarity and consistency on each waste source, type and recovery rate as this will influence processing requirements and the impact assessment. The characteristics of C&I waste can vary considerably depending on the generation source; particularly in volume of organic material that may be present. Organic material will effectively contaminate material that could otherwise be recovered and recycled. It will also affect the amount of generated odour.
- There no demonstration of feedstock availability over the facility’s life. It is recommended that a waste flow model is provided to demonstrate feedstock availability and justify the facility’s need. This model should forecast expected waste quantities and material composition over the facility’s operational life while accounting for likely impacts that may occur such as changes in policy and collection regimes.
- While the figures vary the most commonly quoted value is the expected recovery or around 20 percent of the feedstock. The proposal is to sell this to recycling markets, at a split of 25 percent domestic and 75 percent overseas. Recovered materials from a ‘dirty’ materials recycling facility are often of low quality, and current export markets are weak. It is unclear if there is

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sufficient market demand for such products and how the risk of this material simply being landfilled or stockpiled would be mitigated.

- The impact assessment for waste and materials does not define the existing environment and does not consider the high likelihood of contaminated land and the impact this could potentially have on generation of construction waste and/or spoil.
- Greenhouse gas reduction claims should be discussed in detail and substantiated.
- The traffic assessment uses inconsistent data and assumptions around feedstock waste sources and end markets in comparison with the revised EIS and should be updated to reflect one consistent set of key data.

The following sections of this memo present a summary of the review comments.

Revised EIS – Capital Recycling Solutions, August 2019

Section	Description	Comment
Executive Summary	Proposal description	<p>It is stated that <i>'light residues'</i> from C&D waste streams would be processed at the proposed facility. This is referred in several other sections of the revised EIS, but it is not mentioned in Section 2.3. This section only identifies two separate lines for MSW and C&I waste. Processing non-putrescible C&D waste has potentially different requirements and considerations compared to putrescible MSW and C&I waste. Organic material would contaminate the recyclable material reducing its value and limiting its ability to be recovered. There needs to be consistent and clear position on the intended waste streams and types that the facility intends to process.</p> <p>Chapter 2 of the revised EIS states that “should there be less tonnes received, or the composition of the waste does not include MSW, then the environmental risks and impacts would be significantly less (less trucks, less volume, less odour, less processing, less risks)”. There is no clear reasoning for this statement. Other types of mixed wastes have the potential to cause similar levels of odour and other impacts, and the number of vehicle movements for an alternative waste stream would be similar. As a note, C&I waste, depending on the source, can be like MSW in terms of composition and potential impacts.</p> <p>A 20 percent recovery rate is stated but the tonnages presented is 60,000 per annum. This would be a 40 percent recovery at maximum throughput of 300,000 tonnes per annum. Consistency is required on such key and critical quantities as this is fundamental to the impact assessment.</p>

Memorandum

Section	Description	Comment
		Chapter 2 of the revised EIS states that there would be “reduced greenhouse gas emissions relating to landfills”. However, the proposal is only targeting some organic waste material and given that the proposal involves the transport of waste and recovered materials to and from site would generate greenhouse gas emissions (refer to comments below).
Executive summary	Figure ES 1: Site Plan	The site layout does not designate between ‘incoming’ and ‘outgoing’ waste and material streams. It is good practice to have clear delineation between incoming dirty waste materials and outgoing cleaner materials.
Key impacts	Air quality and climate change	This section of the revised EIS states that “the proposal will have a clear beneficial outcome for climate change objectives, through the reduction of greenhouse gas emissions”. To substantiate this claim, calculation of the relevant Scope 1, Scope 2 and Scope 3 greenhouse gas emissions (as per NGERs) is needed. Scope 3 emissions relate to the transport of waste and recovered materials from site to Woodlawn and NSW Ports and overseas. The estimated quantity of materials transported to and from site should be carefully assessed (refer to the comments regarding mass balance below).
Assessment criteria of the proposal risks	Summary of post-mitigation risk assessment	The consequence of spread of waste to other sites is stated as a minor risk. This should be reconsidered given the community concern for this impact. The consequence of waste-spread during transport is listed as minor and the likelihood of this occurring is stated as unlikely. These should be reconsidered or substantiated as it is not clearly stated how the facility would enforce waste loads being covered. Although best practice is for loads to be covered some operators still transport non-covered loads or have poor-quality covers that allow waste to escape.
Section 1.2	Summary of proposal	Typically, dirty materials recovery facilities are used to produce refuse derived fuel or performance engineered fuel, which is burned in a separate facility to produce energy and secondary priority is given to recovering materials for recycling. This is because the amount of recovered materials from dirty materials recovery facility processing tends to be low due the contamination. For instance, paper and card within mixed waste is often easily contaminated with glass and organic material and it can be

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Section	Description	Comment
		difficult to separate in the sorting process. This can greatly affect the quality, market price and market availability.
Section 1.1	Purpose	<p>The stated purpose of the proposal is to “extend the life of the...Mugga Lane landfill by processing...MSW and C&I waste streams (designed for up to 300,000 tonnes per annum)”. This point is referring to the diversion of waste from the landfill meaning it would take longer to fill-up (e.g. reach capacity).</p> <p>Waste processed through the dirty materials recycling facility would be diverted from the Mugga Lane landfill but 80 percent would still ultimately be disposed of at the Woodlawn landfill, or an alternative given that license conditions may not permit this. In many ways this is simply diversity waste to be dealt with in another jurisdiction.</p>
Section 1.4.4	Waste Feasibility Study Discussion Paper – Roadmap and Recommendations - May 2018	<p>“ACT NoWaste, at no stage, has offered any commentary or contradiction to the CRS ideas or proposals despite the ACT Waste Management Strategy 2011-2025 showing their [sic] need”.</p> <p>This contradicts later statements in the revised EIS. For example, in Section 3.2.2 it states that ACT NoWaste have commented on recovery rates. ACT NoWaste consultation and resulting actions should be summarised clearly; stating how this proposal aligns with the above Strategy.</p>
Section 2.1	Objectives and justification	<p>“The materials that are recyclable and recovered will be compacted (where possible) and transported to either local/regional reuse markets (25 percent) and to specific rail ports by train (75 percent)”.</p> <p>While it is understood detailed commercial arrangements are sensitive, the basis of this split should be explained; especially as export markets for lower quality recovered materials are currently weak or difficult and may get weaker as regulations tighten around recyclable material quality. The applicant should be able to at least demonstrate a feasible market for the recovered materials.</p>
Section 2.3.1	Waste composition	<p>“The data utilised has been extrapolated from TCCS market sounding waste composition audit information, made available in 2017”. A full reference should be provided for the source data, as well as a copy of these data</p>

Memorandum

Section	Description	Comment
		<p>(refer to the comments below in review of against the scoping document requirements below on data).</p> <p>A conservative recovery rate of 20 percent as well as an average recovery rate of 40 percent are both referenced. Recycling figures used in the transport assessment are based on the 40 percent recovery rate. This inconsistency should be reconciled as it may affect the traffic impact assessment.</p> <p>It also states that “CRS would expect the recovery rates to be higher than 40 percent for inert and metals and contamination may see other materials lower than 40 percent and that CRS has averaged the recovery across the board of these targeted materials”. There appears to be insufficient information provided for the 40 percent ‘high recycle potential material’ referenced in Table 1. It is recommended that the applicant clarifies how the material would be recovered in a sufficiently uncontaminated state to be recycled at a 40 percent recovery rate. Much of the paper, textiles, plastic, metals (conventionally recycled materials) in the MSW stream and potentially the C&I stream is likely to be heavily contaminated with organic materials, making both the organic material and the recyclable content difficult to reprocess with the technology proposed. Again, this should be justified.</p> <p>There is also high percentage of inert material nominated in the C&I stream (38.9 percent). The composition of these inert materials is unclear. It is expected that it would be contaminated and of low or zero value due to the nature of C&I waste and presence of organic material and/or other unknown material. The markets for recyclables is extremely challenging across both Australia and the traditional markets in Asia, which suggests the nominated amount of residual material may be higher than proposed. The mass balance should be clarified in so far as it relates to the amount able to be recovered.</p> <p>With regards to the recovery rate for MSW, the applicant suggests that “while the recyclability of the MSW stream may be more complex due to contamination the recovery from the C&I should exceed 40 percent of its weight, therefore the overall combined recovery tonnes should be more than 20 percent as predicted”. This may imply a very low recovery rate for MSW; potentially only one percent or less of metals from the total stream) with the majority of the MSW stream being sent to landfill. Clarification should</p>

Memorandum

Section	Description	Comment
		<p>therefore be sought in relation to the percentage of each stream that can be recovered, not simply averaged out over both.</p> <p>“Landfill is very expensive in NSW and if a levy is introduced then the motivation to recover/divert/recycle will be greater than it is currently”. The meaning behind this statement is misleading, and its intent is unclear. The applicant should expand on this statement and the relevance to the availability of waste, disposal of residual waste and reprocessing markets.</p> <p>A disposal levy already exists in NSW, and there are differential levy rates depending on the location of the disposal facility (metropolitan, regional or the rest of NSW). There is currently no levy applicable for waste received at Woodlawn sourced outside of the levy paying area, while a levy may be introduced in ACT in the future. This would invariably have an impact on the factors considered in the EIS relating to project description.</p>
Section 2.3.2	CRS waste processing and recovery opportunities	<p>It is stated that “as the capacity and technology improves to separate materials, the CRS facility will be able to target different materials over time as Government policy or market demands dictate. For example, the proposed FOGO initiative in the new Waste Feasibility Study discussion document, could mean that CRS modifies its MSW processing line to separate appropriate food waste from both the MSW and Commercial waste streams and diverts this to the proposed food organics and garden organics processing facility (if built) rather than send to landfill”.</p> <p>A well-designed waste facility should be capable of processing different materials for different markets as these will inevitably change over time. However, organic material derived from mixed-waste processing is typically of low quality and cannot be easily separated. Separation of organic material from mixed-waste streams presents several challenges relating to quality, contamination, emerging contaminants and appropriate markets for those materials.</p> <p>There is no detail given regarding how the MSW processing line could separate appropriate food waste from both the MSW and commercial waste streams and divert this to the proposed food organics and garden organics processing facility.</p>

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Section	Description	Comment
		<p>A facility designed to separate organic material from mixed-waste is commonly identified as a mechanical biological processing or treatment facility, and is specific in its design and requirements, and this is not what has been presented.</p> <p>It is stated that unrecyclable residual waste would be disposed of at the Woodlawn landfill. This would comprise up to 240,000 tonnes of residual waste at maximum throughput (at average recovery rates of 20 percent). For the reasons already discussed, much of the MSW would likely be unrecyclable due to contamination, and C&I waste may also suffer from significant contamination with organic material and a lack of suitable markets both domestically and overseas. More information is required as this implies that a significant amount of waste will pass through directly to Woodlawn rather than being recovered.</p> <p>Regarding the residual waste that would need to be managed at Woodlawn landfill the current NSW environment protection license (ref: 11436) imposes the following limit conditions:</p> <ul style="list-style-type: none"> • 900,000 tonnes per annum putrescible waste received by rail from Sydney. • 100,000 tonnes per annum received as residual waste from Woodlawn Advanced Waste Treatment facility. • 90,000 tonnes per annum putrescible waste received by road. <p>The EPL does not permit waste to be received rail from the ACT, and the quantities of residual waste exceed the current 90,000 tonnes per annum limit of waste received by road. A variation to the EPL would be needed in consultation with the relevant planning authorities, councils and NSW Environment Protection Authority for these waste quantities to be disposed of at Woodlawn via road or rail.</p> <p>Notwithstanding the planning and licence constraints it is unclear whether Woodlawn would be able to accept the significant increase in volumes from an operational perspective. This issue relates to train access, siding configurations at Woodlawn Crisps Creek Intermodal and access on the rail line, and other operational considerations.</p>

Memorandum

Section	Description	Comment
Section 2.3.2	Figure 15 and Figure 16	The process flow diagrams include quality control stations (i.e. manual picking lines) for 22 workers (C&I line) and 14 workers (MSW line) which presents an occupational health and safety risk that should be addressed.
Section 2.6	Avoidance of potential impacts	<p>It is stated that “the proposal will only generate waste during the construction phase. Any incidental waste from the on-site office and employee lunchrooms will be added directly to the for processing”. Best practice for commercial waste management would be to separate the office and lunchroom waste at source and for clean recyclables to be processed separately to obtain highest value.</p> <p>A statement is given that “ultimately this proposed facility in Fyshwick will extend the life of the Mugga Lane landfill, reducing the capital costs required and providing greater resource recovery including the diversion of organics and lessening the methane production at landfill”. As detailed above, it is not clear how organic material could be recovered effectively. It is likely that the most, if not all, the mixed organic waste would go to residual due to quality concerns. Therefore, there would be less of a methane emission reduction than proposed.</p> <p>In addition, the proposed development would generate liquid leachate waste during operation, which should be made clear in this section.</p>
Section 6.0	Assessment of impacts	For the impact assessments, the current environment (or baseline) is not defined.
Section 6.4	Risk assessment summary table	“Storage and disposal of non-recyclable waste received at the facility” risk identified in Table 1 of the final scoping document has not been included or addressed.
Section 6.4.1	Community concerns – materials and waste	<p>Community concern: “what things would not be captured and recycled?”.</p> <p>Proponent response: “food waste can be separated should there be a composting requirement of facility in the future...”.</p> <p>The separation of food waste from mixed waste streams presents numerous challenges relating to quality, contamination and emerging contaminants as previously discussed. NSW has recently upheld a suspension order on</p>

Memorandum

Section	Description	Comment
		applying mixed waste derived compost to land, which may limit outlets for such compost in this market.
Section 6.4.2.1	Assessed Risk – Materials and Waste: Increased waste to landfill during construction	The impact is considered ‘minimal’ and the risk is deemed ‘low’. This risk assessment is not sufficiently qualified. The current site is brownfield land with previous contaminative uses, and there is the potential for demolition and spoil waste that would need appropriate management during construction. The likelihood of existing contamination is stated as almost certain in Section 6.6.
Section 6.4.2.2	Assessed Risk – Materials and Waste: Spread of waste to other sites	Large waste stockpiles have the potential to impact more than just visual amenity; including the potential to cause odour and vermin impacts. This risk assessment should reflect this.

Appendix E & E1: Traffic and Transport Assessment – AECOM, February 2018 & June 2019

Section	Description	Comment
Section 2.5.2	Heavy vehicles	The breakdown of ‘type of waste operation’ in Table 2 does not reflect the waste feedstock expected in Section 2.3.1 of the revised EIS. This could have a bearing on the traffic assessment given the different payloads for MSW and C&I waste vehicles and should be updated to reflect confirm waste feedstock that is being targeted by the facility. The assessment should be updated to reconcile the above inconsistency.
Section 2.5.7	Recycling	The proportions of recycled material and end-market splits are different to those quoted in the revised EIS. The assessment should be updated to reconcile the above inconsistency.

Memorandum

Appendix G: Waste Report in Appendix H: Advice on EIS (Cardno), February 2018

Section	Description	Comment
	Sources, locations and quantities of wastes	<p>“Information on the potential quantities, locations and sources of wastes have not been included in detail in this memo. These details will be provided separately and will reflect the facility’s targeted input quantities and sources and will be updated as required during the proposal’s development.”</p> <p>There is some high-level information on quantities in the revised EIS document. Information on locations and sources has not been provided and this gap should be closed out.</p>

Required detail for addressing impacts review (as per final scoping document)

Materials and Waste	Y/N/Partial
Describe the nature, sources, location and quantities of all materials to be handled, including the storage, stockpiling and disposal of materials and waste	<p>Partial</p> <p>Section 2.3.1 of the revised EIS describes waste composition. Table 1 presents waste profiles for waste diverted from Mugga Lane landfill in 2020 for MSW and C&I waste streams.</p> <p>A total of 91,000 tpa of MSW is expected to be available, from which paper, organics, glass, plastic, metals and inerts will be recovered at an average 40% recovery rate. This results in a recovery tonnage of 16,852 tpa.</p> <p>A total of 210,000 tpa of C&I is expected to be available, from which paper, organics, glass, plastic, metals, inerts and wood will be recovered at an average 40% recovery rate. This results in a recovery tonnage of 56,700 tpa.</p> <p>The source of this data is stated as <i>‘TCCS market sounding waste composition audit information, made available in 2017’</i>. A full reference and a full dataset are not provided, so it is not possible to corroborate these figures. The composition of the MSW and C&I waste streams generally appears reasonable, but this has not been analysed in detail.</p> <p>It is also stated in Section 1.4.5 of the revised EIS that advice from ACT NoWaste is that the <i>‘amount of waste going to the Mugga Lane main landfill has averaged around 240,000 tonnes per annum’</i>.</p>

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Materials and Waste	Y/N/Partial
	<p>The national waste report 2018¹ presents a total of 104,000 tpa of MSW and 190,000 tpa of C&I disposed of to landfill within the ACT for 2016/17. These are a similar to the waste quantities quoted in the revised EIS.</p> <p>As the maximum throughput of the proposed facility is 300,000 tpa these data suggest that the proposed facility it seeking to target all of the MSW and C&I general waste generated within the ACT and currently disposed of to landfill.</p> <p>For a facility of this size and significance, typically a waste flow model including forecast projections of waste quantities over the facility operational life would be expected to demonstrate feedstock availability and project need. This flow model should take into account likely impacts on, and changes to, waste quantity, composition and availability. This should include accounting for future changes in waste collection, relevant policy and legislation, per capita generation and recycling/recovery rates. Key impacts that are likely to occur in the ACT include the implementation of a waste disposal levy (as announced by TCCS in July 2019), the wider roll-out of FOGO kerbside collections for MSW (i.e. 3-bin systems) and implementation of a container deposit scheme. These will have a material impact on available waste quantities and availability of recyclable materials.</p> <p>The recovered materials are proposed to comprise a total of 60,000 tpa, of which is it proposed around 15,000 tpa will be reused locally and 45,000 tpa exported overseas at a 25% and 75% split respectively. Current markets for recyclable material, especially low-quality recycled materials (as would be the case from a dirty) are currently poor and there is a real risk these materials could be stockpiled or be disposed of to landfill.</p> <p>Estimated quantities of waste that will be stockpiled prior to processing and prior to export off site are not presented – is is stated ‘some 28’ containers of site residues and recyclables daily at maximum throughput, as well as ‘some 50’ containers of general freight (as per the executive summary). It is not clear what general freight is in this context – presumably general waste. Areas for the storage of bales of recyclate, or the storage of containers for loading of baled recyclate are not identified. Adequate space would need to be provided for the separate loading of these materials, but it is unclear how this will be undertaken.</p>

¹ <http://www.environment.gov.au/protection/waste-resource-recovery/national-waste-reports/national-waste-report-2018>

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Materials and Waste	Y/N/Partial
	Leachate will be generated in the facility, and this will be contained and treated off site.
Describe any hazardous materials and dangerous chemicals to be used or stored on site during construction and operation	<p>Yes</p> <p>The potential for the facility to receive hazardous waste materials is recognised and an example OEMP is provided (Appendix P) to provide examples of how these will be handled. The example OEMP includes a hazardous waste prevention and response set of procedures (Section 4.3). This states that incoming waste is monitored and detected hazardous waste detected is diverted. The waste will be monitored through inspection.</p> <p>Other hazardous materials and dangerous chemicals are not identified within the revised EIS. The example OEMP (Appendix P) and the example EMP (Appendix O) include generic procedures and control measures for spillages of hazardous materials including typical materials/chemicals for a facility.</p>
Provide further advice on waste management, including assessment, management and disposal	<p>Yes</p> <p>The revised EIS states there will be waste acceptance procedures including the use of excavators on the tipping floor and visual inspection.</p> <p>The example OEMP (Appendix P) includes a procedure for non-acceptable wastes, which will be rejected or diverted to an appropriate licensed facility.</p> <p>Recovered materials will be bulked up and transported off-site to be sold onto recycling markets.</p>
Describe mitigation measures to reduce potential of waste spreading to the surrounding area	<p>Partial</p> <p>A series of mitigation measures are described to reduce the risk of waste spread to surrounding sites (section 6.4.3.2 of the revised EIS).</p> <p>The principle mitigation measure appears to be the use of the operational protocol of all waste loading and unloading occurring within the sealed building enclosure with no waste handling occurring outside of the building. Any waste storage outside the building will be within sealed shipping containers. Rapid closing doors are listed as part of the mitigation measures to prevent waste within the building enclosure being blown out of the building by wind.</p> <p>Section 6.4.3.4 describes mitigation measures to reduce the risk of spread of waste during transport. This states that <i>'CRS will be transporting Waste residues by sealed containers and recyclables in bales or covered trucks</i></p>

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Materials and Waste	Y/N/Partial
	<i>where possible.</i> All waste loads should be covered, and this contradicts earlier statements that loads will always be covered.
Outline management procedures in case of oversupply of waste and any consideration to the measures in place when/if the facility ceases operation	<p>Yes</p> <p>Section 6.4.3.3 of the revised EIS outlines mitigation measures for excess stockpiling during operations.</p> <p>It is stated that <i>if equipment, electricity, container loading and train access were all unavailable (due to fire for example) a section of the building that is unaffected would be utilised.</i> It should be noted that in the event of a fire it is unlikely to be safe to continue operations at the site.</p>

Memorandum

ARUP

To	Chris Fay	Date	5 December 2019
Copies		Reference number	271672-00
From	Lesley-Anne Stone	File reference	Odour
Subject	Review of Odour Assessment for Fyshwick Materials Recycling Facility Environmental Impact Assessment		

In response to your email request received on 14 October 2019, this memorandum summarises the findings from a review undertaken of the Revised EIS – Capital Recycling Solution (EIS201700053) dated August 2019 in relation to Fyshwick Materials Recycling Facility Project. It focusses on a review of the following appendices:

- Appendix I: Odour Impact Assessment – The Odour Unit
- Appendix Q: Air Quality Assessment – Todoroski Air Sciences (mainly for reference purposes).

The odour and air quality assessments capture the potential impacts associated with the construction and operation of this type of facility. These assessments are based on assumptions (i.e. the volume and type of waste to be handled), which must be carried through to the operation of the facility. The impact of the facility shown in the odour assessment would vary if the volume or type of waste was different. The volume and type of waste anticipated for the facility varies throughout the EIS therefore it is unclear if the volume and type of waste used in the odour assessment is likely. The management measures provided in Table 22 of the EIS accurately reflect those discussed as being required throughout the EIS, apart from fitting waste containers with activated carbon filters.

Regarding sensitive receptors in proximity of the facility, the caretaker's residence is not discussed in either the air quality or odour assessment; however, this would not impact the outcome of the assessment as it is less sensitive given its location within an existing industrial area. The proposed East Lakes residential development is also not explicitly assessed however the impact on this can be implied from the information provided.

The following sections of this memo present a summary of the review comments.

Memorandum

Revised EIS – Capital Recycling Solutions, August 2019

Section	Description	Comment
Section 6.8.2.1	Dust from construction	This section discusses the risk from both dust during construction as well as odour during operation, therefore the heading is misleading.
Section 6.8.3.2	Odour mitigation measures	This is the first time that fitting the containers with activated carbon filters is mentioned. While this is appropriate and encouraged, a commitment to maintaining the activated carbon filters is also important. It is appropriate that this section covers not only the MRF but the transport of waste to and from and community concerns regarding the waste containers.
Section 6.8.3.5	Discussion of the SA EPA <i>Evaluation distances for effective air quality and noise management</i>	The ACT Government introduced its <i>Separation Distance Guidelines for Air Emissions</i> in November 2018, it is noted that while this was after the completion of the odour impact assessment, it was prior to the EIS being completed. Both the SA and ACT guidelines recommend a separation distance of 300m from a Materials Recycling Facility. The discussion provided in this section with relation to separation distances just provides the fact of where sensitive receptors are located (not mentioning the Caretaker's residence). It does not provide interpretation of what the impact might be where the separation distances are not met.
Section 6.8.3.5	Consideration of truck air quality impacts	This section notes that there will be space onsite to allow vehicles to queue. If vehicles do need to queue onsite they should be prevented from idling and engines should be shut down if stationary for prolonged periods of time.
Section 6.8.4.2	Odour from transport and waste processing	This does not provide a plain English explanation of the modelling outputs. What does 28,500 ou.m ³ /s mean to the layperson?
Section 6.8.5	Revised risk matrix	It is agreed that the residual risk for an MRF should be low. The last sentence of Section 6.8.5 states that there would be 'no impact' on air quality. This is not considered to be true although impacts would be minimal.
Table 22	Air quality and climate change management measures	The management measures listed here are consistent with those discussed throughout all documents, except for including activated carbon filters on the waste containers. This should be included here for ease of reference. The odour modelling can only be relied upon if waste volumes and types are consistent with those shown at the top of Page 215 of the document. As noted above, different information is provided throughout the EIS as to the likely volume and type of waste expected to be processed through the facility.

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Appendix I: Odour Impact Assessment – The Odour Unit, January 2018

Section	Description	Comment
Section 3.1	Reference to Level 3 impact assessments correlates with the <i>NSW EPA 2006, Technical Framework: assessment and management of stationary sources in NSW</i>	This is the appropriate level to be used for the type of assessment required.
Section 3.1 (Equation 3.1)	The equation to determine the Impact Assessment Criterion in the NSW EPA 2016 methods was updated to the below: <i>Impact assessment criterion ($\mu\text{g}/\text{m}^3$)</i> <i>= ($\log_{10}(\text{population}) - 4.5$) / -0.87</i>	This would not affect the outcome of the assessment as this equation is used to develop the impact assessment criteria shown in Table 3.1 of the assessment. The impact assessment criteria are also taken from the NSW EPA 2016 Methods as shown in Table 7.4b of that document.
Section 2.2	This section discusses the surrounding land uses to determine the appropriate odour impact assessment criteria.	This section makes note of the East Lake mixed use zone; however, does not note the potential for residential receptors adjacent to the Monaro Highway. It also does not note the presence of the caretaker's residence (110m south of the site) discussed in section 2.2.3 of the EIS. This would not affect the odour impact assessment criteria chosen as a lower population (i.e. a single residence) can withstand a greater impact criterion. Refer to Table 3.1 of the odour assessment.
Section 3.3.1	The odour emission factor selected is noted to have been monitored at a transfer station in Sydney which only accepts Municipal Solid Waste.	This is a sensible approach to determine likely odour emission rates for the facility. Calculations provided in Section 3.3.2 and Section 3.3.3 show how the odour emission rate would change depending on waste type.
Section 3.3.2	The last sentence of this section notes that " <i>all factors would require confirmation by testing once the MRF is operational</i> ".	No testing or monitoring strategy is proposed within this assessment (See review of Appendix Q).
Section 3.3.3	This section states that " <i>no more than 200 tonnes of MSW should be within the MRF shed at any one time</i> ".	The text of the report sets out the assumptions included in the modelling for the amount and type of waste stored in the shed at any one time.
Section 3.3.3	This section states that " <i>the 200-odour unit maximum discharge concentration was</i>	The odour emission rate has been selected since there would be no more than 200 tonnes of MSW within the MRF shed at any one time. The tonnage

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Section	Description	Comment
	<p><i>found through trial and error with preliminary modelling runs using various stack concentrations”.</i></p>	<p>of other waste streams, which could be stored in the shed without exceeding the 200-odour unit maximum discharge rate has then been calculated.</p> <p>To ensure the impact is no worse than modelled predictions, a condition should be added to restrict the volume of various waste streams to be stored in the shed at any one time from exceeding the totals shown in Table 3.5 of the odour assessment. This is noted in Section 5 of the assessment also.</p>
Section 5	<p>This section makes no comment on the caretaker’s residence as a sensitive receptor.</p>	<p>The contour plots provided in Section 4 suggest that in Scenario B (10 percent fugitive odour emission from opening doors) this receptor could be exposed to odour concentrations greater than 2 odour units.</p> <p>This is not considered to be significant as the most realistic scenario is the 5 percent fugitive odour emission scenario given the information provided in the assessment and the building being under negative pressure. Also given the location of this receptor within an already industrialised zone, it would be less sensitive to odour, given exposure to surrounding sources.</p> <p>If this receptor is considered in isolation, a higher odour impact assessment criterion up to seven odour units would be applied and therefore it is unlikely that the outcome of the assessment would change. Nonetheless, it is an oversight of the assessment.</p>
Appendix C	<p>An exit temperature of 237.15 K has been included in the modelling.</p>	<p>This converts to 0°C and therefore would be inappropriate to include in modelling, this is assumed to be in error. Appendix M of the EIS also shows the CASA assessment that states a number of different stack exit temperatures. The stack exit temperature needs to be clarified to ensure the dispersion modelling presented is accurate and robust.</p>

Memorandum

Appendix O: Air Quality Assessment – Todoroski Air Sciences, September 2018

Section	Description	Comment
Assessment of potential air quality impacts	This section notes that the modelled stack parameters are the same as those presented in the odour assessment.	Note the assumed error in modelled stack exit temperature discussed as part of the review of the odour impact assessment.
Air quality monitoring for the project	Provides recommendation for annual stack emission monitoring to validate odour emission rate used in modelling and a field odour survey on and off site to validate the effectiveness of the proposed ventilation stack and other mitigation measures.	This monitoring would meet the requirements for “all factors would require confirmation by testing once the MRF is operational”, set out in the odour assessment.
Consideration of separation distances	Discussion of the SA EPA <i>Evaluation distances for effective air quality and noise management</i>	Again, this does not mention the caretaker’s residence. This is an omission however it would have no impact on the odour assessment.

Memorandum

ARUP

To	Chris Fay	Date	5 December 2019
Copies	Nate Lobel	Reference number	271672-00
From	Adam Segall-Brown	File reference	Fire Systems
Subject	Review of Fire Systems for Fyshwick Materials Recycling Facility Environmental Impact Statement		

In response to your email request received on 14 October 2019, this memorandum summarises the findings from a review undertaken of the Revised EIS – Capital Recycling Solution (EIS201700053) dated August 2019 in relation to Fyshwick Materials Recycling Facility Project. It focusses on

- Appendix Y: Infrared Fire System
- Appendix R: Response to Submissions.

The review found no issues in-principle with the proposed system; however, no justification, or safety and performance assessment is provided. Therefore, there is no established benchmark for the system to be assessed against during further design of the facility.

It is assumed that some of this information may be missing, as the design process for the site is still being carried out. It is expected that the systems and strategies will be further defined as the design and operations of the site is finalised.

As part of the further development of the design, it is assumed that compliance with the National Construction Code – Building Code of Australia will be demonstrated. This is also noted by the ACT Emergency Services in the supporting document Appendix R. It is noted that no information is provided on any permanent water storage tanks for use by fire hydrants or the water cannons.

From our review of the documentation detailed above, it appears the system aims to address the fire risk through preventing a fire from developing beyond the smouldering stage. However, there appears to be no assessment or test-evidence to support the proposed system's ability to prevent a smouldering fire from developing into a flaming fire. It is therefore possible that the water cannon system would be unable to prevent the fire from further developing or to control a fully developed fire.

If a fire were to develop past the smouldering stage, and the proposed fire suppression system is unable to contain the fire, it appears the facility would then rely on intervention by the ACT Emergency Services. The ACT Emergency Services have indicated they are “*satisfied with water supply, access, hazardous materials, street furniture, landscaping, tree planting and building*

Memorandum

firefighting systems". As such, the assumption is that the ACT Emergency Services would be able to intervene appropriately.

Our review has identified that there are conflicting priorities with respect to fire safety within the facility. As detailed in the revised EIS there is *"no incentive to wet the waste stockpiles as it is harder to process and creates leachate"*. This conflicts with the fire safety strategy as wetting the waste is the main method of fire prevention. This conflict arises as the water cannons are manually activated during operational hours. A conflict of interest therefore is considered to exist, as the system may not be manually activated in sufficient time to deal with a fire. This will need to be considered in the building management procedures and training of staff for activation of the water cannons.

In conclusion, further clarification of the proposed system should be provided. Clarification on the capability or required performance of the system (e.g. able to sufficiently extinguish a fire size of up to X) should be provided to ensure its implementation is sufficient to achieve the aims set out by the revised EIS.

The following sections of this memo present a summary of the review comments.

Revised EIS – Capital Recycling Solutions, August 2019

Section	Description	Comment
6.11.1	Response to community concern and development of fire management plan	A fire management plan has not been detailed as part of the documentation. It is assumed that this will be developed at a later stage or included as a condition of approval if the proposal is given development consent.
6.11.3	Fire Interruption	The capability of the system to prevent a fire from developing has not been detailed. The requirement for the system to prevent a fire from developing has not been detailed.
6.11.3	Fire Interruption	A conflict exists between the fire safety system and the operational requirements. There is no incentive to wet the waste stockpiles, yet this is the primary form of fire prevention. There is therefore the potential that a fire would be allowed to grow until it is unable to be controlled by the fire safety systems.
6.11	Compliance with the National Construction Code – Building Code of Australia	Details on how the facility and systems will comply with the National Construction Code – Building Code of Australia have not been provided. It is assumed this would be form part of future design stages of the site or set as a condition of approval; noting that the National Construction Code may impact on the design of the fire suppression systems.

Memorandum

Appendix Y: Infrared Fire System

Section	Description	Comment
Fire Suppression	Water Cannon details	Capability of system has not been quantified with respect to what fire scenarios it can adequately address or what the minimum design scenario will be. Particularly, there is no evidence provided that the system can prevent a smouldering fire from developing into a flaming or fully developed fire.
Fire Suppression	Water Cannon details	In relation to the above, it is unclear if the water cannons can control a fire beyond the smouldering phase or if this scenario is part of their intended operational design. If the water cannons are unable to control the fire, an alternative method of fire suppression will need to be relied upon unless burnout of the facility and complete reliance on the fire brigade is considered appropriate.