ACT Government

ENVIRONMENTAL IMPACT STATEMENT ASSESSMENT REPORT

MATERIALS RECOVERY FACILITY BLOCKS 9 AND 11 SECTION 8 FYSHWICK

June 2020

Pursuant to Section 222 of the *Planning and Development Act 2007* (**PD Act**), this report evaluates the revised environmental impact statement for the following application:

Ref no: 201700053
Document no: 1-2017/32928
Project: CRS Materials Recovery Facility Fyshwick

Date scoping document issued: 15 January 2018
Date draft EIS lodged: 19 April 2018
Date revised EIS lodged: 12 November 2018
Date response to first request under s 224 of the Act: 9 April 2019
Date response to second request under s 224 of the Act: 20 August 2019

Proponent: Capital Recycling Solutions Pty Ltd
Applicant: Purdon Planning Pty Ltd
Location: Blocks 9 & 11 Section 8 Fyshwick
Street address: 16 Ipswich Street Fyshwick

As required by section 225A of PD Act, the planning and land authority (**the Authority**) has prepared this EIS Assessment Report (**the report**) for the Minister for Planning and Land Management. This report confirms that the Authority is satisfied that:

- each matter raised in the scoping document for this proposal is addressed;
- there is an account of timely representations;
- the EIS demonstrates how timely representations have been taken into account.

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Glossary and definitions

Term	Definition
ACT	Australian Capital Territory
The Authority	The planning and land authority
CRS	Capital Recycling Solutions Pty Ltd (the Proponent)
CEMP	Construction environmental management plan
DA	development application
EIA	Environmental impact assessment: the process of identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects of development proposals before major decisions and commitments are made.
EIS	Environmental impact statement: a document prepared to detail the expected environmental, social and economic effects of a development, and state commitments to avoid, mitigate or satisfactorily control and manage any potential adverse impacts of the development on the environment. In the ACT, an EIS is required for proposals in the impact track as per Section 127 of the Planning and Development Act 2007.
EMP	environmental management plan
EPA	Environment Protection Authority
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Cth)
EPSDD	Environment, Planning and Sustainable Development Directorate
ESA	Emergency Services Agency
MNES	Matter of National Environmental Significance (as per the EPBC Act)
MRF	Materials Recovery Facility
NCA	National Capital Authority
OEMP	Operational environmental management plan
PD Act	Planning and Development Act 2007 (ACT)
PD Regulation	Planning and Development Regulation 2008 (ACT)
Purdon Planning	Purdon Planning Pty Ltd (the Applicant)
RAP	Remedial Action Plan
TCCS	Transport Canberra and City Services

1. Introduction

This report is to the ACT Minister for Planning and Land Management on the assessment of the Environmental Impact Statement (EIS) in relation to a materials recovery facility (MRF) in Fyshwick proposed by Capital Recycling Solutions Pty Ltd (CRS).

The project is a development of a type that meets section 123 of the *Planning and Development Act 2007* (PD Act) as it involves an activity mentioned in Item 10, Part 4.2, Schedule 4 of the PD Act, and requires the proposal to be submitted as an impact track development application (DA). An impact track DA for this project must be accompanied by a completed EIS in accordance with the PD Act.

The EIS process is in place to gather information on a proposal, in particular, in relation to each impact identified in the scoping document. The EIS process considers the potential environmental impacts of a proposal put forward by the proponent. Under the PD Act, the EIS process is not a process which considers the merits or justification of a proposal, or whether there are other reasonable alternatives to the proposal. The merits of a proposal are considered at the DA stage, with the information gathered through the EIS being used to assist in the decision-making process for an impact track DA. Any matters highlighted in the EIS as being critical for the decision-making process will need to be clearly addressed as part of the impact track DA.

This assessment report considers the information provided in the EIS stage and outlines any further matters that will need to be considered during the assessment of an impact track DA.

1.1. Project description

Purdon Planning Pty Ltd (Purdon Planning) has acted as the applicant for this project on behalf of CRS, the proponent for this project.

The proposal is for a waste transfer station and recycling facility to process a maximum of 300,000 tonnes of municipal, commercial and industrial waste per annum. The waste is proposed to be delivered by trucks and sorted into containers within a processing building. Containers will then travel via rail or truck with waste to be transported to Woodlawn bioreactor and recyclables transported for processing elsewhere.

The proposed works consist of:

- demolition of existing infrastructure
- construction of processing and administration buildings
- construction of weighbridges, parking, driveway, hardstand areas and associated works.

1.2. Project background

Blocks 9 & 11 Section 8 Fyshwick were previously used as a, bulk storage, liquid fuel depot. Liquid fuel was delivered to the facility via rail and then distributed locally via road tankers. Block 9 Section 8 Fyshwick has been vacant for several years and is currently leased by CRS. The subject site is not on the Register of Contaminated Sites, however, due to historical uses on the site, and through previous investigations and remedial works, the site is known to have soil contamination.

Block 11 Section 8 Fyshwick was unleased land with the land custodian being Transport Canberra and City Services (TCCS). CRS obtained Block 11 Section 8 Fyshwick under a direct sale process and a Crown lease was granted to CRS on 27 September 2019.

On 6 November 2018, a DA (DA201834656) was submitted for the construction of a hardstand structure relating to a road freight handling facility and transport operations on Blocks 9 and 11 Section 8 Fyshwick. The DA was conditionally approved on 5 June 2019.

On 30 January 2019, a DA (DA201835108) was submitted for the construction of a rail freight terminal on Block 11 Section 47 Fyshwick and use of road freight handling and transport operations on that block and Blocks 9 and 11 Section 8 Fyshwick. The DA was conditionally approved on 5 June 2019.

On 19 May 2017, the proponent had previously lodged an application for a materials recovery and waste to energy facility on Blocks 9 and 11 Section 8 Fyshwick. On 20 July 2017 the scoping document was notified on the Legislation Register and was valid for 18 months. An EIS was not submitted within the 18-month period and therefore the scoping document has expired. The proposal relating to that scoping document is not part of the EIS currently under assessment.

On 4 December 2017 the proponent lodged an application for an EIS scoping document for a MRF only which is the subject of this assessment report. There is no waste to energy component to this proposal

1.3. Project location

The EIS relates to land in Fyshwick, Australian Capital Territory (ACT). The land is located at Blocks 9 and 11 Section 8 Fyshwick (32,662m^2) and is adjacent to an existing railway network (Block 11 Section 47 Fyshwick). The land is zoned IZ2 Industrial Mixed-Use Zone. The project location is shown in Figure 1.

Figure 1 - Aerial photograph of the proposed location of the materials recovery facility

1.3.1. Legal land description and tenancy

The MRF is proposed to operate over two blocks. Table 1 shows the legal land description for each block affected by the proposal and the details of the tenancy type.

Table 1 – Legal land description and tenancy

Block	Section	District/Division	Tenancy	Tenant
			Directly affected lands	
9	8	Fyshwick	Leased Territory Land	Private Lease (CRS)
11	8	Fyshwick	Leased Territory Land	Private Lease (CRS)

1.4. Alternatives to the project

The following scenarios have been outlined in the EIS as possible alternative options in the ACT region in relation to waste management as a means to provide further background information and context for the proposal. The EIS process does not involve assessing the proposal put forward by CRS against these alternatives.

1) Expansion of Mugga Lane Resource Management Centre

The EIS outlines that waste from the ACT and surrounding region is currently being landfilled at Mugga Lane Resource Management Centre and that future expansion of the facility is required to cater for the existing community and future population growth. The proposal is intending to divert waste from Mugga Lane to increase resource recovery and assist in achieving outcomes outlined in the ACT Waste Strategy. The EIS also proposes other benefits such as extending the life of Mugga Lane so that Mugga Lane can focus on lower volume problematic waste streams (e.g. contaminated soils, sewerage sludges). The EIS acknowledged that reducing the amount of waste going to Mugga Lane would also reduce fire, litter, odour and traffic around the existing resource management centre.

2) Alternative rail connected sites

The EIS considered other potential rail connected sites in the ACT for the facility. The EIS emphasised that a rail connected site is a fundamental component of the proposal. The proposal is relying on transportation via rail as this was considered by the proponent as the most efficient transportation method. Rail was also thought to be efficient as there is a direct connection to the Woodland facility in Tarago.

Other rail connected sites have been considered in the EIS, such as, the existing Kingston rail terminal and various sites in Hume.

In 2014 and 2015 the existing Kingston Railway was utilised by Access Recycling. The EIS outlines that rail activities were unable to continue at Kingston due to the poor condition of the site. Access Recycling have since resumed the transportation of materials, via road, to the rail facility at Goulburn. Kingston was also deemed unsuitable as the site is located closer to existing and future uses that would conflict with the proposal.

Various sites at Hume were also considered but were deemed unsuitable as access to rail is not currently available and was not foreseen in the near future.

3) Alternative Mugga Lane/Hume for Materials Recovery Facility location

The EIS considered locating the proposal at Mugga Lane Resource Management Centre or in Hume, however, these options were only considered to reduce the distance for residual waste to be taken to Mugga Lane Resource Management Centre as they are closer to the facility. The majority of the waste would be diverted from Mugga Lane Resource Management Centre and transported to other locations. The additional traffic movements from this site were considered a less efficient option.

4) Alternative processing

The EIS considered alternative waste stream processing, such as composting, but determined that this would increase impacts and is better suited closer to the end-market user. The EIS concluded that the facility would be able to respond according to market and government demand, however, the overall goal is to increase recycling rates and reduce waste being handled by the Mugga Lane Resource Management Centre.

5) Alternative sites without rail connection

The EIS considered the option of alternative sites without a rail connection. The EIS stated that specific non-rail connected sites were not identified as it is not consistent with their primary objective, "*to take advantage of rail freight transport as this method of transport reduces impacts associated with truck transport*".

The proponent has stated that the proposal as described in the application was considered the best option by the proponent as the site was a suitable size and location and was considered to have lower environmental impact than the other options as outlined above.

2. The environmental impact assessment process

The environmental impact assessment (EIA) process is used to identify, predict, plan for and manage the impacts of development proposals before a merit-based decision is made on an impact track DA. An EIA process is required to be undertaken for projects in the impact track. Three options are available for environmental impact assessment – Environmental Impact Statement (EIS), EIS exemption and Environmental Significance Opinion (ESO), with the suitability of each option dependent on the type and scale of project, whether studies have been prepared, and the nature of the impacts.

An EIA process is not an approval process. It ensures potential impacts and possible mitigation measures have been identified, investigated and documented in accordance with the requirements of a scoping document.

The EIS is used as a key assessment tool for any DA lodged for the proposal. The EIS also recommends conditions to be imposed on a DA (if lodged and approved) for the proposal. Figure 2 outlines the EIS process. In this way, the EIS and DA processes work harmoniously to identify, resolve and implement responses to issues identified through the EIS process.

Under section 127 of the PD Act, a DA for a development proposal in the impact track must include a completed EIS in relation to the proposal (unless the application is exempted under section 211 of the PD Act).

Section 123 of the PD Act states that the impact track applies to a development if:

- the relevant development table states that the impact track applies;
- the proposal is of a kind mentioned in Schedule 4 of the PD Act;
- the Minister makes a declaration under section 124;
- section 125 or section 132 applies to the proposal; or
- the Commonwealth Minister responsible for the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) advises the Minister in writing that the development is a controlled action under the EPBC Act, section 76.

2.1. Impact track triggers

The proposed MRF is in the impact track as it is a development of a kind mentioned in Schedule 4 of the PD Act. This proposal triggers the Schedule 4 item listed in Table 2**.**

Table 2 – Impact track triggers per Schedule 4 of the PD Act

Item Number	Description	Project Component
Part 4.2, item 10	*Proposal for a waste transfer station or recycling facility that sorts, consolidates or temporarily stores solid waste (including municipal waste) for transfer to another site for disposal, storage, reprocessing, recycling, use or reuse, if the transfer station—* *(a) is intended to handle more than 30kt of waste each year; or* *(b) will be less than 1km from the boundary of a residential block or unit in a residential or commercial zone; but* *(c) is not a small-scale waste management facility, on or near a residential block or near a residential unit, consisting of wheelie bins, small hoppers, or other small waste management bins or enclosures for the use of people living on the residential block or in the residential unit.*	The proposal *includes the handling of a maximum of 300kt of waste each year.*

2.2. EIS process

The flowchart below outlines the EIS application process.

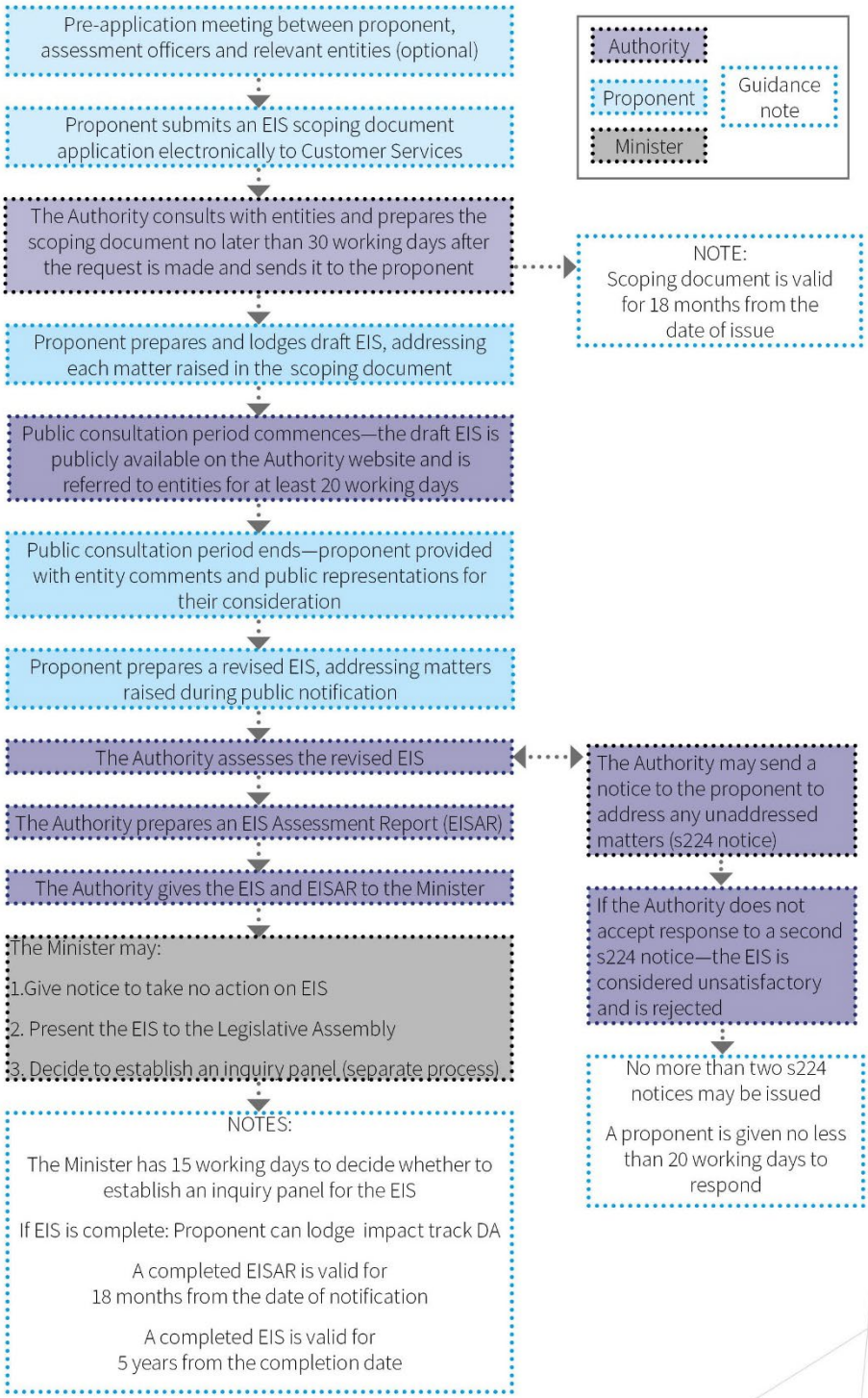

Figure 2 - The EIS process

2.3. Scoping Document

In response to an application, a scoping document is prepared by the planning and land authority (the Authority) to guide the content of an EIS and the investigations and information required. In preparation of the scoping document, the Authority engages with various entities to assist in identifying matters to be addressed.

On 4 December 2017, Purdon Planning lodged a request for a scoping document for an EIS pursuant to section 212(1) of the PD Act.

The Authority consulted with entities prescribed in section 51 of the *Planning and Development Regulation 2008* (PD Regulation) about the scoping document application. The Authority also obtained advice from several other sections within ACT Government and other entities to ensure the potential impacts of the proposal were identified. The entities were given 15 working days to provide comment. The consulted entities are summarised in Table 3 and included in the scoping document.

Table 3 – Entity comments on scoping document application

Entity/agency consulted	Entity response received
ACT Health	2 January 2018
ACT Heritage Council	14 December 2017
Canberra Airport	11 January 2018
Climate Change and Sustainability (EPSDD)	10 January 2018
Conservator of Flora and Fauna	4 January 2018
Emergency Services Commissioner	2 January 2018
Environment Protection Authority (EPA)	8 January 2018
Environment Protection Policy (EPSDD)	3 January 2018
Evoenergy	8 January 2018
Icon Water	12 December 2017
Jemena	9 January 2018
National Capital Authority (NCA)	9 January 2018
Office of the National Rail Safety Regulator	2 January 2018
Queanbeyan-Palerang Regional Council	3 January 2018
Strategic Planning (EPSDD)	15 December 2017
Transport Canberra and City Services (TCCS)	20 December 2017
Utilities Technical Regulator (Access Canberra)	3 January 2018
Waste Policy (TCCS)	3 January 2018

In developing the scoping document, the Authority adopted a risk-based approach so that the EIS focuses on matters that potentially result in a significant environmental impact.

On 15 January 2018, the scoping document was issued by the Authority to the proponent pursuant to section 212(2) of the PD Act (**Appendix 1**). The scoping document set out the matters to be addressed in the EIS as per the requirements in section 50 of the PD Act and section 54 of the PD Regulation.

The scoping document was notified on the ACT Legislation Register on 22 January 2018.

Pursuant to section 214 of the PD Act, the scoping document was issued within 30 working days after the application was made.

Under section 213 of the PD Act, the proponent was required to submit a draft EIS within 18 months from the day after the date on the scoping document. The draft EIS was to address each matter raised in the final scoping document and provide the draft EIS to the Authority for public notification.

2.4. Draft EIS

The purpose of the draft EIS is to identify and describe the potential impacts of the proposal, including cumulative, regional, temporal and spatial considerations. The information in the draft EIS must be based on matters raised in the scoping document.

On 19 April 2018, Purdon Planning Pty Ltd lodged a draft EIS with the Authority, under section 216(2) of the PD Act.

2.4.1. Public notification of draft EIS

Pursuant to section 217 of the PD Act, the Authority publicly notified the draft EIS from 23 April 2018 to 27 June 2018, being 45 working days. This exceeds the minimum requirement under section 218 of the PD Act, which states that the public consultation period of the draft EIS is no less than 20 working days. Additional time was provided to allow the public more time to consider the application due to the number of documents and level of interest in the proposal.

On 22 May 2018, the Authority notified the proponent that the public consultation period would be extended by 15 working days.

During the public consultation period, a copy of the draft EIS was made available on the Authority's website and at the EPSDD shopfront in Dickson. On 23 April 2018 key community groups were notified and a link to the documentation on the website was provided. This public consultation process provided interested stakeholders and the community with the opportunity to make representations on the proposal or in respect of specific environmental issues of concern.

464 representations were received during the public consultation period. Issues raised were similar to issues raised in the scoping document, however, others were outside the scope of an EIS process. The representations raised concerns with the content, structure and readability of the EIS.

Key issues raised during public consultation were:

- *Allowable/prohibited uses within the zone*
- *Proposed facility impacting on surrounding development*
- *Traffic impacts on Fyshwick and surrounding area*
- *Stormwater management*
- *Impacts on surrounding waterways*
- *Waste type and volume*
- *Waste streams and sources*
- *Risk of stockpiling and contamination*
- *Impacts on climate change in relation to transport distances, increased carbon production etc.*
- *Visual impacts, including lighting of the proposal*
- *Contamination management*
- *Water and hydrology studies*
- *Impacts on air quality and odour*
- *Increased pollution*
- *Inaccurate recycling rates*
- *Noise and vibration impacts*
- *Health impacts from the operations on the site*
- *Fire hazard*
- *Risk to aircraft from bird strikes*
- *Cost to Government including funding for Mugga landfill*
- *Inadequate mitigation measures and uncertainties/inconsistencies in documentation*
- *Poor consultation undertaken*

As required by section 220 of the PD Act, copies of all public representations were provided to the proponent and made available on the Authority's website. The representations will remain on the website until either the EIS is completed or the representations are withdrawn.

An overview of the comments received and the response to the comments during the public consultation process was provided by the proponent in Appendix S of the EIS.

2.4.2. Entity referral of EIS

On 24 April 2018 the draft EIS was referred to each of the entities who provided comments on the scoping document. The referral was undertaken at the draft EIS stage so that the proponent could address entity comments in the revised EIS. Additional comments were sought on the revised EIS where the entity had requested further information from the proponent. Comments on the draft EIS are summarised in Table 4.

Table 4 – Summary of entity comments on the draft EIS

Referred entity	Summary of entity response	Entity response date
ACT Health	Further information required: • potential for odour and air quality impacts due to heavy vehicle queuing	16 May 2018

	• potential air quality and environmental impacts in relation to increased truck movements. • Performance indicators ensuring suitable odour emissions for operation are achieved. • Suitable active mitigation measures, such as odour scrubbers or suppressants, which could be implemented should proposed odour control prove to be ineffective. • Mitigation/operational measures to be implemented should there be a failure in the air handling system. • The EIS, and associated Health Impact Assessment (HIA), be revised to consider any influence the above points may have related to odour, air quality and health impacts. • Detail how, and when, mitigation strategies will be implemented for the management of excess waste.	
ACT Heritage Council	The proposed development is unlikely to damage Aboriginal places and objects, and the draft Environmental Impact Statement is endorsed.	8 May 2018
Conservator of Flora and Fauna	The construction will not impact on any native communities or species. Stormwater runoff from the external hard stand area should be treated for water quality. There should a gross pollutant trap (GPT) installed to deal with the litter and larger pollutants that will accumulate on the site. Any storage of recycled materials outside the building should include bund to deal with water flow during fire suppression. Rainwater from the main building should be captured and reused on the site for washing down equipment and trucks.	30 April 2018
Emergency Services Commissioner	Emergency Services Agency (ESA) supported the EIS noting that detailed design will need to incorporate required clearances and fire safety review and systems in accordance with ESA requirements and the National Construction Code.	10 May 2018
Environment Protection Authority (EPA)	The operation of a waste transfer station receiving 30 000 tonnes or more of waste each year is a Class A activity under Schedule 1 of the *Environment Protection Act 1997* which requires an Environmental Authorisation (EA)	29 May 2018

	from the EPA, prior to the activity commencing. It will be a condition of the EA that activities on the site will be managed in accordance with an EPA endorsed Environment Management Plan (EMP) that identifies all activities that may have an adverse impact on the environment or the potential to cause environmental harm, and detail the mechanisms employed to prevent or minimise these impacts. The EMP would include stockpile limits and other appropriate controls to ensure environmental impacts and risks are minimised. The EPA does not support the transport and/or disposal of leachate interstate.	
Environment Protection Policy (EPSDD)	The air quality assessment (odour assessment) should be undertaken in accordance with the ACT EPA endorsed guidelines or demonstrated to be consistent with the ACT adopted assessment methodology and criteria. The air quality (odour) assessment and environment management system for the proposal should detail the procedures and systems to be employed during scheduled maintenance and shut down of the emission control systems to mitigate odour emission impacts on surrounding receptors.	3 May 2018
National Capital Authority (NCA)	This site is partially situated within 200m 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 does not front the approach route so will not require a Development Control Plan.	25 May 2018
Office of the National Rail Safety Regulator	All railway operations are carried out in accordance with the Rail Safety National Law.	15 May 2018
Strategic Planning (EPSDD)	No comments at this stage.	14 May 2018
Transport Canberra and City Services (TCCS)	• Further clarification is required with regard to the increase of heavy vehicles on specific roads approaching the facility and the structural impacts on these roads. • Pre-development Signalised & unsignalised Intersection Design and Research Aid (SIDRA) data and post development SIDRA analysis have to	6 June 2018

	be provided to TCCS for review and assessment. • The Traffic and Transport assessment report must consider the entry and exit points of the Murrays Buses, Block 1 Section 76Fyshwick. • Swept path drawings showing waste trucks entry and exit on Ipswich Street should also be provided. • Phasing changes have to be assessed at a later stage by TCCS.	

Transport Policy (TCCS)	• Under 2.3, the Canberra Strategic Transport Model concurs with Figure 5 and Figure 6 that the critical points, which are close to capacity, for future truck movements to reach the proposed development are:
	  • the right turning movements from the northbound Monaro Highway/Canberra Avenue off ramp.
	  • the right turning movements from Canberra Avenue to Geelong Street.
	  • the southbound movement along Ipswich Street will be impacted by the upstream movements at its intersection with Newcastle Street.
	• Under 2.5, noting the above, it would be beneficial to identify trip generation beyond 2020/21 up to 2031 to obtain a better picture of the additional traffic that will be generated and its impact on the critical locations.
	  • For table 4, it would be useful to include the assumptions on the daily number of trucks based on the population of each suburb and the number of collection days to determine the daily number of truck movements.
	  • It would be useful to identify how heavy vehicles (2.5.3) differs from the freight vehicles (2.5.6). Noting that 25 of the 55 identified freight vehicles will be coming from the adjacent Access Recycling site, it would beneficial to indicate upfront under 1.0 Preliminaries that Access Recycling is already	

	operating at Section 8 Block 13 and the current site status, i.e. owned/leased. • Under 2.6, what is the dwell time of the vehicles at the site? Would the entrance and exit of vehicles be regular, i.e. 1 vehicle per 4 minutes? For safety considerations, signalisation of the site exit is supported. • Under 5.0 Summary, 2nd paragraph indicated that heavy vehicle movements will operate between 6am and 10pm, which falls outside of the road network peaks. This is only partially true as the AM peak is between 8am and 9am and the PM peak is between 4pm to 5pm.	
Waste Policy (TCCS)	• Legislation not addressed such as *Waste Management and Resource Recovery Act 2016*. • Waste generation data incorrect. • Consistency with ACT Government Waste Feasibility Study (WFS) discussion paper and *Roadmap*. • Include accurate references to Mugga Lane Resource Centre and provide evidence of claims. • Consider treatment options for organic waste. • Provide evidence relating to consequences of not proceeding with the proposal. • Further detail on types of waste and processing. • Detail capacity of the facility. • Demonstrate post mitigation risks. • Provide analysis and sources in relation to performance of the Mugga Lane Landfill and the Woodlawn Bioreactor. • Considerations of waste hierarchy, the Strategy and the WFS Roadmap. • Clarify quantities of waste streams. • Demonstrate traffic calculations. • Clarify detail relating to hours of operation and current industry operations. • Clarify contingency plan for business interruptions. • Provide accurate statistics throughout the report.	23 May 2018

The entity comments are included in this report where they relate to each potential impact. Any matters to be considered or conditions that have been recommended by a referral entity are included in Section 7 of this report.

2.4.3. Request for revision of draft EIS

The Authority provided their preliminary review of the draft EIS, entity comments and public representations to the proponent. The proponent was required to revise the draft EIS, to take into consideration all matters raised in representations made during public consultation, comments from EPSDD and entities, and to demonstrate how the matters have been considered in the revised EIS.

2.5. Revised EIS

On 7 November 2018, Purdon Planning submitted a revised EIS to the Authority pursuant to section 221 of the PD Act. A brief adequacy review was undertaken to confirm that all appropriate sections and appendices had been included. The revised application was circulated to selected entities to confirm their matters raised in earlier referrals had been addressed. The Authority commenced assessment of the EIS in accordance with section 222 of the Act. The Authority reviewed the revised EIS for:

- adherence to the final scoping document and legislative requirements;
- consideration and incorporation of the Authority's and entity comments provided on the draft EIS; and
- consideration and response to public representations received during notification of the draft and other consultation processes.

A cross-reference document was included at Appendix T of the EIS to cross reference the contents of the EIS to the contents required in the scoping document.

After assessing the revised EIS, and with advice from referral entities, the Authority was not satisfied that:

1) the EIS sufficiently addressed each matter raised in the scoping document; and
2) that timely representations on the draft EIS had been taken into account and that the representations were demonstrated to have been taken into account.

2.5.1. Section 224 notice – request for further information

The Authority did not accept the EIS and, on 21 December 2018, provided notice to the proponent in accordance with s 224 of the PD Act to address unaddressed matters (**Appendix 2**).

On 9 April 2020, the proponent provided a response to the Authority. The Authority reviewed the First Response and remained unsatisfied about a matter in s 222(2)(a) of the PD Act, namely that each matter raised in the scoping document had been addressed and that timely representations on the draft EIS had been taken into account and were demonstrated to have been taken into account.

On 3 June 2019, the Authority provided a second notice to the proponent in accordance with s 224(2) of the PD Act (**Appendix 3**).

On 20 August 2019, the proponent provided a response to the Second s 224 Notice that included an EIS report undertaken by the proponent, dated August 2019, and the following Annexures:

- Appendix A – Final Scoping Document (EPSDD, 15 January 2018)
- Appendix B – Environmental History
- Appendix C – List of sources
- Appendix D – Study Team
- Appendix E – Traffic and Transport Assessment (AECOM, February 2018) & attached letter dated September 2018 (AECOM)
- Appendix E1 – Amendment to Appendix E – Traffic and Transport Assessment (AECOM, June 2019)
- Appendix F – Visual Assessment (Rothe Lowman, February 2018)
- Appendix G – Remedial Action Plan (WSP, December 2017)
- Appendix H – Advice on EIS (Cardno, February 2018)
- Appendix I – Odour Impact Assessment (The Odour Unit, January 2018)
- Appendix J – Noise Management Report (Rudds Acoustics, February 2018)
- Appendix K – Bushfire Risk Assessment and Management Plan (Blacklash, February 2018)
- Appendix L – Revised Health Impact Assessment (Environmental Risk Sciences, February 2018)
- Appendix M – Advice from Civil Aviation Safety Authority
- Appendix N – Community and Stakeholder Engagement Report (Newgate, November 2017)
- Appendix O – Environment Management System (Access Recycling, 2015)
- Appendix P – Sample Construction Environmental Management Plan (Benedict Recycling, April 2018) and Operational Environmental Management Plan (Benedict Recycling, July 2018)
- Appendix Q – Air Quality Assessment (Todoroski Air Sciences, September 2018)
- Appendix R – Response to Submissions – Government (Purdon Planning)
- Appendix S – Response to Submission – Public (Purdon Planning)
- Appendix T – Scoping Document response table (Purdon Planning)
- Appendix U – Advice from Canberra Airport (June 2018)
- Appendix V – Email from National Capital Authority (May 2018)
- Appendix W – Letter from AECOM (AECOM, November 2018)
- Appendix X – Infrared Fire System (Purdon Planning)
- Appendix Y – Sensitivity traffic modelling (AECOM, June 2019)

The Second Response constituted the final EIS received by the Authority in respect of the proposal.

2.5.2. ARUP report

As part of the consideration of the Final EIS, the Authority engaged Arup Australia Pty Ltd (ARUP) to assist with the analysis of information relevant to the authority's assessment of matters raised in the EIS and scoping document (see ss 26(1) and 224B(a) of the PD Act).

ARUP was selected due to their expertise and in-house qualifications in waste, odour, traffic and fire. The report was produced on 5 December 2019 (**Appendix 4**).

On 16 December 2019, the Authority provided a copy of the ARUP Report to the proponent. The Authority invited the proponent to provide a response to the matters raised in the ARUP Report.

A meeting was held on 18 December 2019 between the Authority and representatives of CRS and Purdon Planning outlining the matters raised in the ARUP Report, the expected format and timeframes for a response and the relevant provisions under the Act.

On 28 January 2020, CRS provided the Authority with a response to the ARUP Report which was received within the expected timeframes discussed.

The Authority has considered the ARUP report and the Proponent's response and provides findings under each identified impact in Section 3 of this report.

2.6. Giving the EIS to the Minister for Planning and Land Management

Following the proponent's response to the section 224 notice, the Authority has accepted the EIS under section 222 of the PD Act. The findings and outcomes of the review of the EIS are included in this report, which is provided to the Minister for Planning and Land Management, with the final EIS, in accordance with section 225. Once the Minister has received the EIS the Minister may:

- under section 226 – choose to take no action on the EIS; or
- under section 227 – present the EIS to the Legislative Assembly; or
- under section 228 – establish an inquiry panel to inquire about the EIS. The Minister must make this decision within 15 workings day of receiving the EIS from the Authority. The requirements for establishing an inquiry panel are detailed under Part 8.3 of the PD Act.

Under section 209 of the PD Act, an EIS is completed if the Minister:

a. gives the Authority a notice of no action under section 226;
b. has not decided to establish an inquiry panel to inquire about the EIS;
c. has established an inquiry panel for the EIS and:
    i) the Panel has reported the results of the inquiry; or
    ii) the time for reporting under section 230 has ended.

2.7. Lodging a development application

Once the EIS process has been completed, the proponent may lodge a DA in the impact track. A DA related to the EIS must include the completed EIS. The DA will be assessed against the requirements of the Territory Plan and the Act. The DA will also need to address development or operational matters identified as part of the EIS process.

The EIS expires five years after the day it is completed.

2.8. Documentation referenced in this report

The documentation referenced in the Authority's assessment report is summarised as follows:

- EIS and supporting documentation
- Entity comments and public representations in the EIS process
- ARUP Report and response from the proponent

3. Assessment of impacts

This section summarises issues identified in the scoping document that had to be assessed in the EIS. For each set of identified issues, the results of the proponent's assessment are summarised under the following headings:

- Impacts
- Public consultation
- Section 224 Notice (where applicable)
- Key findings
- Mitigation and avoidance
- Scoping document requirements

3.1. Planning and land status

CRS intends to handle up to 300kt of waste per annum which includes municipal solid waste (MSW) from the red lid bin collections, commercial and industrial wastes (C & I), light residues from commercial and demolition (C & D) streams and other non-hazardous wastes. The proposed uses are for a waste transfer station and recycling facility which will include waste processing equipment and container loading equipment. The MRF is located in the IZ2 – Industrial Mixed-Use Zone. The IZ2 – Industrial Mixed-Use Zone Development Table, Territory Plan, includes a waste transfer station and recycling facility as assessable uses. The development table also provides for mixed industrial uses within this zone.

The proposal is intending to utilise the adjacent rail line to transport waste and recycling to other licenced facilities. A separate DA has been approved for a rail freight terminal which includes the associated hardstand, siding, access carriageways and the relocation of utilities. The rail freight terminal is to be located on Block 11 Section 47 Fyshwick (TSZ2 – Services Zone).

Blocks 9 and 11 Section 8 Fyshwick were previously used as a bulk liquid fuel storage depot. Liquid fuel was delivered to the facility via rail and then distributed locally via road tankers. Historically, the rail line was also utilised by other industrial uses within the area. The subject site has been vacant for several years.

Fyshwick largely contains retail, industrial and commercial businesses. The EIS states that the nearest residential facility (Canberra South Motor Park) is approximately 450m from the proposed site with the closest residential zone being Narrabundah (630m). There is also a caretaker's residence within Wiluna Street 110m away.

The EIS provided details on other facilities within proximity of the proposal, including the Fyshwick Markets (830m), proposed Dairy Road development (approximately 300m) and the proposed East Lake development which includes commercial and industrial development. It was also noted that the proposal is in an industrial precinct, adjacent to two existing waste processing facilities and two concrete batching plants.

3.1.1. Impacts

The EIS notes that the proposal may result in sterilisation of surrounding land use associated with potential impacts on sensitive uses and receptors in proximity of the site. The potential

impacts that posed the greatest risks, as outlined in the EIS, are other impacts identified in the scoping document such as impacts on air quality, noise and vibration and hazards and risk.

The EIS has noted that property values on adjacent sites are unlikely to be impacted due to the current zoning, previous use and possible contamination, surrounding existing uses and when compared to similar scenarios elsewhere.

The EIS identifies impacts on planning and land status as a low risk.

3.1.2. Public consultation

The main concerns raised about this impact during the public notification process included:

- The proposal will sterilise surrounding land uses
- The proposal is more like a 'heavy industrial' use than a 'light industrial' use
- The proposal is not consistent with the IZ2 zone objectives
- Rail use is a prohibited development in IZ2 zone
- The likely future use of adjoining land
- The EIS failed to consider all sensitive receptors
- Concerns about the direct sale process not advising the proposed use of land
- The life of the existing Mugga Lane facility is misrepresented
- The development has the potential to devalue assets in the vicinity of the facility
- There is no evidence that NSW Government will take all unrecyclable waste from ACT
- Separation distance guidelines must be applied to ensure incompatible land uses such as waste transfer stations are located in a way that minimises the impacts of odour and polluting air emissions
- Concern over the potential for a waste to energy component in the future
- Concerns that this site may become a major waste processing plant for other states
- Land uses should be confirmed for greater certainty within Fyshwick and other light industrial areas.

3.1.3.Section 224 notice

The EIS and information provided under the appendices were considered by the Authority and no matters were raised for this stage of the development.

3.1.4. Key findings

The EIS notes that the proposed MRF activity is best defined under the Territory Plan as a 'recycling facility' and 'waste transfer station' which are both assessable land uses in IZ2 Mixed-Use Industrial zone. The site is currently located approximately 630m from the nearest residential zone and 450m from Canberra South Motor Park. The surrounding land uses include two-storey industrial buildings with other waste facilities in proximity. Some sensitive receivers are also located in the surrounding area, however, the EIS notes that there are sufficient separation buffers for these facilities.

The EIS concluded that due to the design and orientation of the facility, and with the mitigation measures proposed to address other impacts, the risk for potential sterilisation of adjacent land uses remains low.

3.1.5. Mitigation and avoidance

A Construction Environmental Management Plan and the operational management plan will set out the framework for continuing management, mitigation and monitoring programs for the relevant impacts of the proposal. It is noted that, as outlined below, a few matters will need to be addressed in the detailed design, CEMP and OEMP to ensure the proposal is managed appropriately.

3.1.6. Residual risk assessment

The table below details the residual risk, after mitigation and avoidance measures are applied.

Table 5 – Residual risk assessment (Planning and Land Status)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	**Likelihood** (after mitigation)	**Consequence** (after mitigation)	**Residual risk**
Sterilisation of adjacent land uses	Low	Unlikely	Moderate	Low

3.2. Traffic and transport

The subject site is located on Ipswich Street in proximity to major arterial roads, Canberra Avenue and Monaro Highway. The site currently has two driveways, from Ipswich Street and Lithgow Street. The development proposes access from Lithgow Street with egress onto Ipswich Street. Appendix E of the EIS outlined existing conditions on Ipswich Street, for this direction, as a stable flow and moderate ease of movement for the existing traffic flow.

3.2.1. Impacts

Section 6.2 of the EIS assesses the possible traffic impacts that the proposal will have. The EIS states that it is almost certain that additional traffic will be generated from construction activities. The EIS outlines that the increase in traffic is considered minor as the increase is temporary and of a nature that is comparable to any industrial development within the area.

The EIS has identified an increased volume of heavy vehicles for daytime users of Ipswich and Lithgow streets. The EIS states that the impact is minor given the site's connectivity to the wider street network. A traffic profile was provided, based on intersection data for the intersections surrounding the site. The data showed peak times on a weekday between 6am and 9:30am and on weekends between approximately 11am and 3pm.

The potential for increased road accidents was discussed in the EIS. Appendix E of the EIS included an analysis of the crash history surrounding the site. The analysis was based on data over a 2012-2016 period stating that there were 16 crashes that resulted in injuries and 276 crashes that damaged cars only with the majority (62%) being rear end crashes. On Ipswich Street, in proximity of the subject site, there were 5 recorded crashes that were damage to cars only and were due to adverse environmental conditions. The EIS states that the risk of increased accidents or collision as a result of this proposal is low.

The EIS notes that the rail freight terminal will operate independently (on the adjacent Block 11 Section 47 Fyshwick but with access through the subject site) but will only increase rail movements by one train per day. The EIS states that, should there be an issue with the approval or operations of the RFT, there would need to be an additional 2 trucks per hour required to take the containers and residues away from the site.

3.2.2. Public consultation

The main concerns raised about this impact during the public notification process included:

- Additional truck movements will have significant adverse impacts on congestion, access, safety and amenity
- No analysis of impacts arising from signalisation were provided
- The cumulative impact of traffic generated by other existing and proposed developments has not been thoroughly addressed
- Potential damage to roads and associated infrastructure from increased large trucks
- Construction traffic would temporarily increase local traffic movement over an unspecified time period
- Traffic congestion is a further cost that will be imposed on the community
- Further modelling needs to be conducted to assess the impact on traffic flow

- Effect of truck movements if the rail corridor is unavailable has not been properly accounted for
- The truck movement calculation is not representative of real-world operation
- The impacts of the additional truck movements are underestimated
- A truck management plan should be provided detailing truck delivery schedule
- A Pavement Impact Assessment should be conducted to assess the impact of heavy vehicles on local road surfaces from the proposal
- The Traffic Impact Assessment (Appendix E) is unsatisfactory in that it did not include as part of its consideration a Road Safety Assessment
- The EIS has seriously underestimated the risk of accident as a result of the increased truck movements in these streets
- There is no provision for heavy vehicle parking on site should that be necessary because of driver fatigue or maintenance issues
- Construction traffic impact analysis is deficient in detail in that it failed to accurately account for the number of truck movements, the type of trucks or the length or period of their presence on the site

3.2.3. Section 224 notice

Two notices were provided to the proponent to address unaddressed matters under section 224 of the PD Act (Appendix 2 & 3). The EIS was referred to TCCS in relation to traffic issues. Through the EIS process, and requests under s 224, TCCS required further information on:

- Waste truck generation and flows including temporal distribution of waste heavy vehicle arrivals
- The increase of heavy vehicles on specific roads approaching the facility and the structural impacts on these roads
- Pre-development SIDRA program traffic inputs/outputs and post development SIDRA analysis
- Entry and exit points of the Murrays Buses, Block 1 Section 76 Fyshwick
- Swept path drawings showing waste trucks entry and exit on Ipswich Street
- Trip generation beyond 2020/21 up to 2031
- The proposed vehicle movements in relation to existing peak times.

Note: TCCS requires the phasing changes for the proposed signalised intersection, on Ipswich Street, to be assessed at the DA stage.

The EIS and further information provided under Appendix E, E1 and Appendix W were considered by TCCS and no further matters were raised in relation to traffic for this stage of the development.

3.2.4. Key findings

In support of the EIS, a traffic impact assessment was prepared by AECOM (2018) (refer to Appendix E of the revised EIS), to review the existing traffic conditions and to identify traffic impacts during the construction and operational phase. In particular, the performance of the site entrance along Ipswich Street was assessed. The report states that a signalised exit would improve road safety. Consideration was not given to future development of

surrounding areas, including the East Lake development as this development is subject to its own assessment if/when the development progresses.

Additional traffic volumes will be generated because of construction of the proposed development. The EIS does not provide estimated vehicle volumes from construction, however, it concludes that the construction work will have little impact on the road network given that some materials are available in the neighbourhood and that there are two separate entrances and exits at the construction stage.

During operation, the proposal is estimated to generate around 230 waste trucks or 460 movements each day, at its maximum design capacity. According to the traffic study, the expected generation of vehicle movements from staff will be around 20 to 25 vehicles per day, once the facility is built. The EIS claims that additional vehicles represent approximately 5% of heavy vehicle movements and an overall increase of 0.2% throughout the road network. The traffic report concludes that the additional volume has no noticeable effect to the existing level of service on the surrounding road network.

The traffic study indicates that the highest impact from the proposal will be on Wiluna Street and Lithgow Street, which will have the highest volumes of additional waste truck movements. The proponent has stated that southbound trucks delivering waste on Ipswich Street will be able to turn left into the site to avoid using Wiluna Street.

The EIS discusses rail movements and further states that two additional truck movements per hour will be generated should the rail freight terminal be unavailable. The EIS states that the proposal is unlikely to increase the total number of rail movements to more than one additional train per day on average, in addition to the existing 6 commuter services per day.

The ARUP report raised concerns, such as, the EIS should have provided a traffic analysis including SIDRA data, detail on construction traffic and parking. It is acknowledged that detail on traffic and parking is information that is provided in the detailed design (DA stage) and will be assessed against the requirements of the Territory Plan and TCCS design standards.

3.2.5. Mitigation and avoidance

Table 6 details the mitigation and avoidance measures associated with Traffic and Transport as proposed in the EIS.

Table 6 – Avoidance and mitigation measures (Traffic and Transport)

Proposed mitigation measures	Stage of implementation
A 2.7m noise attenuation barrier will be built on the southern boundary.	Design
Prior to construction, prepare a temporary traffic management plan (TTMP) to be endorsed by Transport Canberra and City Services (TCCS). TTMP to include: • Dual entry and exit to/from the site during construction • Construction activities will be predominantly mid-site • Trucks or cars will not be parked on the street.	Prior to construction

• Signs, detours and safety barriers will be used to protect the public • Hoardings or fencing will be utilised to ensure vehicle and pedestrian safety is not compromised during construction. • Will include details on construction traffic movements, construction related traffic management plans, details on expected cut and fill. • Minimise import or export of material reducing haulage and truck movements during construction.	
Traffic lights will be provided at the driveway exit to Ipswich Street. • Traffic light intersection will have no right turn (to enter the site) for north bound traffic on Ipswich Street. • Traffic lights would operate in conjunction with the existing Wiluna Street traffic lights.	During construction
All works to be in accordance with the TTMP.	During construction

Preparation of an operational management plan to include:
• Operational traffic to be spread over a 16-hour day.
• Hours of operation to be 6.00am – 10.00pm
• Deliveries to avoid peak traffic periods
• Government truck deliveries to be between the hours of 7.30 and 12.00pm (5 days)
• Commercial, freight, recycling trucks between the hours of 6.00am and 5.00pm (6.5 days).
• Forklifts will be fitted with noise attenuation equipment.
• Rail movements will only occur between 7.00am and 10.00pm.
• If the rail freight terminal was unavailable, the following traffic mitigation measures would be put in place:
  ○ Containers would be exported interstate via road
  ○ Truck movements would be managed to avoid traffic peaks and minimise any perceived impacts associated with truck transport
	Prior to operation

Operational management plan to be incorporated into an environmental agreement with EPA or waste licence with TCCS.	Prior to operation

3.2.6. Residual risk assessment

The table below details the residual risk, after mitigation and avoidance measures are applied.

Table 7 – Residual risk assessment (Traffic and Transport)

Potential Impact	Risk Assessment Risk (before mitigation)	Likelihood (after mitigation)	Consequence (after mitigation)	Residual risk
Traffic increase during construction	Medium	Possible	Minor	Low
Increased road traffic such as deliveries, employee movements and trucks being diverted from Mugga to site during operation	Medium	Possible	Minor	Low
Reduced road safety	Medium	Unlikely	Moderate	Low
Increased rail movements	Very low	Likely	Minimal	Low

3.3. Utilities

The site was previously used as a bulk liquid fuel storage depot so utility connections are already established. The EIS states that no new utilities, removal or realignments are required as a result of this development.

The existing electricity connection, including an electrical substation, is located on the south-western side of the block. A natural gas main is located in the verge on Ipswich Street with no current tie to the subject site. The site also has connections to telecommunications, water, sewer and stormwater with a stormwater easement located across the north western corner of Block 9 Section 8 Fyshwick.

DA201834656 which was conditionally approved on 5 June 2019 for the construction of a hardstand structure relating to road freight handling and transport operations on Blocks 9 and 11 Section 8 Fyshwick included the relocation of utilities (water main) and box culvert to handle overland flow.

The EIS states that given the nature of the proposal and the redevelopment of the entire site, the project is likely to impact utility provision and connection.

3.3.1. Impacts

Although the redevelopment of the site may cause impacts on existing utility connections, the EIS states that any impact on the utilities infrastructure and supply to neighbouring premises is not considered to be significant and would be less than the previous use.

As the development will increase hardstand in its design to accommodate waste truck movement, the existing infrastructure may be damaged. In addition, large downpours could result in contaminated storm water and wastewater egressing the site. The EIS stated that given the nature of the proposal as a waste processing facility, leachate is almost certain in the proposed building.

3.3.2. Public consultation

The main concerns raised about this impact during the public notification process included:

- The EIS needs to provide more details on stormwater assessment and management
- Stormwater testing on the western side of Ipswich street should be undertaken to understand potential impacts on Jerrabomberra Creek.

3.3.3.Section 224 notice

The EIS and information provided under Appendix H were considered by the Authority and relevant utilities and no matters were raised for this stage of the development.

3.3.4. Key findings

Under the existing site arrangements, infrastructure, including the contouring of the site, interception drains, sumps and oil skimmers, is in place to capture and manage all site runoff. The EIS outlined that utilities required relocation of infrastructure to protect the assets from heavy vehicle loads. A freight transport facility was proposed on the subject site in DA201834656 which included the development of hardstand areas and relocation of infrastructure. The DA was approved on 5 June 2019. The DAs were referred to relevant utilities who endorsed the applications.

The supporting documentation (Appendix H – Cardno advice on EIS) states that, based on the proposed gross floor areas and electrical equipment, ActewAGL (Evoenergy) require a new twin padmount substation with main switchboard. This will require a new connection to the site which is to be part of the detailed design in the future DA.

As part of the preparation of the EIS, Icon Water was consulted in relation to the existing watermains. Icon Water required:

- Any redundant watermains to be exhumed or grout filled and capped
- DN150 watermain is to be installed as open trenching service with other methods, such as boring, to be considered as part of the detailed design
- The watermain is to be constructed as a straight line to minimise the length
- Detailed services plan must be provided with the detailed design (DA)
- Proposed fire hydrants to be provided in the DA and approved by ACT Emergency Services Agency (ESA)
- The site layout to comply with minimum distance requirements

The EIS was referred to relevant utilities (i.e. TCCS, Icon Water and Evoenergy) who raised no issues at this stage of the assessment process. The detailed design, including external services plan, will be referred to relevant utilities as part of the DA process.

The EIS concluded that all other existing utility connections are expected to be sufficient to service the proposed development.

The ARUP Report raised that the EIS has not provided enough detail on the relocation of utilities and also the refurbishment of the existing stormwater system. It is noted that DA201834656 included the relocation of some utilities on Block 11 Section 8 and Block 11 Section 47 Fyshwick. Further detailed design of utilities, and the associated impacts, will be considered at the DA stage and will be assessed against the requirements of the Territory Plan and utility requirements.

3.3.5. Mitigation and avoidance

Table 8 details the mitigation and avoidance measures associated with utilities as proposed in the EIS.

Table 8 – Avoidance and mitigation measures (Utilities)

Proposed mitigation measures	Stage of implementation
Detailed services plan must be provided with the detailed design (DA) and include the following: • Any redundant watermains to be exhumed or grout filled and capped. • DN150 watermain is to be installed as open trenching service with other methods, such as boring, to be considered as part of the detailed design. • The watermain is to be constructed as a straight line to minimise the length. • Proposed fire hydrants • New twin padmount substation with main switchboard, as required by Evoenergy	Design and construction

• The site layout to comply with minimum distance requirements	
Proposed fire hydrants to be provided in the DA and approved by ACT Emergency Services Agency (ESA).	Design and construction
The building to be designed with a 150mm bund around the perimeter.	Design and construction
MSW waste tipping area and the C&I waste tipping area will be separated.	Design and construction
The baling area will be the highest point of the building floor.	Design and construction
A 20,000lt leachate tank to be installed to capture all leachate. All leachate collected and will be managed within the shed area or within an appropriate run-off management system.	Design and construction
A chlorinated wheel bath to be incorporated for trucks connected back to the leachate collection system in the building.	Design and construction
All works must be in accordance with the approved external services plan.	Construction
Preparation of an operational management plan to include: • All waste handling and processing activities to be located inside the building • Trucks leaving the building to use chlorinated wheel bath. • Material stored outside the MRF building will be in waterproof and sealed shipping containers • Mechanical sweeping of the hardstand will be undertaken regularly.	Prior to operation
Operational management plan to be incorporated into an environmental agreement with EPA or waste licence with TCCS.	Prior to operation

3.3.6. Residual risk assessment

The table below details the residual risk, after mitigation and avoidance measures are applied.

Table 9 – Residual risk assessment (Utilities)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	Likelihood (after mitigation)	Consequence (after mitigation)	Residual risk
Impacts on existing infrastructure	Medium	Unlikely	Moderate	Low
Contaminated storm and wastewater egressing from the site during extreme weather	Medium	Unlikely	Moderate	Low

3.4. Materials and waste

The redevelopment of the site includes the demolition of existing structures, likely remediation works and the construction of processing and administration buildings, weighbridges, parking, driveway, and hardstand areas. The works are likely to result in the increase of waste transported to landfill during construction.

During operation, the proposal will accept municipal, commercial and industrial waste, light residues from construction and demolition and other wastes that will be delivered by the existing waste vehicles daily. The maximum design capacity of the facility is 300,000 tonnes per annum.

3.4.1. Impacts

The proposal includes the handling of waste and recycling on-site which may cause waste to be spread to other sites and the surrounding area.

A medium risk rating was identified in the EIS in relation to excess stockpiling during operation and clean-up when operation ceases as there are large areas to stockpile and/or a result of onsite equipment failure, electricity interruption or fire interruption.

In addition, transport of waste is a risk identified in the EIS for a waste transfer station/recycling facility as waste is not processed on site.

Table 1 of the Scoping Document identifies the *storage and disposal of non-recyclable waste received at the facility* as a potential impact.

3.4.2. Public consultation

The main concerns raised about this impact during the public notification process included:

- Stockpiling of waste on the site would have adverse impacts for odour and for attracting birds and vermin
- Concern over how much of the waste will be 'recovered/recycled'
- Uncertainty surrounding the future of the Waste Recovery Facility industry, i.e. closure of Woodlawn, or no one accepting recycled materials
- Potential for something to go wrong and create environmental risks for receivers in the Fyshwick area
- Concern that waste may be imported to reach the target of 300,000tpa
- Concern that the waste to energy remains an available option
- The EIS is vague about the precise nature and volumes of each kind of waste to be received on site. This needs to be addressed with serious assessments done
- Quantity of waste entering the ACT from other jurisdictions
- A full assessment of the potential of the Hume Resource Recovery Estate (HRRE) to accommodate the proposal should be undertaken
- Targets of capturing and recycling 20% recyclable material from the waste received is a misrepresentation of what can be achieved
- The redirection of ACT's waste to NSW is not a good waste management solution

3.4.3.Section 224 notice

Both s 224 notices (Appendix 1 and 2) required further information relating to the proposed continuity plans and plans to manage any waste (including problematic waste) that may have been processed by or be within the facility in the event that it is rendered non-

operational for an extended period, or permanently, due to an incident, whether this event occurs internally or externally.

The s 224 notices included significant commentary related to the materials and waste impact, including advice from ACT NoWaste, that was required to be addressed by CRS. The content of these requests is provided at Appendices 2 and 3 to this report.

3.4.4. Key findings

The Scoping Document identifies five impacts under the environmental theme 'materials and waste' (Section 8, Table 1). The EIS provides headings against four of the impacts.

The EIS outlines that the proposal is comparable to the size scale of other industrial developments. Mitigation measures are proposed to reduce waste going to landfill during construction, including recycling and reusing materials from the demolition stage. The EIS also states that cut and fill will be minimised during construction.

The EIS provides mitigation measures to minimise the spread of waste to adjoining properties, such as, the site being fenced and waste being processed inside the MRF building and loaded into sealed containers.

The Authority considers the impact of stockpiling waste during operation and when operation ceases to be addressed sufficiently by the information provided in section 6.4.3 and 6.11.3 of the EIS. However, some additional information on management measures for when/if the facility is non-operational, the train line is non-operational or there is no access to the proposed facility would be beneficial.

The management measures will need to be provided as part of the detailed design (at DA stage) to outline management of collection trucks using Mugga Lane Landfill or other appropriately licensed landfills. The current measures rely on other facilities to provide landfilling capacity in an emergency, however, further detail is required on the arrangement. Given that surrounding landfills are not managed by the proponent, the DA and any emergency management plan should provide multiple options/solutions.

The EIS also states that spread of waste during transport is unlikely as transport to the site will be undertaken by existing dedicated waste trucks. Mitigation measures have been included in the EIS to load waste in to sealed containers to be transported via rail or truck. The containers are to be inspected and tested to ensure the containers do not leak or fail.

Overall, the EIS describes that all proposed loading, unloading, storage and processing activities will be located and conducted within the MRF building. Once waste is transported to the site and tipped within the MRF building, the daily waste received will be processed expeditiously. Inappropriate waste identified by a waste inspector will not be accepted. The non-recoverable waste residues are fed directly into the waste compactors for containerisation within the MRF building. The containers are then stored for a short period on the hardstand for transport. There will be no storage of waste or recycled material outside the MRF building at any time unless it is in sealed waterproof shipping containers.

The above mitigation measures will be required as part of detailed design and operational management plans.

Similar matters, as highlighted above, were also raised in the advice provided in the ARUP Report. The Authority considers that the information required for the above matters would be more beneficial once a detailed design is proposed at the DA stage. The Authority considers that the EIS has provided sufficient information to understand these impacts.

The *storage and disposal of non-recyclable waste received at the facility* (the storage and disposal impact) heading was excluded from the final EIS. This matter was raised in the ARUP Report and, in response, the proponent outlined that the impact has been addressed under section 6.4 of the Final EIS.

Consequently, the Authority has reviewed the information under section 6.4 of the Final EIS to discern whether the information provided in that section (as a whole) sufficiently addresses the storage and disposal impact.

The majority of section 6.4 is aimed at addressing the other four impacts that fell within the environmental theme of 'Materials and waste'. From the risks identified within Section 6.4 of the Final EIS, the risk that most closely relates to the storage and disposal impact is *excess stockpiling during operation and when clean-up ceases*. This impact has provided an analysis and mitigation measures to manage impacts relating to the handling and storage of non-recyclable waste. Mitigation measures include commitments for non-recyclable waste sorting and handling, such as, sorting and packing within the MRF building, separation of non-conforming material and storage in sealed containers.

The information, including proposed mitigation measures, has been considered and the Authority concludes that the proponent has provided sufficient information in the final EIS to assess the storage and disposals impact as required by s 222(2)(a)(i) of the PD Act.

3.4.5. Mitigation and avoidance

Table 10 details the mitigation and avoidance measures associated with materials and waste as proposed in the EIS.

Table 10 – Avoidance and mitigation measures (Material and Waste)

Proposed mitigation measures	Stage of implementation
Cut and fill will be minimised during construction.	Design and construction
The building to have rapid closing doors.	Design and construction
The site will be fenced.	Design and construction
The demolition material will be recycled where possible.	Construction
Any contaminated material identified in the construction phase will be taken to an appropriately licenced disposal facility.	Construction
Preparation of an operational management plan to include: • All waste handling and processing activities to be located inside the building • Material stored outside the MRF building will be in waterproof and sealed shipping containers	Prior to operation

• Regular pavement sweeping and management of yard and landscaping areas • Loads will be covered for transport • The procedure for identification and separation of non-conforming materials and collection/delivery to appropriate facility • Management of asbestos, if found, and delivery to an appropriately licenced waste facility • Residual waste management, such as, waste to be loaded into compactor units and then into shipping containers to ensure no excess waste remains on site as soon as possible • Recycled materials management procedures, including material (cardboard/paper/plastic) put into containers and transported by train or road as soon as a container load is attained • Management procedures for materials such as masonry/brick/concrete/aggregate/sand • Management procedures for other materials such as timber, plasterboard and ferrous and non-ferrous metals • An emergency management plan including contingency plans for rail and business interruptions • Regular maintenance and upkeep of infrastructure and contingency equipment options • Inclusion of a back-up power supply • Alternate diversion contingency plan • On-site contingency plan for equipment failure • Two separate processing lines with by-pass arrangements • The ventilation system will utilise two variable speed extraction fans that will operate at 75% capacity • Two items of each equipment such as forklifts, loaders and excavators to allow operations to continue • Service contracts/replacement arrangements from suppliers to allow operations to continue or be repaired expeditiously • A description of a range of critical parts for all equipment to minimise downtime • A description of access and connection to portable generators • Procedure to source hire equipment from local hire companies for short notice deployment • Traffic management • Control and monitoring procedures for incoming waste • Waste handling procedures • Hazardous and non-conforming waste prevention and response management • Leachate management	

• Odour noise and dust controls • Fire management procedures • Spill management procedures	
Operational management plan to be incorporated into an environmental agreement with EPA or waste licence with TCCS.	Prior to operation

3.4.6. Residual risk assessment

The table below details the residual risk, after mitigation and avoidance measures are applied.

Table 11 – Residual risk assessment (Material and Waste)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	**Likelihood** (after mitigation)	**Consequence** (after mitigation)	**Residual risk**
Increased waste to landfill during construction	Low	Possible	Minimal	Very Low
Spread of waste to other sites	Low	Remote	Minor	Negligible
Excess stockpiling during operation and clean-up when operation ceases	Medium	Remote	Moderate	Very low
Waste being spread during transport	Low	Unlikely	Minor	Low

Potential Impact	Previous Risk Assessment (Revised EIS)			
	Risk (before mitigation)	**Likelihood** (after mitigation)	**Consequence** (after mitigation)	**Residual risk**
Storage and disposal of non-recyclable waste received at the facility	Low	Possible	Minor	Low

3.5. Landscape and visual impact

The subject site is approximately 32,662m^2 and fronts Ipswich Street, with a rear entrance via Lithgow Street. Ipswich Street rises a few metres above the site as traveling to the north and the verge includes a steep slope down towards the site.

The north-eastern boundary of the site adjoins Block 11 Section 47 Fyshwick which caters for the railway line and includes various established trees. The south-eastern boundary is adjacent to existing waste facilities (Access Recycling and Tiger Waste).

There are industrial and commercial uses to the south of Block 9 Section 8 Fyshwick with buildings located within proximity of this block. The buildings include blank facades and rear compounds facing the boundary of Block 9 Section 8 Fyshwick.

3.5.1. Impacts

The proposed development includes a 12m high MRF building, with a 21m ventilation stack. An administration office and carpark are indicated between the main MRF and Ipswich street. Construction of a building with a large bulk or scale has the potential to visually impact the surrounding area.

Stockpiling of waste and external lighting on the facility also have the potential to visually impact the area.

3.5.2. Public consultation

The main concerns raised about this impact during the public notification process included:

- No real assessment has been done on landscape and visuals
- The new facility will have negative landscape and visual impacts
- Details of lighting plans are required

3.5.3.Section 224 notice

The EIS and information provided under Appendix F were considered by the Authority and no matters were raised for this stage of the development.

3.5.4. Key findings

The subject site was most recently used for a petroleum storage facility. All existing built components such as large storage tanks, pumping facilities and ancillary sheds will be demolished, except for utilities.

The site will include a ventilation stack that will extend approximately 21m above finished ground level. The EIS states that the proposed visual impact will in fact be a significant improvement on the existing site with all new features, with the exception of the stack, to be lower in height and less stark in colour than the existing 16m white petroleum tanks. Additionally, the existing twin line of pine trees at the eastern end of the site will be retained as far as practically possible.

A visual impact assessment by Rothe Lowman was provided as a supporting document of the EIS. The mock-up photos show that the buildings will be of a similar scale and appearance to the surrounding commercial and industrial developments. This is due to that site being lower than Ipswich Street and visually mitigated by trees.

In addition, the proponent states that no waste will be stored outside the building unless inside a waterproof shipping container and a maximum of 26 containers will be stored on site prior to transportation. The visual assessment confirms that the containers are largely unseen from the public realm.

The ARUP Report stated that further information was required relating to landscape character and other views within the streetscape. It is noted that these are considerations during the detailed design phase (DA) and are assessed against the requirements of the Territory Plan and PD Act.

In addition, DA201834656 and DA201835108 were proposed for a rail freight terminal and freight transport facility. The DAs were conditionally approved on 5 June 2019 on the condition that revised plans were provided to incorporate advanced stock semi-mature trees with a minimum mature height of 12m along the north-western boundary with Ipswich Street to the satisfaction of the Authority. The condition also requires a maintenance plan to ensure the establishment and survival of the trees.

The Authority concluded that the information provided in relation to visual impacts of the proposal are adequate for the EIS stage, however, will need further consideration once a detailed design has been provided at the DA stage.

3.5.5. Mitigation and avoidance

Table 12 details the avoidance and mitigation measures associated with landscape and visual impact as proposed in the EIS.

Table 12 – Avoidance and mitigation measures (Landscape and visual)

Proposed mitigation measures	Stage of implementation
A large number of pine trees will be retained.	Design and construction
The three large white petroleum tanks currently onsite will be removed.	Design and construction
Site to be fenced and tidied up.	Design and construction
A 2.7m noise attenuation barrier will be built on the southern boundary.	Design and construction
An appropriate amount of lighting will be incorporated to achieve relevant Australian Standards.	Design and construction
The facility is to be a single-storey warehouse style development with associated hardstand, entirely consistent with the Fyshwick precinct in scale.	Design
Preparation of an operational management plan to include: • Waste will only be unloaded and processed in the building. • No waste will be stored outside the building unless inside a waterproof shipping container. • The expeditious treatment of waste for recyclables will be undertaken with minimal storage of waste. • Waste-filled shipping containers will be stored on the hardstand on site. A maximum of 28 waste filled shipping containers will be stored on site prior to	Prior to construction

transportation. These will be neatly stacked (up to three high).	
Operational management plan to be incorporated into an environmental agreement with EPA or waste licence with TCCS.	Prior to operation

3.5.6. Residual risk assessment

The table below details the residual risk, after mitigation and avoidance measures are applied.

Table 13 – Residual risk assessment (Landscape and visual)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	**Likelihood** (after mitigation)	**Consequence** (after mitigation)	**Residual risk**
Visual impacts on the surrounding area such as building bulk and scale, stockpiling and lighting the facility.	Low	Unlikely	Minor	Very Low
Visual impact of the facility on the surrounding streetscape.	Low	Unlikely	Minor	Very Low

3.6. Soils and geology

Investigations have identified contaminated soil and groundwater associated with the site's previous use as a bulk storage liquid fuel depot. The construction of the proposed facility has the potential to disturb contaminated soils, which may pose an environmental and health risk to users on the site.

(NOTE: Impacts to health/safety due to soil contamination are described in this section (soil and geology). Impacts to waterways/environment due to soil contamination are described in the next section (water quality and hydrology)).

3.6.1. Impacts

The EIS identified a very high risk of the existing soil contamination impacting the health of people on the site and the environment. The EIS identified a low risk from potential soil contamination as a result of spills during the handling of waste (municipal solid waste and commercial and industrial waste).

The potential impacts identified in the EIS were potential existing contamination and potential spills contaminating soil.

3.6.2. Public consultation

The main concerns raised about this impact during the public notification process included:

- Considerable chemical contamination was left by its previous use as a bulk fuel depot
- Risk of waste contamination and impact on soil and nearby waterways and wildlife
- Dust emissions from the demolition and excavations and construction phases are a problem
- The contaminated site must be examined closer and fully remediated or strictest management procedures must be followed
- A long-term plan is required to ensure an ongoing vapour barrier
- The site is not suitable for this proposal due to contamination

3.6.3. Section 224 notice

No further information on impacts to soil and geology was requested in the section 224 notices.

3.6.4. Key findings

Contamination testing and management of Block 9 has been ongoing since 1999 with investigations identifying pockets of soil and groundwater contamination from previous petroleum activities. The proposal has the potential to disturb the contamination during the construction phase which may result in the release of petroleum hydrocarbon vapour, contaminated soil, contaminated dust and contamination of stormwater.

Previous contamination studies have concluded that there may be unacceptable risks to future site users occupying buildings constructed over areas of the most significantly contaminated soil from inhalation of vapours. An Environmental Management Plan prepared for Access Recycling in 2017 for the continued commercial and industrial land use proposed that the construction of buildings or enclosed spaces be prohibited to mitigate the potential for vapour intrusion into buildings constructed over contamination which could result in a vapour inhalation risk to site occupants (Appendix H of EIS).

A remedial action plan (RAP) (Appendix G) prepared by WSP was provided as a supporting document of the EIS. The RAP proposes mitigation measures to mitigate the risks relating to soil contamination. WSP states the implementation of the RAP will render the site suitable for the proposed use.

The RAP notes that per- and poly-fluoroalkyl substances (PFAS) are a contaminant of potential concern. The EIS does not mention the potential presence and management of PFAS. The potential health and environmental impact of contamination will be further assessed in future development assessment stages.

Some of the measures proposed include developing CEMPs to ensure construction methods do not result in risks to construction workers and the environment, removing potentially contaminated infrastructure from the site, testing soil and disposing, treating or reusing soil on site, constructing a vapour barrier to protect buildings from hydrocarbon vapours, contingency options if the vapour barrier is found to be ineffective and procedures for long-term management of the site including groundwater monitoring.

Both the EPA and ACT Health did not require further information for this stage of the development (EIS stage). Any susequesnt DA will be referred for comment to entities, including EPA and ACT Health. Measures used to manage contaminated soil and groundwater, including a revised RAP, will be considered when a more detailed design is provided at the DA stage. As part of the DA 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.

In relation to spills, the EIS states that all processing of waste will occur in an enclosed bunded building with leachate draining to a leachate collection tank. Waste will be expeditiously processed inside the building and residues containerised for transport. Only loaded and sealed containers will be stored outside the building. Most of the site will be comprised of a hardstand surface that will prevent liquid spills infiltrating the soil.

The CEMP and OEMP will include procedures for containing and collecting spills if they occur during the construction and operation of the facility. Additional information on the leachate disposal system is needed at the detailed design stage (DA). Management of leachate is further described in section 3.7 Water quality and hydrology.

The post-mitigation risk assessment in the EIS concluded that the mitigation measures specified reduce the risks from existing contamination and spills during operation of the facility to a low level.

3.6.5. Mitigation and avoidance

The following avoidance and mitigation measures have been identified in the EIS/identified by the authority and entities:

Table 14 – Avoidance and mitigation measures (Soils and geology)

Proposed mitigation measures	Stage of implementation
All mitigation measures relating to soil and groundwater contamination and site management during remediation in the Remedial Action Plan (RAP) must be implemented.	All stages
The site must be assessed and remediated by a suitably qualified environmental consultant and the works independently audited by an EPA approved contaminated land auditor and endorsed by the EPA prior to any change of use of the block.	Prior to construction
A Construction Environmental Management Plan (CEMP) must be submitted to the Authority and include improved remedial measures consistent with the RAP. Remediation and construction must be undertaken in accordance with an approved CEMP. The CEMP must include management of contaminated soil, dust, water, odour, gas and vapour, vehicle control and worker health and safety.	Prior to construction and remediation
Potentially contaminating infrastructure is to be removed, and contingency measures used if the specified method is found to be unsuitable.	Remediation
Excavated soils must be managed in accordance with the CEMP (testing, treatment, re-use onsite, disposal offsite). If soil contaminant concentrations exceed soil remediation criteria described in the RAP, procedures described in the RAP must be implemented. Management of contaminated soil must occur in accordance with the RAP, EPA guidelines and approval of the site auditor and EPA. If materials are to be disposed off-site, additional analyses will be required in accordance with the RAP to facilitate waste classification with approval of EPA.	Remediation
A vapour barrier must be installed under the MRF building slab. The material used, installation method and validation of the vapour barrier must be in accordance with the RAP.	Construction
A passive ventilation system beneath the vapour barrier must be constructed as consistent with the approved RAP. If the vapour barrier system is found to be ineffective at the design and construction phase, installation of sub-slab vapour dilution systems with adequate venting must be considered as a contingency. If the vapour barrier system does not meet the remediation objectives following completion of building construction, a human health risk assessment on the building will be	Construction

undertaken to assess level of risk before selecting a management approach. The site auditor and EPA must agree to the management approach.	
At completion of remediation and vapour protection works, a site validation report must be prepared in accordance with EPA guidelines. The validation report must be reviewed and endorsed by an accredited Site Auditor and forwarded to the EPA for review and endorsement within 15 working days of completion of the report.	Construction
An Operational Environmental Management Plan (OEMP) is to be approved by EPA and TCCS prior to operation. The MRF must operate in accordance with an approved OEMP. The OEMP may be incorporated into an environmental agreement with the EPA or waste license with TCCS. The OEMP must include the following measures: • Waste processing must be located entirely indoors and waste residues are to be expeditiously containerised for transport. • A procedure for undertaking a monitored natural attenuation program for groundwater contamination in on-site and off-site groundwater monitoring wells. The procedure must include contingency methods if monitoring indicates contamination is not attenuating. • An unexpected finds protocol is to be developed for discoveries of contamination not identified through previous investigations. • Procedures for reporting impacts to the vapour barrier, vapour monitoring within the MRF, worker health and safety for dealing with contaminated soils, exposure of contaminated soil or groundwater and future trenching and excavation.	Operational
Groundwater should not be extracted for any purpose (other than monitoring) without appropriate assessment and EPA approval.	Operational

3.6.6. Residual risk assessment

The table below details the residual risk, after mitigation and avoidance measures are applied.

Table 15 – Residual risk assessment (Soils and geology)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	**Likelihood** (after mitigation)	**Consequence** (after mitigation)	**Residual risk**
Potential existing contamination of soils and groundwater	Very high	Likely	Minimal	Low
Potential spills contaminating soils	Low	Unlikely	Moderate	Low

3.7. Water quality and hydrology

The likelihood of site contamination was considered high due to the site's historic use as a fuel storage facility. There is a risk of contaminated water run-off from the site impacting on hydrological systems, particularly contaminated storm water impacting Jerrabomberra Creek and Wetlands.

3.7.1. Impacts

The EIS identified a medium risk of contaminated water impacting on receiving land and water and impacts to Jerrabomberra Creek and Wetlands.

The site is approximately 500 metres from Jerrabomberra Creek. Approximately 2 km downstream of the site, Jerrabomberra Creek flows into Jerrabomberra Wetlands which is a valuable wetland in the ACT, of national and international importance, providing habitat for internationally migrating birds. There is the potential for contaminated water from the site to enter the stormwater system during construction or operation and impact on Jerrabomberra Creek and Wetlands.

The subject site incorporates large portions of hardstand in its design to accommodate waste truck circulation. As such, large rain events could pick up pollutants onsite and may result in high volumes of potentially contaminated stormwater and wastewater run-off leaving the site which could impact on receiving land and water.

Given the nature of the proposal, leachate is almost certain to be produced within the building. Leachate can cause major environmental issues if not handled appropriately.

The potential impacts identified in the EIS were:

- Contaminated stormwater or wastewater impacting on receiving land and water
- Risk to Jerrabomberra Creek and Wetlands

3.7.2. Public consultation

The main concerns raised about this impact during the public notification process included:

- No adequate assessment was undertaken on water quality and hydrology
- Proposed works could release contaminants into surrounding waterways
- Stormwater testing on the western side of Ipswich street should be undertaken to understand potential impacts on Jerrabomberra Creek
- The EIS needs to provide more details on stormwater management
- Potential for accidental spills, and other incidents
- Significance of hydrocarbon leakage from the site needs to be investigated in detail
- The residents in surrounding areas are at risk from groundwater contamination

3.7.3. Section 224 notice

No further information on impacts to water quality and hydrology was requested in the section 224 notices.

3.7.4. Key findings

Water quality and hydrology at the site was assessed by Cardno and sub-consultant Arcadis based on a site audit report completed in 2017 (Appendix H of the EIS). The Remedial Action Plan (Appendix G of the EIS) also referred to water quality and hydrology issues.

The Water Quality and Hydrology Review conducted by Arcadis found contaminants in groundwater from historic use of the site. The site assessment confirms that hydrocarbon product is present at the site and will directly affect groundwater quality.

The site audit report completed in 2017 notes that the impact from historical site activities was determined to be constrained to less than 100 metres from the site boundary. The Hydrology Review concluded the site is about 400 metres from Jerrabomberra Creek and therefore is beyond the range identified for contaminant migration from the site to be able to reach Jerrabomberra Creek or affect the wetlands. Arcadis concluded the four times greater distance between the site and Jerrabomberra Creek compared to the distance between the site and predicted maximum transport distance of contamination results in a negligible risk that the site impacts can affect Jerrabomberra Creek or the associated wetlands. The RAP stated that it is considered unlikely that hydrocarbon impacted groundwater will reach the Jerrabomberra Creek or wetlands.

The RAP identifies a small waterway/stormwater drain approximately 10-20 metres north of the site boundary discharging to the Jerrabomberra Creek as the nearest surface water environmental receptor. The RAP states that previous investigation by AECOM in 2011 considered it unlikely that dissolved contaminants will migrate to this receptor. The risk of contaminants from existing soil contamination impacting on Jerrabomberra Creek from movement in surface water during construction and operation will be considered further through the approval process of the RAP.

A 2017 stormwater plan for this proposal and an undated plan of the Fyshwick south stormwater augmentation both in the Cardno Advice on EIS Report (Appendix H) show the construction of a new culvert within the northern boundary of the site discharging to an existing stormwater channel flowing to Jerrabomberra Creek. Based on these, contaminated water leaving the site and entering the stormwater system has the potential to impact Jerrabomberra Creek and Wetlands.

The Hydrology Review found that there are hydrocarbon impacts in the upper metre of soil at the site. As a result, stormwater collected in excavations or in bunds around stockpiles is likely to be impacted with pollutants (total recoverable hydrocarbons and BTEX compounds [benzene, toluene, ethyl-benzene, xylene]) and should not be discharged to stormwater without testing prior to disposal. The report recommended that all stormwater collected from exposed soils should be retained on site for assessment prior to disposal. Options for impacted water may include offsite disposal as liquid waste or retention and treatment on site prior to disposal.

The EIS states the proposal will not accept liquid waste, therefore the only potentially hazardous or environmentally polluting liquid processed will be leachate. The preferred method of leachate disposal in the EIS is to inject it into the waste containers and dispose at Woodlawn. However, the EPA does not support the transport and/or disposal of leachate interstate. Alternatives described in the EIS are for a liquid waste operator to pump out leachate or obtain a trade waste agreement with Icon Water to dispose leachate to the sewer.

The EIS is inconsistent on the amount of leachate expected to be produced and it is acknowledged that the amount of leachate is difficult to predict, however, the management and disposal of leachate has been sufficiently addressed in the EIS and will be need to be included in an OEMP, for endorsement by the EPA prior to operation.

The EIS states that waste inside the MRF will be hosed with water in case of fire. Additional information on the leachate disposal system, including the ability for the leachate tank to contain the volumes of water used for supressing fire in the facility will be needed at the detailed design stage (DA).

The ARUP report states that the conclusion reached by AECOM in 2011 regarding impacts on Jerrabomberra Creek and Wetlands may need to be reconsidered when more is understood about the construction and operational details. It is noted that more detail will be provided at detailed design (DA) stage and in the RAP.

The post mitigation risk assessment in the EIS concluded that the mitigation measures specified reduce the risks from contaminated water impacting on waterways to a low level.

3.7.5. Mitigation and avoidance

The following avoidance and mitigation measures have been identified in the EIS/identified by the authority and entities.

Table 16 – Avoidance and mitigation measures (Water and hydrology)

Proposed mitigation measures	Stage of implementation
All mitigation measures relating to water, hydrology and site management during remediation in the Remedial Action Plan (RAP) must be implemented.	Prior to construction
A Construction Environmental Management Plan (CEMP) consistent with the RAP must be approved by the EPA prior to remediation and construction. Remediation and construction must be undertaken in accordance with an approved CEMP. The CEMP must include management of water and must include the following measures: • Stormwater collected from exposed soils must be retained on site for assessment prior to disposal. Stormwater must be tested, assessed and disposed appropriately (for example, removed by liquid waste operator or treated onsite and discharged to drains/waterways). • A program of stormwater and sediment management must be implemented.	Prior to construction
A detailed water quality model using the Model for Urban Stormwater Improvement Conceptualisation (MUSIC) program will be submitted with the development application.	DA submission
A 20,000 litre leachate tank must be installed in the MRF building to capture all leachate.	Design
An Operational Environmental Management Plan (OEMP) is to be approved by EPA and TCCS prior to operation. The MRF must operate in accordance with an approved OEMP.	Operational

The OEMP must include management of water and liquid waste. The OEMP may be incorporated into an environmental agreement with the EPA or waste license with TCCS. The OEMP must include the following measures: • Waste processing must be located entirely indoors and waste residues are to be expeditiously containerised for transport. • Leachate management • Management of stormwater to ensure contaminated stormwater does not leave the site. • A water monitoring program must be conducted, including the existing groundwater wells and surface water in the waterway north of the site.	

3.7.6. Residual risk assessment

The table below details the residual risk, after mitigation and avoidance measures are applied.

Table 17 – Residual risk assessment (Water and hydrology)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	**Likelihood** (after mitigation)	**Consequence** (after mitigation)	**Residual risk**
Untreated stormwater or wastewater impacting on receiving land and water (including groundwater)	Medium	Unlikely	Moderate	Low
Risk to Jerrabomberra Creek and wetland	Medium	Remote	Major	Low

3.8. Air quality and climate change

Potential impacts on air quality in the form of odours, dust and hazardous emissions could occur during operation of the waste facility.

The EIS states that the proposal may contribute to climate change by producing greenhouse gas emissions during construction and operation or may be beneficial if it results in reductions in greenhouse gas emissions from the waste sector.

3.8.1. Impacts

Construction of the proposed development may increase dust concentration in the air. Hazardous emissions may result during operation from dust, hazardous contaminants or hazardous waste received at the facility and vehicle emissions. Given the site's locality in Fyshwick and relative proximity to nearby residential areas, these were identified in the EIS as medium risks.

Transport and processing of waste may result in odour impacts, particularly to nearby residential areas and has been identified as a medium risk.

The proposal may impact on climate change and this has been identified as a medium risk. The EIS states that the proposal will have a beneficial outcome for climate change as it will reduce greenhouse gas emissions through the reduction of organics waste.

The potential impacts identified in the EIS were:

- Dust from construction activities
- Odour from waste transport and processing
- Impacts on climate change
- Cumulative impacts of the development on air quality in the locality
- Hazardous emissions from the plant including cumulative impacts with other developments in the air shed
- Poor quality waste or dangerous contaminants in waste material impacting on operations or air quality

3.8.2. Public consultation

The main concerns raised about this impact during the public notification process included:

- Dust emissions from demolition and excavations, construction and operation
- Draft EIS is deficient in the assessment of air quality and no formal air quality report was undertaken
- Odour modelling is not comprehensive and is unacceptable
- Fine particle pollution is of greatest concern because it is associated with mortality and high health costs for the community
- Overall threat of harmful emissions created during the operation of the MRF
- Possible rail emissions should not be omitted
- The by-products of waste management could result in a toxic atmosphere
- The level of noxious air quality caused by this development has not been convincingly demonstrated in this EIS as having been adequately minimised
- The impact of additional diesel emissions was not addressed
- Cumulative air impacts were ignored

- Potential air pollution (including ash) has a likelihood of causing negative health outcomes, especially for asthmatics

3.8.3. Section 224 notice

Further information was requested from the proponent in the first s224 notice, including seeking clarity on recycling and diversion rates, on how the facility will achieve claimed resource recovery rates, on the recovery of food and organic waste and the impacts of transporting waste to Woodlawn.

A second notice was provided to the proponent seeking further clarity on how the 90% diversion rate has been calculated, how the facility will achieve claimed resource recovery rates and whether the facility would recover food and organic waste.

The Final EIS did not provide detailed evidence on how recovery rates were determined, however, based on the information provided in the EIS and further information provided under Appendix R, ACT NoWaste did not raise any further matters in relation to climate change for this stage of the development.

3.8.4. Key findings

The EIS included an odour impact assessment (Appendix I of the EIS) and an air quality assessment (Appendix Q of the EIS).

The odour assessment reviewed the proposed design, estimating the odour impact from the proposed waste stream and undertaking odour dispersion modelling to consider the impacts on the surrounding area. The odour assessment found that no adverse odour impacts at sensitive places (residential areas) are likely for the proposed facility. The ACT EPA did not raise any issues relating to the findings of the odour assessment.

Full enclosure of the MRF tipping area within a building maintained under negative pressure and with air discharged via a stack is likely to prevent environmental odour nuisance. The ACT EPA agrees with the findings of the odour assessment that no adverse odour impacts at sensitive places (residential areas) are likely for the proposed facility. The odour study shows the Eastlake area as unaffected from odours.

The air quality assessment investigated air quality impacts from the proposed operations of the facility. The assessment conducted air dispersion modelling to predict air pollutants from the operation and consider mitigation measures for the facility. The air quality assessment produced for the EIS (Appendix Q) found that air pollutants generated by the operation of the facility would comply with the applicable assessment criteria from the NSW EPA for air pollutants at the identified sensitive receptor zones and therefore the operation of the facility would not lead to any unacceptable level of environmental harm or impact in the surrounding area.

In relation to climate change, the scoping document required the EIS to provide an assessment of the effect the proposal may have on climate change and how the proposal is consistent with associated ACT and national policies. The EIS states that the proposal will reduce greenhouse gas emissions due to recovering materials from waste that can then be recycled, reducing the amount of methane produced in landfill by recovering organic

materials in the MRF and diverting them from landfill, using rail to transport residual waste and recyclable materials instead of road transport and methane at Woodlawn landfill being captured effectively.

The EIS provides estimates sourced from the ACT Waste Management Strategy 2011-2025 for greenhouse gas emissions avoided by recycling various materials that will be recovered by the proposal (paper, timber, glass, aluminium, steel). The EIS estimates that 24.5% of the waste received will be recovered by the MRF. This is based on recovering 40% of "high recycle potential materials" in MSW and C&I waste. The EIS provides no detailed evidence for how the 40% figure of recovery of specified materials has been determined. The only evidence provided for this estimate is that an MRF operated by the proponent in Sydney is "close to achieving more than 85% recovery from its C&I and C&D processing". No description of the similarities between the proposal and the existing facility was provided.

The EIS also contains inconsistencies relating to which organic materials will be recovered.

The EIS does not contain a description of the emissions that will be produced by transporting waste a further distance by rail to Woodlawn compared with the current situation of transporting a short distance by road to Mugga Lane.

The ability of the proposed MRF to recover materials and therefore result in greenhouse gas emissions reductions will need to be assessed in future development assessment stages.

The ARUP Report stated that there is no assessment of greenhouse gas emissions and savings across the project lifecycle in the EIS. The ARUP report also found the EIS should discuss the probability of the uncontained odour emissions outcome occurring (for example due to equipment failure or poor site operation) and be able to confirm that an 'uncontained' outcome would have an exceptionally low chance of occurring, and if it were to occur it would only last for a short-period.

The Authority concluded that the information provided in relation to air quality and climate change in the EIS and Odour Impact Assessment (Appendix I) and the Air Quality Assessment (Appendix Q) is adequate for the EIS stage. However, further consideration once a detailed design has been provided will be required at the DA stage.

3.8.5. Mitigation and avoidance

The following avoidance and mitigation measures have been identified in the EIS/identified by the authority and entities.

Table 18 – Avoidance and mitigation measures (Air quality and climate change)

Proposed mitigation measures	Stage of implementation
A Construction Environmental Management Plan (CEMP) must be approved by the Authority prior to remediation and construction. Remediation and construction must be undertaken in accordance with an approved CEMP. The CEMP must include management of dust and air quality and must include the following measures:	Prior to construction

• Water-based dust suppression must be applied during construction. • Vehicles must leave the site via an established and stabilised site access point. • Relevant equipment must have dust suppressors fitted. • A wheel wash for vehicles must operate during construction • Contaminated soils must be covered to prevent dust emissions and protect soils from rain.	
An Operational Environmental Management Plan (OEMP) is to be approved by Authority prior to operation. The MRF must operate in accordance with an approved OEMP. The OEMP may be incorporated into an environmental agreement with the EPA or waste license with TCCS. The OEMP must include the following measures: • Residual waste must only be stockpiled inside the MRF building until waste is processed expeditiously and residual waste containerised for transport as soon as practical. • The MRF building must be kept as a negative pressure environment using a ventilation extraction system that will change the entire volume of air within the building five times per hour. • Two variable speed fans must operate so there is opportunity to conduct regular and emergency maintenance activities while one fan remains in operation. • Fast-opening doors must be fitted to the MRF building to maintain the negative pressure environment and reduce fugitive odour. • During loading of the waste containers, the seal around the door must be washed to ensure it is clean and unobstructed. Containers must be fitted with activated carbon filters on their vents to reduce odours. • All trafficked areas must be a hardstand surface to reduce wheel generated dust emissions and trafficked areas must be regularly cleaned. • Management plans, procedures and customer inductions must be developed and implemented to ensure no hazardous materials are accepted at the facility. • Monitoring of odour and air quality.	Operation
Limits on the amount of waste that can be present within the MRF building at any point in time are required to achieve compliance with the odour criteria (as per Appendix I – Odour impact assessment). The limits must be included in the OEMP. The limits are • 211 tonnes of MSW • 953 tonnes of C&I waste	Operation

• 462 tonnes of the 30% MSW/70% C&I waste blend described in the EIS.	
Monitoring of odour and air quality must include: • Annual stack emissions monitoring must be conducted to measure odour and dust and validate emission rate. • A field odour survey must be conducted at locations on-site and off-site to validate the effectiveness of the ventilation outlet and other mitigation measures. The OEMP must describe the frequency of field odour survey. • Regular daily visual monitoring of dust plumes must be conducted.	Operation
An annual report must be prepared that summarises the air quality and odour monitoring results and includes an air quality complaint register to review performance and detail measures taken to address complaints.	Operation

3.8.6. Residual risk assessment

The table below details the residual risk, after mitigation and avoidance measures are applied.

Table 19 – Residual risk assessment (Air quality and climate change)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	**Likelihood** (after mitigation)	**Consequence** (after mitigation)	**Residual risk**
Dust from construction activities	Medium	Likely	Minimal	Low
Odour from transport and processing of waste	Medium	Unlikely	Moderate	Low
Cumulative impacts of the development on air quality in the locality	Medium	Unlikely	Moderate	Low
Hazardous emissions from the plant including cumulative impacts with other developments in the air shed	Medium	Possible	Minor	Low
Impacts on climate change	Medium	Remote	Major	Low
Poor quality waste materials or dangerous contaminants in waste material impacting on operations and air quality	Medium	Possible	Minor	Low

3.9. Socio-economic and health

Due to the proposal's nature as a waste management facility and the site's proximity to existing and proposed residential areas, socio-economic and health impacts were considered.

3.9.1. Impacts

Section 6.9 of the EIS assesses the socio-economic and health impacts that the proposal could have. Being a waste management facility, the proposal has the potential to attract and harbour pest animals and vermin which could carry and contribute to the spread of disease. Impacts could occur during construction and operation of the facility.

The EIS states that the risk of impacts from vermin and pest animals harbouring in the facility is low given the facility is sealed and pest control measures will be used as needed. Stockpiling in the building will be limited. The EIS also states that if waste residue needs to be stored outside before transport, it will be containerised.

The EIS states that as a waste facility there is a chance that hazardous waste will be discovered in received waste on occasion, however, the facility will not accept hazardous waste deliveries. The possibility of undeclared hazardous waste in waste collections may pose a potential major health risk to workers within the site. The EIS states that strict waste acceptance guidelines will be applied, and hazardous wastes will be separated and sent for appropriate disposal.

Another risk identified by the proponent that is relevant to health is the potential for accidental release of hazardous materials and dangerous chemicals through spills and leaks during all stages of the proposal. This risk has been discussed in section 3.6 and 3.7 of this report.

3.9.2. Public consultation

The main concerns raised about this impact during the public notification process included:

- The health impact assessment is inadequate
- Fine particle pollution could cause high health costs for the community
- Health risks associated with increased diesel emissions in the ambient air and inside the shed
- Potential fire risk causing economic loss and health risk to nearby residents and businesses
- Potential health risks to the community from influx of pests and vermin
- The proposal will change the trajectory of growth and economic development of the Fyshwick precinct
- Negative economic consequences for surrounding businesses
- Concerns about the socio-economic impacts of CRS becoming a monopoly waste facility in the ACT
- The development has the potential to devalue assets in the vicinity of the facility

Representations also raised concerns about the potential health impacts of incinerating waste. This is not part of the proposal and therefore has not been considered further in this assessment.

3.9.3. Section 224 notice

A notice was provided to the proponent to address unaddressed matters under s 224 of the PD Act (Appendix 2). This included providing clarification on matters raised in representations on health impacts. Information requested included providing simpler explanations of impacts without jargon and providing details of adequate measures for health impacts (such as hydrocarbons, contamination and litter).

The EIS and further information were considered, and no further matters were raised in relation to socio-economic and health impacts.

3.9.4. Key findings

In support of the EIS a Health Impact Assessment was prepared by EnRisks (refer Appendix H of the EIS) considering a range of issues that have the potential to affect the health of the community, including noise, fire, odour, hazardous waste, traffic, visual, pestilence, economic and social environment.

The assessment concluded that the project will bring some benefits to the community (employment) and concludes that the impact of the proposal on community health is likely to be negligible if the proposed process design, control, mitigation and management measures are implemented.

The ARUP Report raises concerns that ACT Health requirements had only been partially met. However, the review also notes that ACT Health was satisfied that their concerns had been sufficiently addressed and appropriate mitigation measures included in the revised EIS.

The ARUP Report states that the adequacy of the Health Impact Assessment depends on the accuracy of information in supporting reports. Based on that information, ARUP stated that in relation to avoiding vermin risks and separation of hazardous waste the information is valid and adequate. In relation to the management of hazardous waste found in received waste, this will be considered further during the detailed design (DA stage) and will be required to be included in relevant operational management plans. In relation to vermin and pest animals, these will also be considered further at detailed design stage and conditioned where necessary.

3.9.5. Mitigation and avoidance

The following avoidance and mitigation measures have been identified in the EIS/identified by the authority and entities.

Table 20 – Avoidance and mitigation measures (Social-economic and health)

Proposed mitigation measures	Stage of implementation
Maintain a clean and pest free facility	Operational
The MRF facility to be designed within a fully enclosed, sealed negative-pressure environment	Design
Fast-closing vinyl doors to be installed	Design
Waste treatment to occur immediately upon arrival	

No waste will be stored outside the MRF building unless it is containerised in waterproof shipping containers	Operational
An ongoing pest control program is to be included in the operational plan	Operational
A comprehensive operational plan for the discovery and safe disposal of hazardous waste must be developed and implemented	Operational
Induction program to be developed and implemented for new customers on what waste can be accepted at the facility	Operational
Written operating procedures will be developed to ensure hazardous waste that is found in a load will be immediately isolated, contained and disposed of appropriately.	Operational

3.9.6. Residual risk assessment

The table below details the residual risk, after mitigation and avoidance measures are applied.

Table 21 – Residual risk assessment (Social-economic and health)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	**Likelihood** (after mitigation)	**Consequence** (after mitigation)	**Residual risk**
Facilities and materials storage providing harbour to vermin and pest animals which impact on health and amenity	Low	Possible	Minor	Low
Generation and disposal of any hazardous waste received at the facility that poses a risk to the environment or human health	Medium	Possible	Minor	Low

3.10. Noise and vibration

With the construction and operation of the facility, there is the potential for noise and vibration to adversely affect the environment and community.

3.10.1. Impacts

Section 6.10 of the EIS assesses possible noise and vibration impacts that the proposal will have on the surrounding area.

During construction, various amounts of noise and vibration will be produced from demolition, site preparation and building construction. The construction related noise could impact on surrounding workers and residents.

The EIS states that during operation of the facility, noise would mainly be from fixed sources such as processing plant and equipment, the ventilation and odour management system, and mobile noise sources such as truck movements, loading/tipping vehicle movements and rail loading/unloading operations by container forklifts. The EIS identifies that noise leakage is likely to have impacts to the northern side of the site and that it is difficult to place noise attenuation barriers there because of the rail infrastructure.

The EIS states that rail freight will add one daily rail movement (freight train entering and leaving the site) in addition to the existing daily 6 passenger train movements that pass adjacent to the site. The EIS states this may add additional noise and vibration impacts to the nearby industrial neighbours.

3.10.2. Public consultation

The main concerns raised about this impact during the public notification process included:

- Noise generated by truck movement is of concern
- There is inadequate segregation of noise sensitive users from a major transport corridor and freight handling facility
- The noise generated from the facility will adversely affect the surrounding area
- Noise generated by increased rail activities
- EIS quantification of source of noise that impacts the site
- Noise of unloading, reversing beepers, scraping of concrete
- Difference between intrusive and annoying noise
- Without construction detail can’t claim ACT noise standards will be met
- Duration of monitoring period, consideration of temperature inversions, and location of monitoring to inform noise management plan
- Impact on other suburbs
- Lack of vibration assessment
- Design details inadequate to describe acoustic mitigation measures

3.10.3. Section 224 notice

No further information on noise and vibration impacts was requested in the section 224 notices.

3.10.4. Key findings

The EIS states that construction of the proposed facility is not expected to generate noise and vibration that is significantly different to any other construction of the same scale. The EIS states that mitigation measures are expected to maintain noise levels within acceptable EPA prescribed noise zone levels.

A noise management plan was produced by Rudds Consulting for the proposal (Appendix J of the EIS) which identified that during construction the major noise source is the road traffic and some noise from industrial activities in the area.

Rudds concluded that during operation noise from trucks and container handler manoeuvring on the site is expected to exceed the ACT Zone Noise Standard limit on some occasions. Rudds has suggested an acoustic fence along the southern boundary of the site to minimise noise impacts to neighbouring properties. The sound level of the container handler will also need to be reduced. The plan further confirmed that the MRF building can be constructed to minimise noise emissions and the expected increase in road traffic noise is within acceptable limits.

The EIS claims that the increase of one train per day would not be expected to cause major noise concerns, should the rail terminal be used. The noise associated with using container forklifts could be addressed if the forklift is engineered to comply with noise requirements.

The EIS at Appendix J (Noise Management Report) describes general noise management considerations for the proposal. The detailed design (DA) stage will require a Construction Environmental Management Plan (CEMP) to address noise and vibration impacts.

Approval of an Environmental Management Plan (EMP) (which includes addressing ongoing operational noise and vibration impacts) will be required prior to EPA issuing environmental licensing which is required to lawfully operate the site.

The ARUP Report raised concerns about the noise assessment not considering a caretaker's cottage as a sensitive receiver and a general lack of confidence in the ability of the EIS to demonstrate credible construction noise and vibration impact assessment. The Authority has considered the information provided in the EIS and appendices and determined that sufficient information relating to noise and vibration has been provided for the EIS stage. Additional details will be considered at the detailed design (DA) stage.

3.10.5. Mitigation and avoidance

The following avoidance and mitigation measures have been identified in the EIS/identified by the authority and entities.

Table 22 – Avoidance and mitigation measures (Noise and vibration)

Proposed mitigation measures	Stage of implementation
Construction Environmental Management Plan (CEMP) must include noise and vibration control measures.	Construction
Environmental Management Plan (EMP) must include ongoing noise and vibration management measures.	Operation

Noisy activities will be limited to usual business hours only, unless otherwise agreed with EPA (noting business hours is when adjacent lessees will be most affected)	Construction
Locate noisy equipment to minimise impact to neighbouring premises, such as maximising distance or using physical structures as barriers	Construction
Ensure noise reduction devices including mufflers and suppressors are fitted properly	Construction
The construction process will aim to prevent generation of vibrations which are a significant contributor to noise levels from construction	Construction
Construction of physical structures as noise barriers, where possible (e.g. southern boundary)	Construction
Noise levels will comply with EPA noise standards for industrial zone	Construction
Utilise acoustic attenuators for container forklifts	Operational
All fixed plant noise sources are to be located within MRF building	Operational
All activities of unloading and reversing occur inside the MRF building. The design of the building, incorporating rapid closing doors are to be leak proof for both noise and odour.	Operational

3.10.6. Residual risk assessment

The table below details the residual risk, after mitigation and avoidance measures are applied.

Table 23 – Residual risk assessment (Noise and vibration)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	**Likelihood** (after mitigation)	**Consequence** (after mitigation)	**Residual risk**
Noise during construction	Medium	Possible	Minor	Low
Noise from operation of the facility and vehicle movements (including rail)	Medium	Possible	Minor	Low

3.11. Hazard and risk

The subject site is located within an industrial area with other industrial activities surrounding the site. Block 11 Section 47 Fyshwick is located parallel to the site which is predominantly a grassed area with rail lines running through the centre. There are a cluster of large pine trees to the north and north-east of the site running along the boundary. The site is separated from west Fyshwick by open space, Ipswich Street and the Monaro Highway.

The subject site is predominantly developed with remnant hardstand, fuel tanks and other structures from when it operated as a fuel storage facility. The site includes scattered trees mid to south west of the block (Block 9 Section 8 Fyshwick).

Many hazards and risks have been covered in other sections of this report relating to spills, contamination, health, air quality and materials and waste.

3.11.1. Impacts

The EIS has identified the potential risk of fire, igniting from spontaneous combustion fire, due to stockpiling of waste on the site or smouldering wastes that were inadvertently accepted at the facility.

A risk of fire from other premises has been identified in the EIS with the higher risk being the metal recycling facility located on the adjoining block, Block 13 Section 8 Fyshwick. However, this risk has been lowered recently due to revised management practices on the site. It was also noted that the block is located approximately 200m from the proposed MRF building.

The EIS has also outlined the need for sufficient water supply on-site in the event of an emergency. It was noted that the previous facility, fuel storage facility, was already subject to a high level of firefighting infrastructure which still remains on the site.

There is also a risk of the proposal interfering with aircraft as the proposed building includes a 21m vent stack and Fyshwick is within proximity of flight paths for the Canberra Airport.

The EIS also addresses potential hazards from equipment failure which may occur due to improper installation of equipment, faulty equipment or irregular maintenance. Equipment failure could cause impacts such as business interruptions or excessive stockpiling which could present hazards.

The EIS has also identified a risk to the safety of employees if hazardous waste is unintentionally accepted at the facility. Without proper management procedures, this may cause health issues to employees on the site.

3.11.2. Public consultation

The main concerns raised about this impact during the public notification process included:

- Risks of fire during construction and operation need further assessment
- On many levels (traffic, health risks, vermin, odour, noise, fire risk etc.) the location of the waste recovery plant will compromise the prosperity of Fyshwick
- Waste fires are very costly
- Impact on bird life in the area and risk to light and commercial aircraft

- Risk that containers cannot be filled on time either by shortage of empty containers or mechanical failure
- Risk that Woodlawn could cease to accept ACT waste
- The potential for waste to build up as a result of rail delays

3.11.3. Key findings

The key risk discussed in the EIS is the potential impact of plant-based or spontaneous combustion fire on the proposed facility and surrounding land uses. Appendix X of the EIS outlined the proposed fire suppression and fire prevention equipment for the proposed MRF building. The proposed equipment included thermal imaging cameras which are integrated with fire suppression equipment (water cannons). Each water cannon has an output of 160L per minute and is automatically activated when hot spots are detected by the thermal cameras. The proposed system also operates out of hours and is activated with an alarm.

The EIS included a bushfire risk assessment that described the level of risk and protection measures required to mitigate such risks associated with the construction and operation of the facility. As well as design recommendations, the report requires an emergency management plan to be developed.

Appendix H of the EIS has proposed additional water supply for the proposed facility. The previous uses had a high risk of fires on-site and therefore provided a suitable level of water reserves for that use. Additional points of water supply are to be provided in accordance with ESA requirements. The proposed mitigation measures also include an emergency management plan to be put into place prior to operation to ensure appropriate management procedures are adopted for the facility. The procedures will be considered and need to be endorsed by the Authority and ESA once the detailed design of the facility is submitted through the DA process.

The proponent consulted with the Civil Aviation Safety Authority (CASA) in producing the EIS and CASA confirmed that the development is not hazardous to aircraft operations. The EIS was also referred to CASA by the planning and land authority as part of the EIS process and no issues were raised with the proposed heights of the building and stack.

Mitigation measures are proposed for operation in case of business interruption. The mitigation measures were based on interruptions due to equipment failure, electricity outages, fire etc. and were considered against length of time the interruption would occur. These contingencies are to be incorporated into the operational management plan, such as, the diversion of waste trucks to licenced landfills.

The EIS includes an Environmental Management System at Appendix O and a sample Operational Management Plan at Appendix P. The management plans include protocols for identification of any inadvertent hazardous wastes, complaints management, training and awareness, and emergency response procedures. It is also stated that statutory requirements for workplace health and safety will be adhered to.

The ARUP Report raised matters such as the need to reference similar facilities that process MSW and C&I waste to confirm odour treatment and abatement technologies. The ARUP

Report also suggested that further details are required to ensure adequate water supply is provided on-site for firefighting management of the facility.

It is noted that the Authority considers each EIS application separately and determines whether sufficient information has been provided for the proposed development. Further consideration of whether the measures are appropriate will be assessed at the DA stage, including matters such as detail on positioning of firefighting equipment and fire management procedures.

The Authority considered the information provided and determined that the EIS provides sufficient information for the EIS stage. Further consideration of the measures will be assessed at the DA stage, including details such as positioning of fire management infrastructure.

3.11.4. Mitigation and avoidance

The following avoidance and mitigation measures have been identified in the EIS/identified by the authority and entities.

Table 24 – Avoidance and mitigation measures (Hazard and risk)

Proposed mitigation measures	Stage of implementation
Fixed camera systems (including thermal) will be provided on the MRF building and the office.	Design and construction
An asset protection zone to be established and maintained to site boundaries from buildings at the commencement of building works.	Design and construction
Fixed fire hydrants will be installed and will comply with Australian Standard 2419.1-2005.	Design and construction
Roads and driveways will be designed to provide safe operational access to structures and water supply for emergency services.	Design and construction
Water pressure will be designed to be boosted and compliant with the Australian Standards.	Design and construction
Double in and out weighbridges to be provided on-site.	Design and construction
Multiple in and out doorways with fast closing doors and wheel baths are to be used.	Design and construction
There will be two waste compactors to load shipping containers.	Design and construction
Preparation of an operational management plan, to the satisfaction of the Authority, to include: • Load acceptance protocols which would include initially spreading and inspecting every load that is tipped for any smouldering elements or igniting substances. • Any fire risks would be isolated and removed.	Prior to construction

• Loads that are problematic or generate fire risk would not be accepted. • Wastes will be processed for recyclable material expeditiously. • Waste residues will be compacted into sealed ISO containers. • Fixed fire management equipment will be installed above the tipping floors and the equipment. • An emergency management plan including contingency plans for rail and business interruptions. • Regular maintenance and upkeep of infrastructure and contingency equipment options. • Inclusion of a back-up power supply. • Alternate diversion contingency plan. • On-site contingency plan for equipment failure. • Two separate processing lines with by-pass arrangements. • The ventilation system will utilise two variable speed extraction fans that will operate at 75% capacity. • Two items of each equipment such as forklifts, loaders and excavators to allow operations to continue. • Service contracts/replacement arrangements from suppliers to allow operations to continue or be repaired expeditiously. • A description of a range of critical parts for all equipment to minimise downtime. • A minimum of 8 hours downtime to be scheduled daily to allow servicing and maintenance. • A description of access and connection to portable generators. • Procedure to source hire equipment from local hire companies for short notice deployment. • Procedure for hazardous and non-conforming wastes as it arrives and is tipped. • Traffic management • Control and monitoring procedures for incoming waste. • Waste handling procedures • Hazardous waste prevention and response management • Leachate management • Odour, noise and dust controls • Fire management procedures • Vermin and pest management controls • Spill management procedures • Complaint and incident reporting procedures • Staff induction/training	
Operational management plan to be incorporated into an environmental agreement with EPA or waste licence with TCCS.	Prior to operation

3.11.5. *Residual impact assessment*

The table below details the residual risk, after mitigation and avoidance measures are applied.

Table 25 – Residual impact assessment (Hazard and risk)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	**Likelihood** (after mitigation)	**Consequence** (after mitigation)	**Residual risk**
Fire or explosion originating in the facility impacting on surrounding land uses and human health	Medium	Unlikely	Minor	Low
Risk of bushfire or fire on neighbouring sites impacting the proposed facility	Medium	Remote	Minor	Negligible
Insufficient water supply from tanks and mains for fire suppression in the event of an emergency	Medium	Remote	Moderate	Very low
Hazard to aircraft operations from MRF vent plume	Low	Remote	Moderate	Very low
Critical infrastructure failure	Medium	Remote	Moderate	Low
Safety of workers	Medium	Unlikely	Minor	Very low

4. Policy considerations

Several ACT policies were considered in the preparation of this EIS as outlined below.

4.1. National Capital Plan

The object of the National Capital Plan (NCP) is to ensure that Canberra and the Territory are planned and developed in accordance with their national significance. The NCP provides guidance for the planning, design and development of Designated Areas and other areas identified in the NCP with special requirements.

The EIS (at section 4.1) states that the proposal is not subject to special conditions under the NCP and is not in a Designated Area – this is confirmed with a statement from the NCA at Appendix V. The EIS concludes that the proposal does not impact NCA arterial road policies.

4.2. Territory Plan

4.2.1. Statement of Strategic Directions

The EIS provides a general statement reciting government principles to give effect to the main objective of the Territory Plan as required by the PD Act.

In general, the statement of strategic directions provides guidance for the content of the Territory Plan and is intended to also guide the planning and development of the ACT. It is noted that, in accordance with s 128 of the PD Act, an impact track DA must be consistent with the statement of strategic directions in the Territory Plan. Any future DA will need to address the requirements of the Territory Plan and PD Act as supporting documentation for the application.

4.2.2. Territory Plan Codes

The EIS states (at 3.3.1) that the proposal is consistent with the key objectives of the Industrial Mixed-Use Zone. The subsequent DA related to the EIS must be assessed against all relevant codes of the Territory Plan.

The EIS states that the development will:

- Support and diversify industrial based employment by offering a new type of facility to the ACT which will employ 48-full time staff and 10 part-time staff
- Offers greater investment in the industrial activities in Fyshwick and makes use of the underutilised existing rail infrastructure
- Provides centralised industrial based employment opportunities
- Adopts innovative technology and best practices to achieve high environmental standards of cleaner production, waste disposal, noise and air quality
- Includes innovative design features to ensure construction and operations are energy efficient and does not significantly impact the local area
- Adopts modern design principles that will reflect the industrial character of the area
- Continues the use of industrial land.

4.3. 2018 ACT Planning Strategy

The EIS recites the strategic direction and actions of the 2018 ACT Planning Strategy.

4.4. Statement of Planning Intent

The EIS describes the statement of planning intent and key planning priorities issued by the Minister for Planning in 2015.

4.5. ACT Climate Change Strategy 2019-2025

The ACT Climate Change Strategy outlines steps that will be taken to reduce emissions in the ACT. The EIS describes the ACT policy position on climate change. Additionally, the EIS recites ACT government waste strategy (waste hierarchy to avoid waste, reuse waste, dispose of waste) with emphasis on avoiding waste generation to minimise greenhouse gas emissions.

The EIS states that the proposal will reduce waste sent to landfill and thereby reduce emissions generated from waste landfilling, which is aligned with the ACT Climate Change Strategy.

4.6. Transport for Canberra 2012-2031

Transport for Canberra sets the policy direction for ACT transport. The EIS states that the proposal meets the policy direction by using rail infrastructure, reduced reliance on road freight and creation of ACTs only rail shunt with the intention to allow the shunt to be used by other businesses for import/export of goods.

4.7. ACT Sustainable Energy Policy 2011-2020

The focus of the ACT Sustainable Energy Policy 2011-2020 was on reliable and affordable energy, smarter use of energy, cleaner energy and growth in the clean economy. The EIS referenced the policy, highlighting how waste recovery and recycling reduces energy use. The EIS states the diversion of waste from landfill and transport via rail assists in establishing a cleaner economy, diverting waste from landfill.

4.8. Waste management policy

The proposal describes connections and consistency with ACT Government waste management policies (ACT Waste Management Strategy 2011-2025; ACT Waste Feasibility Study 2015) and demonstrates alignment with waste principles of the *Waste Management and Resource Recovery Act 2016*.

4.9. Waste Regulation

The *Waste Management and Resource Recovery Act 2016* places regulatory requirements upon waste management activities in the ACT. The EIS recognises the applicable licensing and reporting requirements that apply to the proposal.

4.10. Environment Protection

The *Environment Protection Act 1997* regulates pollution generating activities and activities that may cause environmental harm. The EIS states that the proposed development is directly compliant with the main objectives of the *Environment Protection Act 1997* because it promotes clean production technology, reuses and recycles materials and minimises waste.

The EIS recognises the applicable licensing and reporting requirements that apply to the proposal.

5. Other considerations

5.1. Principles of ecologically sustainable development

5.1.1. Economic, environmental and social considerations

The EIS states that the proposal will create jobs and will have environmental benefits by reducing waste to landfill and increasing recycling in the ACT. Impacts have been considered through a range of proposed mitigation measures.

5.1.2. The precautionary principle

The precautionary principle can be summarised as where there are threats of serious or irreversible environmental damage, a lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

The precautionary principle has been addressed in the EIS and was considered by the Authority. The EIS states that there are no threats of serious or irreversible environmental damage arising from the project. The proponent has addressed impacts in the EIS and supporting documentation. The EIS states there is no risk of irreversible environmental damage as the facility does not store or keep waste material long term and is a sealed building to prevent impact on the environment.

5.1.3. The principle of inter-generational equity

The inter-generational equity principle means that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.

The benefits to future generations include employment opportunities, reducing waste sent to landfill and increasing recycling in the ACT.

5.1.4. The conservation of biological diversity and ecological integrity

This EIS assessment report notes that the current site is a fully developed industrial block and vastly different from the original ecological environment that was once present.

Conservation of biological diversity and ecological integrity were not EIS triggers, however, potential impacts associated with contaminated runoff, for example, have been considered.

5.2. Proponent's environment history

The EIS includes a statement from the proponent on environmental history. The EIS states that CRS is a new joint venture and as such has no environmental history. The EIS indicates the joint venture partners of Benedict industries Pty Ltd and Access Trading Company Pty Ltd (Access Recycling) who have no penalty notice history. The EIS indicates the joint venture partner Benedict Industries has two prior penalty notices for site location Moorebank (NSW) and two prior penalty notices for site location Sandy Point (NSW).

6. Summary and Recommended conditions

After considering the revised EIS, the Authority recommends DA considerations and draft conditions of approval, as well as, matters identified for further consideration. This will assist with the avoidance and mitigation of adverse environmental impacts as identified in the EIS and this assessment report.

Any DA related to the completed EIS must consider and respond to these DA considerations as part of the application. In deciding a DA in the impact track, the Authority must consider matters raised in the completed EIS and EIS Assessment Report. The information gathered through the EIS process is used to assist in the decision-making process for an impact track DA. Any matters highlighted in the EIS process as being critical for the decision-making process will need to be clearly addressed as part of the impact track DA.

Information that will need to be submitted at the detailed design (DA) stage for assessment is outlined below. This list is not exhaustive and other requirements in accordance with the Territory Plan and the PD Act will also need to be met.

Traffic and parking

A traffic and parking assessment report will be required for any subsequent DA. The report must provide an assessment relating to the final design and include SIDRA data, detail on construction traffic and parking. The DA will be assessed against the requirements of the Territory Plan, TCCS design standards and PD Act.

Utilities

An external services plan must be provided with the DA outlining the final design and relocation of services. The external services plan must make clear proposed services that are part of the DA submission. It is noted that Evoenergy requires a new twin padmount substation with main switchboard to be located on-site.

Materials and Waste

The DA must include emergency management options for the proposed facility. The emergency management options must identify other solutions, including licenced landfills that will have capacity to accept waste if Mugga is not operating at full capacity. The DA and emergency management plan should provide multiple options to ensure the waste is managed appropriately and incorporated into an environmental or waste licence.

The DA must also provide detail on waste types to be handled and propose maximum capacities for each waste type. Storage areas within the MRF building will need to be identified with the maximum capacities.

Building design will need to reflect the measures proposed in the EIS and noted in this assessment report.

Landscape and visual

The DA must include the detailed design of the proposed buildings, storage areas and the proposed and existing landscaping. The DA must demonstrate that the detailed design is consistent with the requirements of Territory Plan and PD Act.

Contamination

The DA must include contamination management measures which will be part of the Remedial Action Plan (RAP) that is consistent with the EIS and appendices. The contamination measures must demonstrate how contaminated soil and groundwater (including Jerrabomberra Creek) will be managed during remediation of the site. The details will be considered further as part of the DA assessment process.

The DA must also outline the proposed method for leachate disposal, given EPA have not supported the transport and/or disposal of leachate interstate.

Detailed design will need to reflect the measures proposed in the EIS and noted in this assessment report.

Air quality and climate change

As described above, the DA must provide detail on waste types to be handled and propose maximum capacities for each waste type. Storage areas within the MRF building will need to be identified with the maximum capacities.

Hazardous waste

The DA will need to provide detail of storage areas for hazardous waste within the MRF building. The areas must provide detail of maximum capacities and any further management measures.

Hazards and risks

The DA will need to detail locations and access requirements for the proposed firefighting equipment, hydrants, tanks etc. Water tanks must include proposed locations and capacities.

Building design will need to reflect the measures proposed in the EIS and noted in this assessment report.

Recommended conditions

The table below sets out draft conditions of development approval that could be applied to the development. These conditions provide mechanisms to reflect mitigation and avoidance measures proposed in the EIS.

Table 26 – Draft Conditions of Development Approval

No.	Condition contents	Endorsement/approval	Construction stage	Draft condition of approval
1.	Construction environmental management plan (CEMP)	Planning and land authority	Prior to construction	Prior to construction, a construction environmental management plan (CEMP) is to be prepared and to be endorsed by the planning and land authority. The CEMP must include all mitigation measures proposed in the EIS and can incorporate any other relevant management plans. The CEMP must include improved remedial measures consistent with the EIS. The CEMP must include management of contaminated soil, dust, water, odour, gas and vapour, vehicle control and worker health and safety. Note: The CEMP will be referred to relevant entities for endorsement.
2.	Temporary traffic management plan (TTMP)	Transport Canberra and City Services	Prior to construction	Prior to construction, prepare a temporary traffic management plan (TTMP) to be endorsed by Transport Canberra and City Services (TCCS). The TTMP must incorporate mitigation measures from the EIS.
3.	Remedial Action Plan (RAP)	Environment Protection Authority (EPA)	Prior to construction	The site must be assessed and remediated by a suitably qualified environmental consultant and the works independently audited by an EPA approved contaminated land auditor prior to any change of use of the block. All works must be in accordance with the approved RAP.
4.	Construction environmental management plan (CEMP)	N/A	Construction	All works must be in accordance with the approved CEMP.

5.	Temporary traffic management plan (TTMP)	N/A	Construction	All works must be in accordance with the approved TTMP.
6.	Remedial Action Plan (RAP)	Environment Protection Authority (EPA)	Demolition/construction	All mitigation measures relating to soil and groundwater contamination and site management during remediation in the RAP must be implemented. At completion of remediation and vapour protection works, a site validation report must be prepared in accordance with EPA guidelines. The validation report must be reviewed and endorsed by an accredited Site Auditor and forwarded to the EPA for review and endorsement within 15 working days of the completion of the report.
7.	Operational & Environmental management plan (OEMP)	Planning and land authority	Prior to operation	Prepare an Operational & Environmental Management Plan (OEMP) and have it approved by the planning and land authority. The OEMP must incorporate all mitigation measures from the EIS.
8.	Operational & Environmental management plan (OEMP)	Environment Protection Authority/Transport Canberra and City Services	Prior to operation	Operational management plan to be incorporated into an environmental agreement/licence with Environment Protection Authority or waste licence with TCCS.

7. Conclusion and Providing the EIS to the Minister

Considering the assessment process undertaken and advice received, as outlined in the assessment report above, the Authority has determined that the EIS provided by CRS sufficiently addresses the requirements of s 222(2)(a) of the Act. Therefore, the Authority has accepted the EIS.

It is the Authority's assessment that the revised EIS has provided sufficient information to the ACT Government and the community to allow an informed evaluation of potential environmental impacts which could be attributed to the proposal.

In coming to this conclusion, the Authority has closely assessed the EIS provided by CRS, including all revisions made through the revised EIS and further information processes (s 224 Notices).

The Authority has also considered in detail the findings of the ARUP Report and the deficiencies identified in that report. The Authority accepts the findings of the ARUP Report, but does not consider these to be of sufficient substance to warrant refusal of the EIS, when considered in the context of the legislative requirements for an EIS. The matters raised by ARUP can, and will be required to be, appropriately addressed by the proponent when lodging a DA in the impact track for this proposal.

CRS has proposed a range of avoidance, mitigation and management measures to reduce, avoid potential environmental impacts arising from construction and operational activities associated with the project. It is considered that the EIS has provided sufficient information relating to the potential adverse impacts of the proposal. A subsequent DA will need to address the mitigation measures and the DA conditions and considerations specified in this report.

The Authority has provided this report to the Minister in accordance with s 225 of the PD Act.

The Minister has the following options under the PD Act in relation to the EIS:

- **Option 1** - take no action on the EIS
    i. This option applies if the Minister decides not to establish an Inquiry Panel and decides not to present the EIS to the Legislative Assembly;
- **Option 2** - not establish an inquiry panel, but present the EIS to the Legislative Assembly; or
    i. The EIS process is complete upon the Minister's decision not to establish an Inquiry Panel.
- **Option 3** - establish an inquiry panel to inquire about the EIS
    i. The EIS process will be complete at the finalisation of the inquiry panel report.

Under s 228 of the PD Act, the Minister must decide to establish an inquiry panel within 15 working days of receiving this assessment report.

For options 2 and 3 above, the Minister may also choose to present the EIS to the Legislative Assembly under s 227 of the PD Act. However, this does not affect whether the EIS process is considered complete (see s 209(2) of the PD Act).

Appendix 1 – Final scoping document

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Appendix 2 – First section 224 notice

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Appendix 3 – Second section 224 notice

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Appendix 4 – Independent review (ARUP Report)

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