

Jet Zero

RESPONSE TO COORDINATOR-GENERAL REQUEST FOR ADDITIONAL INFORMATION

PROJECT ULYSSES
RFI NUMBER: APP-002/2025

Originator: Tellina Finlay
Reviewer: Meredith Hutton
Approver: Lochlan Gibson

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TQ/RFI number:	APP-002/2025	Project title:	Project Ulysses
Requestor	Steffen Poetzsch, OCG	Response by:	Jet Zero – Approvals
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1. DESCRIPTION OF TECHNICAL QUERY / INFORMATION REQUEST

Jet Zero Australia Pty Ltd has lodged a development application for Material Change of Use – Special Industry (Sustainable aviation fuel) within the Townsville State Development Area (Townsville SDA). The application is currently under assessment by the Coordinator General in accordance with the *State Development and Public Works Organisation Act 1971* (SDPWO Act).

On July 16 July 2025, the Coordinator-General issued a request for further information (reference APP-002/2025), seeking clarification and additional technical detail to support the comprehensive assessment of the proposed development (refer **Appendix A**). The requested items are summarised and addressed in the table below.

2. RESPONSE TO COORDINATOR-GENERAL REQUEST FOR ADDITIONAL INFORMATION

The following section provides Jet Zero’s formal response to the requested information. Each item has been addressed with the aim of providing the necessary technical clarification to inform the ongoing assessment of the application and is provided as the Applicant’s full response.

In preparing this response, Jet Zero has engaged with the Office of the Coordinator-General, including a formal meeting held on 31 July 2025 and subsequent discussions to confirm the intent and scope of items raised. These discussions have informed and guided the responses provided in this document, and accordingly all matters raised are considered to be appropriately addressed through the supporting material enclosed.

Mapping and Site Layout

Item 1 – Site access

Section 2.5.1 of the Townsville State Development Area Development Scheme (May 2019) (development scheme) requires that development avoids or minimises adverse impacts on existing or proposed local government infrastructure and services. Planning Report – Development Application – Material Change of Use – Special Industry, reference, 28011007-HSE-REP-00007, revision 0, dated 17 June 2025 (planning report) notes that the site is abutted to the south by an unformed road reserve. The site layout plan (document reference 2811007-PI-PLA-00001_0) and swept paths included in Appendix E of the Jet Zero Townsville Traffic Impact Assessment, prepared by Bitzios, reference P6680.003R, version 003, dated 24 March 2025 (TIA) indicate that site access/egress includes the use of the unformed road to the south.

Townsville City Council have confirmed that the rollout of Council infrastructure within the adjoining unformed road reserve is not anticipated in the foreseeable future.

If use of the unformed road is proposed, details of how the road will be formed needs to be included in the SDA application.

The proponent is requested to:

- (1) Amend site access arrangements to remove direct access to the unformed road and demonstrate sufficient access through the private access handle.
- (2) Demonstrate how vehicle manoeuvring will occur onsite without access being available to the unformed road.

Alternatively, the proponent is requested to:

(3) Provide details on how the road will be formed, including:

- i. the length and width of road to be constructed in accordance with Townsville City Council design standards
- ii. consideration of environmental and flood impacts
- iii. in-principle support from Townsville City Council.

In response to Item 1, the proposed site layout has been amended to ensure that all site access arrangements are wholly contained within the access handle of proposed Lot 35, which comprises part of existing Lot 31 and Lot 36 on SP341877, in accordance with approval AP23/0013.

Refer to the amended site layout plan prepared by Technip Energies, included at **Appendix B**.

The revised layout confirms the following:

- All access to the developable area will be via the dedicated private access handle associated with proposed Lot 35.
- No access is proposed via, or reliant upon, the unformed road reserve to the south of the site.
- The constructed access will be a private asset, and no public infrastructure is proposed or required as part of the access arrangements.

This arrangement is consistent with Section 2.5.1 of the *Townsville State Development Area Development Scheme (May 2019)*, as it avoids reliance on undeveloped or future public infrastructure and ensures no adverse impacts on existing or proposed local government assets.

Additionally, the Traffic Impact Assessment (TIA) prepared by Bitzios Consulting has been updated to reflect the amended site plan, refer **Appendix C**. It is considered the amended TIA sufficiently demonstrates appropriate vehicle manoeuvring to be wholly contained within the subject site. In particular:

- All access is provided via the access handle associated with proposed Lot 35, with access through the unformed road reserve removed.
- Updated swept path analysis confirms all vehicle manoeuvring can be accommodated within the site.
- The referenced site plan has been revised, demonstrating clear delineation of the private access road and internal manoeuvring areas.
- No new intersection treatments or road upgrades are proposed.

The proposed access arrangements associated with the site is further detailed within Section 4.5. of the Planning Report.

Item 2 – Elevations

While the planning report includes conceptual development layout images and states the height of some structures on the site, scaled elevations are required to understand the visual and built form impacts of the proposal. Section 2.5.11 of the development scheme requires that the visual impacts are minimised when viewed publicly access viewpoints.

The proponent is requested to:

(1) Provide plans with an appropriate scale showing indicative elevations of buildings and structures on the site.

In response to Item 2, elevation plans have been prepared by Technip Energies, included at **Appendix B**.

As requested, the plans illustrate northern, eastern, southern, and western elevations of the proposed development and include key dimensions relating to the built form.

The indicative plans illustrate the proposed development primarily comprise structures equivalent to single storey industrial structures. Larger structures associated with the processing operation are located centrally

within the development site, with the approximate maximum height of 55m being the proposed flare structure.

The elevation plans provided are for indicative assessment purposes and will be refined during detailed design. However, they provide a clear representation of the overall scale and form of the proposed development, in accordance with the request item.

Additionally, 3D renders are provided at **Appendix D** to further illustrate visual impact of development extent.

Item 3 – Laydown area

Section 2.3 of the development scheme requires land to be used efficiently and in a way that does not compromise future development opportunities. The planning report states that the laydown area is a flat cleared area for construction, equipment and logistics. Further explanation about the need for this area and how this area will function after construction, as shown on the site layout plan is required.

The proponent is requested to:

(1) Provide further detail on the activities proposed to be undertaken in the laydown area.

The proposed laydown area has been strategically incorporated within the site layout to support both immediate construction activities and the long-term operational flexibility of the facility.

The laydown area is identified for future expansion of the facility. While the scale and timing of any expansion works are yet to be confirmed, these will be reviewed following commencement of operations and in response to market demand. The ability to accommodate future development within the existing site boundary is considered essential to the long-term commercial viability of the project, particularly given the specialised nature of the facility and the anticipated increase in demand for SAF production capacity over time.

In the interim, and as part of the initial development phase, the laydown area will be utilised as a construction logistics area. Specifically, the area will generally accommodate components of the following nature:

- Temporary storage of construction materials, plant, equipment, and prefabricated components;
- Assembly and pre-installation works; and
- Temporary site facilities including construction site offices and worker amenities.

Following completion of construction, Jet Zero intends to retain the cleared laydown area to support ongoing operations and periodic workovers. These maintenance events will require short-term use of the area for storage and staging.

Services

Item 4 – Connection of services to Colinta Road

Under section 2.5.1 of the development scheme, it is a requirement that development demonstrates it can be adequately serviced. The planning report states that the development will be serviced via connection to Council's services that are currently provided to the Colinta Road frontage of the site. However, it is necessary to understand the extent of works that are required to be undertaken in the access handle to facilitate the provision of services from Colinta Road to the site, taking into consideration the road infrastructure requirements approved as part of OPW24/0107.

The proponent is requested to:

(1) Provide an engineering services report for the development, that includes details of how the development site will connect to Council's services from the Colinta Road frontage.

A meeting to discuss the Information Request was held with the Office of the Coordinator-General (OCG) and applicant representatives on 31 July 2025, during which it was confirmed that the intent of this item is to demonstrate that essential infrastructure services such as water, sewer, electricity and communications can be appropriately located within the access handle to service the developable area of the site.

It is confirmed that all required services can be appropriately accommodated within the proposed access handle associated with Lot 35 on SP341877, refer **Appendix E**. It is noted that the plans provided are indicative only, with the detailed design of the utilities corridor to be undertaken at the detailed engineering design stage. Further, during the meeting it was confirmed the capacity of the existing reticulated water and sewer networks servicing the subject site are adequate and no further capacity assessment is required to support the development application.

Specifically, **Appendix E** nominates a utilities corridor along the northern side of the road corridor, extending the full length of the access road. In accordance with the proposed design, all associated servicing will be wholly contained within the access handle and located within the bounds of the constructed access road.

Further detail and assessment of the proposed works will be undertaken with subsequent development application for Operational Work.

Item 5 – Stormwater/Flooding

As noted above, the site is abutted to the south by an unformed road reserve. Discussions with Townsville City Council have confirmed that the rollout of Council managed infrastructure within the adjoining unformed road reserve is not anticipated in the foreseeable future. Therefore, stormwater management infrastructure (e.g. diversion swale) identified in the Stormwater Management Plan, file name 12617711-REP-Ulyssis Water Management Report_SMP_3.docx, prepared by GHD Pty Ltd, revision 3, dated 9 April 2025 (stormwater management plan) and flood mitigation infrastructure (e.g. proposed minor levee) identified in the Flood Impact Assessment, report reference MJ2601-FIA, prepared by Northern Consulting Engineers, revision A, dated 17 February 2025 (flood impact assessment) cannot be located within the unformed road, unless in principle support from Townsville City Council has been provided.

The proponent is requested to:

(1) Amend the stormwater management plan and flood impact assessment to remove stormwater management and flood mitigation infrastructure located in the unformed road to the south, unless in principle support from Townsville City Council has been provided.

(2) If in principle support has not been provided by Townsville City Council, alternative stormwater management and flood mitigation measures must be incorporated into the respective reports.

Flood

A Flood Impact Assessment (FIA) prepared by Northern Consulting Engineers (NCE) was lodged as part of the planning application, and is included at **Appendix F** for ease of reference. The FIA identified and assessed a range of potential mitigation measures to address localised flood behaviour across the subject site. In particular, the FIA identified a minor levee within the unformed road reserve to the south of the subject site as one potential flood mitigation option. However, as outlined in section 4.5.1 of that report, an alternative internal management approach was also considered and has been adopted for the proposed development.

This approach involves accepting the limited overland flow entering the southern portion of the site from the adjacent south. The FIA confirms the volume and velocity of this flow is minimal, and that it can be appropriately managed without the need for constructed flood mitigation infrastructure. The proposed development layout is capable of incorporating minor grading adjustments to accommodate these flows internally, without affecting adjoining properties or requiring external infrastructure. Accordingly:

- No flood mitigation infrastructure is proposed within the unformed road reserve;
- The development site maintains compliance with relevant flood immunity criteria, including during the 1% AEP event; and
- The adopted approach satisfies the performance outcomes of the Townsville SDA Development Scheme and the Townsville City Plan.

In response to the Information Request, this approach has been reconsidered. It is now proposed to remove the levee option and instead accept the minimal sheet flow that traverses the site during major events. This flow has been assessed as relatively minor and can be safely accommodated within the site without the need for dedicated flood mitigation infrastructure.

This approach is consistent with the options already identified in the FIA, and is specifically referenced in Section 4.5.1 of the FIA as an acceptable outcome. On this basis, no amendments to the FIA are required, as the report already contemplates and supports this mitigation option.

Stormwater

An amended Stormwater Management Plan (SMP) prepared by GHD Pty Ltd (GHD) is provided at **Appendix G**. The stormwater management regime has been updated to ensure all stormwater management infrastructure is located entirely within the subject site boundary and does not rely on the unformed road reserve to the south.

The revised stormwater strategy includes the provision of on-site detention and treatment infrastructure designed to manage stormwater quality in accordance with relevant State Planning Policy and Townsville SDA provisions. The proposed regime ensure that post-development flows do not exceed pre-development conditions at the lawful point of discharge.

Construction

Item 6 – Construction impacts

While it is understood that the specific construction methodology may only be able to be determined through the detailed design stage of the development, it is necessary to understand the scale of off-site impacts that may be anticipated during the construction stage and how these are proposed to be managed or mitigated. In particular, while the access handle is designed to accommodate the operational traffic requirements of the facility, it is unclear if it is designed to accommodate construction vehicles/requirements of the type required for the development. Further, under section 2.5.1 of the development scheme it is necessary for development to avoid or minimise adverse impacts on existing state or local government infrastructure. Therefore, any construction impacts on state and local government roads must be addressed, particularly if oversize overmass vehicles are proposed to be used for construction of the development.

The proponent is requested to:

- (1) Provide a preliminary construction management plan that addresses, at a minimum:
 - i. Impacts of construction on state and local roads and how these will be managed or mitigated.
 - ii. Impacts on environmentally sensitive areas from the use of the access handle by construction vehicles and how these will be managed or mitigated.

Jet Zero have completed a Preliminary Construction Management Plan (PCMP) (refer **Appendix H**) to assess the potential construction-related impacts as a result of the proposed development. The PCMP confirms that construction traffic will access the site via the proposed access handle from Colinta Road, which has been designed to accommodate operational and construction vehicle loads. The access handle will be sealed and constructed to relevant design standards as part of works approved pursuant to Operational Work approval OPW24/0107.

The PCMP confirms that construction traffic, including heavy vehicles and oversize/overmass vehicles, will be managed via a traffic management plan to be developed by the appointed contractor. Construction activities will be undertaken in accordance with relevant State and local government road management requirements, including permits for oversize/overmass movements where applicable. Site entry and egress points have been designed to allow safe manoeuvring of large vehicles without reversing onto public roads.

Environmental impacts associate with construction vehicle use of the access handle will be minimised through sediment and erosion control measures, dust suppression, and the restriction of vehicle movements to designated access routes. All construction activities will be confined within the approved disturbance footprint and managed in accordance with the mitigation measures outlined in the Ecological Assessment and Environmental Management Plans.

The PCMP will be refined and updated during detailed design and prior to the commencement of works, to reflect contractor methodologies and regulatory requirements.

Item 7 - Earthworks

The planning report states that earthworks on the site have been approved by the previous operational works approval OPW24/0107, however section 8.6.8 of the planning report also states that that earthworks will be subject to a future operational works application. Clarification of the extent and location of any additional earthworks required for the development is required.

The proponent is requested to:

- (1) Confirm if any additional earthworks (cut or fill) are required for the development, beyond those approved under the previous operational works approvals OPW22/0066 and OPW24/0107.
- (2) If additional earthworks are required, provide detail on the location and extent of earthworks that will be undertaken.

Jet Zero acknowledge that additional earthworks may be required to support the detailed design and construction of the development. While the bulk earthworks approved under OPW24/0107 establish the general site levels and access road construction, potential further refinement of finished levels and localised cut/fill is expected as part of future operational works applications.

At this preliminary phase, the level of engineering design completed is insufficient to confirm the precise extent or location of any additional earthworks beyond those already approved under OPW22/0066 and OPW24/0107. It is anticipated the extent of required earthworks will be defined as part of the detailed engineering and design process, which will confirm the extent of works required for assessment within a subsequent development application or Operational Work.

However, it is anticipated the extent of earthworks will largely involve:

- Foundations for the major site infrastructure such as the process plant, tank storage, switch room and truck loading / unloading facility.
- Provision of services to the facility site (i.e. water, sewer, etc. within the access handle).
- Stormwater drainage routes and bioretention basin.

Ecological Impacts**Item 8 – Clearing of Vegetation**

Reference is made in the planning report and the Ecological Assessment Report, document number 28011008-HSE-REP-0008, revision 0, dated 8 May 2025 (ecology assessment report) to the existing operational works approval OPW24/0107 for the clearing of vegetation. The SARA referral agency response provided with OPW24/0107 refers to permanent impacts to marine plants of 2,003.4m² within the site. However, the ecological assessment report refers to 2,480.5m² of marine plants being disturbed.

The proponent is requested to:

- (1) Confirm if the clearing of native vegetation, marine plants and wetland vegetation will be in accordance with the areas approved by operational works approval (OPW24/0107) and if there is any additional clearing proposed under the current proposal.
- (2) If additional clearing is required, confirm the location, extent and type of vegetation to be cleared.

The previous vegetation clearing was conducted under the approved Operational Work approval (OPW24/0107), with the proposed development not involving any additional vegetation clearing.

Item 9 – Waterway Barrier Works

Reference is made in the planning report and ecology assessment report to the existing operational works approval for waterway barrier works (OPW24/0107), however it is unclear if any additional works are required as part of the current proposal.

The proponent is requested to:

- (1) Confirm if any additional waterway barrier works are required to be undertaken for the current proposal other than those approved under the operational works approval OPW24/0107.

(2) If additional waterway barrier works are required, confirm their location and type.

The waterway barrier works proposed as part of the development have been previously assessed and approved under Operational Work approval OPW24/0107 associated with the parent subdivision, which included all necessary culvert crossings and associated works within mapped waterways.

The current Material Change of Use application does not propose any additional waterway barrier works beyond those already approved under OPW24/0107. The proposed development layout and concept civil design have been designed to remain consistent with the scope and extent of those approved works, and no new or modified barriers to fish passage or water flow are introduced as part of this application.

Accordingly, it is confirmed at this stage of the development the proposal does not involve any additional waterway barrier works to be undertaken other than the previously approved works associated with OPW24/0107 to deliver the Project.

During the detailed design phase of the Project any additional waterway barrier works will be confirmed, and if required, assessed as part of a subsequent Operational Works application.

Item 10 – MNES and MSES

The ecological assessment report has inconsistencies between the sensitive fauna and habitat identified within the development site described at Table 11 and the potential impacts to habitat described in sections 4.1.5, and 4.1.9. For example, Table 11 describes the site as being located within the southern margin of the 'Cleveland Bay' important migratory habitat (fish habitat and migratory shorebirds) and field surveys identified sensitive fauna species protected as MNES and MSES intersecting the project area (including the access road). However, the potential and actual impacts described under section 4.1.5 describes that 'loss of core habitat poses the greatest direct threat to MSES' and 'no direct habitat loss or degradation' and 'minor/inconsequential threat'.

The proponent is requested to:

Confirm the sensitive fauna species and habitat that have been identified as MNES and/or MSES within the development site and surrounding environment, and the potential and/no actual impacts to MNES and/or MSES.

An amended Ecological Assessment Report (Revision 1) is provided at **Appendix I** to address the matters raised regarding MNES and MSES. The amended report provides clarification on the identification of sensitive fauna species and associated habitat within the development site and surrounding area, and resolves the inconsistencies identified. In particular, the amended report:

- Confirms the MNES and MSES values identified through updated desktop analysis and field investigations (including Table 11);
- Clarifies the nature, extent and significance of potential and actual impacts associated with the proposed development (Section 4.1.5 – 4.1.10);
- Demonstrates the impacts to MNES are not significant and that potential impacts to MSES are limited in extent and duration (Section 4.1.5 – 4.1.10); and
- Outlines relevant avoidance and mitigation measures to minimise ecological disturbance during construction and operation (Section 4.2 and 4.3).

Item 11 – Ecological Impacts

The ecological assessment report does not provide sufficient details on the threats of the proposal to ecological values. In particular, it is unclear what construction, operational and decommissioning activities may impact on ecological values and limited information is provided on the magnitude, duration and frequency of impacts. There is inconsistency between the mitigation measures and management described under the impact assessment (sections 4.1.1 to 4.1.9) and those mitigation controls identified in section 4.1.10. For example, section 4.1.2 describes allowing for a buffer distance to habitat to the north, however section 4.1.10.3 does not list the buffer as a mitigation measure.

The proponent is requested to:

(1) Provide a detailed assessment of the potential and actual impacts on ecological values associated with the construction, operational and decommissioning phases of the development, including the magnitude,

duration and frequency of impacts. Please include details of management and mitigation measures that are proposed to be used.

The Ecological Assessment Report (Revision 1), provided at **Appendix I**, has been updated to include additional detail on the potential and actual impacts to ecological values associated with the construction, operational and decommissioning phases of the proposed development.

The reference to a buffer distance to habitat to the north relates to the physical separation between the proposed noise-generating infrastructure (e.g. compressors) and the adjacent habitat to the north, which supports foraging fauna. This separation is a spatial outcome of the site layout rather than an active mitigation measure. A designated 'noise buffer' is not proposed as a formal control to mitigate noise impacts on fauna habitat. Noise management will instead be addressed through equipment selection, placement and adherence to applicable acoustic criteria, as outlined in the Noise Impact Assessment.

Waste Management

Item 12 – Waste management

Under section 2.5.1 of the development scheme, it is a requirement that development in the SDA incorporate waste minimisation practices and considers refuse collection and disposal.

The proponent is requested to:

(1) Please provide details of waste management practices to be incorporated in the operation of the development.

Details of the waste management practices for the construction and operational phases is provided in section 2.1 below.

Fire and Explosion Impacts

Item 13 – Hazard contours

The FEA report states that hazards are largely contained on-site, however the report contains diagrams that show multiple contours extending beyond the site's boundaries. A visual demonstration of off-site hazard impacts is requested to understand the extent and nature of potential impacts.

The proponent is requested to:

(1) Provide hazard contours (thermal radiation, explosion overpressure, toxic gas dispersion) relative to site boundaries, land use zones (sensitive/vulnerable/industrial), roads and adjacent facilities (where applicable).

The Fire and Explosion Risk Assessment submitted with the application includes hazard consequence modelling in accordance with State Code 21 and relevant guidance from the Office of Industrial Relations (OIR). This modelling incorporates the assessment of credible consequence scenarios, including flammable vapour cloud dispersion (LFL), BLEVE radiant heat, and overpressure effects from potential loss-of-containment events.

In accordance with pre-lodgement advice provided by OIR, the occurrence of risk or hazard contours extending beyond the site boundary, in particular into non-sensitive or unoccupied areas, is not, in and of itself, a fatal flaw. The OIR has acknowledged that exceedance of individual performance outcomes may be acceptable where:

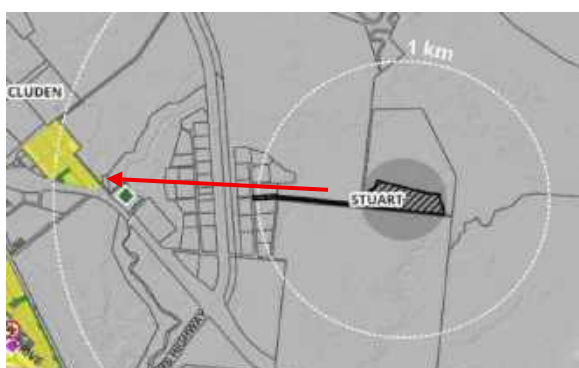
- The nature of the receiving environment (e.g., unoccupied saltmarsh or undeveloped land) does not give rise to significant risk exposure;
- A holistic risk management approach is adopted, consistent with the purpose statement of State Code 21; and
- A clear justification is provided for consequent parameters, including realistic event frequencies and inventory-specific characteristics (e.g., chemical type, mass, operating conditions).

The hazard contours, including those extending beyond the site boundaries (as shown in Figures 17 to 19 of the Planning Report, and the FEA appended to that report), demonstrate that for all scenarios, hazards are largely contained within the site, with only a small area extending beyond the boundaries. These areas, as demonstrated by the consequence scenarios are limited in extent, do not impact occupied or developable

land, and pose no material risk to external sensitive receptors. Additionally, it is noted that consequence scenarios are appropriately conservative but bounded by plausible physical failure modes.

Figure 16 of the development application identifies the locations of surrounding sensitive receptors, with the nearest receptor situated approximately 2.3 km (Big 4 Holiday Park) and 2.6 km (residential areas) to the east of the nearest development boundary, as indicated by the red arrow below:

Sensitive Receptor	Nearest Distance
Residential Areas	2.6 km
Educational Facility	4.6 km
Open Space Areas	3 km
Aged Care Facility	5.7 km
Childcare Facility	3.7 km
Health and Medical Facility	3.7 km
Recreational Holiday Park	2.3 km



Item 14 – Emergency exit

Section 2.3 of the development scheme requires development to manage the risks associated with natural hazards, to protect people and property. Further explanation of how the site will be accessed or egressed in an emergency situation is required.

The proponent is requested to:

(1) Provide details of any alternative access routes proposed for emergency access/egress if there is an emergency on site that blocks use of the access handle from Colinta Road to the site (e.g. smoke from bushfire, or incident at the site, or flooding).

Emergency access and egress arrangements have been considered as part of the development design and risk planning for the proposed facility. The site will be accessed via a private access handle from Colinta Road, which serves as the single entry and exit point for both operational and emergency vehicles.

An Emergency Response Plan (ERP) will be prepared prior to commencement of the use and can be managed via reasonable and relevant conditions of approval, if required. The ERP will be developed with critical inputs from the Hazard Identification (HAZID) and Hazard and Operability (HAZOP) workshops, Quantitative Risk Assessment and Safety Case based on the project risks, with incorporated mitigation controls. The ERP will incorporate:

- A detailed hazard and emergency risk assessment (based on the outcomes of the Safety Case);
- Emergency response and evacuation procedures, including coordination with Queensland Fire and Emergency Services (QFES), and WorkSafe QLD; and
- Construction and operational protocols for managing personnel and vehicle movement during emergency events.

Advice Notes

If the development includes works to be undertaken in the unformed road abutting the site to the south, landowner consent is required to be provided.

Further to the response to Item 1 the proposed site layout has been amended to ensure that all site access arrangements are wholly contained within the access handle of proposed Lot 35, which comprises part of existing Lot 31 and Lot 36 on SP341877, in accordance with approval AP23/0013.

It is noted that the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) approval (EPBC 2020/8810) is for the action "To prepare land and establish infrastructure for a new industrial precinct..." and would not be expected to extend to the current proposal. It is recommended that the proponent undertake a self-assessment for the proposed activity (construction and development of the facility) under the EPBC Act and to engage with the Australian Government Department of Climate Change, Energy, the Environment and Water (pre-referral meeting) to determine whether or not a referral may be required.

As part of the Environmental and Social Impact Assessment (ESIA) Process (Jet Zero, 2024¹), Jet Zero conducted several specialists technical studies, including assessment on MNES and MSES, which scope of work included ecology with field-survey components, surface and groundwater samplings to compose the baseline that informed the Ecological Assessment Report appended to the Planning Report, and revised to this response (see **Appendix I**). The Project site and access handle is currently being developed by the land developer, Cleveland Bay Industrial Park (CBIP), and it was observed with recent site visits (July 2025) that the site is cleared of vegetation.

During the ESIA process, the 'self-assessment' process was carefully conducted internally, where it was observed that a referral to DCCEEW under the EPBC Act was not required at the moment of decision. A subsequent self-assessment report has been developed as part of Jet Zero's due diligence where interim observations demonstrates that an EPBC Referral will be submitted to provide project certainty to Jet Zero. A Referral pre-lodgement meeting has occurred with DCCEEW and the Referral will be made in November 2025.

Table 1 of the ecological assessment report states that a species management plan (SMP) is only required where an animal breeding place has been identified within the development footprint. However, Table 10 describes the potential nesting presence of the Eastern Osprey within the development's receiving environment. Further, based on Figure 12, the breeding place of the double-barred finch appears to possibly intercept with the access road footprint. It is recommended that the proponent discuss the proposal with the Department of Environment, Tourism, Science and Innovation, it to confirm if a SMP is required under the Nature Conservation (Wildlife) Regulation 2006.

Jet Zero has engaged with DETSI and submitted an Environmental Assessment Report (EAR) (Jet Zero, 2025²), to support an Environmental Authority application through the Department (application reference 203668). Information regarding the potential for a SMP, as part of the ESIA Process has been included in the report for DETSI appreciation (Section 7.6.1 of the EAR).

¹ Jet Zero 2024, Environmental and Social Impact and Risk Assessment Process, Final Rev 2, Brisbane, Queensland.

² Jet Zero 2025, Environmental Assessment Report, Environmental Authority Application, Project Ulysses, Final Rev 0, Brisbane, Queensland.

2.1. Waste Management

The development will be compliant to the section 2.5.1 of the development scheme, incorporating waste minimisation practices and considers refuse collection and disposal. The following environmental objective and performance outcomes (prescribed under Schedule 8, Part 3, Division 1 of the EP Regulation), will also be achieved:

Environmental Objective: Any waste generated, transported, or received as part of carrying out the activity is managed in a way that protects all environmental values.

Performance Outcomes: Both of the following apply:

- Waste generated, transported or received is managed in accordance with the waste and resource management hierarchy under the *Waste Reduction and Recycling Act 2011*;
- If waste is disposed of, it is disposed of in a way that prevents or minimises adverse effects on environmental values.

Waste management in Queensland is controlled using a number of Acts and policies, including:

- The EP Act provides for the protection of Queensland's environmental values.
- The EP Regulation; EPP Waste, and *Environmental Protection (Waste Management) Regulation 2000* under the EP Act. The EP Regulation defines 'general waste' as waste other than regulated waste. Regulated wastes are wastes that contain hazardous contaminants or may cause environmental harm if improperly managed.
- The *Waste Reduction and Recycling Act 2011* (WRR Act) provides a strategic framework for managing waste and establishes management principles. The *Waste Reduction and Recycling Regulation 2023* (WRR Regulation) provides a mechanism to enforce the WRR Act including waste management planning and reporting requirements.
- The *Queensland Waste Avoidance and Resource Productivity Strategy (2014-2024)* (DES, 2019) provides strategic objectives in dealing with waste in Queensland.

That being considered, this appendix aims to clarify with details of waste management practices aligned and compliant to the abovementioned Acts and policies to be incorporated in the operation of the development:

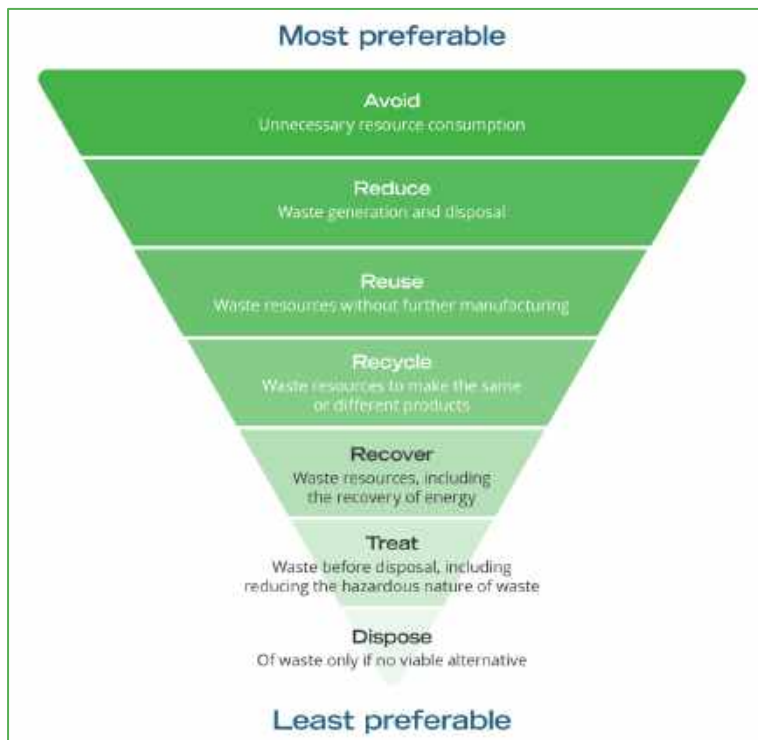
- Waste Management Hierarchy;
- Waste Types and Classification;
- Potential Impacts from Operations Waste Generation;
- Intermittent Waste Streams and Slops;
 - Waste stream / source
 - Waste type
 - Estimated volume and duration
 - Waste treatment and disposal
- Waste Treatment / Disposal and Management Practices.

Waste Management Hierarchy

The waste and resources management hierarchy (**Figure 1** below) is an internationally and nationally accepted guide for waste management practices with the objective of achieving optimal waste management outcomes. This hierarchy promotes waste avoidance and reduction and to encourage resource recovery and efficiency and specifies the preferred order of practices, ranked from most to

least preferred. This hierarchy is reflected in the *Guideline for applications with waste impacts* (DESI, 2024)³ and the EPP Waste.

Figure 1: Waste and Resource Management Hierarchy



Source: adapted from DESI, 2024

Waste Types and Classification

The waste types generated by the proposed activities, include 'general solid waste' such as construction materials waste, green waste, putrescible and domestic waste. These wastes are planned to be removed from the site to Stuart Waste Facility, which is located within the TSDA, close to the project site. The disposal site is lawfully able to accept the waste under the EP Act. There is also capacity to dispose of waste on site as the current EA permits a limit of no more than 50,000 tonnes of general waste to be disposed of per annum.

The EPP Regulation includes a risk-based waste classification framework where regulated waste is classified as either:

- Category 1 regulated waste (highest risk);
- Category 2 regulated waste (moderate risk);
- Not-regulated waste/general waste (lowest risk).

Limited 'regulated waste' generated on site such as waste oils, lubricants and liquids, paints, tyres, etc. will be removed and transported from site by a person who holds a current authority to transport such wastes to the waste handling facility to be determined. A lawfully receiving facility will be selected prior to commencement of construction and operation to receive regulated waste. The facility will be lawfully able to accept the regulated waste under the EP Act.

³ DESI, 2024, Guideline: Application requirements for activities with waste impacts, ESR/2015/1836, Version 5.04. Available at: https://www.des.qld.gov.au/policies?a=272936:policy_registry/era-gl-waste-impacts.pdf, Accessed March 2025.

Potential Impacts from Operations Waste Generation:

During the operational phase, waste generation is expected to be minimal, consisting primarily of small quantities of putrescible waste from staff amenities, redundant equipment, used oils, and general waste associated with routine maintenance activities.

The majority of waste generated during operations is from intermittent waste streams and slops (see **Table 1** below).

Certain materials, including oils, lubricants, redundant equipment, and various metals, will require periodic replacement throughout the operational lifespan of the Project (including during construction). While these materials will not be replaced frequently, their eventual disposal will be necessary as they reach the end of their functional life.

This will include the proper handling and disposal of used lubricants and oils, such as replacement oils from machinery and equipment maintenance, as well as the decommissioning and disposal of outdated or non-functional equipment and metal components.

Intermittent Waste Streams and Slops

Waste treatment disposal options are summarised following Table below and linked within the table as liquid waste to Cleveland Bay Wastewater Treatment Plant (WWTP), solid general waste to Stuart waste facility, and chemical, fuel and hazardous waste to Bohle waste facility (waste receiver) in accordance with *Environment Protection Regulation 2019*, Schedule 9 waste classifications.

The intermittent waste streams and slops expected are as waste streams are influenced by the impurity profile of the plant feed (ethanol feedstock), which will be specified during FEED. Plant waste streams and slops are described in Table below.

These waste streams and slops will be collected and are intended for commercial disposal by licensed waste management services in Townsville. These waste streams shall keep separate as recycling of the main ethanol dehydration waste stream may be easier if it is less contaminated.

During FEED, further information regarding the quality and quantity of the intermittent waste streams and slops may indicate its suitability for on-site treatment, so these waste streams might be able to be recycled alongside the ethanol dehydration waste stream. For example, if an intermittent or slop waste stream is high in Nitrogen, it might be able to serve as Nitrogen source to a biological process. If a stream may be high in easily biodegradable hydrocarbons, but low in other contaminants it depends on the flow to determine its suitability for treatment using an onsite WWTP. As the quantities are currently unknown, treatment options will be incorporated during FEED of the Project. Any combustible waste streams should be considered for utilisation in the boiler to generate steam.

Table 1: Plant Waste Generation - Operations

Waste Source	Waste Stream and Source	Waste Type	Volume and Duration	Waste Treatment / Disposal
Minor waste streams	Heavy ethanol impurities purge, from the bottom of the ethanol pre-treatment column C -1100	Liquid	0.03 tonnes per hour (tph) continuous purge from column, 720 kg/day	Collection and storage on site, transport to licenced waste management services in Townsville for treatment and disposal (WWTP)
Minor waste streams	Light organics purge, Methanol and Acetaldehyde from the lights on the pre-	Gaseous	0.02 tph continuous purge from column, 480 kg/day	Directed to the flares through vent gas scrubber and burnt

Waste Source	Waste Stream and Source	Waste Type	Volume and Duration	Waste Treatment / Disposal
	treatment column C-1100			
Minor waste streams	Flare heavies liquid (V-2150 fractionation vessel, dropout from flare)	Liquid	20 L/day / continuous	Pumped in the slop oil tank
Minor waste streams	Liquid hydrocarbon purge - paraffin liquid (C-2600 fractionation column from Bottoms Pump P-2602)	Liquid	Not normal flow	There is ability to purge, but this pump is for RD
Minor waste streams	Mid-boiler blowdown, the boiler is 85 tph boiler and typical blowdown in industry with high quality RO feedwater is 1% from a continuous blow down system	Liquid	0.85 tph / continuous	Blowdown is cooled and directed to the WWTP where it is treated before discharge
ETJ by-product streams	Vacuum pump discharge, small flow from vacuum column mainly Naptha	Liquid / Gaseous	0.01 tph / continuous	Directed to the flares and burnt
Hydrogen Offgas	Surplus hydrogen added in Hydrogenation stage is directed to the boiler	Gaseous	0.03 tph continuous purge	Directed to the boiler where it is mixed with Liquefied Petroleum Gas (LPG) / Natural gas and burnt in the boiler
ETJ by-product streams	Heavy hydrocarbons from decanter, not normal flow	Liquid	0.01 tph / intermittent	Pumped in the slop oil tank
ISBL waste stream	Seal fluid and waste	Liquid	Minor volumes / intermittent	WWTP before discharge to Cleveland Bay WWTP
ISBL waste stream	Wastewater approximately 4,000 COD hydrocarbons	Liquid	7.6 tph / continuous	"
ISBL waste stream	Light hydrocarbons, examples would be changing filters small volumes would be captured and contained in Intermediate Bulk Container (IBC) for disposal	Liquid	Unknown small quantities / intermittent	"
ISBL waste stream	Heavy hydrocarbons, examples would be changing filters small volumes would be captured and contained in IBC for disposal	Liquid	Unknown small quantities / intermittent	"

Waste Source	Waste Stream and Source	Waste Type	Volume and Duration	Waste Treatment / Disposal
ISBL waste stream	Feed impurities (light and heavy)	Liquid	Unknown small quantities / intermittent	Potential to blend back into the Diesel process. At this stage this will be sold as bunker oil.

Waste Treatment / Disposal and Management Practices

An Operations Environmental Management Plan (OEMP) will be developed to address the potential harm to the environment. Appropriate and best-practice waste management will be implemented as part of the Project in accordance with the abovementioned legislation, guidelines and best practices, with respect to the waste and resource management hierarchy, including the establishment of aims and objectives on reducing waste generation and disposal.

To ensure responsible waste management, waste materials will be collected, temporarily stored on-site, and disposed to licensed waste and waste recover facilities, with an emphasis on recycling and resource recovery wherever feasible.

Jet Zero has established the following waste management objectives for the Project:

- Any waste generated, transported, or received as part of carrying out the activity is managed in a way that protects all environmental values.
- Design the plant, construction and operations to minimise the generation of waste.
- Minimise the generation of waste through applying the avoidance, minimisation and mitigation principles to reduce, reuse, recycle, recover, treat and dispose of waste.
- Ensure safe management and disposal of waste that cannot be reused or recycled.

Table 2 presents potentially receiving facilities within Townsville. The suitability and compliance will be assessed prior to the commencement of construction and operation.

Table 2: Waste Disposal and Resource Recovery Facilities Within Townsville

Construction Waste	Stuart	Waste	Stuart, QLD	Accepts general waste such as green, wood, oil and goods waste at small volumes.
Operational (General Waste)	Transfer Station			
Dangerous Goods Waste (Category 1 and 2 Regulated Waste)	Bohle Waste Facility	Bohle, QLD		Accepts chemical, combustible materials, fuel and oil liquids and solvents, and other hazardous wastes at large industrial quantities.

¹ Preliminary search as of 21 March 2025. The suitability and compliance to regulatory requirements will be assessed prior to the commencement of construction and operation.

Specific wastes such as laboratory waste will include disposable personal protective equipment (PPE), used containers, and contaminated materials, these will be classified as hazardous waste due to the potential presence of hazardous residues. This waste is typically managed as clinical waste, which in Queensland requires handling by licensed contractors. Disposal is generally achieved through high-temperature incineration, which secure safety and complete destruction of hazardous substances.

Solid waste generated by the plant site will be collated, temporarily stored in certified storage vessels / areas and transported to licenced waste management services in Townsville for treatment and disposal. Waste streams would be to the following licensed facilities:

- Cleveland Bay Wastewater Treatment Plant
 - Located Townsville Port Access road, Stuart (4 km north of plant site)

- o Accepts wastewater compliant to TCC trade waste limits.
- Stuart Waste Facility
 - o Located 24 Vantassel Street, Stuart (2 km south of plant site)
 - o Accepts general waste such as green, wood, oil and goods waste at small volumes.
 - o Not accepting chemical, combustible materials, liquids or solvents.
- Bohle Waste Facility
 - o Located 96 – 102 Enterprise Street, Bohle, Townsville (4 km east of plant site)
 - o Accepts chemical, combustible materials, fuel and oil liquids and solvents, and other regulated wastes at large industrial quantities.