Glenorchy Planning Authority Meeting

Monday, 22 June 2026

AGENDA

Notice is hereby given of a Meeting of the Glenorchy Planning Authority to be held at the Council Chambers commencing at 2:00pm.

GLENORCHY CITY COUNCIL

Elected Members with an interest or concern in relation to a particular item on this Agenda, are invited to attend the meeting.

All application information is available to Elected Members for inspection upon request to the relevant Planning Officer.

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1 PLANNING AUTHORITY DECLARATION

The Chairperson stated that the Glenorchy Planning Authority (GPA) intended to act as a Planning Authority under the Land Use Planning and Approvals Act 1993.

2 APOLOGIES

3 PECUNIARY INTEREST NOTIFICATION

4 CONFIRMATION OF MINUTES

That the minutes of the Glenorchy Planning Authority meeting held on 4 May 2026 be confirmed.

5 PROPOSED USE AND DEVELOPMENT - BOAT BUILDING SHED, FILL & RECLAMATION WORKS - 100 DERWENT PARK ROAD, DERWENT PARK; 13 SURVEYORS DRIVE, DERWENT PARK; & 300 RISDON ROAD, LUTANA

Author:	**Consultant Planner: Adam Smee**
Qualified Person:	**Consultant Planner: Adam Smee**
Property ID:	**7671632**

REPORT SUMMARY

Application No.:	**PLN-25-367**
Applicant:	**Gray Planning**
Owner:	**Inter Cats (Tasmania) Pty Ltd**
Zone:	**General Industrial Zone and Port and Marine Zone**
Use Class	**Manufacturing and processing**
Application Status:	**Discretionary**

Discretions:	***19.4.1 Building height*,** ***25.4.1 Building height*,** ***C1.6.1 Design and siting of signs*,** ***C1.6.2 Illuminated signs*,** ***C2.5.2 Bicycle parking numbers*,** ***C2.6.5 Pedestrian access*,** ***C7.6.1 Buildings and works within a waterway and coastal protection area or a future coastal refugia area* P1.1 and P1.2, P3, and P4.1 and P4.2;** ***C11.6.1 Buildings and works, excluding coastal protection works, within a coastal inundation hazard area*, P1.1 and P1.2;** ***C14.6.1 Excavation works, excluding land subject to the* Macquarie Point Development Corporation Act 2012,** (The proposal meets all other applicable standards as demonstrated in the attached appendices)
Level 2 Activity?	**No**
42 Days Expires:	**23 June 2026**
Existing Land Use:	**Manufacturing and Processing use class (boat building)**
Representations:	**Two (2) representations**
Recommendation:	**Approval, subject to conditions**

REPORT IN DETAIL

PROPOSAL

The proposal is to construct an additional building on the site to be used for boat building. The proposed building is proposed to be on the north-eastern edge of the site. The building would be 150m long and 40.8m wide and have a maximum height of approximately 25m. The building would have a footprint of approximately 6000m^2.

The north-western end of the building would be open to the River Derwent. The part of the building closest to the river would be an undercover wet dock. The floor of the building would fall toward the river. Storage and staff facilities would be provided at the south-eastern end of the building.

The building would have light colours Colorbond sheet walls and roof, although sections of the walls on the north-eastern side of the building, which would face the River Derwent, would have translucent cladding. These sections would form the words "Incat Electric" so are considered as signage. Each letter would be approximately 11.1m high and the signage would extend nearly the full length of the north-eastern side of the building.

The proposal includes dredging and land reclamation in order to construct the proposed building. Dredging is proposed to the north-west of where the building is proposed, adjacent to the north-western end of the existing boat building sheds on the site. Reclamation is proposed at the northern corner of the building. Two (2) revetments are proposed on the north-eastern side of the building and to the north-west of the building, adjacent to where the dredging is proposed. A concrete wharf would also be constructed above this revetment.

The proposal also includes additional car parking on the south-western side of the existing boat building sheds. An additional 20 car parking spaces, including four DDA compliant spaces, would be provided in several locations on this side of the existing building. Bicycle parking would also be provided in one of these locations.

A bus turning area would be provided within an existing paved area adjacent to the north-west corner of the existing boat building sheds. Line marking would be provided to demarcate a drop off/collection area and pedestrian access to the buildings. Motorcycle parking would be provided adjacent to the proposed bus turning area, on the opposite side of the access.

The proposed development would generally connect to existing services on the site, although new stormwater discharge points into the River Derwent are proposed.

Figure 1: Proposed site plan

SITE and LOCALITY

The proposed development would generally be contained within the property at 100 Derwent Park Road (CT168298/1). This property contains the existing large boat building sheds referred to above as well as smaller but still substantial sheds within the north-western part of the property. The property has an area of 7.181ha and access to Derwent Park Road to the south via an access strip. The north-eastern and north-western boundaries of the property are to the high water mark. There is a wharf within the northern part of the property. The application also includes the adjacent part of the River Derwent, as dredging and reclamation are proposed.

Only minor work is proposed upon the property at 300 Risdon Road (CT 117774/1). This work is limited to resurfacing an area immediately to the south-east of the proposed building. However, the proposal also relies upon this property in order to provide access to the proposed building. The proposal also relies upon the parking provided by the large car park within the north-western part of the property (CT 130554/1), to the south-west of the existing boat building sheds. The proposal is otherwise separate from the large scale industrial use that occurs to the south and south-east of the site upon 300 Risdon Road.

The work proposed upon the property at 13 Surveyors Drive (CT 123654/2) is limited to the line marking that is required to provide part of the proposed motorcycle parking. This is a smaller property located on the western boundary of 100 Derwent Park Road between the large boat building sheds and the smaller sheds within the north-western part of the latter property. 13 Surveyors Drive includes another smaller but still substantial building within the north-eastern part of the property and a car park within the south-western part.

The site is at the northern edge of an industrial area that includes the land to the south-east, south, and west. As noted earlier, large scale industrial use occurs on the land to the south and south-east of the site. The Nyrstar Hobart Smelter occupies approximately two-thirds of the area of the property at 300 Risdon Road and includes an extensive complex of buildings and other associated infrastructure. Areas of open space within the south-western part of this property provide a buffer between the smelter and the residential areas to the south and south-west.

A variety of industrial and related uses occur upon the comparatively smaller properties to the west of the site. There is a marina within the part of the River Derwent adjacent to this land.

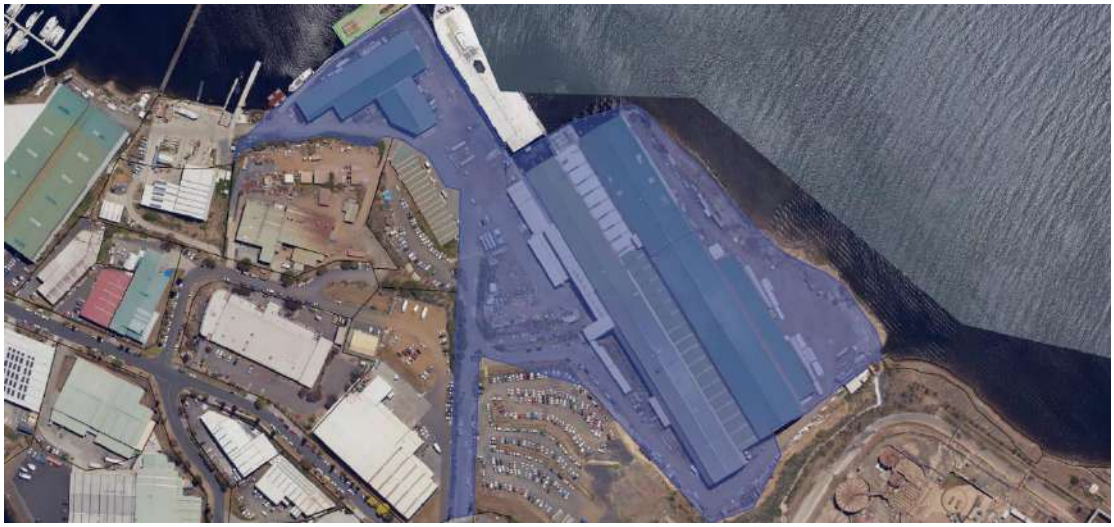

Figure 2: aerial view of site (note: only 100 Derwent Park Road property is shaded) and surrounding area.

Figure 3: wider aerial view of site (note: only 100 Derwent Park Road property is shaded) and surrounding area.

ZONE

The site and the adjoining land to the south-east, south, and west is within the General Industrial Zone. The section of the River Derwent adjacent to the site is within the Port and Marine Zone. The site is also within the General Industrial Local Objective Overlay Area while the adjacent section of the River Derwent is within the Port and Marine Local Objective Overlay Area.

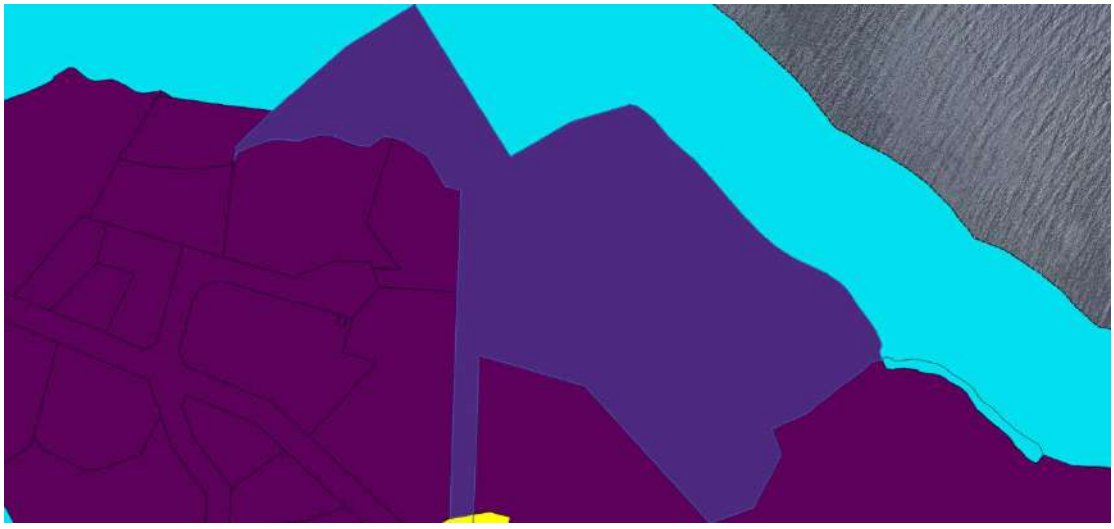

Figure 4: Aerial view of site (note: only 100 Derwent Park Road property shaded) and surrounding area overlaid with zoning layer.

Figure 5: wider aerial view of site (note: only 100 Derwent Park Road property is shaded) and surrounding area.

BACKGROUND

Permits

There are multiple planning applications on Council's file relating to the boat-building use that occurs on the site. The civil plans provided with the current application show a car parking layout on the property at 300 Risdon Road with a notation suggesting that "layout shown as per agreement in place between Council and Incat, refer DA-98-71, 1999". It is noted that the actual car park within this part of the 300 Risdon Road does not resemble the layout shown on the civil plans.

Compliance matters

The application includes works, specifically landfill and reclamation, that has been carried out on site without approval. These works have been subject to compliance actions.

ASSESSMENT

STATE POLICIES, OBJECTIVES of LUPAA

There are no inconsistencies with any other State Policies or with the objectives of LUPAA.

A condition is recommended requiring appropriate soil and water management to prevent erosion and the transport of sediments into surface waters, consistent with the State Policy on Water Quality Management.

TASMANIAN PLANNING SCHEME - GLENORCHY 2021

State Planning Provisions (SPP)

Administration

Exemptions

There are no relevant exemptions.

Planning Scheme Operation

A General Provision, SAP, or Code does not override the relevant Zone provisions.

Use Class Description (Table 6.2):

Manufacturing and Processing:

> *use of land for manufacturing, assembling or processing products other than Resource Processing. Examples include boat building, brick making, cement works, furniture making, glass manufacturing, metal and wood fabrication, mineral processing and textile manufacturing.*

Other relevant definitions (Clause 3.0)

Streetscape

> *means the visual quality of a street depicted by road width, street planting, characteristics and features, public utilities constructed within the road reserve, the setback of buildings and structures from the property boundaries, the quality, scale, bulk and design of buildings and structures fronting the road reserve. For the purposes of determining streetscape for a particular site, the above matters are relevant when viewed from either side of the same street within 100m of each side boundary of the site, unless for a local heritage precinct or local historic landscape precinct listed in the relevant Local Provisions Schedule, where the extent of the streetscape may be determined by the relevant precinct provisions.*

General Provisions

The General Provisions of the Scheme do not apply to this proposal.

Zones

The site is within the General Industrial Zone and Port and Marine Zone. The following zone purpose statements, use table, use standards and/or development standards apply to this proposal:

Zone Purpose Statements

The purpose of the General Industrial Zone is:

19.1.1 To provide for manufacturing, processing, repair, storage and distribution of goods and materials where there may be impacts on adjacent uses.

19.1.2 To provide for use or development that supports and does not adversely impact on industrial activity.

The proposal is considered to be consistent with the above statements as it is for an expansion of an existing manufacturing use.

The purpose of the Port and Marine Zone is:

25.1.1 To provide for major port and marine activity related to shipping and other associated transport facilities and supply and storage.

25.1.2 To provide for use or development that supports and does not adversely impact on port and marine activities.

The proposal is considered to be consistent with the above statements as it is for use and development that supports marine activities that would not adversely impact on port activities.

Use Table

The proposal is for a boat building use within the Manufacturing and Processing use class. This use class is listed as a permitted use within the General Industrial Zone. This use class is listed as a permitted use within the Port and Marine Zone with the qualification "If associated with maritime purposes". The proposal is considered to meet this qualification as the proposed boat building use is related to maritime purposes.

It is noted that there is no change of use proposed under this application, but rather an expansion.

Use Standards

The use standard provided for the General Industrial Zone is not relevant as a discretionary use is not proposed. There are no use standards provided for the Port and Marine Zone.

General Industrial Zone – 19.4 Development Standards for Buildings and Works

19.4.1 Building height

The acceptable solution for clause *19.4.1* requires building height to be not more than 20m. The proposal includes a building that would be approximately 25m high. The proposal therefore relies upon the performance criterion for this clause which states that:

Building height must be necessary for the operation of the use and not cause an unreasonable impact on adjoining properties, having regard to:

(a) the bulk and form of the building;
(b) separation from existing use on adjoining properties; and
(c) any buffers created by natural or other features.

The proposed building height is considered necessary for the operation of the boat building use on the site. The proposed building would have a similar height to the existing boat building sheds on the site. These existing sheds appear to have the minimum height required in order to construct vessels of the size and type that are built on the site.

While the proposed building would have significant bulk and a long, unarticulated form, it is unlikely to have an unreasonable impact on adjoining properties. The proposed building would be screened from view when viewed from the south and west by the existing buildings on the site. These buildings would also provide separation between the proposed building and the existing uses on the adjoining properties in these directions.

The River Derwent would provide a natural buffer between the building and the residential areas on the opposite side of the river to the north-east of the site. The minimum width of the river at this point is approximately 500m. The existing industrial use and development on the site and surrounding land already has a significant impact upon these residential areas.

The proposal complies with the performance criterion for clause *19.4.1*.

25.4 Development Standards for Buildings and Works

25.4.1 Building height

The acceptable solution for clause *25.4.1* requires building height to be not more than 20m, excluding development for Port and Shipping use or structures such as towers, poles, gantries, cranes, or similar. The proposal includes a building that would be approximately 25m high and would not be for Port and Shipping use or a structure listed in the acceptable solution. The proposal therefore relies upon the performance criterion for this clause which states that:

Building height, excluding for Port and Shipping, and structures such as towers, poles, gantries, cranes or similar, must:

(a) be necessary for the operation of the use; and

(b) not cause unreasonable loss of amenity to adjoining properties, having regard to:

(i) the bulk and form of the building;
(ii) separation from existing use on adjoining sites; and
(iii) any buffers created by natural or other features.

It is noted that apart from the reference to Port and Shipping use and to structures such as towers etc., the above performance criterion is similar to that provided for clause *19.4.1*. Therefore, given the assessment provided earlier in response to this performance criterion, the proposal is also considered to comply with the performance criterion for clause *25.4.1*.

Codes

The following codes of the Scheme apply to this proposal:

C1.0 Signs Code

C1.6.1 Design and siting of signs

The acceptable solution for clause *C1.6.1* requires a sign to be located within an applicable zone and to meet the relevant standards set out in Table C1.6. While the proposed sign would be within an applicable zone, it does not meet the standards set out in Table C1.6. Specifically, the proposed wall sign would have an area greater than 4.5m^2 (proposed area approximately 721.7m^2) and would occupy greater than 25% of the area of the relevant wall. The proposed sign therefore relies upon the performance criterion P1.1 for clause *C1.6.1* which states that:

A sign must:

(a) be located within an applicable zone for the relevant sign type as set out in Table C1.6; and

(b) be compatible with the streetscape or landscape, having regard to:

- *(i) the size and dimensions of the sign;*
- *(ii) the size and scale of the building upon which the sign is proposed;*
- *(iii) the amenity of surrounding properties;*
- *(iv) the repetition of messages or information;*
- *(v) the number and density of signs on the site and on adjacent properties; and*
- *(vi) the impact on the safe and efficient movement of vehicles and pedestrians.*

Sub-clause (a) of the above performance criterion is met because the proposed sign would be located within the General Industrial Zone and the Port and Marine Zone, which are both applicable zones for the proposed sign type.

Regarding sub-clause (b), the proposed sign would not have a significant impact upon a streetscape, as it would not be visible from within 100m of an adjoining street frontage. However, the sign would be visible within the landscape given its relatively large size.

The proposed sign would occupy a large area on the eastern side of the proposed building facing the River Derwent and each letter would be relatively high. However, the size and dimensions of the proposed sign are considered to be consistent with the size and scale of the building upon which it is proposed. The proposed sign is therefore considered to be consistent with the above sub-clauses (b)(i) and (b)(ii).

The proposed sign is not likely to affect the amenity of surrounding properties. The sign would not be visible from the south or west of the site as is would be screened from view by the existing buildings on the site. The sign would be visible from the north and east of the site, however, it would be separated from the surrounding properties in these directions by the River Derwent. The amenity of the properties in these directions is also already affected by the large scale industrial use that occurs on the site and adjoining properties. The proposed sign is therefore consistent with the above sub-clause (b)(iii).

There are very few signs visible on the site and adjoining properties when viewed from the north and east. The proposed sign would therefore not result in the repetition of messages or information or significantly increase the number and density of signs in an area where there is already a high density of signage. The proposed sign therefore satisfies sub-clauses (b)(iv) and (b)(v).

The proposed sign would be visible from the streets on the opposite side of the River Derwent to the north-east. However, given the separation distance between the proposed sign and these streets (i.e., over 500m) the sign is unlikely to have an impact on the safe and efficient movement of vehicles and pedestrians upon these streets.

The proposed sign complies with the performance criterion P1.1 for clause *C1.6.1*.

C1.6.2 Illuminated signs

There is no acceptable solution for clause *C1.6.2* which applies where an illuminated sign is proposed. While the proposed sign would not have specific illumination, it would be illuminated by any internal lighting provided for the proposed building. The proposal therefore relies upon the performance criterion for this clause which states that:

An illuminated sign must not cause an unreasonable loss of amenity to adjacent properties or have an unreasonable effect on the safety, appearance or efficiency of a road, and must be compatible with the streetscape, having regard to:

(a) the location of the sign;
(b) the size of the sign;
(c) the intensity of the lighting;
(d) the hours of operation of the sign;
(e) the purpose of the sign;
(f) the sensitivity of the area in terms of view corridors, the natural environment and adjacent residential amenity;
(g) the intended purpose of the changing message of the sign;

(h) the percentage of the sign that is illuminated with changing messages;
(i) proposed dwell time; and
(j) whether the sign is visible from the road and if so the proximity to and impact on an electronic traffic control device.

As discussed earlier, in the assessment against clause *C1.6.1*, the proposed sign would not cause a loss of amenity to an adjacent property. The proposed sign would not be visible from the adjacent properties to the south and west and would be separated from any properties to the north and east by the River Derwent.

The proposed sign would not be located on a road frontage. While the sign would be visible from the roads to the north-east, on the opposite side of the River Derwent, it is unlikely to affect the safety, appearance, or efficiency of these roads given the separation distance (approximately 500 metres) from the site also discussed earlier.

The proposed sign would not have any impact upon a streetscape given how this term is defined in the planning scheme (definition included above), as it would not be visible from a street frontage that is within 100m of the site.

While the sign would have a large size, the intensity of proposed lighting is likely to be limited given that the sign would be illuminated only by internal lighting provided for the proposed building. The intensity of the lighting proposed for the sign is also likely to be low when compared with the external lighting provided for the large-scale industrial use that occurs within the surrounding area.

Given that the proposed sign would be illuminated by internal lighting provided for the proposed building, it is likely to have operating hours similar to the hours of operation for the proposed use – i.e., 6am to 1:30am, seven days per week (excluding public holidays). While late night operation of illuminated signage can potentially have amenity impacts, this is unlikely in this case given the low intensity of the proposed lighting, high intensity of existing lighting on adjacent properties and separation from residential properties and the road network on the opposite side of the River Derwent.

The site and adjacent area are considered to have a low sensitivity to impacts associated with illuminated signage. The area is not within an area identified as having scenic value in the Scenic Protection Code or otherwise identified as within a view corridor. The area is a highly disturbed industrial area and has highly limited natural value. As discussed earlier, the separation between the site and adjacent residential areas reduces the sensitivity of these areas to illumination.

The proposed sign would not include changing messages. While the sign would be visible from a road, it would not be located near an electronic traffic control device, such as traffic lights.

The proposed sign complies with the performance criterion for clause *C1.6.2*.

C2.0 Parking and Sustainable Transport Code

C2.5.2 Bicycle parking numbers

The acceptable solution for clause *C2.5.2* requires no less than the number of bicycle parking spaces specified in Table *C2.1* to be provided on the site. Table *C2.1* requires one bicycle parking space to be provided per 5 employees on a site. The planning report provided with the application states that there would be a maximum of 650 employees present on the site. The maximum number of employees present on the site results in a requirement for 130 bicycle parking spaces to be provided. As shown on the civil drawings provided with the application, only 10 bicycle parking spaces would be provided adjacent to one of the existing boat building sheds on the site. The proposal therefore relies upon the performance criterion for clause *C2.5.2* which states that:

Bicycle parking spaces must be provided to meet the reasonable needs of the use, having regard to:

(a) the likely number of users of the site and their opportunities and likely need to travel by bicycle; and

(b) the availability and accessibility of existing and any planned parking facilities for bicycles in the surrounding area.

While there would a comparatively high number of users on the site, they are considered less likely to travel by bicycle, given the location of the site and its separation from relevant infrastructure, such as the intercity cycleway. This view is supported by evidence provided in the planning report provided with the application, which states that a staff survey found that existing travel to the site via bicycle is highly limited.

While there are only limited parking facilities for bicycles planned on the site, it has sufficient area to accommodate additional facilities should these become necessary in the future.

Council's Principal Traffic Engineer has also reviewed the proposed bicycle parking arrangements and advised that they "are considered acceptable based on the site context and observed demand".

The proposal complies with the performance criterion for clause *C2.5.2*.

C2.6.5 Pedestrian access

The acceptable solution A1.1 for clause *C2.6.5* states that uses that require 10 or more car parking spaces must have a 1m wide footpath that is separated from parking spaces and aisles by either a horizontal distance of 2.5m or protective devices. The Traffic Impact Assessment (TIA) provided with the application states that:

> *"The proposed parking is located adjacent to the main building entry and the existing shed. While a pedestrian path is provided, it is located immediately adjacent to the parking aisle and no protective devices are proposed between the footpath and vehicle movement areas. On this basis, the proposal does not satisfy the Acceptable Solution A1 of Clause C2.6.5 of the Planning Scheme"*.

The proposal therefore relies upon the performance criterion for clause *C2.6.5* which states that:

Safe and convenient pedestrian access must be provided within parking areas, having regard to:

(a) the characteristics of the site;
(b) the nature of the use;
(c) the number of parking spaces;
(d) the frequency of vehicle movements;
(e) the needs of persons with a disability;
(f) the location and number of footpath crossings;
(g) vehicle and pedestrian traffic safety;
(h) the location of any access ways or parking aisles; and
(i) any protective devices proposed for pedestrian safety.

The TIA provides the following assessment of the proposed pedestrian access arrangements against the above performance criterion:

(a) Characteristics of site: The proposed parking area is internal to an established industrial site and is located immediately adjacent to the main building entry and the existing shed. Pedestrian movements are short, direct and readily apparent.

(b) Nature of the use: The use is an existing shipbuilding facility with parking predominantly used by staff and other site users who are familiar with the site layout and internal traffic conditions. This is not a public-facing retail or commercial environment with high pedestrian turnover or unfamiliar users.

(c) Number of parking spaces: The proposed new parking area comprises only a relatively small number of spaces. The limited scale of the parking area reduces pedestrian exposure to vehicle movements.

(d) Frequency of vehicle movements: Vehicle activity within the proposed parking area will be relatively low and will occur primarily around shift change periods. Outside these periods, vehicle movements within the parking area are expected to be infrequent.

(e) Needs of persons with a disability. Accessible parking spaces are provided in close proximity to the building entry. This minimises walking distance for mobility-impaired users and provides convenient access to the development.

(f) Location and number of footpath crossings: Pedestrian desire lines are simple and direct, with no crossing points required between the parking area and the building entry. The short walking distances reduce complexity and potential pedestrian-vehicle conflict.

(g) Vehicle and pedestrian safety: The parking area is of conventional design and complies with the dimensional and grade requirements of AS2890.1. Vehicle manoeuvring speeds within the parking area will be low, and the small scale of the parking layout allows good inter-visibility between drivers and pedestrians.

(h) Location of access ways or parking aisles: The footpath is located immediately adjacent to the parking aisle, but the arrangement is simple, legible and typical of many small employee parking areas. Given the low-speed environment, limited traffic volumes and short pedestrian paths, the layout provides a reasonable and practical pedestrian outcome.

(i) Protective devices: No protective devices are proposed between the footpath and vehicle movement area. In this instance, protective devices are not considered necessary having regard to the low-speed, low-volume nature of the parking area, the limited number of spaces, and the fact that the parking area will be used primarily by staff familiar with the site.

The proposed pedestrian access arrangements have also been reviewed by Council's Principal Traffic Engineer who advises that "while the layout does not fully meet the Acceptable Solution for Clause *C2.6.5*, the Performance Criteria is satisfied given the low-speed environment and site conditions".

The proposal complies with the performance criterion for clause *C2.6.5*.

C3.0 Road and Railway Assets Code

The proposal complies with the applicable acceptable solutions for this code, including clause *C3.5.1 Traffic generation at a vehicle crossing, level crossing or new junction*. The proposal would generate an increase in vehicle movements per day to and from the site of approximately 8.4%, which is less than the 20% increase allowed for by the acceptable solution for clause *C3.5.1*.

C7.0 Natural Assets Code

C7.6.1 Buildings and works within a waterway and coastal protection area or a future coastal refugia area P1

Sub-clause (a) of the acceptable solution A1 for clause *C7.6.1* requires buildings and works within a waterway and coastal protection area to be within a building area. Sub-clause (b) of the acceptable solution relates to crossings and bridges over Class 4 watercourses.

Sub-clause (c) of the acceptable solution requires buildings and works proposed within the spatial extent of tidal waters, to be an extension to an existing boat ramp, car park, jetty, marina, marine farming shore facility, or slipway.

The proposal includes buildings and works within a waterway and coastal protection area that would not be within a building area, relate to a crossing or bridge over a Class 4 watercourse, or be an extension to an existing facility listed in sub-clause (c) of the acceptable solution.

While the waterway and coastal protection area on the site does not extend below the high water mark, it is considered reasonable to assess the work proposed below the high water mark against clause *C7.6.1*, as this standard is clearly intended to consider buildings and works proposed within the spatial extent of tidal waters. Clause *7.11* of the planning scheme is also considered relevant here.

The proposal therefore relies upon the performance criteria P1.1 and P1.2 for clause *C7.6.1*. Performance criterion P1.1 for the clause states that:

Buildings and works within a waterway and coastal protection area must avoid or minimise adverse impacts on natural assets, having regard to:

(a) impacts caused by erosion, siltation, sedimentation and runoff;
(b) impacts on riparian or littoral vegetation;
(c) maintaining natural streambank and streambed condition, where it exists;
(d) impacts on in-stream natural habitat, such as fallen logs, bank overhangs, rocks and trailing vegetation;
(e) the need to avoid significantly impeding natural flow and drainage;
(f) the need to maintain fish passage, where known to exist;
(g) the need to avoid land filling of wetlands;
(h) the need to group new facilities with existing facilities, where reasonably practical;
(i) minimising cut and fill;
(j) building design that responds to the particular size, shape, contours or slope of the land;
(k) minimising impacts on coastal processes, including sand movement and wave action;
(l) minimising the need for future works for the protection of natural assets, infrastructure and property;
(m) the environmental best practice guidelines in the Wetlands and Waterways Works Manual; and
(n) the guidelines in the Tasmanian Coastal Works Manual.

Regarding sub-clause (a) of the above performance criterion, the buildings and works proposed within the waterway and coastal protection area are considered unlikely to have ongoing impacts caused by erosion, siltation, sedimentation, and runoff. Stormwater from the proposed building would be captured and directed via new outlets into the River Derwent. The outfall from these outlets would be directed through the proposed revetment rock armour and therefore unlikely to cause erosion or sediment runoff.

There is some potential for the natural gravel surface proposed between the proposed building and the existing boat building sheds to cause sediment runoff, as this would be an unsealed surface. However, stormwater from the majority of this area would be captured via the proposed stormwater system. This system would include catch basins that would capture sediment at the inlets to the system.

Stormwater from a gravel area between the northern end of an existing boat building shed and a proposed revetment would not be captured by the proposed stormwater system. Stormwater from this area would be directed to the revetment via a crossfall across the area. Given that this area would be behind the proposed revetment, it is considered unlikely to cause significant erosion issues. While there is some potential for sediment runoff from the area, this would be limited as runoff would not be concentrated.

A Marine Ecological Assessment (MEA) was provided with the application. The MEA states that:

> *The main environmental risk identified from this assessment is uncontrolled sediment suspension in the marine environment, including from both the deposited fill, and the mobilisation of contaminated marine sediments*.

The MEA includes "recommendations to mitigate environmental risks associated with the proposed construction and reclamation". A condition of approval should require these recommendations to be implemented and require the recommendations to be incorporated into any Construction Environmental Management Plan prepared for development on the site.

Regarding the above sub-clause (b), the MEA considered whether threatened and protected species are present on the site and surrounding parts of the River Derwent. The assessment found that no threatened and protected species were present. The MEA includes recommendations regarding mitigations for other sensitive receptors. These recommendations include a suggestion that water quality monitoring may be required, if water quality impacts are present beyond the extent of any silt curtain provided around the works.

Sub-clauses (c), (d), (e), and (f) of the performance criterion are not considered relevant as the proposal would not affect streambank or streambed condition, in-stream habitat, natural flow and drainage, or fish passage. Sub-clause (f) is also not relevant as, while the proposal includes reclamation, it does not involve land filling of wetlands.

Sub-clause (h) considers the need to group new facilities with existing facilities, where reasonably practical. The proposed building would be adjacent to the existing boat building sheds on the site.

Sub-clause (i) requires buildings and works to minimise cut and fill. While the proposal includes extensive cut and fill, this is limited to that required to construct the proposed building and associated infrastructure.

Sub-clause (j) considers whether building design responds to the particular size, shape, contours, or slope of the land. While the proposed building design is not considered to respond to the particular topography of the site, it is recognised that this topography has been significantly altered as a result of the history of boat building use that has occurred. Therefore, the proposed building design is not considered to have a significant impact upon natural assets on the site.

The proposal is considered unlikely to have a significant impact on coastal processes, including sand movement, noting that the coastline on the site is highly disturbed. The proposal is therefore consistent with sub-clause (k).

The proposal is considered to minimise the need for future works for the protection of natural assets, infrastructure, and property by incorporating durable structures such as the proposed revetments.

A condition of approval requiring any works carried out within the waterway and coastal protection area to follow the guidelines provided in the *Wetlands and Waterways Works Manual* and the *Tasmanian Coastal Works Manual* is recommended to ensure that the proposal complies with sub-clauses (m) and (n).

The proposal complies with the performance criterion P1.1 for clause *C7.6.1*.

The performance criterion P1.2 for clause *C7.6.1* states that:

Buildings and works within the spatial extent of tidal waters must be for a use that relies upon a coastal location to fulfil its purpose, having regard to:

(a) the need to access a specific resource in a coastal location;
(b) the need to operate a marine farming shore facility;
(c) the need to access infrastructure available in a coastal location;
(d) the need to service a marine or coastal related activity;
(e) provision of essential utility or marine infrastructure; or
(f) provisions of open space or for marine-related educational, research, or recreational facilities.

Sub-clauses (a) and (b) of the performance criterion are not considered relevant as the works proposed within the spatial extent of tidal waters are not required to access a specific resource or operate a marine farming shore facility. However, there is a clear need to access the infrastructure that would be made available in a coastal location, as considered in sub-clause (c).

The works are also required to service a marine related activity, i.e., a boat shed is required for a boat building use. The proposal is therefore consistent with sub-clause (d). The proposal would not include the provision of essential utility or marine infrastructure, so sub-clause (e) is not considered relevant. The proposal does not include the provision of open space, so sub-clause (f) is also not relevant.

The proposal complies with the performance criterion P1.2 for clause *C7.6.1*.

C7.6.1 Buildings and works within a waterway and coastal protection area or a future coastal refugia area P3

The acceptable solution A3 for clause *C7.6.1* requires development within a waterway and coastal protection area to not involve a new stormwater point discharge into a watercourse. The proposal includes development within a waterway and coastal protection area and new stormwater point discharges into the River Derwent. The proposal therefore relies upon the performance criterion P3 for clause *C7.6.1* which states that:

Development within a waterway and coastal protection area or a future coastal refugia area involving a new stormwater point discharge into a watercourse, wetland or lake must avoid or minimise adverse impacts on natural assets, having regard to:

(a) the need to minimise impacts on water quality; and

(b) the need to mitigate and manage any impacts likely to arise from erosion, sedimentation or runoff.

As discussed earlier, the proposed stormwater system would include catch basins that would capture sediment at the inlets to the system, which is considered to minimise associated impacts on water quality. As also discussed earlier, the proposed use of durable structures such as revetments is considered to mitigate any impacts likely to arise from erosion, sedimentation, or runoff.

The proposal complies with the performance criterion P3 for clause *C7.6.1*.

C7.6.1 Buildings and works within a waterway and coastal protection area or a future coastal refugia area P4

The acceptable solution A4 for clause *C7.6.1* requires dredging or reclamation to not occur within a waterway and coastal protection area. While the proposal includes dredging and reclamation, this would occur outside of the waterway and coastal protection area shown on the relevant overlay map. The area generally follows the property boundary which generally follows high water mark (see figure 5 below) and the dredging and reclamation is proposed outside of the property boundary.

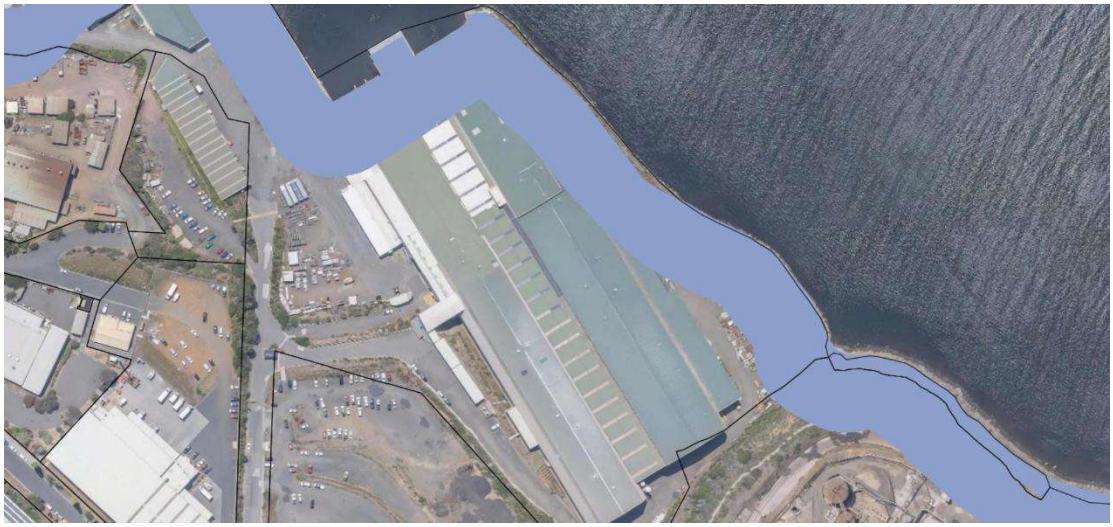

Figure 5: aerial view of 100 Derwent Park Road overlaid with waterway and coastal protection area.

However, as it appears illogical for a standard that relates to dredging and reclamation to not apply in this case, it is considered prudent to assess the proposal against the performance criteria P4.1 and P4.2 for clause *C7.6.1*. The performance criterion P4.1 states that:

Dredging or reclamation within a waterway and coastal protection area or a future coastal refugia area must minimise adverse impacts on natural coastal processes and natural assets, having regard to:

(a) impacts caused by erosion, siltation, sedimentation and runoff;
(b) impacts on riparian or littoral vegetation;
(c) the need to avoid land filling of wetlands;
(d) impacts on sand movement and wave action; and
(e) the potential for increased risk to inundation of adjacent land.

Noting the similarities between the standards, it is considered that the assessment provided earlier against the performance criterion P1.1 for clause *C7.6.1* also demonstrates compliance with the above sub-clauses (a) to (d). With regard to sub-clause (e), the proposed dredging and reclamation is unlikely to increase the risk of inundation to adjacent land, given the width and depth of the River Derwent at this point.

The performance criterion P4.2 states that:

Dredging or reclamation within a waterway and coastal protection area or a future coastal refugia area must be necessary:

(a) to continue an existing use or development on adjacent land; or

(b) for a use which relies upon a coastal location to fulfil its purpose, having regard to:

(i) the need to access a specific resource in a coastal location;
(ii) the need to operate a marine farming shore facility;
(iii) the need to access infrastructure available in a coastal location;
(iv) the need to service a marine or coastal related activity;
(v) provision of essential utility or marine infrastructure; and
(vi) provision of open space or for marine-related educational, research, or recreational facilities.

Similarly to above, the assessment provided earlier against the performance criterion P1.2 for clause *C7.6.1* is considered to also demonstrate compliance with performance criterion P4.2, given that these standards considered similar issues.

C11.0 Coastal Inundation Hazard Code

C11.6.1 Buildings and works, excluding coastal protection works, within a coastal inundation hazard area, P1.1 and P1.2

There is no acceptable solution for clause *C11.6.1* which applies where buildings and works would be located within a coastal inundation hazard area. The proposal includes buildings and works that would be located within a coastal inundation hazard area. The proposal therefore relies upon the performance criteria P1.1 and P1.2 for this clause. The performance criterion P1.1 for the clause states that:

Buildings and works, excluding coastal protection works, within a coastal inundation hazard area must have a tolerable risk, having regard to:

(a) whether any increase in the level of risk from coastal inundation requires any specific hazard reduction or protection measures;
(b) any advice from a State authority, regulated entity or a council; and
(c) the advice contained in a coastal inundation hazard report.

A boat shed is considered to inherently incorporate measures that would mitigate risk from coastal inundation. For example, the north-western part of the shed would be a wet dock that would be designed to allow for inundation. The remaining parts of the building are likely to also allow for inundation to some extent. As noted earlier, the proposal also includes durable structures such as revetments that would also mitigate inundation risks. The proposal therefore complies with the above sub-clause (a).

As also noted above, the application was referred to referred to various state authorities and regulated entities and no concerns regarding the proposal were raised. The proposal is therefore consistent with the above sub-clause (b).

As stated in the consultant planning assessment provided with the application, it does not include a coastal inundation hazard report. Therefore, to satisfy sub-clause (c) of the above performance criterion, a condition of approval is recommended requiring a coastal inundation hazard report to be provided prior to the commencement of further work on the site.

Provided that the condition requiring a coastal inundation hazard report to be provided is adopted, the proposal is considered to comply with the performance criterion P1.1 for clause *C11.6.1*.

The performance criterion P1.2 for clause *C11.6.1* states that:

A coastal inundation hazard report also demonstrates that the building or works:

(a) do not cause or contribute to coastal inundation on the site, on adjacent land or public infrastructure; and

(b) can achieve and maintain a tolerable risk from a 1% annual exceedance probability coastal inundation event in 2100 for the intended life of the use without requiring any specific coastal inundation protection works.

As noted above, a coastal inundation hazard report has not been provided with the application and a condition is recommended requiring this report to be provided. Provided that the condition requiring a coastal inundation hazard report to be provided is adopted, the proposal is considered to comply with the performance criterion P1.2 for clause C11.6.1.

C14.0 Potentially Contaminated Land Code

C14.6.1 Excavation works, excluding land subject to the Macquarie Point Development Corporation Act 2012

The acceptable solution for clause *C14.6.1* requires that excavation of potentially contaminated land must involve less than 250m^3 of site disturbance. The site, including the adjacent section of the River Derwent is considered to be potentially contaminated land.. Boat building is listed in Table *C14.2* of the code as a potentially contaminating activity, therefore, a potentially contaminating activity has occurred upon the subject site.

“Fill material imported onto a site from a potentially contaminated source” is also listed as a potentially contaminating activity and it is understood that fill from a potentially contaminated source has been brought to the site.

As stated in the Environmental Site Assessment (ESA) provided with the application:

> *“the estimated volume of new reclamation fill material required to accommodate the Site footprint for the proposed shed development is approximately 5470m”*.

Therefore, the proposal relies upon the performance criterion for clause *C14.6.1* which states that:

Excavation, excluding on land subject to the Macquarie Point Development Corporation Act 2012, must not have an adverse impact on human health or the environment, having regard to:

(a) an environmental site assessment that demonstrates there is no evidence the land is contaminated;

(b) an environmental site assessment that demonstrates that the level of contamination does not present a risk to human health or the environment; or

(c) an environmental site assessment, including a plan to manage contamination and associated risk to human health and the environment, that includes:

(i) any specific remediation and protection measures required to be implemented before excavation commences; and

(ii) a statement that the excavation does not adversely impact on human health or the environment.

The ESA states that the proposed development complies with the above sub-clause (c) for the following reasons:

(a) Soil results exceeded the adopted human heath criteria at only one location and this area will be covered by a concrete slab during Site use, and construction and reclamation works must be managed in accordance with a CEMP;

(b) While the ESA identified exceedances of ecological criteria, they "do not pose a risk under the proposed Site use or construction and reclamation works as long as the works are managed in accordance with a CEMP, and the unsealed Site surface is capped on completion of construction";

(c) The ESA includes recommended protection measures "which must be developed before excavation and reclamation commences, and must be implemented for the duration of excavation and reclamation works";

(d) If the recommended protection measures are implemented, "excavation and reclamation works will not adversely impact on human health or the environment".

A condition of approval is recommended requiring any recommendations made in the ESA to be implemented. The ESA recommends that "excavation, reclamation and construction works related to the Site area and Site development, must be managed under a Construction Environmental Management Plan (CEMP)". A CEMP has been provided for the proposal. To ensure compliance with the performance criterion for clause *C14.6.1*, a further condition should require the CEMP to be implemented and maintained throughout construction of the development.

State Planning Provisions - Applied, Adopted or Incorporated Documents

There are no relevant applied, adopted or incorporated documents.

Glenorchy Local Provisions Schedule (GLPS)

Local Area objectives

The following local area objectives of the Scheme apply to this proposal:

GLE-19.0 General Industrial Zone Local Area Objectives

GLE-19.1 Prince of Wales Bay Maritime Industrial Precinct, shown on an overlay map as GLE-19.1

The objectives for this area are to:

(a) support the Prince of Wales Bay Maritime Industrial Precinct's role as a regional multi-user marine and industrial precinct and sheltered anchorage;

(b) promote the sustainable management of the Precinct's land and waters (including any future land reclamation processes) by supporting uses of appropriate scale and intensity;

(c) support uses which protect the amenity and safety of residents abutting and near the waterfront area, and the safety of recreational boat users, through the implementation of appropriate mitigation measures to manage noise, dust, light spill, increased traffic flow and security requirements; and

(d) support opportunities to improve public amenity within the Precinct.

The proposal is consistent with the above objectives because it is consistent with the precinct's role as a regional multi-user marine and industrial precinct.

GLE-25.0 Port and Marine Zone Local Area Objectives

GLE-25.1 Prince of Wales Bay Maritime Industrial Precinct, shown on an overlay map as GLE-25.1

The objectives for this area are to:

(a) support the Prince of Wales Bay Maritime Industrial Precinct's role as a regional multi-user marine and industrial precinct and sheltered anchorage;

(b) promote the sustainable management of the Precinct's land and waters (including any future land reclamation processes) by supporting uses of appropriate scale and intensity;

(c) support uses which protect the amenity and safety of residents abutting and near the waterfront area, and the safety of recreational boat users, through the implementation of appropriate mitigation measures to manage noise, dust, light spill, increased traffic flow and security requirements; and

(d) support opportunities to improve public amenity within the Precinct.

The proposal is consistent with the above objectives because it is consistent with the precinct's role as a regional multi-user marine and industrial precinct.

Particular Purpose Zones

The particular purpose zones of the Scheme do not apply to this proposal.

Specific Area Plans

The specific area plans of the Scheme do not apply to this proposal.

GLE-Site Specific Qualifications

The site-specific qualifications of the Scheme do not apply to this proposal.

GLE-Code lists

The code lists of the Scheme do not apply to this proposal.

GLE-Applied, Adopted and Incorporated Document

There are no relevant applied, adopted or incorporated documents.

INTERNAL REFERRALS

Development Engineer

The application was referred to Council's Development Engineer who has considered the proposal against the Parking and Sustainable Transport Code, Road and Railway Assets Code, Natural Assets Code, Flood-Prone Areas Hazard Code, and the Landslip Hazard Code.

In response to the Parking and Sustainable Transport Code, the Development Engineer notes that:

> *The development complies with the Code and is considered that the site is capable of being developed and the local traffic conditions are not expected to be significantly affected.*

Regarding the Road and Railway Assets Code, the Development Engineer notes that:

> *The proposed development is not expected to increase vehicle movements over 20% or 40 vehicles trips per day as it creates approx. 8.4% increase in traffic based on TIA. The site can be accessed off the existing vehicle crossing, and no new access is proposed*.

Environmental Health Officer

The application was referred to Council's Environmental Health Officer (EHO) who has considered the proposal against the Potentially Contaminated Land Code. The EHO has reviewed the ESA and CEMP that have been provided. The EHO has also reviewed an Acid Sulfate Soil Assessment, noting that it concludes that:

> *the potential disturbance of ASS associated with the land reclamation works will not meet the threshold that would require an ASS Management Plan*.

The EHO has recommended conditions of approval requiring the CEMP to be implemented and maintained.

Environment Co-Ordinator

The application was referred to Council's Environment Co-Ordinator who has considered the proposal against the Natural Assets Code. The Environment Co-Ordinator has recommended a condition requiring all recommendations of the Marine Ecological Assessment to be incorporated into, and implemented through, the CEMP.

Traffic Engineer

The application was referred to Council's Principal Traffic Engineer who has considered the issues raised in the Traffic Impact Assessment (TIA) provided with the application. These issues include parking supply, traffic generation, and internal and pedestrian access. The Principal Traffic Engineer concludes that:

> *The TIA is accepted, noting the reliance on staff transport assumptions outlined within the report. Based on the information provided, the proposed development is not expected to have any significant detrimental impacts on the surrounding road network in terms of traffic efficiency, parking or road safety*.

A condition requiring the development to operate in accordance with the TIA is recommended.

Full referral assessments are included in **Attachment 2**.

EXTERNAL REFERRALS

Aboriginal Heritage Tasmania

The application was referred to Aboriginal Heritage Tasmania (AHT). AHT has advised that there are no previously registered Aboriginal heritage sites within the footprint of the proposed development. AHT has also advised that there is a low likelihood of Aboriginal heritage on the site given the significant previous ground disturbance.

Crown Land Services

The application was referred to Crown Land Services. The application includes consent from the Crown as it includes the adjacent section of the River Derwent.

Derwent Estuary Program

The application was referred to the Derwent Estuary Program (DEP). The DEP has made a submission regarding the proposal which has been considered as a representation below.

Environmental Protection Authority

The application was referred to the Environmental Protection Authority (EPA) for confirmation that the proposal did not constitute a level 2 activity (pursuant to the *Environmental Management and Pollution Control Act 1994*) that would require it to be involved in assessment of the application. The EPA advice was that the proposal would not be considered to be a level 2 activity provided that any fill used on the site is not contaminated. The applicant has advised that while contaminated fill has been inadvertently brought onto the site, this will not be used in construction of the proposed development (see advice in EHO referral). The proposal is therefore not considered to be a level 2 activity.

Marine and Safety Tasmania

The application was referred to Marine and Safety Tasmania which advised that it has "no concerns with the proposed works" noting that it would "not affect safe navigation of vessels or existing moorings".

TasNetworks

The application was referred to TasNetworks which has advised that the proposed development is not likely to affect its operations.

TasWater

The application was referred to TasWater, however due to an administration error by Council, it is anticipated that their submission will be able to be tabled at this meeting and conditions recommended.

REPRESENTATIONS

The application was advertised for the statutory 14-day period and two representations were received. The issues raised are as follows:

Timing of works commencement

A representor states that "some land reclamation activities commenced prior to the issuance of a planning permit" and queries "whether any compliance or enforcement actions are proposed in relation to these unauthorised works?".

Planner's Comment:

It is noted that the application is seeking retrospective approval. Any compliance matters being undertaken are not relevant to the merits of this planning assessment.

Consideration of estuarine impacts in permit conditions

A representor queries whether conditions will be included upon any Planning Permit issued for the proposal to "manage sediment mobilisation and siltation within estuary waters" and "how will acid sulphate soils identified on site be managed?".

Planner's Comment:

Conditions requiring the recommendations made in the Marine Ecological Assessment and Environmental Site Assessment provided with the application to be implemented are recommended. Conditions requiring the Construction Environmental Management Plan to be implemented and maintained throughout construction of the development are also recommended.

Use of fill material

A representor states that "fill meeting Level 2 and Level 3 controlled waste criteria has been used during reclamation works undertaken prior to submission of the application" and queries "will any additional assessment, remediation, or regulatory action be required in relation to the contaminated fill material?".

Planner's Comment:

The Environmental Site Assessment provided with the application includes "imported fill soils test results" and states that "a number of stockpiles would be classified as Level 2 or Level 3 waste soils". However, the ESA also states that "Incat is now in the process of removing these stockpiles and soil stockpiles of similar composition from Site". Therefore, it is understood that Level 2 or Level 3 waste soils have not been used in the reclamation that has occurred on the site.

Parking Arrangements

A representor confirms that use of the large carpark on one of the 300 Risdon Road properties was secured via a lease agreement but that this agreement has expired.

Planner's Comment:

The issue raised by the representor is considered to be a commercial matter between the relevant parties. It is noted however, that the application relies upon parking on part of 300 Risdon Road and that there is an expectation that this parking will be provided and maintained throughout the life of the development.

Encroachment of Existing Building

A representor confirms that one of the existing boat building sheds on the property at 100 Derwent Park Road encroaches onto the property at 300 Risdon Road.

This matter is not relevant to Council's assessment of the current proposal, although it is noted that access to the proposed development would be partly dependent upon the latter property.

CONCLUSION

The proposal relies upon a number of performance criteria to comply with the applicable standards of the Scheme. The proposal is assessed as satisfying the performance criteria and complies with the applicable standards.

The proposal is assessed as complying with all other development standards in the General Industrial Zone and the Port and Marine Zone, as well as the applicable standards of the Parking and Sustainable Transport Code, Road and Railway Asset Code, Natural Areas Code, Coastal Inundation Hazard Code, and the Potentially Contaminated Land Code.

The application was publicly advertised for the statutory 14-day period and two representations were received. The representations raise queries regarding the management of potential environmental impacts associated with the development and property rights issue.

The proposal is consistent with the Scheme's applicable zone and code purpose statements.

RECOMMENDATION

That a permit be granted for the boat building shed, fill and reclamation works at 100 Derwent Park Road, 13 Surveyors Drive, Derwent Park and 300 Risdon Road, Lutana, subject to the following conditions:

Planning

1. Use and development must be substantially in accordance with planning permit application No. PLN-25-367 and the endorsed documents submitted on 9 December 2025, 27 March 2026, and 8 May 2026, except as otherwise required by this permit.
2. Any recommendations made in the Marine Ecological Assessment prepared by Marine Solutions Tasmania (dated February 2026) regarding mitigating environmental risks associated with the proposed construction and reclamation must be implemented.
3. Any works carried out within the waterway and coastal protection area or the future coastal refugia area must follow the guidelines provided in the *Wetlands and Waterways Works Manual* and the *Tasmanian Coastal Works Manual*.

4. Prior to commencement of any development that is approved by this permit, a Coastal Inundation Hazard Assessment Report must be prepared and submitted to Council. The report must be prepared by a suitably qualified person and include the information listed in the relevant definition provided in the Coastal Inundation Hazard Code, to the satisfaction of Council's Lead Statutory Planner. Once accepted by Council, any recommendations made in the report must be implemented and incorporated into the design of the development as required.

5. Any recommendations made in the Environmental Site Assessment prepared by Pitt and Sherry (dated 25 March 2026) must be implemented.

Engineering

6. Prior to the commencement of development approved by this permit or the issuing of a Building Approval, whichever occurs first, submit an Erosion and Sediment Control (ESC) plan detailing proposed sediment and erosion control measures to the satisfaction of Council's Development Engineer.

   The approved control measures must be installed prior to any construction activity and must be regularly inspected and maintained during the construction period to prevent soil and other materials entering the local stormwater system, roadways, or adjoining properties.

   The approved control measures must remain in place until such time as all construction activity likely to generate sediment has been completed or all disturbed areas have been stabilised using vegetation and/or restored or sealed to the satisfaction of the Council.

   The approved Erosion and Sediment Control plan (ESC) forms part of this permit and must be complied with.

   Advice: For further information please refer to Erosion and Sediment Control (ESC) Fact Sheets published by the Department of Primary Industries, Parks, Waters and Environment. These are available from Council or online at www.derwentestuary.org.au/stormwater/

7. The loading and unloading of goods from vehicles, including building materials and equipment, must only be carried out on the land.

8. The design and construction of the parking, access and turning areas must comply with the Australian Standard, Parking facilities, Part 1: Off-Street Car parking, AS 2890.1 – 2004, to the satisfaction of the Council's Development Engineer. Engineering drawings showing the driveway details must be in accordance with the Australian Standard and submitted with the Building Application for approval by Council's Development Engineer prior to the commencement of works on site. The proposed driveway and parking must comply with the following-:

(a) Total of 376 delineated car parking spaces comprising 356 existing spaces and 20 new parking spaces must be provided in accordance with the approved plan received by Council and always kept available for these purposes;

(b) Of the required number of car parking spaces, eight (8) visitor car parking spaces and four (4) accessible spaces (2 existing and 2 new) must be provided and clearly marked and kept available for these purposes at all times;

(c) All runoff from paved and driveway areas must be discharged into the approved point of discharge in accordance with approved plan;

(d) The gradient of any parking areas must not exceed 5% and

All works required by this condition must be installed prior to the commencement of the use.

9. Any damage to Council's assets, including services, footpaths, driveway crossings and nature strips must be promptly reported to and then repaired to the requirements of Council's Development Engineer, at the developer's cost. It shall be the developer's responsibility to obtain and submit with the Building approval application, a comprehensive photographic record of the condition of the footpaths, driveways and nature strips at the road frontage to the site and adjacent to the site, prior to commencing construction. The photographic record shall be relied upon to establish the extent of damage caused to Council's assets throughout construction. In the event that the developer fails to provide a pre-construction photographic record of the site then any damage to Council assets found on completion of the works shall be deemed to be the responsibility of the developer and shall be repaired at the developer's cost.

10. Prior to the issue of building approval and/or commencement of works (whichever occurs first), including demolition and excavation, a Construction Management Plan, must be submitted to the satisfaction of the Council's Lead Statutory Planner. The plan must provide details of the following:

(a) Hours for construction activity in accordance with any other condition of this permit;

(b) Measures to control noise, dust, water and sediment laden runoff;

(c) Measures relating to removal of hazardous or dangerous material from the site, where applicable;

(d) A plan showing the location of parking areas for construction and sub-contractors' vehicles on and surrounding the site, to ensure that vehicles associated with construction activity cause minimum disruption to surrounding premises. Any car parking on the land must be made available for use by sub-constructors/tradespersons upon completion of such areas, without delay;

(e) A Traffic Management Plan showing truck routes to and from the site;

(f) A plan showing the location and design of a vehicle wash-down bay for construction vehicles on the site;

(g) Measures to ensure that sub-contractors/tradespersons operating on the site are aware of the contents of the construction management plan;

(h) Contact details of key construction site staff;

(i) A site plan showing the location of any site sheds, on-site amenities, building waste storage and the like, noting that Council does not support site sheds on Council Road reserves; and

(j) Any other relevant matters

Traffic

11. Development to be undertaken and operate in generally in accordance with the Traffic Impact Assessment (March 2026), including:

a) Parking contained within the development site which includes staff using an organised staff bus service operated by Incat to reduce parking demand; and

b) Bus turn area and drop off/pick up area, that must be clearly delineated and managed to ensure safe operation within the site.

Hydraulics

12. The new stormwater infrastructure must be constructed substantially in accordance with the approved plans prior to issue of an occupancy certificate.

Environmental Health

13. Prior to commencement of any development that is approved by this permit:

(a) the Construction Environmental Management Plan (CEMP), prepared by Burbury Consulting (dated May 2026), must be updated to include any recommendations made in the Marine Ecological Assessment prepared by Marine Solutions Tasmania (dated February 2026) regarding mitigating environmental risks associated with the proposed construction and reclamation;

(b) Once updated in accordance with sub-clause (a) of this condition, the CEMP must be reviewed and signed by the Project Manager; and,

(c) A signed copy of the CEMP must be submitted to Council's Senior Environmental Health Officer.

14. The Construction Environmental Management Plan prepared by Burbury Consulting, including Appendix B – the Stormwater Management Plan, and updated in accordance with condition 14, must be fully implemented and complied with at all times during the development, in strict accordance with:

(a) all methodologies, procedures, and control measure specified;

(b) all nominated timeframes and staging requirements;

(c) all monitoring, inspection and reporting requirements; and

(d) all corrective actions and responsibilities assigned to personnel.

Advice to Applicant

This advice does not form part of the permit but is provided for the information of the applicant.

The designer should ensure that the needs of all providers including TasWater, TasGas, TasNetworks, and Telstra are catered for both in the design and construction of the works. Underground service providers should be contacted for line marking of their services and any requirements or conditions they may have prior to commencing any works on site. Phone 1100, Before You Dig or visit https://www.byda.com.au/ for information on the location of underground services and cables in relation to the proposed development prior to commencing any works on site.

Other Permits

Please be aware that this planning permit is a planning approval issued under the *Tasmanian Planning Scheme - Glenorchy*. You should consult with an accredited Building Surveyor prior to commencing this use or work to ensure all relevant requirements of the *Building Act 2016* are complied with.

In addition to this planning permit, a building permit and/or plumbing permit may also be required. If further clarification is required, please contact Council's Building Section on 6216 6800.

APPENDIX 1

19.0 General Industrial Zone

The subject property is within the GIZ. The use and development standards prescribed for this zone therefore apply to the use and development proposed within the property boundary. The proposed use (boat building listed within the Manufacturing and Processing use class) is considered to be a permitted use in the GIZ.

Standard	Acceptable Solution	Proposed	Complies?
19.3 Use Standards			
19.3.1 Discretionary uses	**A1** No acceptable solution.	N/A, a discretionary use is not proposed.	N/A

19.4 Development Standards for Buildings and Works			
Standard	**Acceptable Solution**	**Proposed**	**Complies?**
19.4.1 Building height	**A1** Building height must be not more than 20m.	A1 is not met, the proposed maximum building height (25m) would be more than 20m.	No
19.4.2 Setback	**A1** *Buildings must have setback from a frontage of:* *(a) not less than 10m;* *(b) not less than existing buildings on the site; or* *(c) not more or less than the maximum and minimum setbacks of the buildings on adjoining properties.*	A1(a) is met because the setback from the site frontage with Derwent Park Road would be more than 10m.	Yes

19.4.3 Landscaping	**A1** *If a building is set back from a road, landscaping treatment must be provided along the frontage of the site:* *(a) to a depth of not less than 6m; or* *(b) not less than the frontage of an existing building if it is a lesser distance.*	A1(a) is met because existing landscaping would be retained between the proposed building and the site frontage to a depth greater than 6m.	Yes

25.0 Port and Marine Zone

The part of the River Derwent that is adjacent to the subject property is within the PMZ. The use and development standards prescribed for this zone therefore apply to the use and development proposed outside of the property boundary. The proposed use (boat building listed within the Manufacturing and Processing use class) is considered to be a permitted use in the PMZ as it meets the qualification "If associated with maritime purposes".

25.3 Use Standards
There are no Use Standards in this zone.

25.4 Development Standards for Buildings and Works			
Standard	**Acceptable Solution**	**Proposed**	**Complies?**
25.4.1 Building height	**A1** Building height, excluding for Port and Shipping, and structures such as towers, poles, gantries, cranes or similar, must be not more than 20m.	A1 is not met, the proposed maximum building height (25m) would be more than 20m.	No

C1.0 Signs Code

Standard	Acceptable Solution	Proposed	Complies?
C1.4 Development Exempt from this Code			
C1.4.1	A sign listed in Table C1.4 is exempt from this code, provided it complies with the relevant requirements.	The proposed wall signs are not listed as exempt.	N/A
C1.4.2	A sign within a building or site that cannot be, or is not intended to be, seen from outside of the building or site is exempt from requiring a permit.		N/A
C1.4.3	Changes to the graphics of a sign that was lawfully displayed on or after the effective date, including text, graphic design and colour, is exempt provided that: (a) the sign has not changed in dimension, proportion or location; and (b) if an illuminated sign, the method of illumination has not changed.		N/A

C1.6 Development Standards for Buildings and Works			
Standard	**Acceptable Solution**	**Proposed**	**Complies?**
C1.6.1 Design and siting of signs	**A1** A sign must: (a) be located within the applicable zone for the relevant sign type set out in Table C1.6; and (b) meet the sign standards for the relevant sign type set out in Table C1.6, excluding for the following sign types, for which there is no Acceptable Solution: (i) roof sign; (ii) sky sign; and (iii) billboard.	A1(a) Met, the General Industrial Zone and the Port and Marine Zone are applicable zones for the proposed sign type. A1(b) Not met, the proposed wall sign would have an area greater than 4.5m^2 (approximately 721.7m^2) and greater than 25% of the area of the relevant wall area (approximately 1985m^2).	No
	A2 A sign must be not less than 2m from the boundary of any lot in the General Residential Zone, Inner Residential Zone, Low Density Residential Zone, Rural Living Zone or Landscape Conservation Zone.	Met, the proposed sign would be more than 2m away from the boundary of the specified zones.	Yes

	A3 The number of signs for each business or tenancy on a road frontage of a building must be no more than: (a) 1 of each sign type, unless otherwise stated in Table C1.6; (b) 1 window sign for each window; (c) 3 if the street frontage is less than 20m in length; and (d) 6 if the street frontage is 20m or more, excluding the following sign types, for which there is no limit: (i) name plate; and (ii) temporary sign.	A3 is considered to be N/A because the proposed sign would not be on a road frontage.	N/A
C1.6.2 Illuminated signs	**A1** No Acceptable Solution.	A1 is not met because the proposed sign would be illuminated.	No
	A2 An illuminated sign visible from public places in adjacent roads must not create the effect of flashing, animation or movement, unless it is providing direction or safety information.	A2 is met because the proposed illuminated signs would not create the effect of flashing, animation, or movement.	Yes
C1.6.3 Third party sign	No Acceptable Solution.	N/A, the proposed sign is not a third party sign.	N/A

C1.6.4 Signs on local heritage places and in local heritage precincts and local historic landscape precincts	**A1** A sign located on a site that is a local heritage place, in a local heritage precinct or local historic landscape precinct listed under the Local Historic Heritage Code, must: (a) be not more than 0.2m^2; (b) not be an illuminated sign; and (c) there must be not more than 1 sign per site.	N/A, the proposed sign would not be located on a site that is a local heritage place, in a local heritage precinct, or local historic landscape precinct listed under the Local Historic Heritage Code	N/A

C2.0 Parking and Sustainable Transport Code

Standard	Acceptable Solution	Proposed	Complies?
C2.5 Use Standards			
C2.5.1 **Car parking numbers**	**A1** The number of on-site car parking spaces must be no less than the number specified in Table C2.1, less the number of car parking spaces that cannot be provided due to the site including container refund scheme space, excluding if: (a) the site is subject to a parking plan for the area adopted by council, in which case parking provision (spaces or cash-in-lieu) must be in accordance with that plan; (b) the site is contained within a parking precinct plan and subject to Clause C2.7; (c) the site is subject to Clause C2.5.5; or (d) it relates to an intensification of an existing use or development or a change of use where:	This is a requirement for 374 parking spaces. The provision of 376 on-site parking spaces therefore complies with the requirements of Acceptable Solution A1 of Clause C2.5.1 of the Planning Scheme.	yes

Standard	Acceptable Solution	Proposed	Complies?
	(i) the number of on-site car parking spaces for the existing use or development specified in Table C2.1 is greater than the number of car parking spaces specified in Table C2.1 for the proposed use or development, in which case no additional on-site car parking is required; or (ii) the number of on-site car parking spaces for the existing use or development specified in Table C2.1 is less than the number of car parking spaces specified in Table C2.1 for the proposed use or development, in which case on-site car parking must be calculated as follows: N = A + (C- B) N = Number of on-site car parking spaces required A = Number of existing on site car parking spaces B = Number of on-site car parking spaces required for the existing use or development specified in Table C2.1 C= Number of on-site car parking spaces required for the proposed use or development specified in Table C2.1.		
C2.5.2 **Bicycle parking numbers**	**A1**	112 bicycle parking spaces is required, 10 spaces is proposed. TIA has addressed P1.	NO

Standard	Acceptable Solution	Proposed	Complies?
	Bicycle parking spaces must: (a) be provided on the site or within 50m of the site; and (b) be no less than the number specified in Table C2.1.		
C2.5.3 **Motorcycle parking numbers** *This applies to:* *Business and Professional Services;* *Community Meeting and Entertainment;* *Custodial Facility;* *Crematoria and Cemeteries;* *Educational and Occasional Care;* *Food Services;* *General Retail and Hire;* *Hospital Services;* *Hotel Industry;*	**A1** The number of on-site motorcycle parking spaces for all uses must: (a) be no less than the number specified in Table C2.4; and (b) if an existing use or development is extended or intensified, the number of on-site motorcycle parking spaces must be based on the proposed extension or intensification, provided the existing number of motorcycle parking spaces is maintained.	14 Motorcycle parkin spaces has been provided.	Yes

Standard	Acceptable Solution	Proposed	Complies?
Pleasure Boat Facility; ***Residential if for a communal residence, multiple dwellings or hostel use****;* *Sports and Recreation; and* *Tourist Operation*.			
C2.5.4 **Loading bays** *This applies to:* *Bulky Goods Sales;* *General Retail and Hire;* *Manufacturing and Processing; and* *Storage*.	**A1** A loading bay must be provided for uses with a floor area of more than 1000m^2 in a single occupancy.	There is no specific loading bay shown within the site. However, the commercial vehicles will continue to service the existing sheds, as well as the proposed shed.	yes
C2.5.5 **Number of car parking spaces within the General Residential Zone and Inner Residential Zone**	**A1** Within existing non-residential buildings in the General Residential Zone and Inner Residential Zone, on-site car parking is not required for:		NA

Standard	Acceptable Solution	Proposed	Complies?
This applies to: *Business and Professional Services;* *Community Meeting and Entertainment;* *Educational and Occasional Care;* *Emergency Services;* *Food Services;* *General Retail and Hire;* *Sports and Recreation; and* *Utilities, if not for minor utilities.*	(a) Food Services uses up to 100m^2 floor area or 30 seats, whichever is the greater; and (b) General Retail and Hire uses up to 100m^2 floor area, provided the use complies with the hours of operation specified in the relevant Acceptable Solution for the relevant zone.		
C2.6 Development Standards for Building Works			
C2.6.1 **Construction of parking areas**	**A1** All parking, access ways, manoeuvring and circulation spaces must: (a) be constructed with a durable all weather pavement; (b) be drained to the public stormwater system, or contain stormwater on the site; and	The parking area is proposed to be all weather durable. The runoff will be directed to the existing vegetated swale drain and discharged to Prince of Wales Bay	YES

Standard	Acceptable Solution	Proposed	Complies?
	(c) excluding all uses in the Rural Zone, Agriculture Zone, Landscape Conservation Zone, Environmental Management Zone, Recreation Zone and Open Space Zone, be surfaced by a spray seal, asphalt, concrete, pavers or equivalent material to restrict abrasion from traffic and minimise entry of water to the pavement		
C2.6.2 **Design and layout of parking areas**	**A1.1** Parking, access ways, manoeuvring and circulation spaces must either: (a) comply with the following: (i) have a gradient in accordance with Australian Standard AS 2890 - Parking facilities, Parts 1-6; (ii) provide for vehicles to enter and exit the site in a forward direction where providing for more than 4 parking spaces; (iii) have an access width not less than the requirements in Table C2.2; (iv) have car parking space dimensions which satisfy the requirements in Table C2.3; (v) have a combined access and manoeuvring width adjacent to parking spaces	Layout and gradients are provided in accordance with the AS2890.1	Yes

Standard	Acceptable Solution	Proposed	Complies?
	not less than the requirements in Table C2.3 where there are 3 or more car parking spaces; (vi) have a vertical clearance of not less than 2.1m above the parking surface level; and (vii) excluding a single dwelling, be delineated by line marking or other clear physical means; or (b) comply with Australian Standard AS 2890-Parking facilities, Parts 1-6. **A1.2** Parking spaces provided for use by persons with a disability must satisfy the following: (a) be located as close as practicable to the main entry point to the building; (b) be incorporated into the overall car park design; and (c) be designed and constructed in accordance with Australian/New Zealand Standard AS/NZS 2890.6:2009 Parking facilities, Off-street parking for people with disabilities.		
C2.6.3 **Number of accesses for vehicles**	**A1** The number of accesses provided for each frontage must: (a) be no more than 1; or	No changes to existing accesses are proposed	Yes

Standard	Acceptable Solution	Proposed	Complies?
	(b) no more than the existing number of accesses, whichever is the greater.		
	A2 Within the Central Business Zone or in a pedestrian priority street no new access is provided unless an existing access is removed.		NA
C2.6.4 **Lighting of parking areas within the General Business Zone and Central Business Zone**	**A1** In car parks within the General Business Zone and Central Business Zone, parking and vehicle circulation roads and pedestrian paths serving 5 or more car parking spaces, which are used outside daylight hours, must be provided with lighting in accordance with Clause 3.1 "Basis of Design" and Clause 3.6 "Car Parks" in *Australian Standard/New Zealand Standard AS/NZS 1158.3.1:2005 Lighting for roads and public spaces Part 3.1: Pedestrian area (Category P) lighting – Performance and design requirements*.		NA
C2.6.5 **Pedestrian access**	**A1.1** Uses that require 10 or more car parking spaces must:	A pedestrian path is provided adjacent to the proposed new parking areas without protective devices. This arrangement has been assessed and found to satisfy the relevant Performance Criteria.	NO

Standard	Acceptable Solution	Proposed	Complies?
	(a) have a 1m wide footpath that is separated from the access ways or parking aisles, excluding where crossing access ways or parking aisles, by: (i) a horizontal distance of 2.5m between the edge of the footpath and the access way or parking aisle; or (ii) protective devices such as bollards, guard rails or planters between the footpath and the access way or parking aisle; and (b) be signed and line marked at points where pedestrians cross access ways or parking aisles. **A1.2** In parking areas containing accessible car parking spaces for use by persons with a disability, a footpath having a width not less than 1.5m and a gradient not steeper than 1 in 14 is required from those spaces to the main entry point to the building.		
C2.6.6 **Loading bays**	**A1** The area and dimensions of loading bays and access way areas must be designed in accordance with *Australian Standard AS 2890.2–2002, Parking facilities, Part 2: Offstreet commercial vehicle*		yes

Standard	Acceptable Solution	Proposed	Complies?
	facilities, for the type of vehicles likely to use the site.		
	A2 The type of commercial vehicles likely to use the site must be able to enter, park and exit the site in a forward direction in accordance with *Australian Standard AS 2890.2 – 2002, Parking Facilities, Part 2: Parking facilities Offstreet commercial vehicle facilities*.		yes
C2.6.7 **Bicycle parking and storage facilities within the General Business Zone and Central Business Zone**	**A1** Bicycle parking for uses that require 5 or more bicycle spaces in Table C2.1 must: (a) be accessible from a road, cycle path, bicycle lane, shared path or access way; (b) be located within 50m from an entrance; (c) be visible from the main entrance or otherwise signed; and (d) be available and adequately lit during the times they will be used, in accordance with Table 2.3 of Australian/New Zealand Standard AS/NZS 1158.3.1: 2005 Lighting for roads and public spaces -- Pedestrian area (Category P) lighting -- Performance and design requirements.		NA

Standard	Acceptable Solution	Proposed	Complies?
	A2 Bicycle parking spaces must: (a) have dimensions not less than: (i) 1.7m in length; (ii) 1.2m in height; and (iii) 0.7m in width at the handlebars; (b) have unobstructed access with a width of not less than 2m and a gradient not steeper than 5% from a road, cycle path, bicycle lane, shared path or access way; and (c) include a rail or hoop to lock a bicycle that satisfies Australian Standard AS 2890.3-2015 Parking facilities -- Part 3: Bicycle parking.		NA
C2.6.8 **Siting of parking and turning areas**	**A1** Within an Inner Residential Zone, Village Zone, Urban Mixed Use Zone, Local Business Zone or General Business Zone, parking spaces and vehicle turning areas, including garages or covered parking areas must be located behind the building line of buildings, excluding if a parking area is already provided in front of the building line.		NA
	A2		NA

Standard	Acceptable Solution	Proposed	Complies?
	Within the Central Business Zone, on-site parking at ground level adjacent to a frontage must: (a) have no new vehicle accesses, unless an existing access is removed; (b) retain an active street frontage; and (c) not result in parked cars being visible from public places in the adjacent roads.		
C2.7 Parking Precinct Plan			
C2.7.1 **Parking Precinct Plan**	**A1** Within a parking precinct plan, on--site car parking must: (a) not be provided; or (b) not be increased above existing parking numbers.		NA

Footnotes

[S35] Requirements for the number of accessible car parking spaces are specified in part D3 of the National Construction Code 2016.

C3 Road and Railway Assets Code

Standard	Acceptable Solution	Proposed	Complies?
C3.5 Use Standards			
C3.5.1 **Traffic generation at a vehicle crossing, level crossing or new junction**	**A1.1** For a category 1 road or a limited access road, vehicular traffic to and from the site will not require: (a) a new junction; (b) a new vehicle crossing; or (c) a new level crossing. **A1.2** For a road, excluding a category 1 road or a limited access road, written consent for a new junction, vehicle crossing, or level crossing to serve the use and development has been issued by the road authority. **A1.3** For the rail network, written consent for a new private level crossing to serve the use and development has been issued by the rail authority. **A1.4**	A1.2 – Met, no new vehicle crossing proposed. A1.4 – Not met - Vehicular traffic is expected to increase over 40 vpd. TIA assessed traffic generation being acceptable as the scheme. This represents an increase of approximately 8.4% in traffic at the site access and is considered to satisfy the Acceptable Solution for Clause C3.5.1 of the Tasmanian Planning Scheme.	yes

Standard	Acceptable Solution	Proposed	Complies?
	Vehicular traffic to and from the site, using an existing vehicle crossing or private level crossing, will not increase by more than: (a) the amounts in Table C3.1; or (b) allowed by a licence issued under Part IVA of the *Roads and Jetties Act 1935* in respect to a limited access road. **A1.5** Vehicular traffic must be able to enter and leave a major road in a forward direction.		
C3.6 Development Standards for Buildings and Works			
C3.6.1 **Habitable buildings for sensitive uses within a road or railway attenuation area**	**A1** Unless within a building area on a sealed plan approved under this planning scheme, habitable buildings for a sensitive use within a road or railway attenuation area, must be: (a) within a row of existing habitable buildings for sensitive uses and no closer to the existing or future major road or rail network than the adjoining habitable building;		NA

Standard	Acceptable Solution	Proposed	Complies?
	(b) an extension which extends no closer to the existing or future major road or rail network than: (i) the existing habitable building; or (ii) an adjoining habitable building for a sensiti (c) located or designed so that external noise levels are not more than the level in Table C3.2 measured in accordance with Part D of the *Noise Measurement Procedures Manual, 2nd edition, July 2008*.		
C3.7 Development Standards for Subdivision			
C3.7.1 **Subdivision for sensitive uses within a road or railway attenuation area**	**A1** A lot, or a lot proposed in a plan of subdivision, intended for a sensitive use must have a building area for the sensitive use that is not within a road or railway attenuation area.		NA

C7.0 Natural Assets Code

Standard	Acceptable Solution	Proposed	Complies?
C7.6 Development Standards for Buildings and Works			
	A1		No – See report

Standard	Acceptable Solution	Proposed	Complies?
C7.6.1 Buildings and works within a waterway and coastal protection area or a future coastal refugia area	Buildings and works within a waterway and coastal protection area must: (a) be within a building area on a sealed plan approved under this planning scheme; (b) in relation to a Class 4 watercourse, be for a crossing or bridge not more than 5m in width; or (c) if within the spatial extent of tidal waters, be an extension to an existing boat ramp, car park, jetty, marina, marine farming shore facility or slipway that is not more than 20% of the area of the facility existing at the effective date.		
	A2 Buildings and works within a future coastal refugia area must be located within a building area on a sealed plan approved under this planning scheme.		N/A
	A3 Development within a waterway and coastal protection area or a future coastal refugia area must not involve a new stormwater point discharge into a watercourse, wetland or lake.		No – See Report
	A4 Dredging or reclamation must not occur within a waterway and coastal protection area or a future coastal refugia area.		No – See report

Standard	Acceptable Solution	Proposed	Complies?
	A5 Coastal protection works or watercourse erosion or inundation protection works must not occur within a waterway and coastal protection area or a future coastal refugia area.		N/A
C7.6.2 Clearance within a priority vegetation area	**A1** Clearance of native vegetation within a priority vegetation area must be within a building area on a sealed plan approved under this planning scheme.		N/A
C7.7 Development Standards for Subdivision			
C7.7.1 Subdivision within a waterway and coastal protection area or a future coastal refugia area	**A1** Each lot, or a lot proposed in a plan of subdivision, within a waterway and coastal protection area or a future coastal refugia area, must: (a) be for the creation of separate lots for existing buildings; (b) be required for public use by the Crown, a council, or a State authority; (c) be required for the provision of Utilities; (d) be for the consolidation of a lot; or (e) not include any works (excluding boundary fencing), building area, services, bushfire hazard management area or vehicular access within a		N/A

Standard	Acceptable Solution	Proposed	Complies?
	waterway and coastal protection area or future coastal refugia area.		
C7.7.2 Subdivision within a priority vegetation area	**A1** Each lot, or a lot proposed in a plan of subdivision, within a priority vegetation area must: (a) be for the purposes of creating separate lots for existing buildings; (b) be required for public use by the Crown, a council, or a State authority; (c) be required for the provision of Utilities; (d) be for the consolidation of a lot; or (e) not include any works (excluding boundary fencing), building area, bushfire hazard management area, services or vehicular access within a priority vegetation area.		N/A

C11.0 Coastal Inundation Hazard Code

Standard	Acceptable Solution	Proposed	Complies?
E11.6 Use Standards			

C11.5.1 Uses within a high coastal inundation hazard band	**A1** No Acceptable Solution.		N/A
C11.5.2 Uses located within a non-urban zone and within a medium coastal inundation hazard band	**A1** No Acceptable Solution.		N/A
C11.5.3 Uses located within a non-urban zone and within a low coastal inundation hazard band	**A1** No Acceptable Solution.		N/A
C11.5.4 Critical use, hazardous use or vulnerable use	**A1** No Acceptable Solution.		N/A
	A2 No Acceptable Solution		N/A
	A3 No Acceptable Solution		N/A
	A4 No Acceptable Solution		N/A

E11.6 Development Standards for Buildings and Works			
C11.6.1 Buildings and works, excluding coastal protection works, within a coastal inundation hazard area	**A1** No Acceptable Solution.		Np – See report
C11.6.2 Coastal protection works within a coastal inundation hazard area	**A1** No Acceptable Solution.		N/A
C11.7 Development Standards for Subdivision			
C11.7.1 Subdivision within a coastal inundation hazard area	**A1** Each lot, or a lot proposed in a plan of subdivision, within a coastal inundation hazard area, must: (a) be able to contain a building area, vehicle access, and services, that are wholly located outside a coastal inundation hazard area; (b) be for the creation of separate lots for existing buildings; (c) be required for public use by the Crown, a council or a State authority; or		N/A

	(d) be required for the provision of Utilities.		

C14.0 Potentially Contaminated Land Code

Standard	Acceptable Solution	Proposed	Complies?
C14.5 Use Standards			
C14.5.1 Suitability for intended use	**A1** For a sensitive use, or a specified use listed in Table C14.1, the Director, or a person approved by the Director for the purpose of this code: (a) certifies that land is suitable for the intended use; or (b) certifies a plan to manage contamination and associated risk to human health or the environment, so that the land is suitable for the intended use, or if in relation to redevelopment on land subject to the Macquarie Point Development Corporation Act 2012, the intended use must be in accordance with a certificate that has been or will be granted by an accredited environmental auditor.		N/A
C14.6 Development Standards for Building and Works			

Standard	Acceptable Solution	Proposed	Complies?
C14.6.1 Excavation works, excluding land subject to the Macquarie Point Development Corporation Act 2012	A1 Excavation, excluding on land subject to the Macquarie Point Development Corporation Act 2012, must involve less than 250m^3 of site disturbance.		No – see report
C14.6.2 Redevelopment on land subject to the Macquarie Point Development Corporation Act 2012	**A1** Redevelopment of land subject to the Macquarie Point Development Corporation Act 2012 must be in accordance with a certificate that has been or will be granted by an accredited environmental auditor.		N/A
C14.7 Development Standards for Subdivision			
C14.7.1 Subdivision for sensitive use	**A1** For subdivision of land, the Director, or a person approved by the Director for the purpose of this code: (a) certifies that the land is suitable for the intended use or development; or (b) certifies a plan to manage contamination and associated risk to human health or the environment, so that the subdivision does not adversely impact on human health or the environment and is suitable for its intended use or development		N/A

6 PLANNING SCHEME AMENDMENT REQUEST – BLACK SNAKE ROAD, GRANTON

Author:	**Strategic Planner (Liam Wallace)**
Qualified Person:	**Strategic Planner (Liam Wallace)**
File Reference:	**3619776**

REPORT SUMMARY:

Application No.:	**PLAM-26/01**
Applicant:	**N/A**
Owner:	**Aquaculture Tech. Pty Ltd; John Harrison**
Existing Zoning:	**Environmental Management**
Existing Land Use:	**Vacant**
Proposal in Brief:	**Rezone land to the Rural Living zone**
Representations:	**Advertising occurs after amendment is prepared**
Recommendation:	**Prepare and certify amendment, and exhibit for 28 days**

EXECUTIVE SUMMARY

The draft amendment is generally in accordance with the requirements of the *Land Use Planning and Approvals Act 1993* (LUPAA), and it is recommended that it be prepared.

The proposed planning scheme amendment applies to the property (outlined in red in *Figure 1* below) on Black Snake Road (PID: 1696361; Title: 120863/16). The property is currently zoned Environmental Management, however the application of this zone is inconsistent with where else it has been applied in the municipality. The Environmental Management Zone is applied only to land in public ownership under the Tasmanian Planning Scheme – Glenorchy (TPS-G). This site is not in public ownership, and its zoning was mistakenly applied during the transition from the Interim Planning Scheme to the TPS-G. A change of zone would help provide the opportunity for residential development on privately owned land.

It is proposed to rezone the identified land on Black Snake Road to the Rural Living Zone which would be a more appropriate zoning for the site. While there are a greater range of uses permissible under the Rural Living Zone that may not be entirely consistent with the constrained nature of the site, it is considered these constraints can be effectively managed and still present a preferred outcome, rather than an erroneous environmental zone being applied.

The site was previously mapped entirely within the Waterway and Coastal Protection Overlay, whereas the extent of this overlay has now been reduced so it no longer applies to the whole site. It is also constrained from more extensive development, being subject to the following overlays: Bushfire Prone Area, Flood-prone Hazard Area, and Priority Vegetation.

Rezoning the subject land to the Rural Living Zone would rectify a previous inconsistency in zoning principles applied under the TPS-G and would allow for a single dwelling to be a 'no permit required' use, rather than prohibited. It is considered the re-zoning is appropriate to facilitate this residential opportunity, noting the feasibility of a dwelling on this land would likely remain subject to a development application due to the overlays present on the site.

The social, economic and environmental benefits of the proposed amendment are:

- Enabling residential development opportunities for private landowners.
- Providing certainty in the application of land zones within the local government area.

The social, economic and environmental consequences of the proposal are:

- Introducing potential residential use in an area subject to environmental constraints.

This consequence can be effectively managed through the development application process, providing safeguards to ensure that any future residential development is suited to the area and is not unduly risk-prone.

On balance, the proposal is considered a fair, orderly and sustainable amendment to the planning scheme, and it is recommended that the planning authority prepare the amendment.

This report provides details of the amendment and the site. The strategic outcomes of the proposal are outlined, having regard to matters of local, regional and then State importance. The report ends with a discussion of the degree of compliance with legislative requirements.

If prepared, the following two outcomes must occur:

- The amendment is exhibited for 28 days.
- The Tasmanian Planning Commission (the Commission) will decide whether to
    - approve the amendment
    - approve the amendment with modifications, or

- reject the amendment.

Any representations to the amendment will be considered at a future Glenorchy Planning Authority meeting, where modifications can be recommended. In response to the representations, the Planning Authority can recommend that the Commission does not approve the amendment.

If no representations are received, the senior planning staff have delegation to forward a report to that effect to the Commission.

The Commission will assess and decide on the amendment based on the issues raised in the representations and the outcomes of any hearings it may hold.

PROPOSED PLANNING SCHEME AMENDMENT

The proposed planning scheme amendment applies to the site at Black Snake Road, PID: 1696361; Title: 120863/16 (outlined in Figure 1).

Background

The site is in the Environmental Management Zone (EMZ) and was also included in this zone under the Glenorchy Interim Planning Scheme 2015 (GIPS 2025). Under the EMZ of the GIPS 2015, a single dwelling was a discretionary use. However, under the EMZ of the State Planning Provisions, a residential use is essentially prohibited for private dwellings. As part of the preparation for transition from the GIPS 2025 to the TPS-G in 2019, it was determined that privately zoned land would move from the Environmental Management Zone into a zone that allowed for residential development. This change was not applied to the site at Black Snake Road as it was mistakenly omitted, having not been identified to be in private ownership.

It is noted that the land tenue layer on LIST map identified the land as being Local Government Act Reserve', which may have contributed to the land being mistakenly retained in the EMZ.

The transition to the TPS-G was widely advertised, however no representations were received about the zoning of the subject land.

In any instance the land has now been identified as being in private ownership and an appropriate zoning must be applied.

Informal Consultation with the owner

The owner has raised the issue about the land being in private ownership but unable to be developed for residential use. Council officers have been in discussion with the owner about undertaking an amendment to rezone the land and the owner has indicated they are supportive of the proposed zoning.

Proposed Zoning

The Rural Living Zone is considered to present the best outcome for a consistent planning framework and maintains the approach to distinguishing between private and public land.

Therefore, the proposed amendment seeks to:

- Rezone the subject site at Black Snake Road, PID: 1696361; Title: 120863/16 to the Rural Living Zone

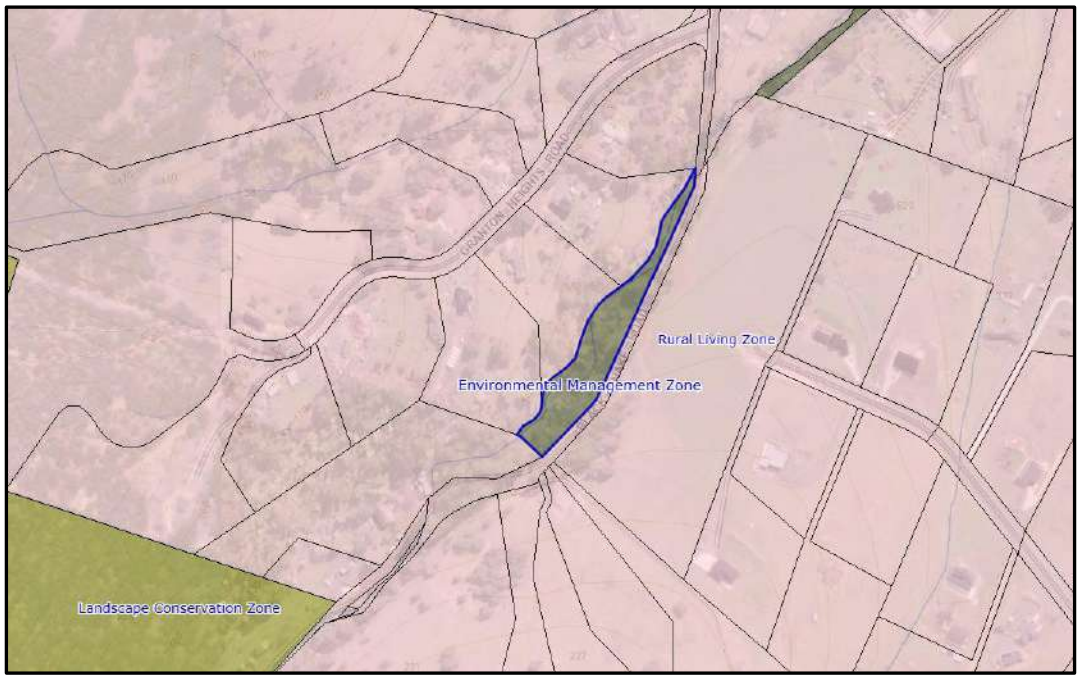

Figure 1: Zoning map of the area highlighting the subject site at Black Snake Road (within the blue boundary line)

The draft amendment documents are included in **Attachment 1** – Amendment Documents.

SITE AND LOCALITY:

Site characteristics & adjoining land

The subject site on Black Snake Road is approximately 7,200 square metres in size and located within a broader rural area west of the Brooker Highway, which is zoned as Rural Living. Further to the west along Black Snake Road are larger parcels of land which are zoned Landscape Conservation. The site is well-vegetated, with minimal pockets with no obvious vegetation, largely located close to Black Snake Road.

The site is reasonably elevated, at approximately 88m in the north-eastern portion of the land and 110m AHD in the south-western part. The Black Snake Rivulet runs through the entire length of the site, predominantly located in the north-western half of the land.

There are five properties (ranging in size from 9,400m2 to 20,200m2) adjoining the subject land, four of which have frontages to Granton Heights Road to the north, and one site which has a frontage to Black Snake Road. All five properties have single dwellings on the land, which range from approximately 69-114m in distance from the subject site boundary. There is one adjacent property on the southern side of Black Snake Road (5.7 hectares in size) which has an approved development application for a vineyard (PLN-21-588). All adjacent properties identified are in the Rural Living zone.

The land in the surrounding Rural Living Zone is predominantly comprised of large residential lots with single dwellings. There are five larger parcels to the south-west of the site which are currently vacant.

Infrastructure

The subject area is rural land that is not serviced. There are two miscellaneous stormwater pits, adjacent to the southern end of the subject site and 181 Black Snake Road. There are also two stormwater pits at the northern most point of the site. Black Snake Road is sealed and is single lane from the point of intersection with Granton Heights Road to the north.

Environmental values & other overlays

Natural Assets Code

The subject site is mapped almost entirely within the Waterway and Coastal Protection Overlay (see Figure 2). The Black Snake Rivulet runs through the site and informs the spatial extent of the Waterway and Coastal Protection Overlay. There is an area of approximately 570m2 closest to Black Snake Road which is not covered by this overlay. There is also a narrow portion of land along the southern boundary not covered by the overlay.

The Priority Vegetation Overlay also covers almost the entire site, with the exception of a pocket at the northern point of the site, approximately 290m^2 (see Figure 3). Council's Environment team advised that there is a remnant strand of *eucalyptus tenuiramis* trees on site. It was advised that a Natural Values Assessment was not required as part of the proposed change of zone, however if any changes were proposed to the Priority Vegetation Overlay this would trigger an assessment to provide for the long-term preservation of the vegetation.

However, there may be adequate site area to develop this property for a single dwelling while minimising impacts on the waterway and coastal protection area and priority vegetation area.

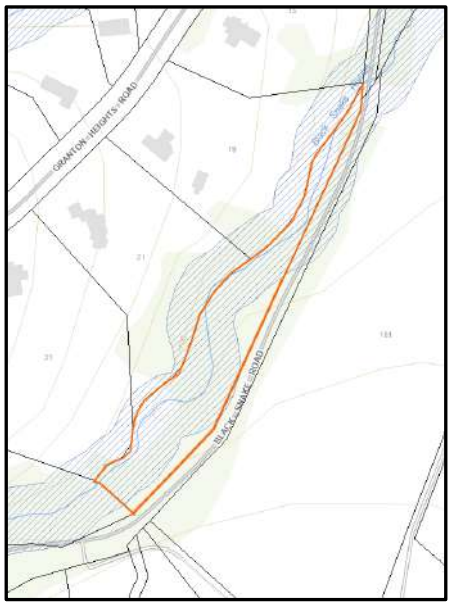

Figure 2: Waterway and coastal protection areas (blue)

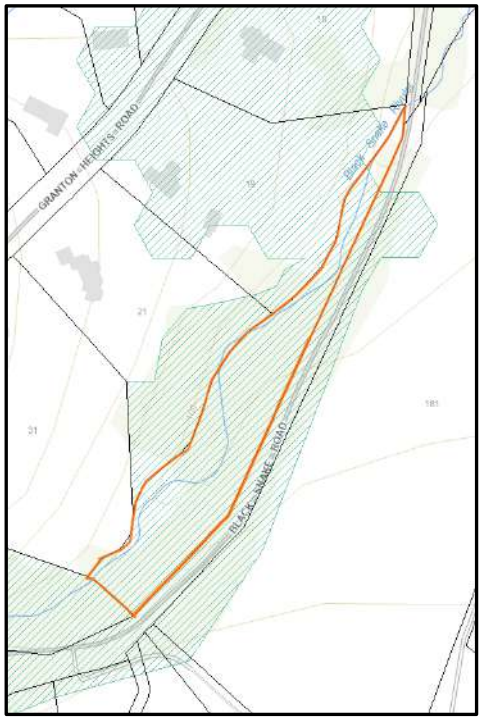

Figure 3: Priority vegetation area (green hatching)

Landslip Hazard Code

A portion of the site adjacent to 19 Granton Heights Road is marked with the Medium Landslip Hazard Band (see *Figure 4* below). There are also small pockets mapped under the Low and Medium Landslip Hazard Bands. The total area of land mapped in the Medium Landslip Hazard Band is approximately 540m2, comprising a small portion of the overall site area. These areas are considered relatively minor and would be a limited constraint on the potential for residential development.

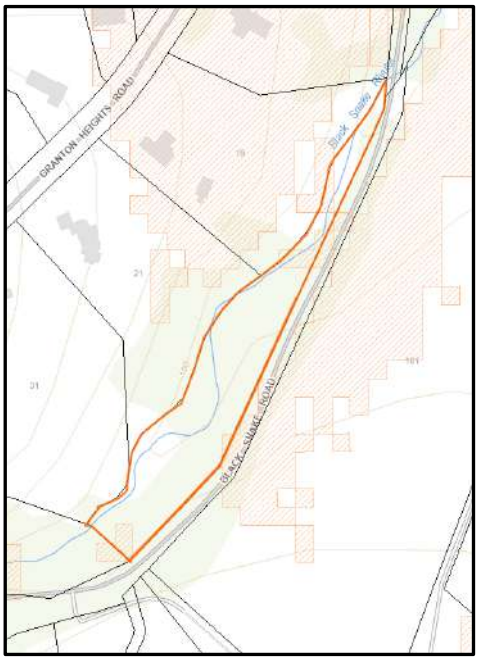

Figure 4: Medium landslip hazard areas (orange)

Flood-Prone Areas Hazard Code

The majority of the site is mapped as a Flood-prone Hazard Area (see *Figure 5* below). The extent of the site covered by this Overlay is near-identical to the Waterway and Coastal Protection Overlay which follows the Black Snake Rivulet. Any future development would need to address the Code provisions which will continue to manage any risks associated with flooding.

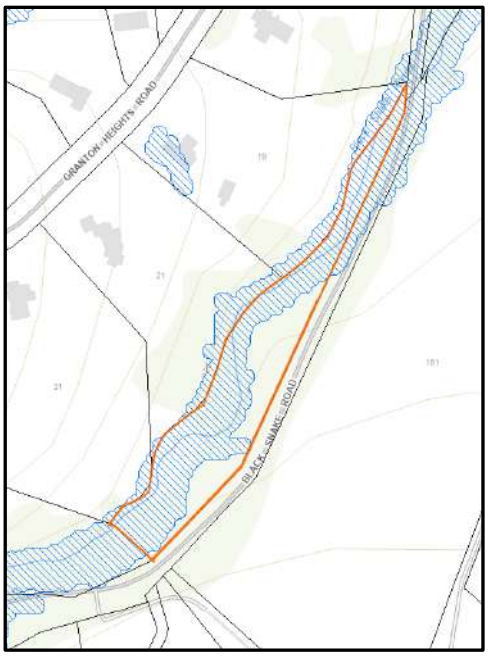

Figure 5: Flood-prone hazard areas hatched

Bushfire Prone Areas Code

The entirety of the site and its surrounds are mapped as a Bushfire-prone Area. Any future residential development would need to demonstrate compliance with the Bushfire management requirements.

Cultural values

The land does not contain any heritage places, and a search of the Aboriginal Heritage Tasmania website did not identify the presence of any Aboriginal relics.

Social and Economic Values

The land is currently vacant and has no notable social or economic values as existing.

Existing Planning Applications

There is currently a planning application on the site - PLN-26-018 which was lodged in January 2026 however has not yet been deemed valid. The application is for Resource Development and Passive Recreation and consists of a Class 1A shed, a driveway, a private garden and electrical poles. There has been no further progression of this application since the end of March 2026.

Application of Rural Living Zone

Investigation into rezoning the subject site analysed several zones before determining that the applying the Rural Living Zone would be the most appropriate.

The Section 8A Guidelines provide an overview and guidance for the application of all zones within Local Provisions Schedules. These Guidelines should be considered in conjunction with the Zone Purposes outlined in the SPPs (which are also included in the Guidelines for easy reference).

A comparison between the Environmental Management Zone, Rural Living Zone and Landscape Conservation Zone was undertaken to identify which zone provides the best fit for the subject site. This is set out in **Attachment 2**.

ASSESSMENT / STRATEGIC OUTCOMES

Local Strategy, Policy and Impacts:

Strategy

The *Glenorchy Strategic Plan 2023–2032* guides Council's direction and activities in line with the *City of Glenorchy Community Plan 2015-2040*. The proposed amendment aligns with the Strategic Plan's objectives and strategies that implement the Community Plan's goals. In particular, the proposed amendment delivers on the Objective to "champion greater opportunities for our community" and its accompanying Strategy to "improve access to housing and transport choices for our community." The proposed amendment is an example of facilitating housing opportunities in rural areas, unlocking land where it is appropriate. Further detail is provided in Appendix 1.

Policy

The local policies adopted by Council that are relevant to the proposed amendment are discussed below:

Statement of Commitment on Housing: The proposed amendment meets the Glenorchy *Statement of Commitment on Housing*, and associated action plan, that "seek opportunities to zone land so it can provide for a diverse range of housing developments and efficiently assess rezoning, housing and subdivision proposals." While the chief intention of the proposed amendment is to maintain an orderly and consistent planning framework, the rezoning of private land and the associated residential development opportunity in a rural area is a positive secondary outcome.

Infrastructure Impacts

The subject land is almost entirely unserviced and is in an area with limited services. The surrounding Rural Living area does not have sewer servicing from TasWater and there are limited, small scale water connection points on some of the neighbouring properties to the south of the subject site.

There is a water lateral line running east to west towards the northern most part of the site. This line runs to a water connection point <=20mm in size. The proposal has been referred to TasWater who have advised that as "neither proposed zoning imposes

obligations on TasWater to provide a water connection and the property is outside sewer serviced land" there are no issues from their perspective with the proposed rezoning.

It should be noted that the adjoining properties to the north are not serviced and it is unlikely that any future development of the site would have significant impacts on infrastructure requirements or functioning of water and sewer management for existing properties.

Traffic increases and impacts associated with increased densities would be considered as part of any planning permit application for any future development proposal. It is noted though that single dwellings are classified as No Permit Required in the Rural Living Zone. Nevertheless, development would still be required to meet the relevant acceptable solutions, some pertaining to traffic considerations. Further, as the site is constrained by the Natural Assets Code, it is unlikely that any significant traffic-generating development would be feasible. The site is parallel and has access to Black Snake Road. It is not foreseen that any upgrades would be required to this road as it already serves a rural residential area.

The site does have a high voltage line conductor running overhead, with an electricity pole immediately to the north of the site. Adjacent sites also have high voltage overhead line conductors, so this should not pose a unique or high-risk issue for the site. The proposed amendment was referred to Tas Networks, though no response was provided.

Environmental Impacts

The proposed amendment will have minimal environmental impacts and may have some positive environmental outcomes. As the land is vacant, providing opportunity for residential development may enable opportunities to manage the existing vegetation on site in a sustainable fashion.

The priority vegetation overlay under the Natural Assets Code applies and generally follows the creek line on the site. The Waterway and Coastal Protection Overlay also applies to the majority of the site as the Black Snake Rivulet traverses the site from top to bottom. It is considered that the controls within the Natural Asset Code will provide sufficient protection of the natural values on the land and ensure that minimal impacts occur.

Amenity Impacts

The site is within an existing Rural Living area and all adjoining properties are within the Rural Living Zone. The narrow shape of the site, combined with the extent of the Natural Assets Code that applies, is likely to restrict the feasibility of discretionary uses from occurring that may generate more adverse amenity impacts. All existing dwellings are set back between 69-114m from the site's boundaries so there are unlikely to be any impacts on existing residential amenity.

Social and economic impacts

As stated previously, while the proposed amendment is intended primarily for the purposes of maintaining consistency of zoning principles, there is the additional benefit of potentially enabling a dwelling to be built on the site. As it is a single site within an existing Rural Living area it is not expected that there will be any negative social or economic impacts of the proposed amendment.

Regional Strategy and Policy

For the amendment to be approved, compliance with the *Southern Tasmania Regional Land Use Strategy 2010-2035* (STRLUS) must be demonstrated. **Appendix 1** provides a detailed assessment of the amendment against the relevant STRLUS policies.

The amendment is consistent with the STRLUS as it will:

- Rezone areas that provide for the infill or consolidation of existing rural living communities,
- Manage the constraints and any risk potential on the site so as to be harmonious with development in the surrounding rural area

State Strategy and Policy

The amendment furthers the objectives in Schedule 1 of LUPAA, by promoting sustainable and orderly development through the consolidation of rural land and maintaining consistency in the application of the Environmental Management Zone for public land only. **Appendix 1** also includes an assessment against the objectives of Schedule 1 of LUPAA and the State Policies.

The amendment per se, will not directly result in any impacts on water quality. It is noted that were a permit is required, applications that are submitted to Council can be conditioned to manage water quality during development and promote consistency with the *State Policy on Water Quality Management 1997*.

Statutory considerations

Section 32 of LUPAA provides for the contents of a Local Provisions Schedules (LPS), and Section 34 outlines the LPS Criteria. **Appendix 1** provides a detailed assessment of the amendment against the requirements of these provisions. The amendment is considered to satisfy all the listed considerations and meet the LPS Criteria.

CONCLUSIONS ON THE AMENDMENT

The amendment seeks to rezone the site on Black Snake Road, Granton (PID: 1696361; Title: 120863/16) to the Rural Living Zone. Based on the principles used to apply the Environmental Management Zone under the TPS-G, as well as the Section 8A Guidelines for application of this zone, it is considered unreasonable to maintain the current zoning. It is proposed to rezone the site to ensure a consistent approach for zoning environmental and rural land.

The proposed amendment is consistent with the Section 8A Guidelines and the STRLUS which stipulates where the Rural Living Zone is appropriate. It does not impose any significant social, economic or amenity impacts on the surrounding area and is a sensible application of the Rural Living Zone given its siting and size.

The site does lack a viable zoning alternative. This report has considered the merits of the existing Environmental Management Zone and the Landscape Conservation Zone as possible alternatives.

The site constraints can potentially be managed through a development application and assessment against the relevant controls within the Natural Assets Code. The Rural Living Zone's controls should also limit the scope of future development on the site while still providing the opportunity for a single dwelling, which is currently prohibited under the Environmental Management Zone.

For the above reasons, it is assessed that the proposed amendment is consistent with the objectives and other requirements of the *Land Use Planning and Approvals Act 1993*, the tenor of the Tasmanian Planning Scheme - Glenorchy and is consistent with the Southern Tasmanian Regional Land Use Strategy and State policies.

RECOMMENDATION:

A. That pursuant to Section 40D(b) of the *Land Use Planning and Approvals Act 1993*, the Planning Authority prepare Amendment PLAM-26/01 to the Glenorchy Local Provisions Schedule to rezone Black Snake Road, Granton (PID: 1696361; Title: 120863/16) to a Rural Living Zone.

B. That having decided to prepare the amendment, the Planning Authority certifies pursuant to Section 40F of the *Land Use Planning and Approvals Act 1993* that the draft amendment meets the *Land Use Planning and Approvals Act 1993*.

C. That, in accordance with Section 40G of the *Land Use Planning and Approvals Act 1993*, the Planning Authority places the amendment on public exhibition for a period of 28 days.

Attachments

Attachment 1 – Amendment documents

Attachment 2 – Zoning analysis table

Appendix 1 Statutory Assessment – Response to criteria requirements for Local Provisions Schedule under LUPAA

Section 34(2) of LUPAA requires a relevant planning instrument to meet all of the following criteria:

(a) contains all the provisions that the SPPs specify must be contained in an LPS

The proposed amendment applies to land at Black Snake Road, Granton (PID: 1696361; Title: 120863/16). The draft amendment seeks to rezone this land to the Rural Living Zone. The draft amendment complies with the SPP requirements for an LPS as set out in Clause LP1.0 and Appendix A of the SPPs.

(b) is in accordance with section 32

This section identifies the technical aspects of an LPS such as inclusion of zone maps and overlays, and what additional local provisions can be included if permitted to do so under the State Planning Provisions (SPPs), to add to or override the SPPs.

The draft amendment includes:

- a map overlay that provides for the spatial application of the Rural Living Zone as a direct rezoning from the Environmental Management Zone;

(c) furthers the objectives set out in Schedule 1 of LUPAA

Assessment of the amendment against the Schedule 1 objectives is provided in the following table. Schedule 1 of LUPAA provides for the objectives of the Act. The Part 1 objectives outline the objectives of the Resource Management and Planning System of Tasmania, while the Part 2 objectives include the objectives of the Planning Process.

Part 1 Objectives	**Comment**
(a) *to promote the sustainable development of natural and physical resources and the maintenance of ecological processes and genetic diversity*	The amendment seeks to rezone the land from the Environmental Management Zone to the Rural Living Zone. While the proposed zone is less restrictive, it is the most appropriate zone to apply in the case of the site being private rather than public land – the assumption the land was in public ownership being the reason the Environmental Management Zone was applied to begin with. The site is entirely bound by Rural Living

	zoned properties and applying this zone would contribute to the current condition and state of the rural landscape and ecological processes. The amendment will not have any direct ecological impacts and any potential impacts associated with development can be effectively managed through the ongoing application of the Natural Assets Code at a development application stage to ensure that the Black Snake Rivulet is not unduly impacted.
(b) *to provide for the fair, orderly and sustainable use and development of air, land and water*	The proposed amendment addresses the inconsistency of how the Environmental Management Zone was applied in the LGA and ensures consistency in land zoning between landowners within the rural area. Any future development of the site is anticipated to be consistent in scale, and potentially lesser, than neighbouring properties and would not result in unsustainable impacts on surrounding land or waterways.
(c) *to encourage public involvement in resource management and planning*	The statutory process for assessment of amendments involves a public notification period. Any representations received will be formally considered by the Planning Authority. The Planning Authority is required to report on any representations to the Tasmanian Planning Commission, which in turn may hold public hearings into representations.
(d) *to facilitate economic development in accordance with the objectives set out in paragraphs (a), (b) and (c)*	By recognising the land being in private ownership and applying a zone to reflect this, there is a new opportunity for housing to be provided in a rural area. There are no negative economic impacts projected to emerge from the proposed amendment, being small in scale and of a consistent zone with the surrounding area.
(e) *to promote the sharing of responsibility for resource management and planning between the different spheres of Government, the community and industry in the State*	Community, industry and other government agencies will have the opportunity to comment on the amendment controls during the exhibition process.

	Referrals were made to TasWater and Tas Networks as part of the proposed amendment.
Part 2 Objectives	
(a) *to require sound strategic planning and co-ordinated action by State and local government*	The amendment represents the commitment to consistent and fair zoning application principles. The site was placed in the Environmental Management Zone during the transition to the TPS-G under the mistaken understanding that it was in public ownership. The proposed amendment results in a coordinated land use pattern for the rural living area and maintains consistency in how rural and environmental zones are applied throughout the LGA. The amendment is in line with the STRLUS in regard to maintaining sustainable rural living areas. The secondary outcomes of creating an additional housing opportunity also aligns with the STRLUS as well as Council's broader strategic planning agenda.
(b) *to establish a system of planning instruments to be the principal way of setting objectives, policies and controls for the use, development and protection of land*	The proposed amendment is for the purposes of creating a consistent zoning framework that upholds Council's strategic principles and consistency with the Section 8A Guidelines. This consistent framework and delineation between private and public land ownership helps set expectations for Council and the community about the future use, development and protection of land.
(c) *to ensure that the effects on the environment are considered and provide for explicit consideration of social and economic effects when decisions are made about the use and development of land*	The proposed amendment will not result in any direct environmental impacts. Potential environmental impacts can be effectively managed through the continued application of the Waterway and Coastal Protection Overlay and the Priority Vegetation Overlay under the Natural Assets Code. No changes are proposed to these overlays as part of this amendment. The Rural Living Zone is less restrictive than the existing Environmental Management Zone but it is not considered likely that many of the list of discretionary uses, with potentially greater environmental impacts, would be feasible owing to the site's narrow width and proximity to the Black Snake Rivulet.

		There are unlikely to be negative social or economic impacts given the site is bounded by existing Rural Living zoned properties and is of a size that is unlikely to accommodate large scale uses which would affect economic or social activity on neighbouring properties.
(d)	*to require land use and development planning and policy to be easily integrated with environmental, social, economic, conservation and resource management policies at State, regional and municipal levels*	The proposed amendment is considered to align with land use management policies at a State, regional and local level (as demonstrated below under assessment against the State Policies, STRLUS and Council Strategy considerations).
(e)	*to provide for the consolidation of approvals for land use or development and related matters, and to co-ordinate planning approvals with related approvals*	There is currently a planning application for the site- PLN-26-018 which was lodged in January 2026 however has not yet been deemed valid. The application is for a Class 1A shed, a driveway, a private garden and electrical poles. The proposed amendment is for the purposes of rectifying an improper application of the Environmental Management Zone and should provide greater clarity on the development capability of the land in line with the surrounding Rural Living area.
(f)	*to promote the health and wellbeing of all Tasmanians and visitors to Tasmania by ensuring a pleasant, efficient and safe environment for working, living and recreation*	The proposal contributes to the consolidation of the Rural Living area in Granton which provides a transitory landscape between urban areas in the south-east towards the conservation areas in the west. The site is of a small size and incorporating it into the Rural Living zoned area has the benefit of enabling a dwelling opportunity in the area.
(g)	*to conserve those buildings, areas or other places which are of scientific, aesthetic, architectural or historical interest, or otherwise of special cultural value*	The site does not have any items of special cultural value, nor is it in proximity to items of special cultural value.

(h)	*to protect public infrastructure and other assets and enable the orderly provision and co-ordination of public utilities and other facilities for the benefit of the community*	The proposed amendment is not anticipated to have impacts on existing public infrastructure, particularly as the site and surrounding area have limited services provided.
(i)	*to provide a planning framework which fully considers land capability*.	The proposed amendment is to ensure consistency in Council's planning framework in zoning rural and environmental land. The site is constrained and will have limited overall development potential; however, it is currently unduly constrained by the Environmental Management Zone given this zone was erroneously applied to private land.

(d) is consistent with each State policy;

Assessment of the amendment against the various policies is provided in the following table.

State Policy	**Comment**
State Policy on the Protection of Agricultural Land 2000.	The proposal does not involve the conversion of prime agricultural land to non-agricultural use. It is not identified in List Maps as either 'Land potentially suitable for agriculture zone' or 'potential agricultural land' under the initial analysis.
State Policy on Water Quality Management 1997 Specific outcomes to achieve water quality objectives are specified under the following divisions: ▪ Division 1 – Measure to achieve policy objectives ▪ Division 2 – Management of point sources of pollution	The proposed amendment per se would not result in an increase in sediment transport to surface waters, and does not increase the potential extent of sediment transport from future development. Any future planning permits issued for developments in the subject area will require that appropriate water quality management measures are put in place at the time of works.

▪ Division 3 - Management of diffuse sources of pollution.	
State Coastal Policy 1996. The key principles are: ▪ Natural and Cultural values of the coast shall be protected ▪ The coast shall be used and developed in a sustainable manner ▪ Integrated management and protection of the coastal zone is a shared responsibility.	The northern most point of the site is approximately 1.45km away from the high water mark of the Derwent River to the east. As it is further than 1km from the high water mark, the *State Coastal Policy 1996* does not apply.

National Environmental Protection Measures National Environment Protection Measures (NEPM) are automatically adopted as State Policies under section 12A of the *State Policies and Projects Act 1993* and are administered by the Environment Protection Authority. The NEPMs relate to: ▪ ambient air quality ▪ ambient marine, estuarine and fresh water quality ▪ the protection of amenity in relation to noise (but only if differences in markets for goods and services) ▪ general guidelines for the assessment of site contamination ▪ environmental impacts associated with hazardous wastes ▪ the re-use and recycling of used materials. Principle 5 of the NEPMs states that planning authorities *'that consent to developments, or changes in land use, should ensure a site that is being considered for development or a change in land use, and that the authorities ought reasonably know if it has a history of use that is indicative of potential contamination, is suitable for its intended use*.	There are no known contamination issues associated with the land. Council's Environmental Health Officer highlighted that it is "also considered unlikely that contamination has migrated from nearby sources, as there are no known potentially contaminating activities currently occurring, or historically undertaken, on adjacent properties or upstream along the Black Snake Rivulet within the Glenorchy City Council area. The vineyard at 181 Black Snake Road was approved by Council in 2022. At the time of the development application, there was no indication that the site would be used for any of the potentially contaminating activities listed in Table C14.2, including spray storage and mixing, as the applicant's stated intention was to apply for organic certification and not use synthetic chemicals. " In relation to air and water quality, the Natural Assets Code and the *Environmental Management and Pollution Control Act 1994* will continue to apply, addressing impacts of potential future development on the site.

(da) satisfies the relevant criteria in relation to the TPPs;

The Tasmanian Planning Polices have not been implemented.

(e) as far as practicable, is consistent with the regional land use strategy, if any, for the regional area in which is situated the land to which the relevant planning instrument relates;

The regional land use strategy for Glenorchy is the *Southern Tasmanian Regional Land Use Policy 2010-2035* (STRLUS). Comments against the relevant STRULS strategies are provided below:

Relevant STRLUS strategies	Comment
Managing Risks and Hazards MRH 2: Minimise the risk of loss of life and property from flooding. MRH 2.1: Provide for the mitigation of flooding risk at the earliest possible stage of the land use planning process (rezoning or if no rezoning required; subdivision) by avoiding locating sensitive uses in flood prone areas. MRH 2.2: Include provisions in the planning scheme for use and development in flood prone areas based upon best practice in order to manage residual risk.	A large portion of the subject site is within the flood-prone hazard area overlay, with some areas further from the creek line unaffected. The provisions of the C12.0 Flood-Prone Areas Hazard Code will continue to apply. Any future planning applications for works within the Flood Prone Area will be subject to further flood investigations which will inform the design of the development.
Cultural Values CV 2 Recognise, retain and protect historic cultural heritage values within the region for their character, culture, sense of place, contribution to our understanding history and contribution to the region's competitive advantage.	The site does not have any specific or recognised cultural values. An Aboriginal Heritage desktop search did not identify any heritage items on site, nor are there any Local or State Heritage items on or in close proximity to the site.

CV 2.5 Base heritage management upon the Burra Charter and the HERCON Criteria, with heritage code provisions in planning schemes drafted to conform with relevant principles therein.	
Recreation & Open Space ROS 1 Plan for an integrated open space and recreation system that responds to existing and emerging needs in the community and contributes to social inclusion, community connectivity, community health and wellbeing, amenity, environmental sustainability and the economy. ROS 1.5 Ensure residential areas, open spaces and other community destinations are well connected with a network of high-quality walking and cycling routes.	The proposed amendment is for the Rural Living Zone to be applied to the subject site. Given the rural character of the area and the fact that the site could only provide a single dwelling means there is no induced demand for open space or recreation areas in and around Black Snake Road.
Social infrastructure SI 1 Provide high quality social and community facilities to meet the education, health and care needs of the community and facilitate healthy, happy and productive lives. SI 1.8 Provide for the aged to continue living within their communities, and with their families, for as long as possible by providing appropriate options and flexibility within planning schemes. SI 1.10 Recognise the role of the building approvals processes in providing access for people with disabilities.	The proposed amendment is a small scale, single site rezoning to rectify an erroneous application of the Environmental Management Zone. It is justifiably inconsistent with this Strategy as it cannot reasonably meet these requirements, being a rural site with capacity for residential accommodation in the form of a single dwelling only.

Physical Infrastructure PI 1 Maximise the efficiency of existing physical infrastructure. P1 1.1 Preference growth that utilises under-capacity of existing infrastructure through the regional settlement strategy and Urban Growth Boundary for metropolitan area of Greater Hobart.	The proposed amendment does not rely on existing physical infrastructure and is not expected to require associated infrastructure upgrades, being in a rural area with limited services where most properties already manage water and sewer on site.
Land Use and Transport Integration LUTI 1 Develop and maintain an integrated transport and land use planning system that supports economic growth, accessibility and modal choice in an efficient, safe and sustainable manner. LUTI 1.1 Give preference to urban expansion that is in physical proximity to existing transport corridors and the higher order Activity Centres rather than Urban Satellites or dormitory suburbs. LUTI 1.2 Allow higher density residential and mixed use developments within 400, and possibly up to 800 metres (subject topographic and heritage constraints) of integrated transit corridors. LUTI 1.9 Ensure car parking requirements in planning schemes and provision of public car parking is consistent with achieving increased usage of public transport. LUTI 1.11 Encourage walking and cycling as alternative modes of transport through the provision of suitable	The subject site is in a rural area with limited existing connectivity to urban areas. As a small-scale single site rezoning which is embedded within an existing rural area, it is justifiably inconsistent with this strategy.

infrastructure and developing safe, attractive and convenient walking and cycling environments.	
Settlement and Residential Development SRD 2 Manage residential growth for Greater Hobart on a whole of settlement basis and in a manner that balances the needs for greater sustainability, housing choice and affordability. SRD 2.1 Ensure residential growth for Greater Hobart occurs through 50% infill development and 50% greenfield development. SRD 2.6 Increase densities to an average of at least 25 dwellings per hectare (net density) within a distance of 400 to 800 metres of Integrated transit corridors and Principal and Primary Activity Centres, subject to heritage constraints. SRD 2.7 Distribute residential infill growth across the existing urban areas for the 25 year planning period as follows: • Glenorchy LGA 40% (5300 dwellings) • Hobart LGA 25% (3312 dwellings) • Clarence LGA 15% (1987 dwelling) • Brighton LGA 15% (1987 dwellings) • Kingborough LGA 5% (662 dwellings)	The proposed amendment is to correct a previous zoning error and inconsistency with the Environmental Management Zone. The proposed Rural Living Zone would enable a single residential dwelling but does not detract from other strategic work in Glenorchy to achieve required residential targets.

SRD 2.9 Encourage a greater mix of residential dwelling types across the area with a particular focus on dwelling types that will provide for demographic change including an ageing population.	

(f) has regard to the strategic plan, prepared under section 66 of the Local Government Act 1993 , that applies in relation to the land to which the relevant planning instrument relates

The municipal strategic plan is the *Glenorchy Strategic Plan 2023-2032*. The amendment is consistent with the following objectives:

- *Making Lives Better* – We champion greater opportunities for our community.
  - In partnership with others, facilitate and advocate for a welcoming, inclusive, healthy and learning community.
  - Work with others to improve access to housing and transport choices for our community.

  Response: The proposed amendment is primarily for the purpose of providing a consistent zoning framework, particularly when it comes to rural and environmental land in the municipality. An associated outcome of the proposed amendment is that it enables a residential opportunity in an existing rural living area. The proposed amendment helps to consolidate the existing boundaries of the Rural Living zoned area, meeting the needs of the community and private landowners to potentially offer an additional rural housing option.

- *Open for Business* – We value our community by delivering positive experiences
  - Work constructively with the development sector and our community to enable acceptable development opportunities.

  Response: The proposed amendment delivers a potential development outcome for the community and provides certainty in the application of environmental and rural zones. The proposed amendment communicates the intention to retain the Environmental Management Zone for public land only and allow for development opportunities where it is appropriate. The land is constrained to a greater extent than neighbouring Rural Living land but there are parts of the site that could potentially result in a positive residential development outcome.

(g) as far as practicable, is consistent with and co-ordinated with any LPSs that apply to municipal areas that are adjacent to the municipal area to which the relevant planning instrument relates;

Brighton, Clarence and Derwent Valley are the 'adjacent' municipal areas to Glenorchy that operate under the Tasmanian Planning Scheme. Derwent Valley Council is the nearest municipal area to the subject site with the municipal boundary less than 600m away from the site. Despite this relative proximity, the subject site is embedded within an existing Rural Living zoned area and would not result in any unexpected impacts on the neighbouring Rural zoned land in Derwent Valley. The Derwent Valley Rural Zone borders much larger land parcels in the Rural Living Zone in Granton. The subject site will not contribute to any impacts on rural amenity or land uses beyond what is currently possible at the municipal boundary. However, both these municipalities are across the Derwent River, nearly 900m away, and the impacts of this proposed planning scheme amendment are primarily local. As the amendment seeks to rezone a single site it is considered that there is no practical or strategic advantage in seeking to co-ordinate the controls with the LPS controls in either Derwent Valley or Brighton, and the amendment can be considered to satisfy this requirement.

(h) has regard to the safety requirements set out in the standards prescribed under the Gas Safety Act 2019 .

The site is not located in the vicinity of the gas secondary distributor pipeline.

Figure 6: Map showing location of TasGas Declared Gas Pipeline Corridor in relation to the subject area (Source: LISTmaps, Extracted 27 May 2026)

5. Attachment 1 – Location Plan and Assessment Documents

Subject site: 100 Derwent Park Road and 13 Surveyors Drive, Derwent Park and 300 Risdon Road, Lutana

(note the circled area is the focus of the proposal)

Document Set ID: 3625295
Version: 1, Version Date: 11/06/2026

Danielle Gray, Principal Consultant

Gray Planning

224 Warwick Street

West Hobart TAS 7000

9 December 2025

Mr Emilio Reale

CEO, Glenorchy City Council

374 Main Road Glenorchy

TAS 7010

Via: gccmail@gcc.tas.gov.au

Dear Mr Reale,

NEW PLANNING APPLICATION FOR: NEW BOAT BUILDING SHED AND FILL/RECLAMATION WORKS FOR INCAT AT 100 DERWENT PARK ROAD AND 300 RISDON ROAD DERWENT PARK OBO INTER CATS TASMANIA PTY LTD

I understand Incat's CEO Mr Stephen Casey has been in recent contact with yourself and Ms Helen Ayers and Mr Paul Garnsey in Council's planning department regarding a proposal at 100 Derwent Park Road (Incat land).

This proposal seeks approval for an extension of boat building activity at Incat in the form of a new boat building shed to be located at 100 Derwent Park Road and associated fill/reclamation works to occur within the River Derwent immediately adjacent to the proposed shed.

The proposed boat building shed will partially encroach out across the extent of the Incat title boundaries into the River Derwent. This is unavoidable and required due to ships having to be launched immediately adjacent to the proposed shed once at an appropriate stage of construction.

The proposal requires Crown consent as well as a licence. A planning application is also required to be submitted to Glenorchy City Council.

Due to time constraints to enable the approval and construction of the shed for Incat as soon as possible, I have prepared all Crown and Council applications concurrently and have been instructed to lodge all at the same time to enable a swift resolution.

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I have prepared two applications to Crown on behalf of Incat.

These applications are:

- Licence application for the boat building shed to occupy Crown land (the River Derwent) immediately adjacent to the proposal boat building shed; and

- Crown consent for construction works to occur within land administered by the Crown.

These applications have been lodged currently with the planning application to Council.

Plans for the proposal have been prepared by JMG on behalf of Incat and these plans are submitted as part of the Crown and Council applications.

A planning report prepared by Gray Planning will shortly follow the lodgement of these applications.

In terms of the affected land for the proposal, I provide the following summary:

- 100 Derwent Park Road: The primary and biggest Incat title at Derwent Park. Title reference CT-168298/1. This is where the proposed new shed will be constructed, partially encroaching into the Derwent River (Crown land). Signage will be located on the east facing elevation of the proposed shed.

- 13 Surveyors Drive: The smaller Incat title. Title reference CT123654/2. This title is included in the development site as this title contains existing parking spaces used by the boat building use already in existence. No works are proposed on this title.

- 300 Risdon Road: This is an address applied to all Nyrstar owned titles. The larger of the two CT-130554/1 is currently under a lease arrangement between Incat and Nyrstar and where the bulk of all parking is provided at Incat for staff. This title is included in the development site as this title contains existing parking spaces used by the boat building use already in existence. No works are proposed on this title.

- 300 Risdon Road: The smaller Nyrstar title CT-117774/1 currently encroaches into an Incat shed. An associated boundary adjustment application has been prepared by Gray Planning on behalf of Incat to rectify this boundary issue and to provide no less than 18m clearance to the proposed new boat building shed and also the existing boat building shed. The proposal plans prepared by JMG assume this boundary adjustment is already in place, to confusion. No works are proposed on this title.

- Crown land in the river Derwent, immediately adjacent to 100 Derwent Park Road (CT-168298/1. No PID or title reference available. Fill works and reclamation are proposed in this area immediately adjacent to the proposed boat building shed. The extent, location and area of fill proposed is shown in the JMG plans. Please see the aerial image overleaf showing the location of the shed and associated fill/reclamation works.

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Aerial image of 100 Derwent Park Road (CT-168298/1) and an arrow indicating the location of the proposed shed (green) and location of associated fill/reclamation works (orange). Source: TheList, sourced 08.12.2025, no nominated scale. No image modifications.

I attach the following documentation as part of this proposal to Council for planning approval:

- Proposal plans prepared by JMG, Rev P1 and P2, dated 20 November 2025;
- Completed Planning Application form dated 9 December 2025;
- A recently retrieved copy of the Incat title for 100 Derwent Park Road CT-168298/1;
- A recently retrieved copy of the Nyrstar titles for 300 Risdon Road CT-117774/1 and CT-130554/1;
- Associated sealed plans referenced on CT-117774/1 including sealed plan 130552, sealed plan 128861 and 130554;
- A recently retrieved copy of the Incat title for 13 Surveyors Drive CT-123654/2;

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- Land owner notification to the owners of both 300 Risdon Road and 100 Derwent Park Road dated 8 December, in accordance with Section 52(1) of the Act; and

- Gray Planning cover letter containing a summary of Incat staffing, hours of operation and parking dated 9 December 2025.

Please note an accompanying town planning report is still being finalised by Gray Planning and will be submitted shortly after lodgement.

It is understood that the planning application is not 'valid' until Crown consent has been received from Property Services.

However, it is requested that Council staff review the submitted application as soon as possible and flag any outstanding items that would be required as part of a Request for Further Information, rather than wait until up to 21 days after the planning application becomes valid.

I would be grateful if an invoice for Council fees for the planning application could be addressed to Incat Tasmania Pty Ltd and emailed to admin@grayplanning.com.au so that I can arrange for planning assessment fees to be paid as soon as possible.

If you wish to discuss the proposal I may be contacted on 0439 342 696.

Yours faithfully

Danielle Gray B.Env.Des. MTP. MPIA

Principal Consultant, Gray Planning

On behalf of Incat Tasmania Pty Ltd

Document Set ID: 3625399
Version: 1, Version Date: 09/06/2026

Gray Planning

Solutions for Town Planning & Heritage

Danielle Gray, Principal Consultant

Gray Planning

224 Warwick Street

West Hobart TAS 7000

27 March 2026

Mr Emilio Reale

CEO, Glenorchy City Council

374 Main Road Glenorchy

TAS 7010

Via: gccmail@gcc.tas.gov.au

Dear Mr Reale,

RE: PLN-25-367 - BOAT BUILDING SHED, FILL & RECLAMATION WORKS – 18 BENDER DRIVE DERWENT PARK, 300 RISDON ROAD LUTANA & 100 DERWENT PARK ROAD DERWENT PARK

I make reference to Council's Request for Further Information (RFI) dated 15 January 2026 for the proposal seeking approval for an extension of boat building activity at Incat in the form of a new boat building shed to be located at 100 Derwent Park Road and associated fill/reclamation works to occur within the River Derwent immediately adjacent to the proposed shed.

In terms of parking requirements and clarification on the approval of the existing car park at the Nyrstar land under permit 71-98, the amended set of documents submitted in response to the RFI removes 13 Surveyors Drive (CT-123654/2) from the development site as the additional parking originally proposed within this title is not required in order to provide the minimum number of spaces based on staffing numbers. Therefore, 13 Surveyors Drive is no longer part of the development site and has been accordingly removed from updated documentation and the application form.

The property 18 Bender Drive (title reference CT-34138/101) has also been included into the set of amended JMG plans for servicing (see page 1) where a new connection is required within the title boundaries of CT-34138/101. A full copy of title documents for CT-34138/101 has been provided as part of this response package along with CT-34138/101 being referenced on the updated application form and updated town planning report prepared by Gray Planning.

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I attach the following documentation to address the Council RFI:

- Updated proposal plans prepared by JMG dated 27 March 2026;
- Concept Services report prepared by JMG dated 16 March 2026;
- Title documents for 18 Bender Drive CT-34138/101 where a proposed new connection is required as per the updated JMG plans dated 27 March 2026. These title documents were retrieved 27 March 2026;
- Updated Planning Application form removing the reference to 13 Surveyors Drive and now including 18 Bender Drive (CT-34138/101) where a service connection is required as per the updated JMG plans dated 27 March 2026;
- Updated Gray Planning town planning report additionally containing a revised summary of Incat staffing, hours of operation and proposed parking details dated 27 March 2025;
- Traffic Impact Assessment prepared by Midson Traffic dated March 2026;
- Marine Ecological Assessment prepared by Marine Solutions dated February 2026; and
- Site Contamination Assessment prepared by Pitt and Sherry dated 25 March 2026.

I make reference to the Council RFI dated 15 January 2026 and make the following comments:

C2.5.1 Car parking numbers

1. Provide a Traffic Impact Assessment (TIA) by a qualified person addressing the parking shortfall against the performance criteria. Parking spaces and access to them, to be assessed in line with the acceptable solution otherwise address the performance criteria.

   Advice: Number of actual parking spaces required, in planning report maximum staff is 510 during shift change and 454 spaces provided.

Response:

Please see submitted TIA from Midson Traffic which confirms a compliant number of parking spaces are to be provided for the development and as demonstrated in the updated JMG plans.

The proposal involves the following:

Proposed total:

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348 car spaces in Nyrstar carpark approved under 71-98 (existing)

8 visitor car spaces approved under 71-98 (existing)

4 new disabled car spaces (these replace the 3 spaces approved under 71-98);

16 new car parking spaces

= 376 car parking spaces

Plus 14 new motorcycle parking spaces

Plus 10 new bicycle spaces in rack(s)

These numbers have been based on:

Existing staff: 470

Adding a further 180 new staff:

Minus staff at Inches site (18 Bender Drive): 90

Total proposed staff in this DA working from 100 Derwent Park Road: 560 staff

150 transported by bus to and from the site at 100 Derwent Park Road.

Planning Scheme requires: 2 spaces per 3 staff (this is a greater minimum requirement than spaces per sqm of floor area)

Parking spaces required by development:

373.3 rounded up to 374 spaces

C2.5.3 Motorcycle parking numbers

2. Provide a Traffic Impact Assessment (TIA) by a qualified person addressing the clause. P1, items (a)-(e) must be clearly and separately addressed. If PC is not met, the required number of motorcycles needs to be provided in the plan.

Response:

Please see submitted TIA from Midson Traffic which address the provision of 14 motorcycle spaces shown on the updated JMG plans. The Planning Scheme requires 21 motorcycle spaces to be provided. The development seeks approval for 14 spaces.

The associated Performance Criteria have been addressed in the TIA.

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C2.5.4. Loading Bays

3. Provide a Traffic Impact Assessment (TIA) by a qualified person addressing the clause. It is not clear where the loading bay is considered in the plans. This clearly needs to be shown on the plan.

Response:

No loading bay is proposed. The submitted TIA described how loading and unloading occurs within the site.

Light vehicles only will be accessing the shed (small delivers small forklift trucks and utes). This has also been referenced in updated planning report.

JMG have removed heavy vehicle references on plans.

The TIA addresses clause C2.5.4.

C2.6.1 Construction of parking areas

4. Provide a Traffic Impact Assessment (TIA) by a qualified person addressing the clause.

Response:

The proposal seeks approval for 16 new car parking spaces and 4 new DDA compliant car parking spaces (to replace the existing 3 DDA compliant spaces previously approved under 71-98).

The JMG plans show parking construction details of all new spaces to be constructed to durable all weather pavement. The TIA addresses clause C2.6.1.

5. Please provide a stormwater concept plan showing the capture and disposal of all stormwater run-off from the proposed driveway, parking and any new hardstand areas to Council's approved outlet. A concept stormwater plan in accordance with the Stormwater policy is required.

Response:

JMG discussed the requirements with Council's engineers in order to update the proposal plans to address the Council request.

See updated JMG plan which include stormwater management details.

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6. Driveway, parking and any new hardstand areas must be constructed and compacted to standards with paved/sealed surface, provide a driveway plan demonstrated the requirement. All runoff must be drained via gravity to the proposed outlet. 1% minimum fall toward the outlet must be achieved. This needs to be clearly demonstrated in the plan.

Response:

The proposal seeks approval for 16 new car parking spaces and 4 new DDA compliant car parking spaces (to replace the existing 3 DDA compliant spaces previously approved under 71-98).

The JMG plans show parking construction details of all new spaces to be constructed to durable all weather pavement with details of runoff management provided.

The driveway into 100 Derwent Park Road is existing and was approved under 71-98 and therefore is not proposed as part of this application.

C2.6.2 Design and layout of parking areas

7. Provide a Traffic Impact Assessment (TIA) by a qualified person addressing the clause.
8. Layout of driveway and parking areas must be in accordance with the Australian Standard, AS2890.1:2004, and the Scheme requirements. Please clearly show on the parking plan details of the proposed driveway, access and parking areas including gradients, parking area, spot levels, retaining walls, manoeuvring area, swept path, materials, finishing surface and drainage details must be submitted to demonstrate compliance with the standards.
9. Provide sight lines at the driveway crossover and internal turning movements of heavy vehicles.

Response:

See TIA prepared by Midson Traffic which addresses clause C2.6.2.

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C2.6.5 Pedestrian access

10. In the TIA address the acceptable solution, otherwise the performance criteria.

Response:

The TIA has accordingly addressed the C2.6.5 Performance Criteria.

C2.6.6 Loading bays

11. A Traffic Impact Assessment (TIA) prepared by a qualified person addressing the code requirements must be submitted. Plans including swept path demonstrating that manoeuvring can be achieved to satisfy the acceptable solution A1 and A2 are required. Alternatively, please address the corresponding performance criteria.

Advice: The submitted AV swept path indicates that vehicles access the new building via the Wilson and Lucas sheds. However, no defined carriageway is shown within the existing sheds, and this requires clarification, including confirmation of details, available widths and clearances etc.

Response:

The TIA addresses clause C2.6.6. The AV swept path originally shown in plans submitted December 2025 doesn't link up to any access through adjacent existing building and therefore has been removed from the updated JMG plans. Likewise, truck manoeuvring has been removed as only light vehicles are proposed to be accessing the new building.

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12. In addition, clarify how the AV vehicle is able to turn around without conflicting with existing structures or obstructions.

13. The swept path must separately be submitted for AV and MRV.

Response:

The TIA addresses clause C2.6.6. The AV swept path originally shown in plans submitted December 2025 doesn't link up to any access through adjacent existing building and therefore has been removed from the updated JMG plans. Likewise, truck manoeuvring has been removed as only light vehicles are proposed to be accessing the new building.

The updated JMG plans show the location, manoeuvring and drop off of buses to transport in 150 of the 180 staff. This is also referenced in the TIA.

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C3.0 Road and Railway Assets Code

C3.5.1 Traffic Generation at Vehicle Crossings

14. Please address the acceptable solution or performance criteria outlining the details of the increase of use and traffic generation.

    Advice: please address the following

    - *Parking spaces and access to them, to be assessed in line with the acceptable solution otherwise address the performance criteria.*
    - *Impact of the increase in traffic on the road network, such as delays at the Brooker Highway lights and drivers diverting to the local road network.*

    - *Sight lines at the driveway crossover and internal turning movements of heavy vehicles.*

Response:

The submitted TIA addresses clause C3.5.1.

C7.0 Natural Assets Code

C7.6.1 Buildings and works within a waterway and coastal protection area or a future coastal refugia area

15. Demonstrate that works are compliant with in accordance with the provisions of AS3798 Guidelines on Earthworks for Commercial and Residential Developments.
16. The proposed development application was assessed as unsatisfactory in relation to C7.6.1 and more information is needed for the reclamation process (infill) against performance criteria. As such, It Is requested that you provide an ecological assessment must be prepared by a consultant experienced in assessing benthic flora and fauna.

Response:

In regard to Item 15, JMG have discussed with Council that AS3798 is not applicable.

Comments from JMG engineers confirm the following: *Reclamation and backfill material to meet engineers load bearing criteria, this is to be ascertained through plate load tests as agreed with Glenorchy Council engineers. Placement of material under AS 3798 has been deemed inappropriate within a revetment structure.*

Item 16: Please see marine ecology report from Marine Solutions dated February 2026.

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C14.0 Potentially Contaminated Land Code

C14.6.1 Development Standards for Building and Works

17. An Environmental Site Assessment, prepared by a certified contaminated site assessment consultant, must be submitted to address the Performance Criteria (P1) for C14.6.1 in the Potentially Contaminated Land Code.

    The assessment is to demonstrate how the site is suitable for the intended development in relation to risks to human health and the environment. To satisfy (P1) C14.6.1, the assessment must include, but not be limited to:

    1. Any specific remediation or protection measures that are required to be implemented at the site prior to the commencement of excavation
    2. Any recommended land reclamation construction methods specific to the site that would eliminate adverse impacts on the aquatic environment within the Derwent Estuary

    A description of proposed fill material including quantity, source and composition analysis is also required.

Response:

Reclamation work using fill ceased as a result of Pitt and Sherry testing results. Incat made the decision to remove the fill referenced in the Pitt and Sherry report which is not to be used.

Please see Site Contamination report prepared by Pitt that Sherry that confirms compliance with clause C14.6.1.

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General Manager's Consent for Interference with Public Stormwater Systems

You are required to provide the following information to enable Council to assess stormwater management aspects of the proposal under section 14(1) of the *Urban Drainage Act 2013*.

1. Provide a concept stormwater servicing plan showing the location of services and their connections to public infrastructure. The servicing plan must clearly indicate the following:
    a. How all additional stormwater from the site, including hardstand drainage, driveway, and parking areas, as well as any detention, will be discharged to Council infrastructure with sufficient receiving capacity.
    b. Design of the minor stormwater drainage system to accommodate up to a 5% AEP rain event.
    c. Design of the major stormwater drainage system, including overland flow paths, to safely convey runoff from rain events up to a 1% AEP with a Climate Change loading for 2100.
    d. Clear distinction between existing, proposed, public, and private stormwater infrastructure, with appropriate easements shown for the public infrastructure for the benefit of the Council.
    e. Display all existing and proposed stormwater lines and connections, along with the profiles of the proposed lines.

Advice: The applicant must accurately locate, size, and plot the stormwater infrastructure on the submitted site plans. It is also recommended to provide a stormwater management report with the plans, including all relevant calculations for WSUD design, and the drainage system design.

2. For developments creating a total new impervious surface area over 500m², stormwater treatment measures are required. Please provide a concept design and supporting calculations to demonstrate that the proposed development incorporates the principles of Water Sensitive Urban Design (WSUD) and complies with the Stormwater Quality Management Requirements of the Stormwater Management Policy.

Advice: Supporting calculations should include a MUSIC model or equivalent to show compliance with the stormwater quality targets.

Response

See updated JMG plans.

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Additional information required

Additional information is required to process your request. To enable assessment to continue please submit the following:

1. To allow TasWater to determine potential hydraulic service capacity limitations, please provide the following:
   a) The required fire flow rate in L/s and the required residual pressure (kPa) at the point of connection. Detailing the current site's requirements and the post-development requirements, highlighting any additional fire demands for the site if any.
   NOTE: The pressures will need to include losses through the actual connection, the associated pipework and the elevation changes.

   b) The calculation of additional equivalent tenements (ETs) for the development. The document(s) submitted should include the relevant calculations for the proposal, as well as the relevant calculations for determining Developer Charges.
   Advice: Please refer the advice section below for an example table demonstrating calculations of equivalent tenements (ETs) for the development.

   c) Please provide a concept servicing and hydraulic plans for water & sewer services detailing fixtures and services.

Response

See the updated JMG plans and associated report including hydraulic plans provided in conjunction with updated JMG documentation.

Fire flow rate details have been provided by Mr Ross Murphy of Castellan Consulting and incorporated into updated JMG plans.

If you wish to discuss the proposal I may be contacted on 0439 342 696.

Yours faithfully

Danielle Gray B.Env.Des. MTP. MPIA

Principal Consultant, Gray Planning

On behalf of Incat Tasmania Pty Ltd

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Version: 1, Version Date: 09/06/2026

Town Planning compliance advice re: Proposed New Shed for existing Ship Building use, Signage and associated development including fill (reclamation)

Against the *Glenorchy LPS and Tasmanian Planning Scheme*

For Incat Tasmania Pty Ltd

At 100 Derwent Park Road, Derwent Park 7009, (CT-168298/1) and 300 Risdon Road, Derwent Park 7009 (CT-117774/1 and CT-130554/1) and including a service connection at 18 Bender Drive (CT-34238/101)

27 March 2026

Version 2.0

03 6288 8449
0439 342 696
danielle@grayplanning.com.au
224 Warwick St, West Hobart, Tas, 7000
grayplanning.com.au
ABN 99148920244

Document Set ID: 3625399
Version: 1, Version Date: 19/06/2026

Gray Planning
224 Warwick Street
West Hobart TAS 7000

27 March 2026

Mr Stephen Casey, CEO
Incat Tasmania Pty Ltd
100 Derwent Park Road
Derwent Park TAS 7009

Dear Stephen,

I refer to recent discussions with you in relation to Incat undertaking the following works:

- New shed to house existing ship building use at 100 Derwent Park Road;
- Signage (on east facing side of new shed) and
- Fill/reclamation.

Gray Planning has been engaged to undertake a compliance review against the Planning Scheme use and development standards that apply to the subject site and proposed development for lodgement of the application to both Crown (as the fill works are located on their land) and to Glenorchy City Council.

Please find attached a town planning compliance report comprising an assessment has been taken against the Glenorchy Local Provisions Schedule and the State Planning Provisions under the Tasmanian Planning Scheme. This report has been prepared against the updated plans prepared by JMG and is intended to assist in addressing Council's RFI dated 15 January 2026.

It is intended that the information contained therein will assist the Crown and Council in making an assessment of the proposed development, demonstrating compliance.

Should you have any questions about the content of the report, please do not hesitate to contact me on 0439 342 696.

Yours faithfully

Danielle Gray B.Env.Des. MTP. MPIA

Principal Consultant, Gray Planning

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03 6288 8449
0439 342 696
danielle@grayplanning.com.au
224 Warwick St, West Hobart, Tas, 7000
grayplanning.com.au
ABN 99148920244

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1 Introduction

1.1 Purpose

The purpose of this report is to provide planning advice as part of an assessment of the compliance about the proposed development (new boat building shed, signage and associated works including fill/reclamation) at the subject site at 100 Derwent Park Road and 300 Risdon Road at Derwent Park in the Glenorchy City Council municipality (title references CT-168298/1, CT-117774/1 and CT-130554/1). A service connection has also been required within the title boundaries of 18 Bender Drive (CT-34138/101) with this noted on the updated JMG plans dated 27 March 2026.

The following town planning assessment has been undertaken against the updated proposal plans prepared by JMG dated 27 March 2026 (car parking, fill and servicing) and proposed shed plans dated 21 November 2025, Revision P1 to address Council's Request for Further Information under Section 54 of the Act dated 15 January 2026.

1.2 Copyright

The report is subject to copyright the owner of which is Danielle Gray, trading as Gray Planning. All unauthorised copying or reproduction of this report or any part of it is forbidden by law and is subject to civil and criminal penalties as asset out in the *Copyright Act 1968*. All requests for permission to reproduce this report or its contents must be directed to Danielle Gray.

This document may only be used for the purposes for which it was commissioned and in accordance with the Terms of Engagement for the commission.

Last updated: 27 March 2026

Report Author: Danielle Gray B.Env.Des MTP MPIA

Version 2.0

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2 The subject site

2.1 The subject site

The subject site comprised in this application is made up of four titles.

These are summarised as follows, followed by a description of each title from section 2.2 onwards.

- 100 Derwent Park Road: The primary and biggest Incat title at Derwent Park. Title reference CT-168298/1. This is where the proposed new shed will be constructed, partially encroaching into the Derwent River (Crown land). Signage will be located within the east facing elevation of the proposed shed. 8 visitor parking spaces currently existing on the site were approved under planning permit 71-98 issued by Council in 1999. These will be retained as part of the development with no alteration.

- 300 Risdon Road: This is an address applied to all Nyrstar owned titles. The larger of the two CT-130554/1 is currently under a lease arrangement between Incat and Nyrstar and where the bulk of all parking is provided at Incat for staff. This title is included in the development site as this title contains existing parking spaces used by the boat building use already in existence. No works are proposed on this title. The carpark on the site was approved under planning permit 71-98 issued by Council in 1999. This carpark will be retained as part of the development with no alteration.

- 300 Risdon Road: The smaller Nyrstar title CT-117774/1 currently very marginally encroaches into an Incat shed. An associated boundary adjustment application is being discussed between Incat and Nyrstra representatives. No works are proposed on this title.

- 18 Bender Drive (CT-34238/101): owned by Incat and where a new connection only is required within the title boundaries of this site. The works are annotated as 'WATER CONNECTION POINT RISK LEVEL - HIGH NEW WATER BACKFLOW PREVENTION RPZD ON EXISTING TASWATER CONNECTION TO FUTURE DES' on the updated JMG plans dated 27 March 2026.

The proposal also involves works on Crown land, directly adjacent to 100 Derwent Park Road (CT-168298/1). No PID or title reference is available. Fill works and reclamation are proposed in this area immediately adjacent to the proposed boat building shed. The extent, location and area of fill proposed is shown in the JMG plans.

The advice provided within this report providing a summary of applicable planning use and development standards under the *Glenorchy Local Provisions Schedule* and the *State Planning Provisions* under the Tasmanian Planning Scheme.

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Figure.1. The subject site at 100 Derwent Park Road and 300 Risdon Road is shown outlined. Source: TheLIST, sourced March 2026. No nominated scale.

The titles which form part of the development site are discussed below.

2.2 100 Derwent Park Road (Incat site)

The subject site primarily comprises 100 Derwent Park Road, Derwent Park in the Glenorchy City Council municipality (title reference CT-168298/1).

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100 Derwent Park Road is in private ownership by Incat as Inter Cats (Tasmania) Pty Ltd.

100 Derwent Park Road has a road access strip to Derwent Park Road and waterfront frontage to the Derwent River.

The surrounding area has mixed land use of generally an industrial nature and includes the Nyrstar zinc works site to the immediate south.

100 Derwent Park Road contains in excess of 27,500sqm of roofed industrial scale sheds used for the manufacture of catamarans and fast ferries. Shed areas are shown on the Property Report – see Figure 8.

The date of construction according to the Property Report retrieved as part of title documents is the year of 2000 for the construction of the main shed on site.

The rated use on the Property Report is 'Manufacturing'.

100 Derwent Park Road measures 7.181 hectares in total area.

This title is where most of the proposed works will occur. The proposed works at 100 Derwent Park Road is the new boat building shed.

Figure.2. 100 Derwent Park Road (CT-168298/1) shown outlined. Source: TheLIST, sourced November 2025. No nominated scale.

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Figure.3. 100 Derwent Park Road shown outlined with surrounding development of predominantly an industrial nature. Source: TheLIST, sourced November 2025. No nominated scale.

03 6288 8449
0439 342 696
danielle@grayplanning.com.au
224 Warwick St, West Hobart, Tas, 7000
grayplanning.com.au
ABN 99148920244

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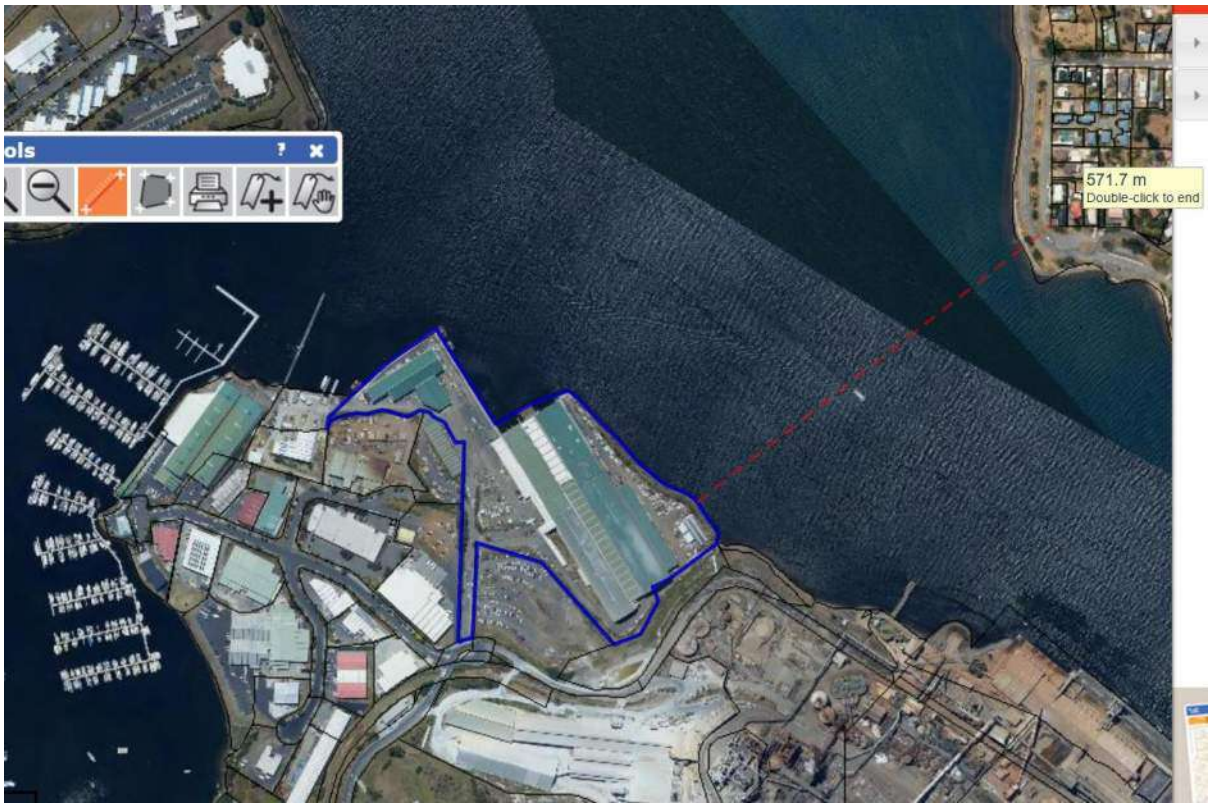

Figure.4. The subject site at 100 Derwent Park Road shown outlined with surrounding development of predominantly an industrial nature. The closest residential use is located approximately 571m to the norther east (measured). Source: TheLIST, sourced November 2025. No nominated scale.

2.3 300 Risdon Road CT-130554/1 (Nyrstar site leased by Incat for parking)

This title is owned by Nyrstar and is held in a lease arrangement between Incat and Nyrstar to provide the bulk of Incat parking for staff.

The land is essentially vacant of buildings but contains a large car parking area with gravel surfacing that contains 348 parking spaces as approved in permit 71-98.

The use of this title is car parking only.

This title has directly frontage to Derwent Park Road but because of the topography only has physical vehicular access to Incat car parking via 100 Derwent Park Road.

The title reference is CT-130554/1 and the total site area is 1.967 hectares.

Like all Nyrstar titles, this land is addressed as 300 Risdon Road. It has been referenced by its title number in this report to avoid confusion.

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Figure.5. CT-130554/1 shown outlined with surrounding development of predominantly an industrial nature. Source: TheLIST, sourced December 2025. No nominated scale.

2.4 300 Risdon Road CT-117774/1 (Nyrstar site)

Title CT-117774/1 is addressed as 300 Risdon Road and is in private ownership by Nyrstar Hobart Pty Ltd.

The address 300 Risdon Road is made up of in excess of 20 separate titles that have a single address given as 300 Risdon Road. The boundary adjustment application would only impact CT-117774/1. This title measures approximately 1 hectare and partially encroaches into an existing Incat building. The encroachment of Incat works into this Nyrstar land results in a need to tidy up title boundaries.

The remainder of the title area contains a steep bank area that provides a buffer between Nyrstar and Incat activities and also contains servicing, a small detention dam and informal parking in a gravelled area.

The surrounding area has mixed land use of generally an industrial nature and includes the remainder of the Nyrstar zinc works site to the immediate south and Incat to the north.

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300 Risdon Road occupied by Nyrstar as an overall site contains in excess of approximately 20,000 sqm of roofed industrial scale sheds on a site that measures collectively 101.97 hectares.

The rated use on the Property Report for all Nyrstar titles is Industrial 'Manufacturing'.

Figure.6. The affected title CT-117774/1 at 300 Risdon Road Road shown outlined in with surrounding development of predominantly an industrial nature. Source: TheLIST, sourced December 2025. No nominated scale.

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3 Title documents for the subject site

3.1 Title for 100 Derwent Park Road

The title reference for Incat's primary land holding is CT-168298/1 with the property measuring 7.181 hectares in total site area.

A check of the title for the property revealed there is an applicable Schedule of Easements attached to the subject title.

The title plan shows easements. None of these easements will be constructed over and will not be adversely affected by the proposal.

The title property report from TheList provides the following property information (which notes it is rated as Industrial manufacturing):

PREMIUM PROPERTY Information Report

PROPERTY DETAILS - 100 DERWENT PARK RD DERWENT PARK

Property Name:		
Land Use:	Industrial - MANUFACTURING (valuation purposes only)	
Improvements:	FACTORY, WORKSHOP & OFFICES	
Improvement Sizes (Top 3 by Size):	**Improvement:**	**Area:**
	FACTORY	9999.0 square metres
	HARD STANDING	9100.0 square metres
	FACTORY	7500.0 square metres
Number of Bedrooms:		
Construction Year of Main Building:	2000	
Roof Material:	Colorbond	
Wall Material:	Metal Cladding	
Land Area:	7.181 hectares	
Title References:	168298/1	
Municipality:	GLENORCHY View Municipality Information Report	
Title owner:	168298/1 : INTER CATS (TASMANIA) PTY LTD	
Interested parties:	INTERCATS (TASMANIA) PTY LTD	
Postal address: (Interested Parties)	100 DERWENT PARK RD DERWENT PARK TAS 7009	

Figure.7. Property report details for 100 Derwent Park Road as attached to the Certificate of Title. Source: TheLIST, sourced July 2025.

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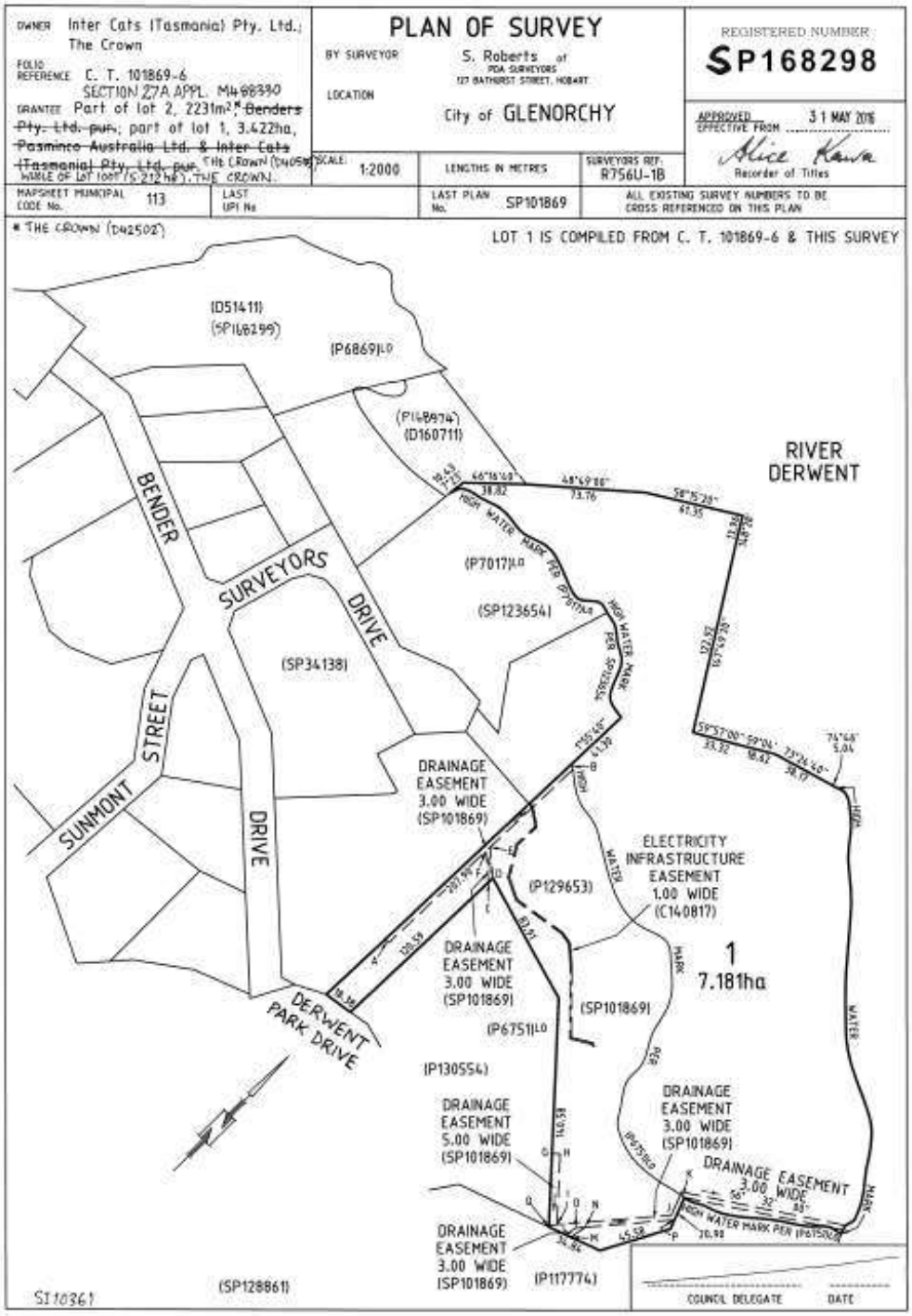
the LIST

FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

Tasmanian Government



Search Date: 18 Jul 2025 Search Time: 02:42 PM Volume Number: 168298 Revision Number: 01 Page 1 of 1

Department of Natural Resources and Environment Tasmania

www.thelist.tas.gov.au

Figure.8. Title plan for 100 Derwent Park Road (lot 1 on the above plan). Source: TheLIST, sourced July 2025. Not to nominated scale.

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3.2 Title for 300 Risdon Road – CT-117774/1

A check of the title for the property revealed there is no applicable Schedule of Easements attached to this title.

The title plan shows easements. None of these will be adversely impacted by the proposal.

The title property report from TheList provides the following property information (which notes it is rated as Industrial Manufacturing):

Document Set ID: 3625399
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PREMIUM PROPERTY Information Report

PROPERTY DETAILS - 300 RISDON RD LUTANA

Property Name:		
Land Use:	Industrial - MANUFACTURING (valuation purposes only)	
Improvements:	INDUSTRIAL COMPLEX	
Improvement Sizes (Top 3 by Size):	**Improvement:**	**Area:**
	OTHER IMPROVEMENTS	10000.0 square metres
	WAREHOUSE	4517.0 square metres
	SILO	2850.0 square metres
Number of Bedrooms:		
Construction Year of Main Building:	2016	
Roof Material:		
Wall Material:		
Land Area:	101.97 hectares	
Title References:	118892/1 122291/4 168674/1 168677/1 123532/1 148502/1 12592/1 226629/1 249938/1 168677/2 249939/2 149974/1 152199/1 244504/1 122291/5 123530/1 128861/1 198280/1 198336/1 209032/1 245094/1 122291/9 123531/1 130554/1 249938/2 249939/1 122291/3 122291/6 122291/7 198280/2 127361/3 127361/1 117774/1 128862/1 249939/3 127360/1	
Municipality:	GLENORCHY View Municipality Information Report	
Title owner:	118892/1 : NYRSTAR HOBART PTY LTD 122291/4 : NYRSTAR HOBART PTY LTD 168674/1 : NYRSTAR HOBART PTY LTD 168677/1 : NYRSTAR HOBART PTY LTD 123532/1 : NYRSTAR HOBART PTY LTD 148502/1 : NYRSTAR HOBART PTY LTD 12592/1 : NYRSTAR HOBART PTY LTD	

03 6288 8449
0439 342 696
danielle@grayplanning.com.au
224 Warwick St, West Hobart, Tas, 7000
grayplanning.com.au
ABN 99148920244

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PREMIUM PROPERTY Information Report

226629/1 : NYRSTAR HOBART PTY LTD
249938/1 : NYRSTAR HOBART PTY LTD
168677/2 : NYRSTAR HOBART PTY LTD
249939/2 : NYRSTAR HOBART PTY LTD
149974/1 : NYRSTAR HOBART PTY LTD
152199/1 : NYRSTAR HOBART PTY LTD
244504/1 : NYRSTAR HOBART PTY LTD
122291/5 : NYRSTAR HOBART PTY LTD
123530/1 : NYRSTAR HOBART PTY LTD
128861/1 : NYRSTAR HOBART PTY LTD
198280/1 : NYRSTAR HOBART PTY LTD
198336/1 : NYRSTAR HOBART PTY LTD
209032/1 : NYRSTAR HOBART PTY LTD
245094/1 : NYRSTAR HOBART PTY LTD
122291/9 : NYRSTAR HOBART PTY LTD
123531/1 : NYRSTAR HOBART PTY LTD
130554/1 : NYRSTAR HOBART PTY LTD
249938/2 : NYRSTAR HOBART PTY LTD
249939/1 : NYRSTAR HOBART PTY LTD
122291/3 : NYRSTAR HOBART PTY LTD
122291/6 : NYRSTAR HOBART PTY LTD
122291/7 : NYRSTAR HOBART PTY LTD
198280/2 : NYRSTAR HOBART PTY LTD
127361/3 : NYRSTAR HOBART PTY LTD
127361/1 : NYRSTAR HOBART PTY LTD
117774/1 : NYRSTAR HOBART PTY LTD
128862/1 : NYRSTAR HOBART PTY LTD
249939/3 : NYRSTAR HOBART PTY LTD
127360/1 : NYRSTAR HOBART PTY LTD

Interested parties:	NYRSTAR HOBART PTY LTD
Postal address: **(Interested Parties)**	RISDON RD LUTANA TAS 7009

OWNERSHIP HISTORY - 300 RISDON RD LUTANA

TYPE	NAME	ADDRESS	FROM	TO
Ownership	NYRSTAR HOBART PTY LTD	RISDON RD LUTANA TAS 7009	19/08/2015	
Ownership	MMG AUSTRALIA LIMITED	PASMINCO HOBART 300 RISDON RD LUTANA TAS 7009	20/11/2014	20/11/2014
Ownership	NYRSTAR HOBART PTY LTD	GPO BOX 377 HOBART TAS 7001	15/11/2007	19/08/2015
Ownership	MMG AUSTRALIA LIMITED	PASMINCO HOBART 300 RISDON RD LUTANA TAS 7009	14/02/2007	15/11/2007
Ownership	MMG AUSTRALIA LIMITED	PASMINCO HOBART 300 RISDON RD LUTANA TAS 7009	19/10/2006	20/11/2014
Ownership	PASMINCO AUSTRALIA LIMITED	PASMINCO HOBART 300 RISDON RD LUTANA TAS 7009	27/03/1993	15/11/2007

Figure.9. Property report details for 300 Risdon Road as attached to the Certificate of Title for CT-117774/1. Source: TheLIST, sourced October 2025.

Overleaf is the title plan for CT-117774/1, showing this title as Lot 1.

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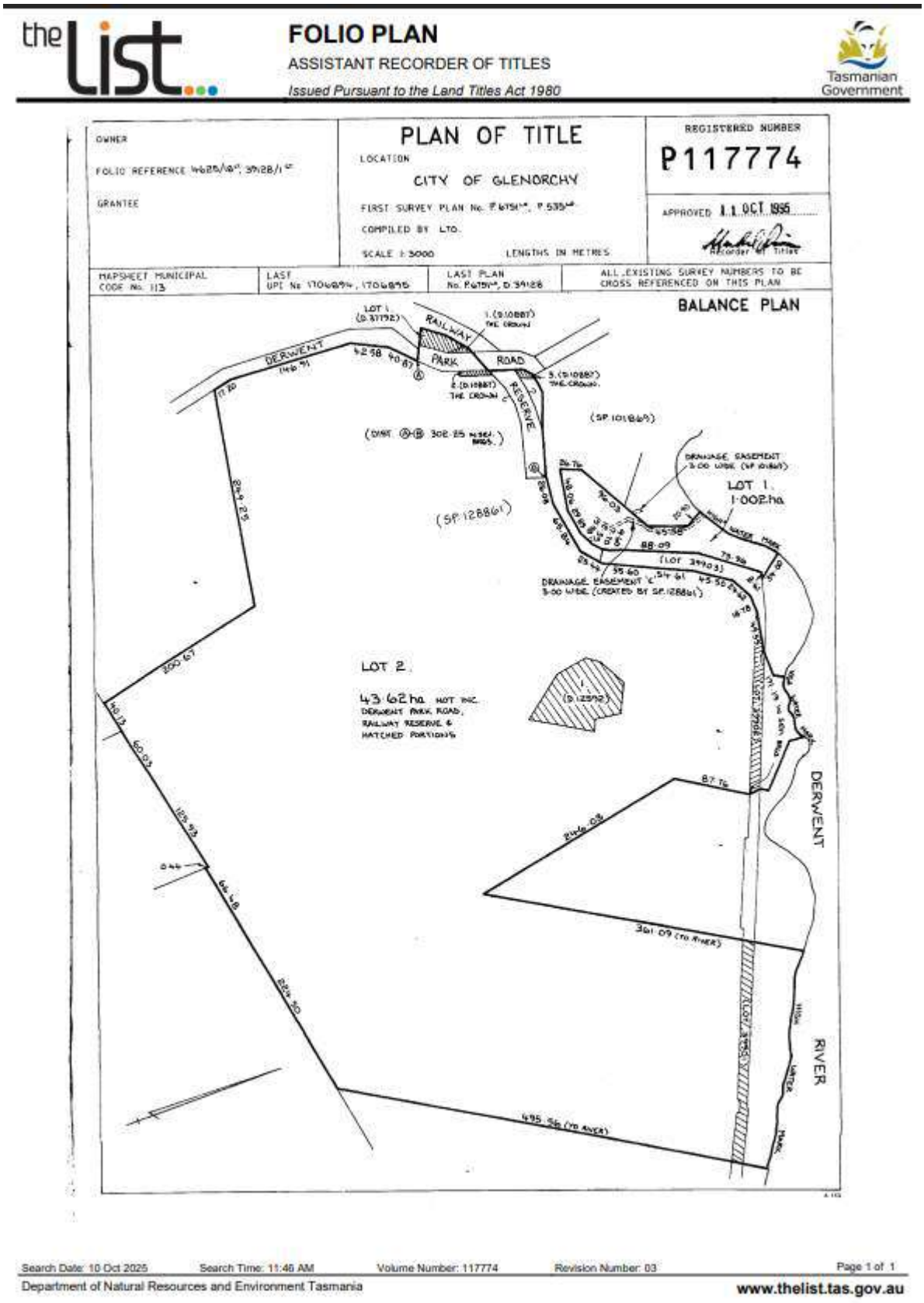

Figure.10. Title plan for CT-117774/1 at 300 Risdon Road (shown as lot 1 on the above plan). Source: TheLIST, sourced October 2025. Not to nominated scale.

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Version: 1, Version Date: 19/06/2026

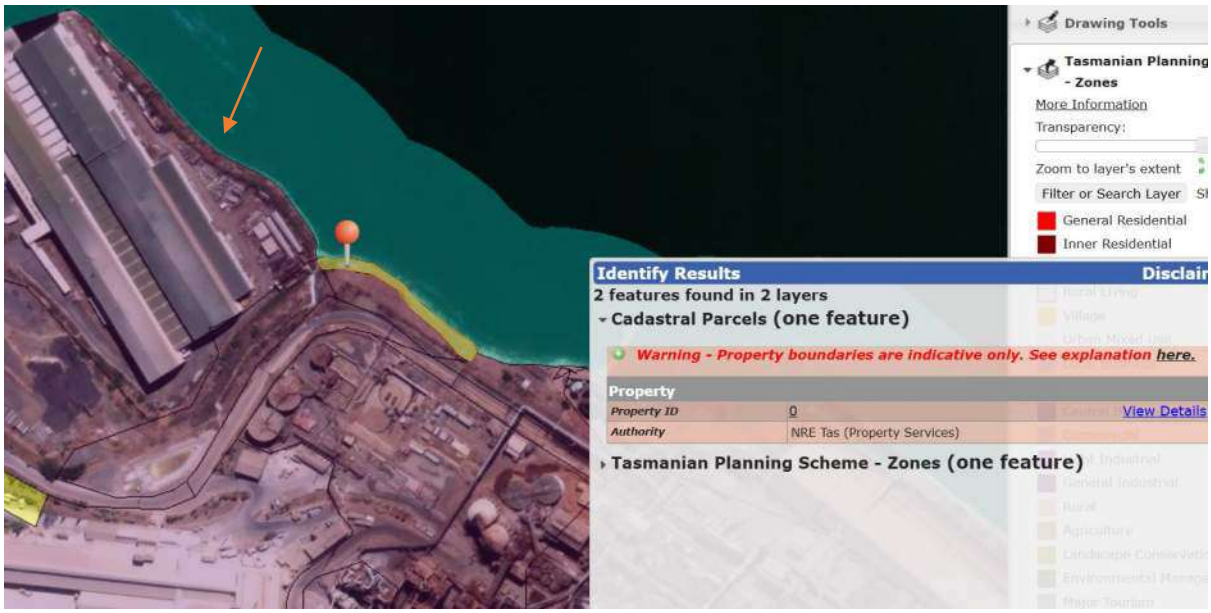

Figure.11. Waterfront Crown land shown highlighted in orange. This land does not have an applicable title reference nor does the River Derwent waterfront area directly adjacent to 100 Derwent Park Road. No works are proposed in the Crown title highlighted in orange in the above image. Works comprising the overhang of the proposed new shed and reclamation/fill is proposed in the River Derwent area indicated with an arrow. Source: TheLIST, sourced November 2025. Not to nominated scale.

3.3 Title for 300 Risdon Road – CT-130554/1

This title contains multiple easements in the form of a right of way and both burdening and benefitting easements. None of these will be adversely affected by the proposed development.

No physical works are to be located on this title. It is part of the development site only because it is where most of the Incat parking is located.

The title plan for CT-130554/1 is shown overleaf.

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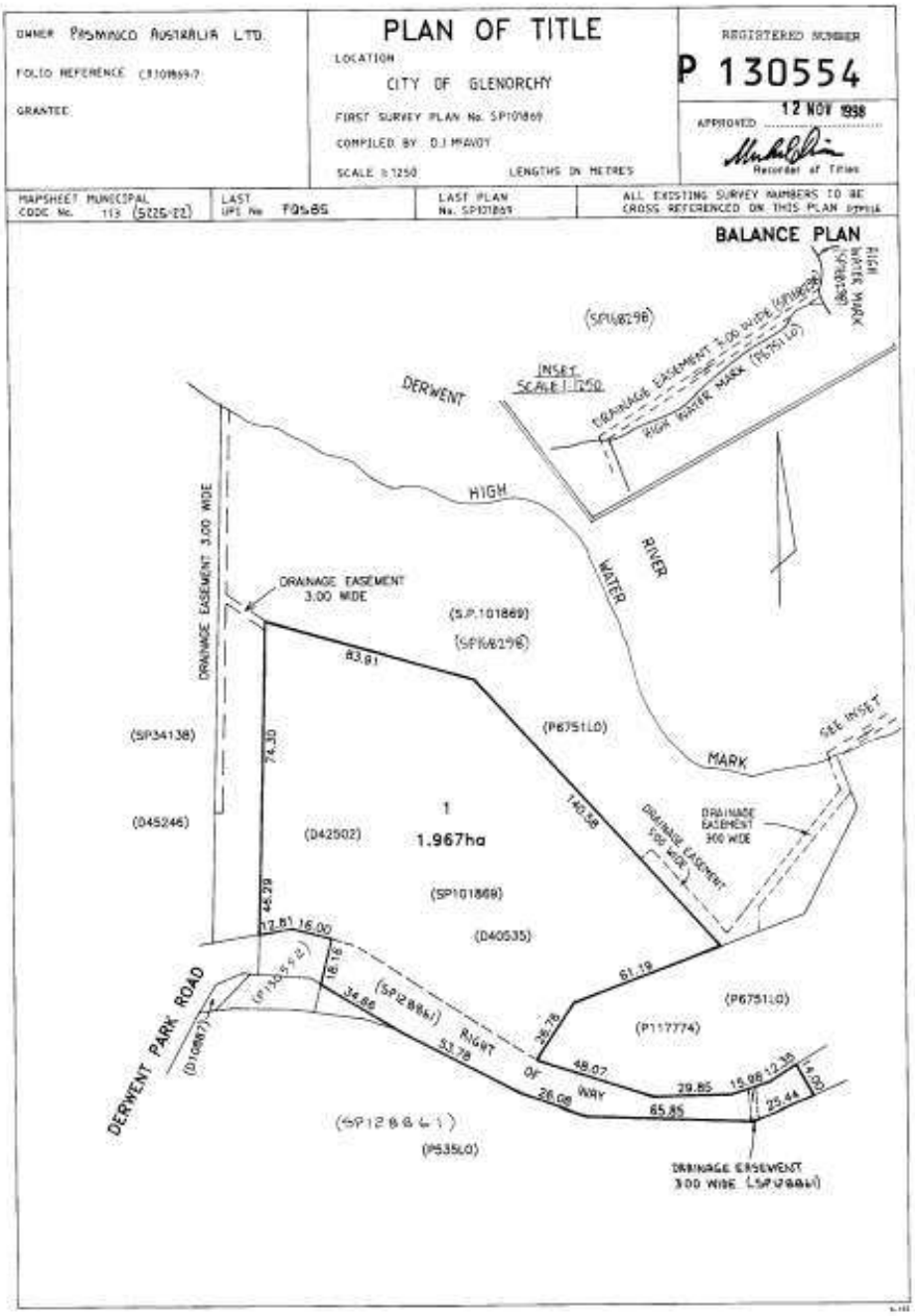

Figure.12. Title plan for CT-130554/1 at 300 Risdon Road (shown as lot 1 on the above plan). Source: TheLIST, sourced November 2025. Not to nominated scale.

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4 The proposal

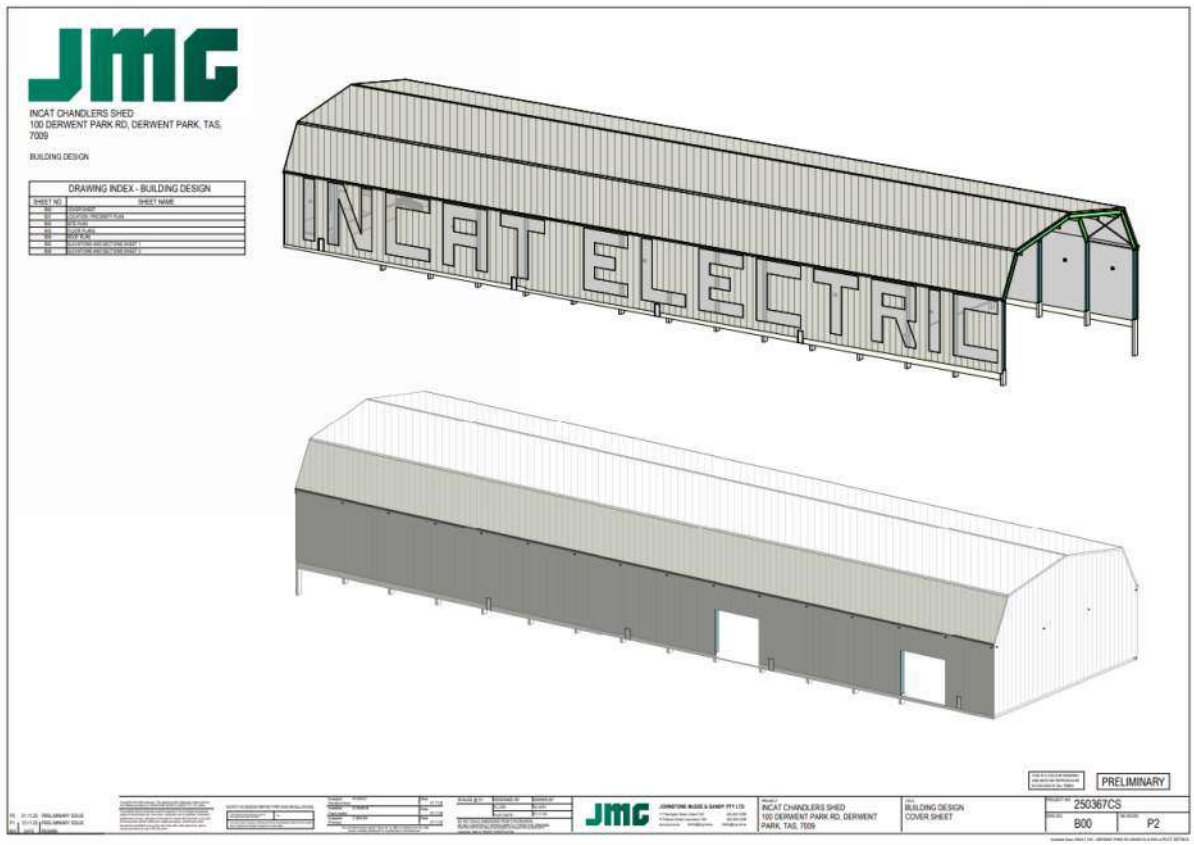
4.1 New boat building shed at Incat HQ

The proposal seeks approval for a new boat building shed at 100 Derwent Park Road (CT0168298/1) which encroaches partially in the Crown land (the River Derwent).

The proposal also seeks approval for fill/reclamation work to be undertaken within Crown land immediately adjacent to the proposed new boat building shed at 100 Derwent Park Road.

This proposed shed measures 120m in length, 40.810m in width and up to 25m above NGL. On the northern end of the shed, the roof extends for a further 30m over the 'wet dock'.

The proposal shed plans (reference P1 dated 20 November 2025) for the proposed Boat Building and fill/reclamation proposal have been provided by JMG and comprise the following plans submitted to both Crown and Council:



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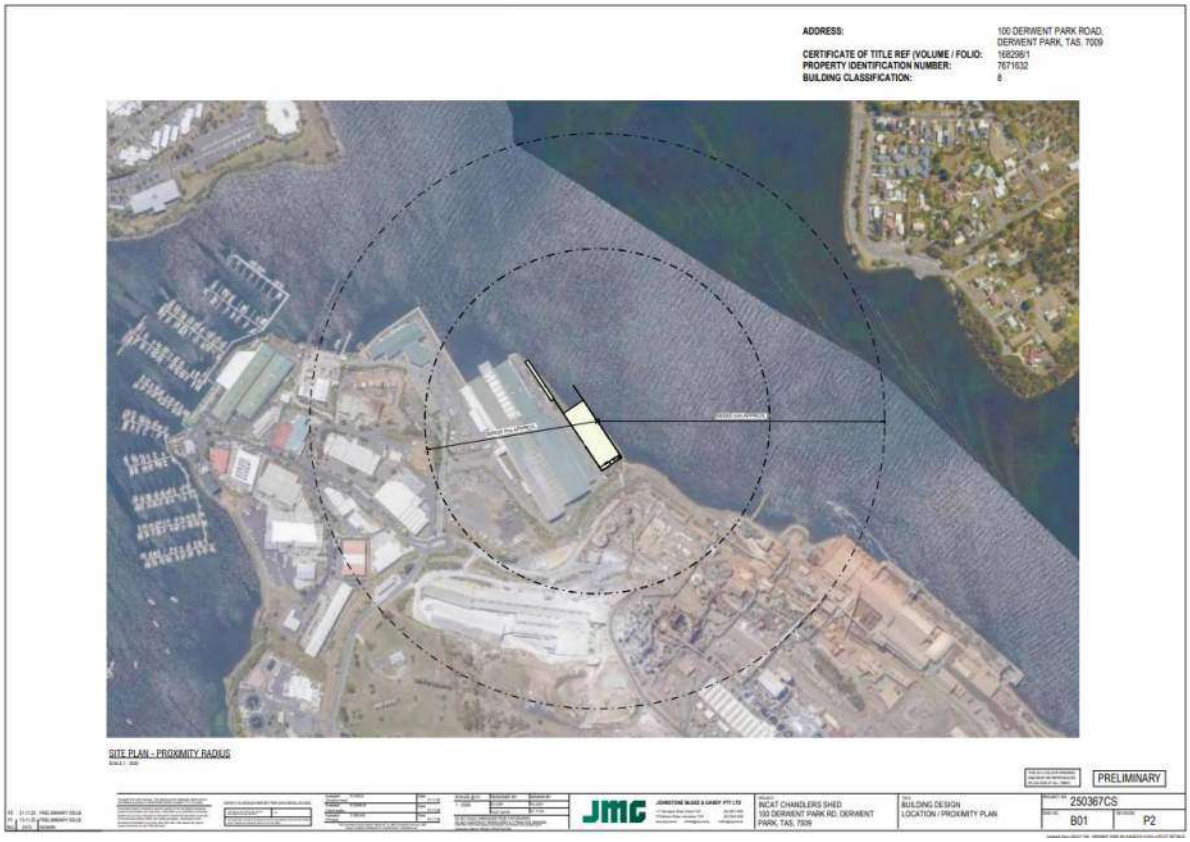

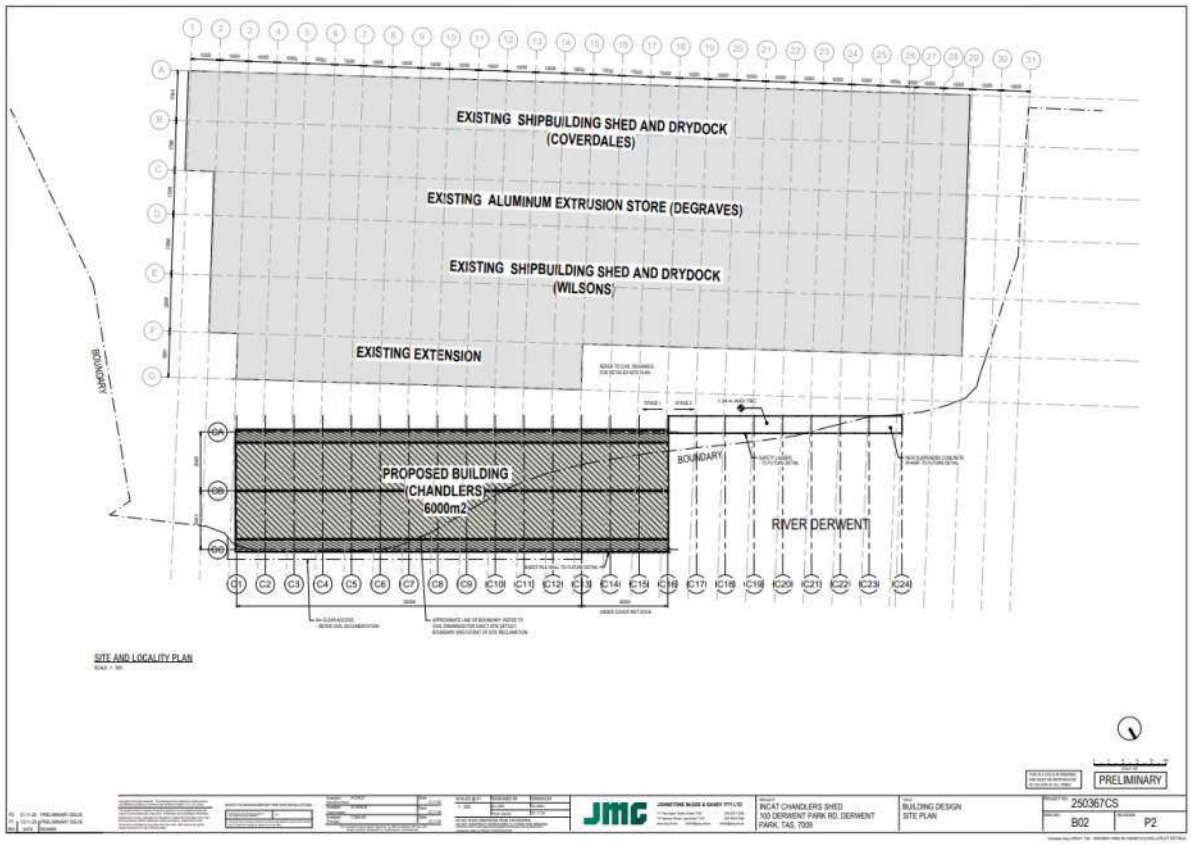

03 6288 8449
0439 342 696
danielle@grayplanning.com.au
224 Warwick St, West Hobart, Tas, 7000
grayplanning.com.au
ABN 99148920244

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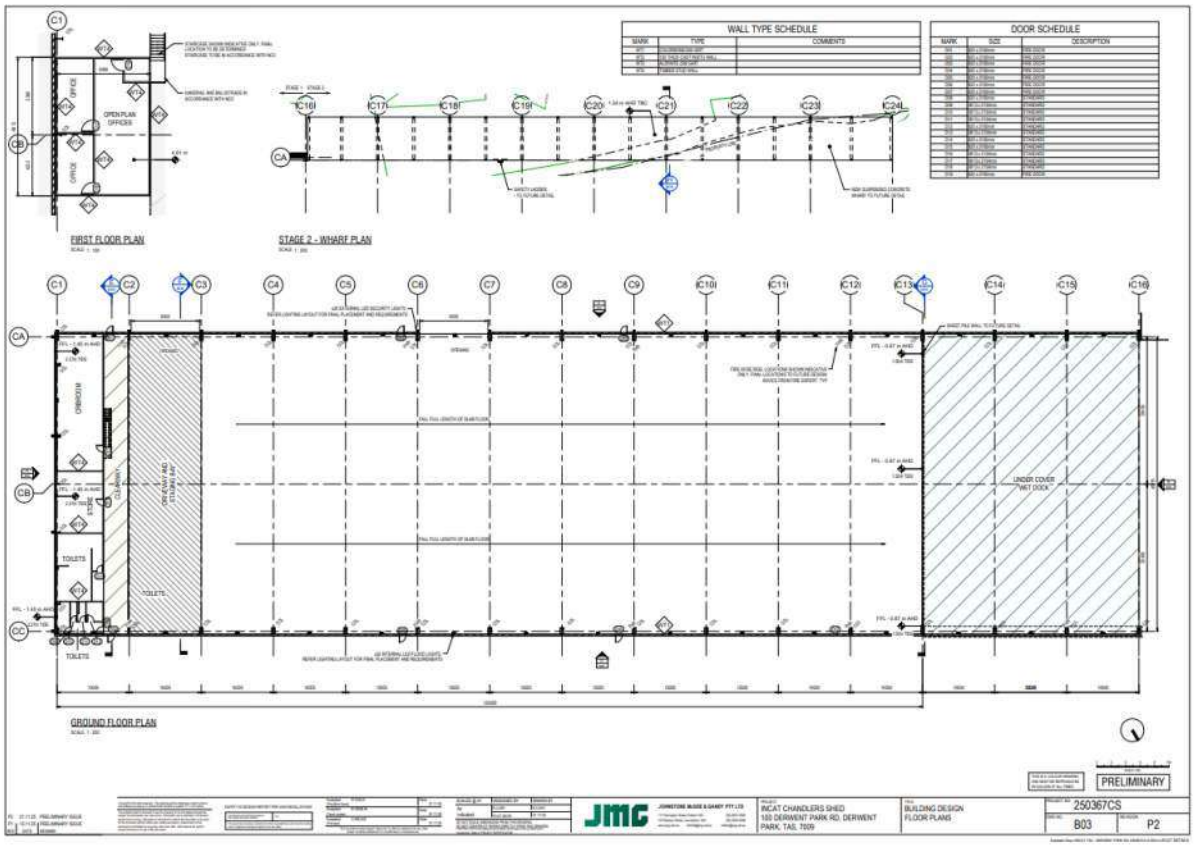

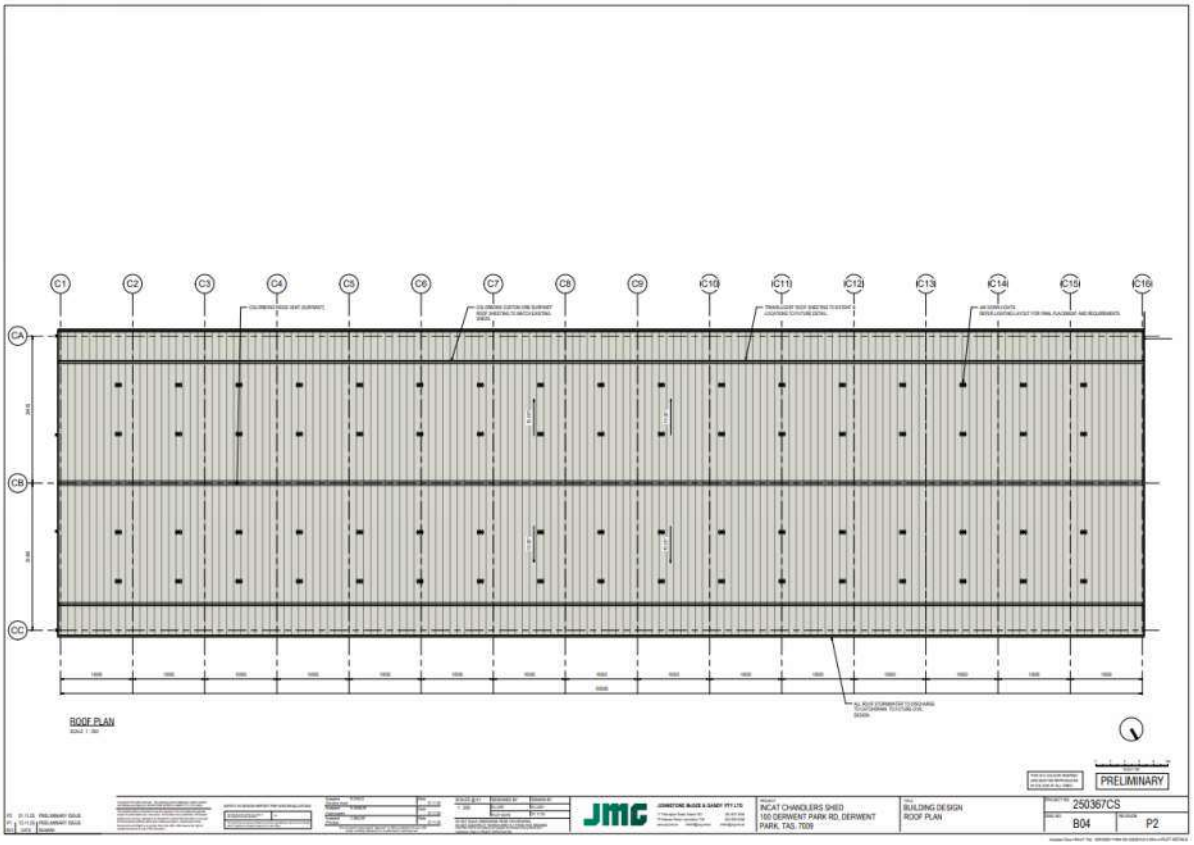

03 6288 8449
0439 342 696
danielle@grayplanning.com.au
224 Warwick St, West Hobart, Tas, 7000
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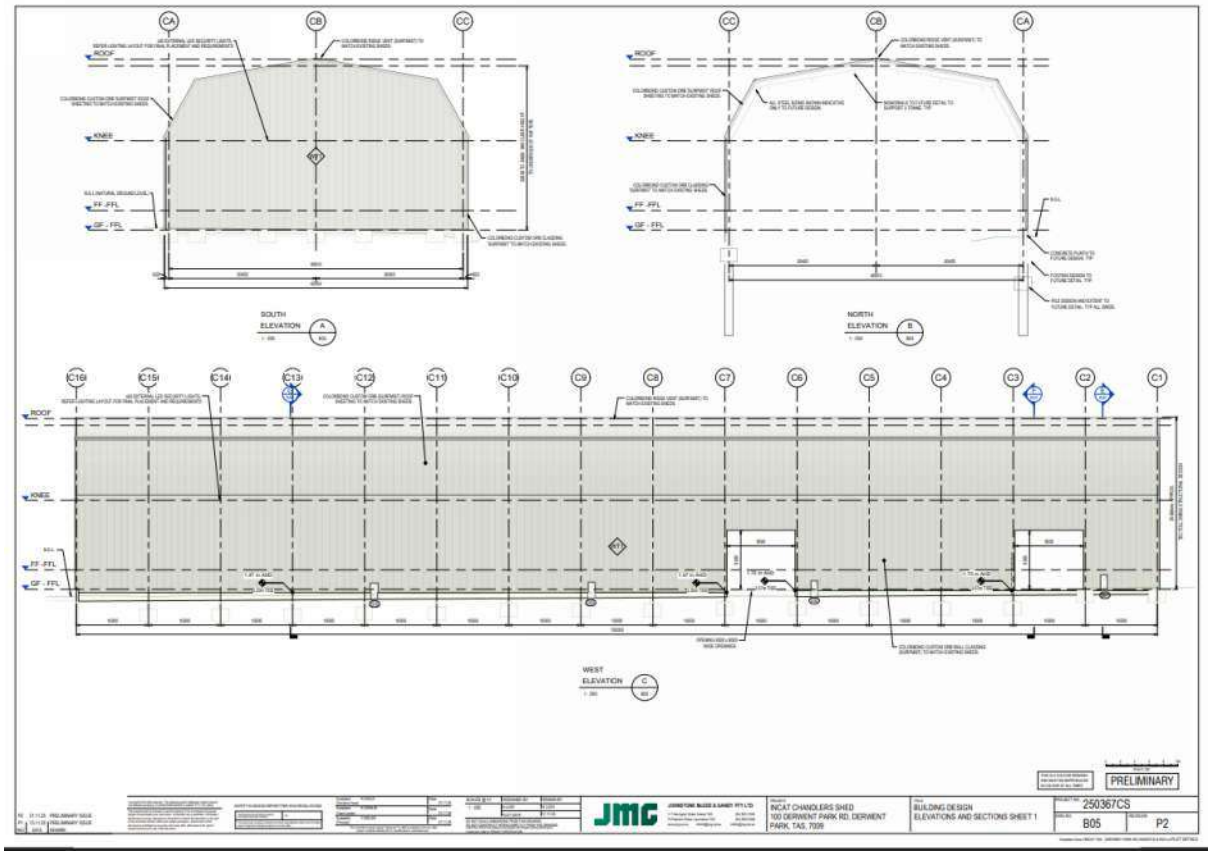

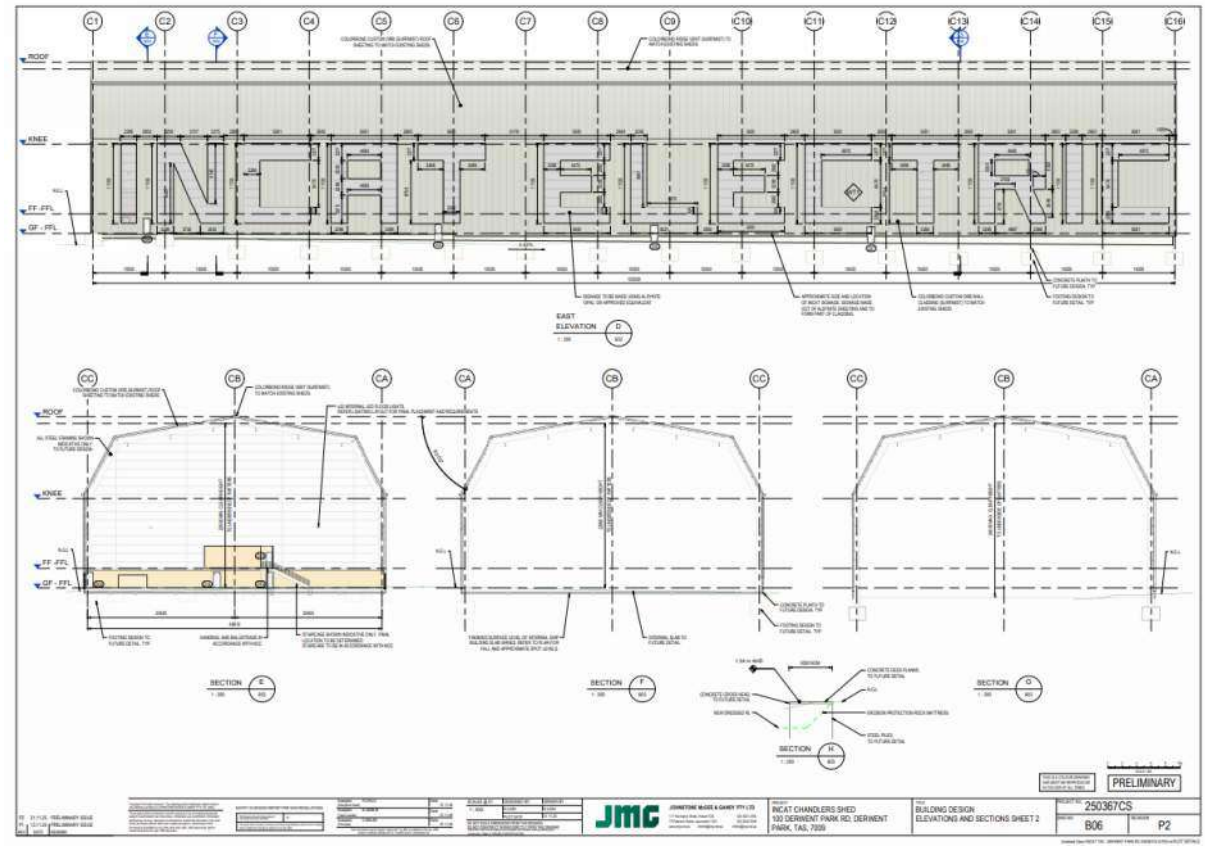

03 6288 8449
0439 342 696
danielle@grayplanning.com.au
224 Warwick St, West Hobart, Tas, 7000
grayplanning.com.au
ABN 99148920244

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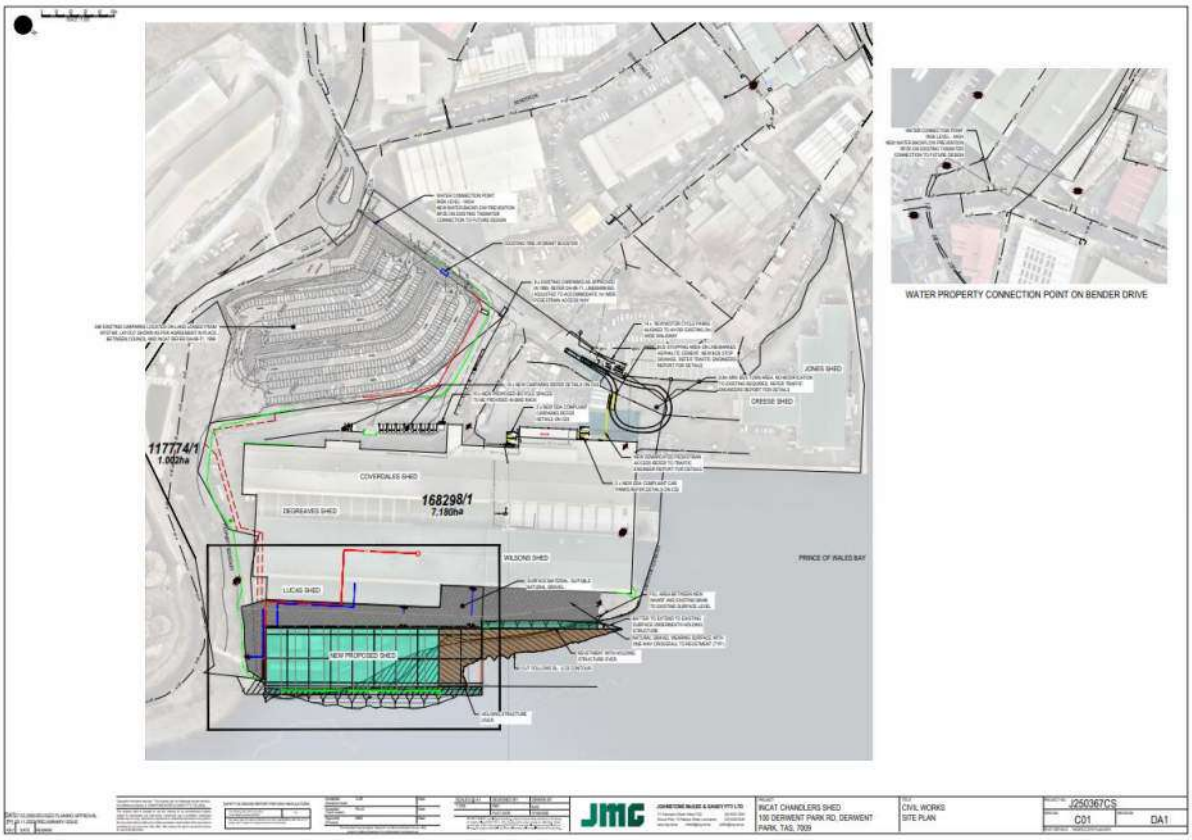
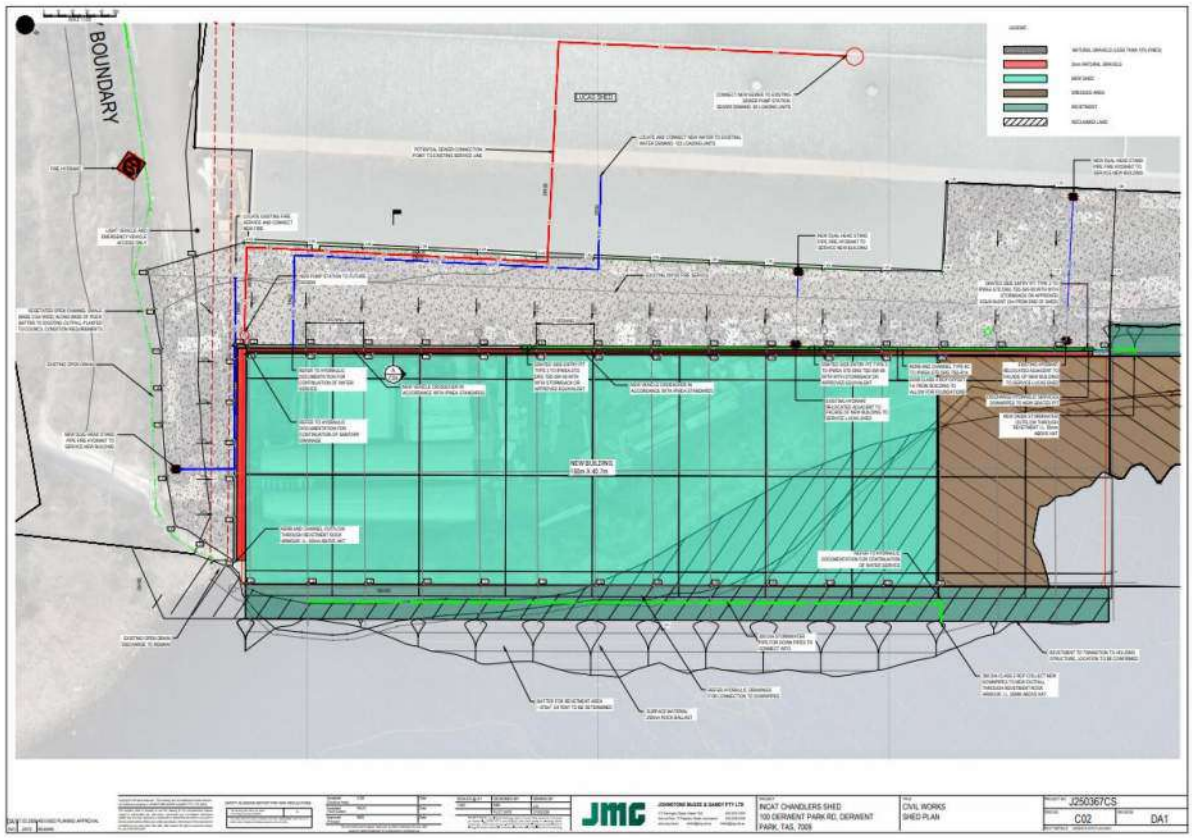
The updated JMG plans dated 27 March 2026 (car parking, fill and servicing) for the proposed Boat Building and fill/reclamation proposal have been provided by JMG and comprise the following plans in response to the Council RFI and also referred to Crown:





03 6288 8449
0439 342 696
danielle@grayplanning.com.au
224 Warwick St, West Hobart, Tas, 7000
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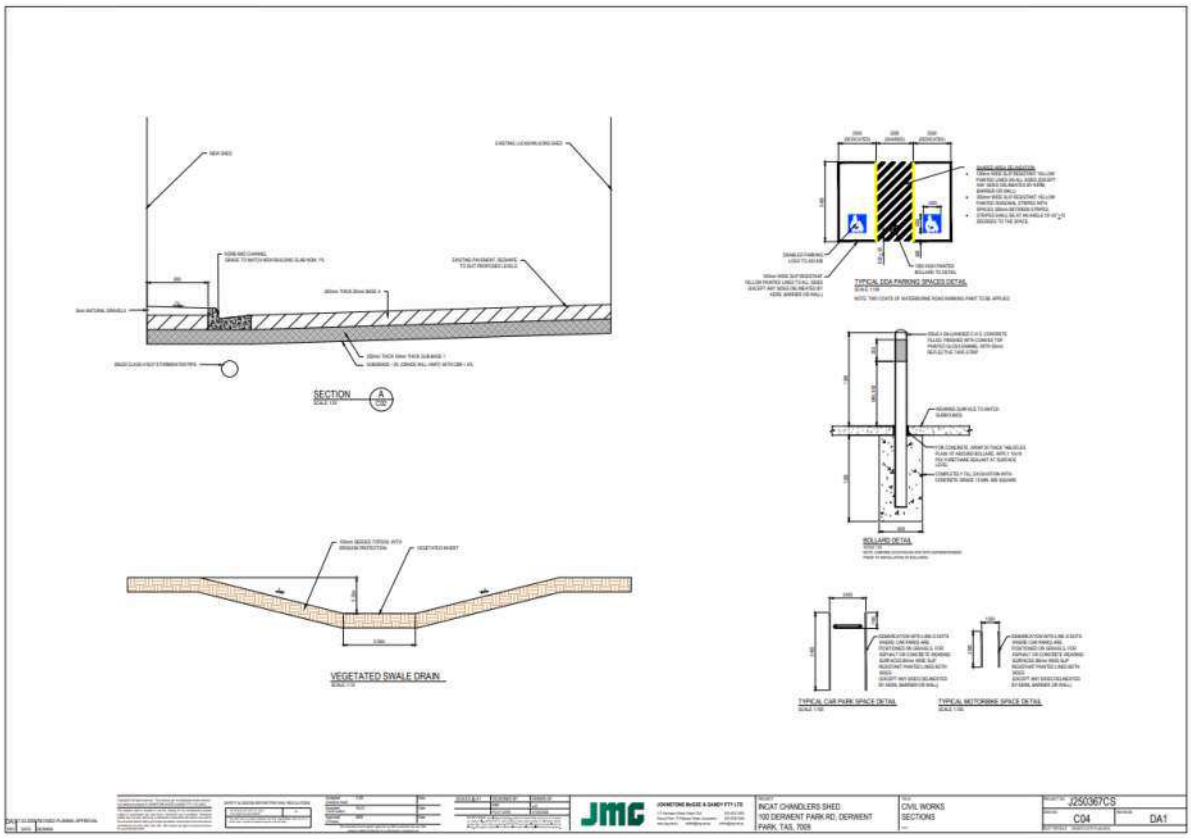

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0439 342 696
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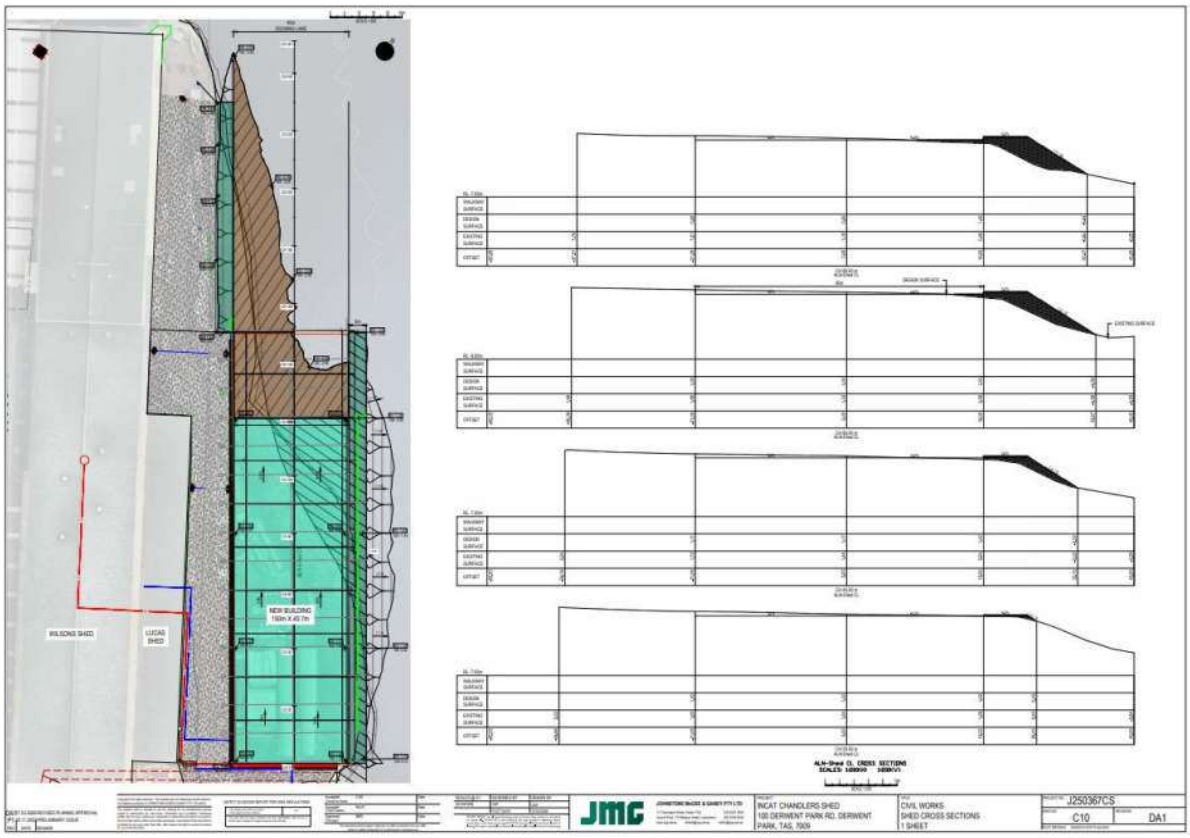

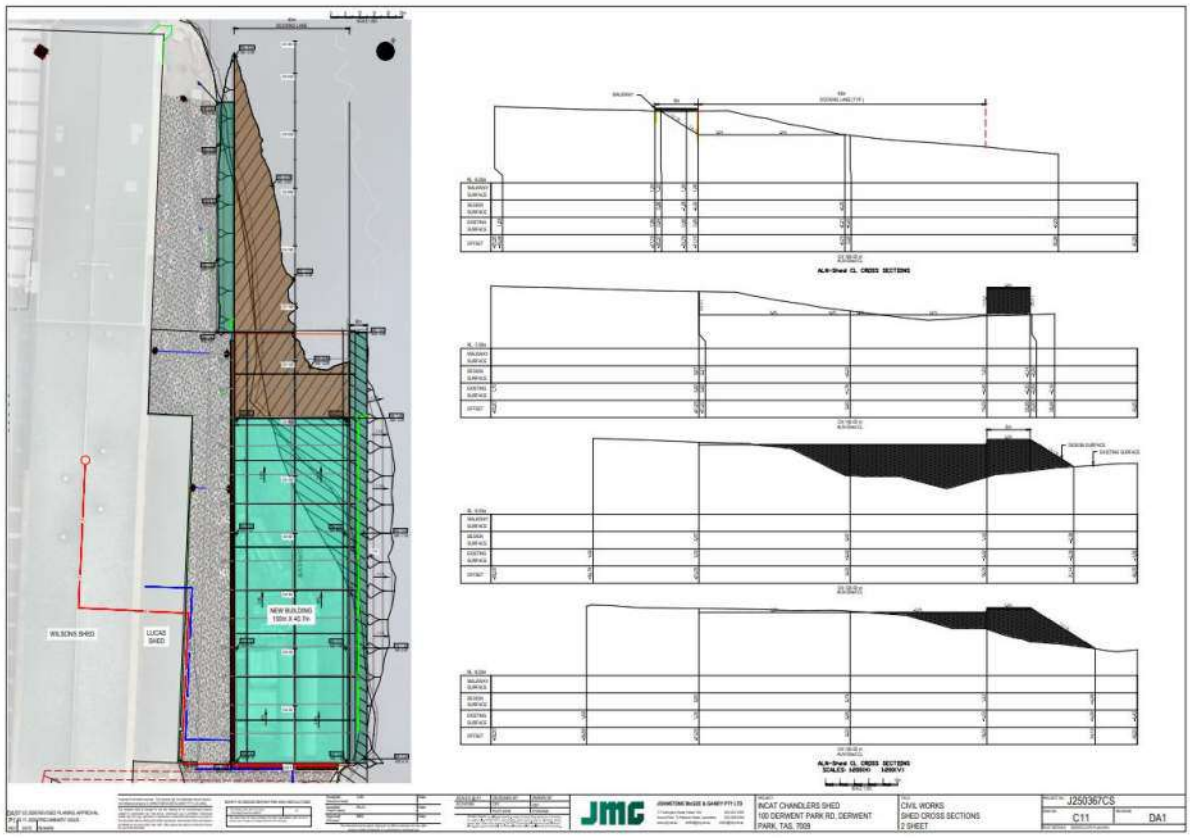

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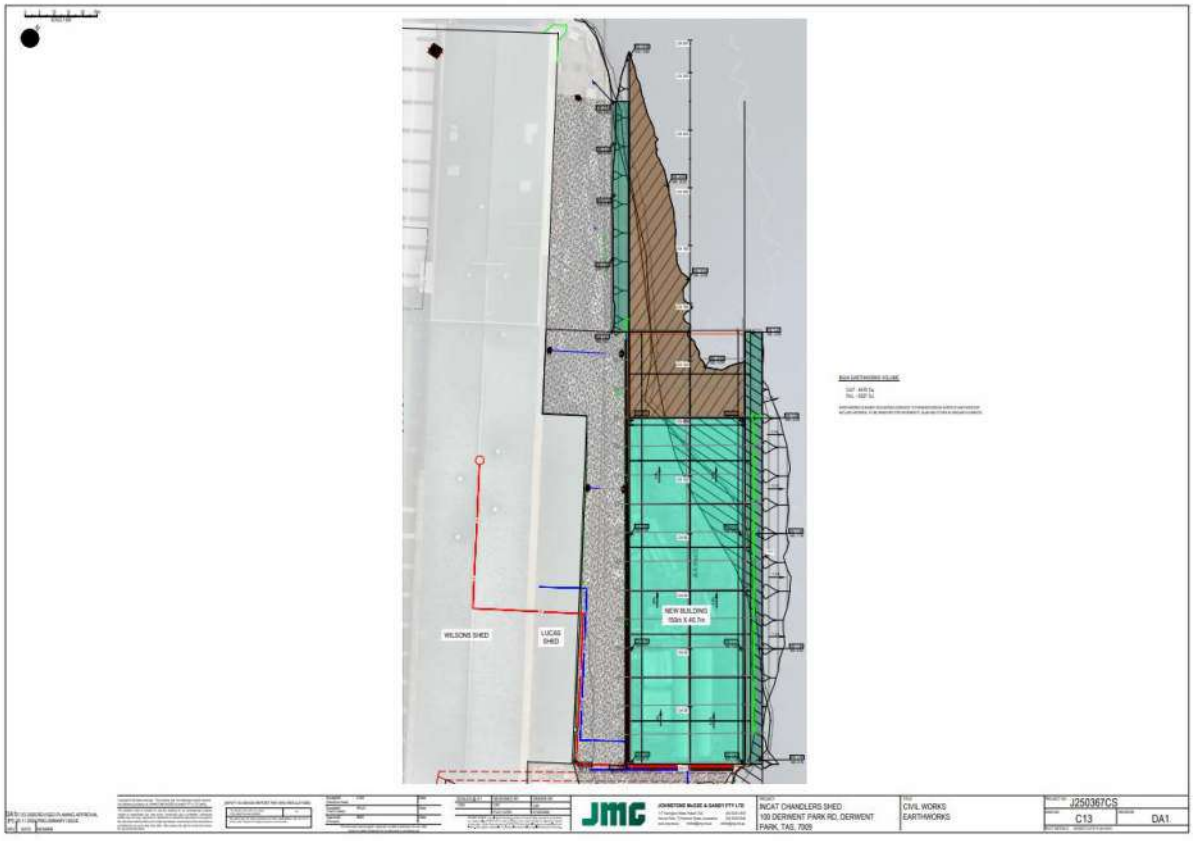

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4.2 Summary of existing and proposed staff numbers and hours of operation

Historical staff numbers during busy periods

It is understood that historically, Incat have had up to 1200 staff on site, spread across 2 shifts per day.

Current and proposed staff numbers

Currently the number of staff working at Incat is 470. This proposal for a new boat building shed seeks approval for an additional 180 staff, to be spread across 2 shifts.

The maximum staff across Incat will be 650 staff, spread across 2 shifts. 90 of these staff are located at the Inches site at 18 Bender Drive.

On the 100 Derwent Park Road site this will be up to 560 staff (minus the 90 at the Inches site where there are 106 parking spaces available).

An increase in hours of operation is also being sought as part of the application.

Parking for the development has been based on the following numbers:

Existing staff: 470

Adding a further 180 new staff:

Minus staff at Inches site: 90

Total proposed staff in this DA: 560

150 bussed in to site.

Planning Scheme requirement of: 2 spaces per 3 staff

Parking spaces required by development against Planning Scheme:

373.3 rounded up to 374 car parking spaces

18 motorcycles spaces required

374 minimum spaces required for development based on Planning Scheme requirement

- 348 spaces are in previously approved Nystar carpark in 1999
- Plus 8 visitor previously approved in 1999 and existing
- Plus 3 disabled approved in 1999 and existing

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Current Operating Hours

6.00am – 1.30am Monday – Thursday inclusive (for those staff who do 4 day a week)

6.00am – 4.30pm Friday (for those staff who do 5 days per week)

6.00am – 11.30pm Saturday and Sunday

Proposed Operating Hours

6.00am – 1.30am Monday – Sunday inclusive (not Public Holidays as the current EBA does not allow work on Public Holidays)

Shifts

There are 2 shifts per day. There is a morning shift and an afternoon shift. The shift hours depend on whether staff work a 4 or 5 day week.

All morning shifts start 6:00am.

For those who do a 4 day week, the morning shift finishes at 4:20pm.

For those who do a 5 day week, the morning shift finishes at 2:20pm.

Currently, there are up to 430 staff doing the morning shifts total.

The number of people doing morning shifts is proposed to increase to 520.

For afternoon/evening shifts, these start at 3:30pm and finish by 1:30am the following morning.

Currently, there are up to 40 staff doing the afternoon/evening shift in total.

The number of people doing the afternoon/evening shift is proposed to increase to 130.

The morning shift knock off time is staggered so that those who do a 5 day week finish by 2:20pm and do not overlap with the arrival of afternoon shift staff who commence at 3:30pm.

Those who work the 4 day week and do the morning shift have a slight overlap with those arriving for the afternoon shift. Currently, 220 staff who do the 4 day work week finish their morning shift at 4:20pm which is after afternoon shift workers have arrived at 3:30pm.

Where there is an overlap between morning and afternoon shifts, there are up to 260 staff on site between 3:30pm and 4:20pm for less than an hour. This is proposed to increase to 430 staff being on site between 3:30pm and 4:20pm.

This staggering of shifts is shown in the below table provided by Incat.

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The staggering of shifts.

Shift	Timing	Current Staff	Proposed Staff	Historical Peak Resourcing
Morning (5 day week)	**0600am – 1420pm**	**Up to 110 staff**	**Up to 140 staff**	**Up to 900 staff**
Morning 4 Day week)	**0600am – 1620pm**	**Up to 220 staff**	**Up to 300 staff**	**Up to 150 staff**
Afternoon/evening	**1530pm – 0130am**	**Up to 40 staff**	**Up to 130 staff**	**Up to 150 staff**

The staggering of shifts is something Incat has long done with its workforce to provide flexible days per week. This also works well with car parking availability to ensure sufficient on site parking spaces available for staff.

Most staff drive by private car with many lift sharing. Some walk or catch public transport, less than half a dozen ride a bike (bicycle) while around 10-12 max ride motorcycles.

Of the 180 new staff to be employed, 150 will live off site in arranged accommodation and will be transported to 100 Derwent Park Road by buses arrange by Incat – JMG to confirm location of bus stop.

Parking

Proposed total:

348 car spaces in Nyrstar carpark approved under 71-98 (existing)

8 visitor car spaces approved under 71-98 (existing)

4 new disabled car spaces (these replace the 3 spaces approved under 71-98);

16 new car parking spaces

= 376 car parking spaces to be provided

Plus 14 new motorcycle parking spaces

Plus 10 new bicycle spaces in rack(s)

Parking is discussed in further detail on the Codes section of this report and in the TIA prepared by Midson Traffic.

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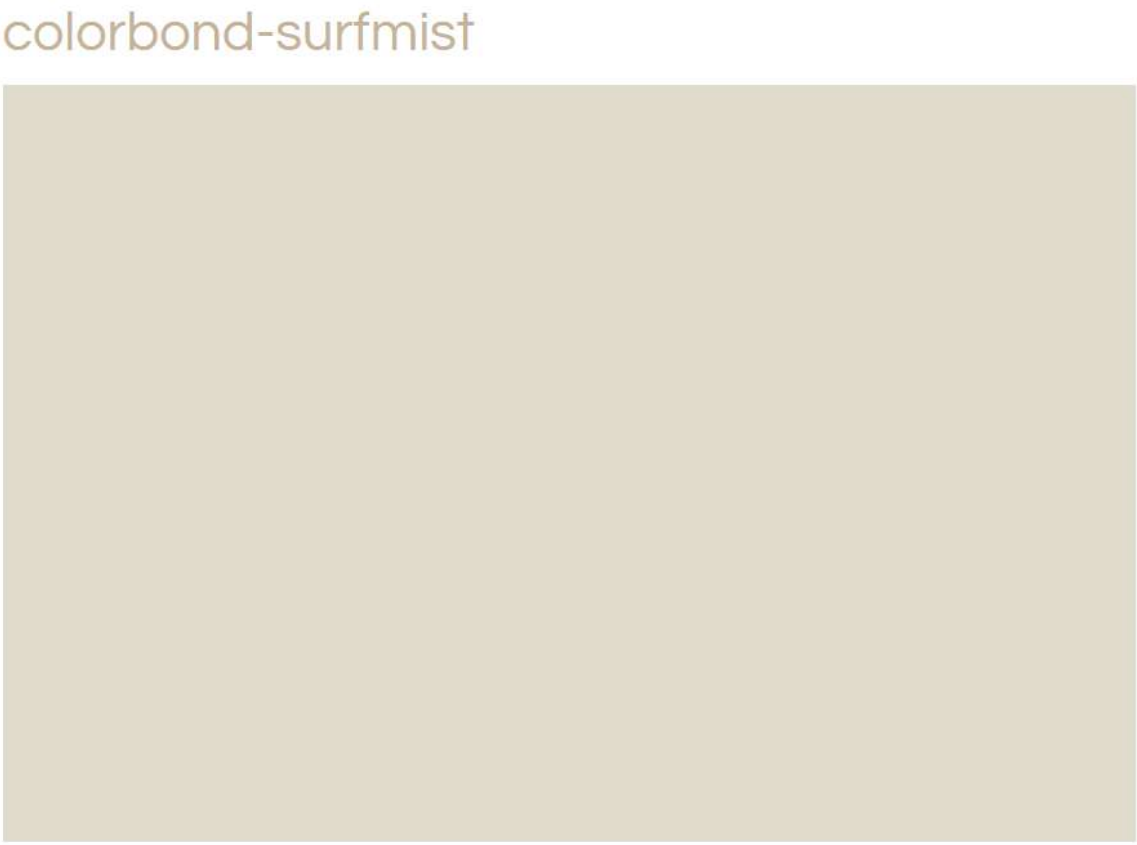
4.3 Signage

Signage is also proposed as part of the development.

The signage comprises the words ‘Incat Electric’ within the eastern elevation of the proposed new shed.

These letters are formed into the eastern building wall by simply using a different building cladding material (SIGNAGE TO BE MADE USING ALSYNITE 'OPAL' OR APPROVED EQUIVALENT as nominated on the JMG elevation plans) that will enable both natural light and internal lighting to highlight this lettering.

The reminder of the shed elevation cladding is Colorbond ‘Surfmist’ which is a mid cream shade:



Colorbond Surfmist

The signage is not illuminated per se. It has no flood lights fixed on the lettering and no internal lighting specifically directed at the lettering.

Letters will be 11.mm high and up to 9.261m wide (depending on the actual letter).

Below is a screenshot of the JMG Eastern Elevation drawing showing the proposed wall sign.

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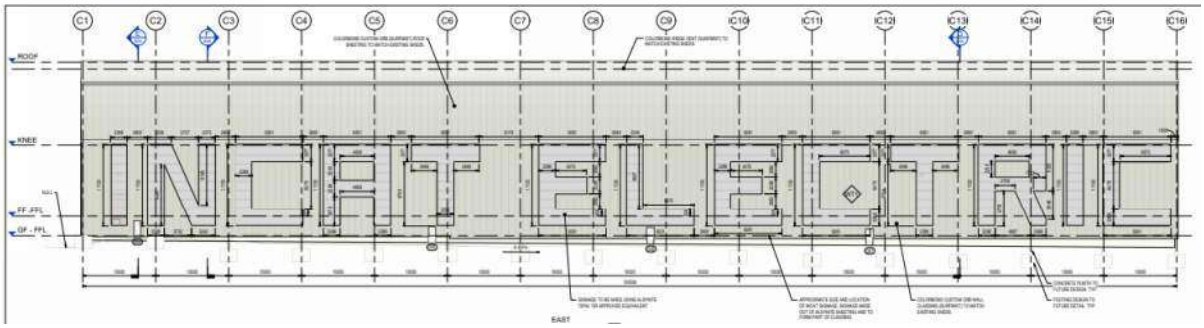

Because of the opaque appearance of Alsynite 'OPAL' cladding, most of the time, the words ‘Incat Electric’ will not be visually prominent, particularly against the mid cream colour of the ‘Surfmist’ Colorbond wall cladding.

4.4 The boundary adjustment with Nyrstar

A boundary application plan was prepared in 1999 by surveyor John Medbury. It is unknown if it was approved by Council but if it was, the Final Plan was never sealed. This has resulted in the boundaries of CT-117774/1 very marginally encroaching into an Incat parking area and into an Incat boat building shed.

Incat are currently in talks with Nyrstar to address the boundary encroachment issue to resolve.

4.5 Classifying the ship building use at 100 Derwent Park Road

The proposed extension of the existing boat building use at the subject site continues a long established activity undertaken by Incat at the subject site 100 Derwent Park Road.

The construction of the ferries is considered a ‘Boat Building’ use for the purposes of classifying the use.

Boat Building falls within the Manufacturing and Processing use class under the State Planning Provisions as follows:

Manufacturing and Processing	use of land for manufacturing, assembling or processing products other than Resource Processing. Examples include boat building, brick making, cement works, furniture making, glass manufacturing, metal and wood fabrication, mineral processing and textile manufacturing.

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5 Glenorchy LPS Zoning

5.1 Zoning of the subject site

The Tasmanian Planning Scheme came into effect in the Glenorchy City Council municipality on 18 August 2021.

The subject site at 100 Derwent Park Road and 300 Risdon Road is wholly zoned General Industrial under the *Glenorchy Local Provisions Schedule* (LPS).

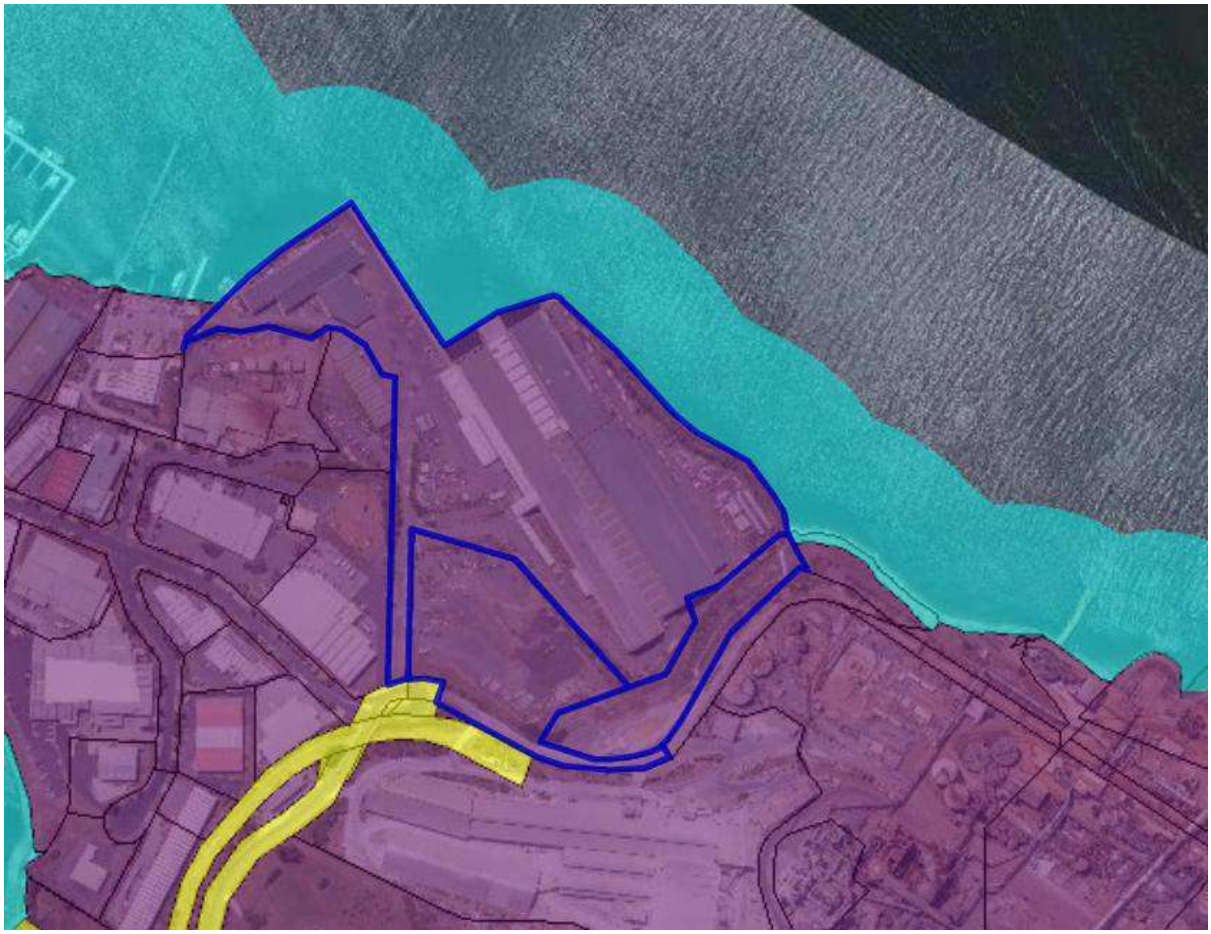

Figure.13. Tasmanian Planning Scheme zoning of the subject is General Industrial (purple shaded land). The blue shading is Ports and Marine zone which extends 100m beyond the waterfront boundary of the subject site. Source: TheLIST, sourced March 2026. No nominated scale.

5.2 Status of the use in the General Industrial zone

The standards for any use or development including subdivision in the General Industrial zone are contained under Part 19 of the Planning Scheme.

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The standards for any use or development in the Ports and Marine zone are contained under the Glenorchy LPS document.

The Manufacturing and Processing use class for a Boat Building use is a Permitted use within the General Industrial zone as per Table 19.2:

19.2 Use Table

Use Class	Qualification
No Permit Required	
Natural and Cultural Values Management	
Passive Recreation	
Utilities	If for minor utilities.
Permitted	
Emergency Services	
Equipment and Machinery Sales and Hire	
Manufacturing and Processing	
Port and Shipping	
Recycling and Waste Disposal	
Research and Development	
Resource Processing	

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5.3 Zoning of the waterfront area

The Crown land administered by the Department of Parks and Wildlife is zoned Port and Marine as shown in the below Figure:

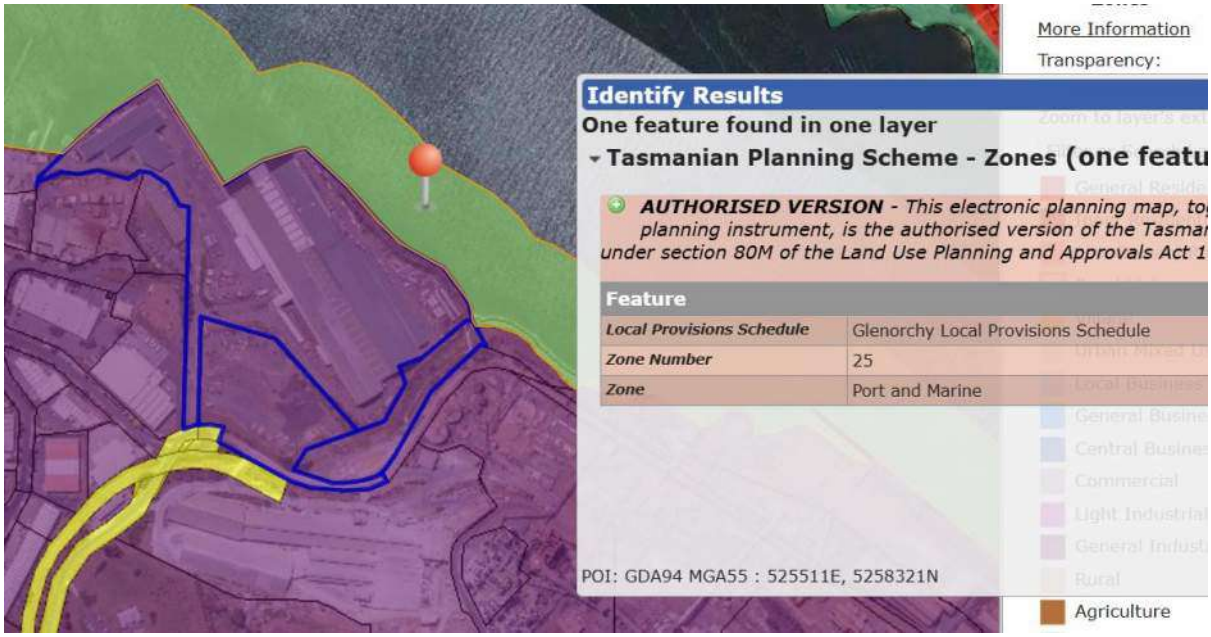

Figure.14. Tasmanian Planning Scheme zoning of riverine area and River Derwent being highlighted in green and noted as being zoned Port and Marine zone. Source: TheLIST, sourced March 2026. No nominated scale.

In the Planning Scheme, the following clause applies where works are located across two different zones:

7.7 Buildings Projecting onto Land in a Different Zone

7.7.1 If an application for use or development includes a building that projects over land in a different zone, the status of the use for the projecting portion of the building is to be determined in accordance with the provisions of the zone in which the main part of the building is located.

Based on this clause, the applicable zone is General Industrial only.

Use and development standards for development in the Port and Marine zone are otherwise contained under Part 25.0 of the State Planning Provisions. There are no use standards for the Port and Marine zone.

This zone will not be triggered for boundary adjustment. It is not considered to be triggered either for the Boat Building and fill/reclamation proposal as the main part of the building is located in the General Industrial zone. However, for assistance, comments are still provided against the Port and Marine zone in this report.

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5.4 Status of the use in the Mort and Marine zone

Table 25.2 contains Manufacturing and Processing as a Permitted use subject to being for maritime purposes as follows:

25.2 Use Table

Use Class	Qualification
No Permit Required	
Natural and Cultural Values Management	
Port and Shipping	
Utilities	If for minor utilities.
Permitted	
Bulky Goods Sales	If for boat sales, shipping supplies or other maritime purposes.
Business and Professional Services	If for marine, port, shipping and transport purposes.
Educational and Occasional Care	If for training in marine, port, shipping and transport purposes.
Emergency Services	
Equipment and Machinery Sales and Hire	If for marine, port, shipping and transport equipment.
General Retail and Hire	If for chandlers and other shipping and transport related goods.
Manufacturing and Processing	If associated with maritime purposes.
Passive Recreation	
Pleasure Boat Facility	

It is considered the boat building would be for 'maritime' purposes and so the use of the shed for boat building is a Permitted use in the Port and Marine zone.

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6 Use standards for buildings in the General Industrial zone

The planning application seeking approval for an extension of the boat building use at the subject site at 100 Derwent Park Road has been assessed against the following Use standards which can be found in Part 19.4 in the General Industrial zone of the State Planning Provisions:

19.3 Use Standards

19.3.1 Discretionary uses

Objective:	That uses listed as Discretionary do not compromise the use or development of the land for industrial activities that may have impacts on adjacent uses.

Acceptable Solutions	**Performance Criteria**
A1 No Acceptable Solution.	**P1** A use listed as Discretionary must not compromise the use or development of surrounding properties for industrial activities that may have impacts on adjacent uses, having regard to: (a) the characteristics of the site; (b) the size and scale of the proposed use; and (c) the functions of the industrial area.

Planning Comment:

This clause does not apply as the proposed boat building use is a Permitted use in the General Industrial zone.

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7 Development standards for buildings in the General Industrial zone

The proposed development seeking approval for extension to an existing Manufacturing and Processing use at 100 Derwent Park Road is to be contained within a new shed measuring 120m in length, 40.81m in width and up to 25m above NGL (natural ground level), with a further 30m of roof projecting over the 'wet dock' (River Derwent).

The following standards apply to works legally defined as a 'building' under the Act.

The planning application has been assessed against the following Development standards which can be found in Part 19.4 in the General Industrial zone of the State Planning Provisions:

19.4 Development Standards for Buildings and Works

19.4.1 Building height

Objective:	To provide for a building height that: (a) is necessary for the operation of the use; and (b) minimises adverse impacts on adjoining properties.

Acceptable Solutions	Performance Criteria
A1 Building height must be not more than 20m.	**P1** Building height must be necessary for the operation of the use and not cause an unreasonable impact on adjoining properties, having regard to: (a) the bulk and form of the building; (b) separation from existing use on adjoining properties; and (c) any buffers created by natural or other features.

Planning Comment:

The height of the new shed on the submitted plans from JMG measures up to 25m above NGL.

The height of the proposed shed has been designed to ensure that the electric ferries being constructed within are able to fit wholly inside the building when on dry dock, prior to being launched. This height is therefore entirely necessary for the operation of the boat building use. An Acceptable Solution compliant height of 20m would not fit the ferries to be constructed within. Discretion is therefore unavoidable.

The height of the proposed new building is comparable to other ship building buildings on the Incat site in close proximity. There are two similar height buildings immediately west of the proposed development site and these contain two sheds up to 280m in length. The

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proposed new shed therefore has a bulk and form that is substantially less than existing sheds at Incat used for the same purpose.

The proposed height of the new shed will not exceed those already existing at Incat. When viewed from within the River Derwent, the new shed will form a foreground element to the backdrop profile of existing boat building sheds. The new shed will not occupy an area of the site where existing views are of open ground. It will sit within a constructed area.

In terms of unreasonable impact, adjoining properties are all industrial sites and include titles in Nyrstar ownership. The proposed height of the new shed will have no impact on any adjacent or adjoining properties as they are all industrial sites with buildings of varying scales, heights and extent.

There are no residential properties within 500m of the proposed new shed as shown on the JMG plans.

It is considered the proposed development complies with the P1 Performance Criteria.

19.4.2 Setback

Objective:	That the building setback is appropriate for the site.
Acceptable Solutions	**Performance Criteria**
A1 Buildings must have setback from a frontage of: (a) not less than 10m; (b) not less than existing buildings on the site; or (c) not more or less than the maximum and minimum setbacks of the buildings on adjoining properties.	**P1** Buildings must have a setback from a frontage that provides adequate space for vehicle access, parking and landscaping, having regard to: (a) the topography of the site; (b) the setback of buildings on adjacent properties; and (c) the safety of road users.

Planning Comment:

The setback of the new shed on the concept plans from JMG is more than 10m to a road but 0m setback from the waterfront which is defined as a 'frontage'.

The JMG plans show vehicular access and manoeuvring paths around the proposed new building.

No additional parking is proposed as part of the application as it considered that there is sufficient parking available to Incat staff to facilitate this proposal. Parking has been discussed in more detail under the Codes section of this report.

The nature of the use to be undertaken in the proposed new shed means that 0m frontage and encroachment into the River Derwent is necessary to ensure launching of ships once the first phase of construction is completed.

It is considered that the proposal is not problematic under any of the P1 Performance Criteria, given that the frontage of relevance is a waterfront frontage and therefore issues of landscape, parking and the safety of road users is not relevant in this proposal.

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19.4.3 Landscaping

Objective:	That landscaping enhances the amenity and appearance of the streetscape where buildings are setback from the frontage.
A1 If a building is set back from a road, landscaping treatment must be provided along the frontage of the site: (a) to a depth of not less than 6m; or (b) not less than the frontage of an existing building if it is a lesser distance.	**P1** If a building is setback from a road, landscaping treatment must be provided along the frontage of the site, having regard to: (a) the width of the setback; (b) the width of the frontage; (c) the topography of the site; (d) existing vegetation on the site; (e) the location, type and growth of the proposed vegetation; and (f) any relevant local area objectives contained within the relevant Local Provisions Schedule.

Planning Comment:

The new boat building is not setback from a road but rather, is located internally within the Incat site and directly adjacent to the waterfront.

This clause is not considered relevant or applicable in this instance, given the characteristics of the subject site and the proposal itself.

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8 Use standards for buildings in the Port and Marine zone

There are no Use standards for the Port and Marine zone of the State Planning Provisions as per clause 25.3.1.

03 6288 8449
0439 342 696
danielle@grayplanning.com.au
224 Warwick St, West Hobart, Tas, 7000
grayplanning.com.au
ABN 99148920244

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9 Development standards for buildings in the Port and Marine zone

The planning application seeking approval for a new shed to accommodate an extension of the boat building use at the subject site has been assessed against the following Development standards which can be found in Part 25.4 in the Port and Marine zone of the State Planning Provisions:

25.4 Development Standards for Buildings and Works

25.4.1 Building height

Objective:	To provide for a building height that: (a) is necessary for the operation of the use; and (b) does not cause unreasonable loss of amenity on adjoining properties.

Acceptable Solutions	Performance Criteria
A1 Building height, excluding for Port and Shipping, and structures such as towers, poles, gantries, cranes or similar, must be not more than 20m.	**P1** Building height, excluding for Port and Shipping, and structures such as towers, poles, gantries, cranes or similar, must: (a) be necessary for the operation of the use; and (b) not cause unreasonable loss of amenity to adjoining properties, having regard to: (i) the bulk and form of the building; (ii) separation from existing use on adjoining sites; and (iii) any buffers created by natural or other features.

Planning Comment:

The height of the new shed on the submitted plans from JMG measures up to 25m.

The height of the proposed shed has been designed to ensure that the electric ferries being constructed within are able to fit inside the building when on dry dock, prior to be launched. This height is therefore entirely necessary for the operation of the boat building use.

The height of the proposed new building is comparable to other ship building buildings on the Incat site in close proximity. There are two similar height buildings immediately west of the proposed development site and these contain two sheds up to 280m in length. The proposed new shed therefore has a bulk and form that is less than existing sheds at Incat used for the same purpose.

In terms of unreasonable impact, adjoining properties are all industrial sites and include titles in Nyrstar ownership. The proposed height of the new shed will have no impact on any

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adjacent or adjoining properties as they are all industrial sites with buildings of varying scales, heights and extent.

There are no residential properties within 500m of the proposed new shed as shown on the JMG plans.

It is considered the proposed development complies with the P1 Performance Criteria.

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10General Planning Scheme overlays that apply to the subject site

The subject site was checked for Planning Scheme overlays.

There is one General overlay relevant to the subject site and that is the General Industrial Land Objective Overlay Area:

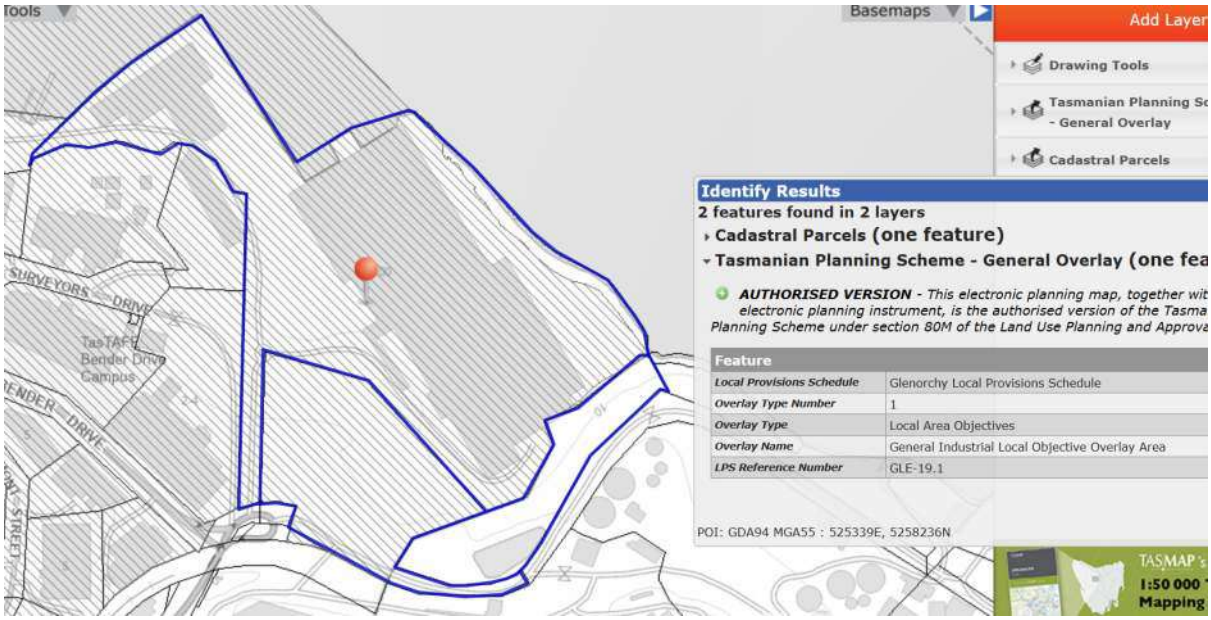

Figure.15. General Planning Scheme overlay applied to the entirety of the subject site and adjacent industrial properties to the north and west. Source: TheLIST, sourced March 2026. No nominated scale.

The implications of this overlay are as follows:

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GLE-19.0 General Industrial Zone Local Area Objectives

Reference Number	Area Description	Local Area Objectives
GLE-19.1	Prince of Wales Bay Maritime Industrial Precinct, shown on an overlay map as GLE-19.1	The objectives for this area are to: (a) support the Prince of Wales Bay Maritime Industrial Precinct's role as a regional multi-user marine and industrial precinct and sheltered anchorage; (b) promote the sustainable management of the Precinct's land and waters (including any future land reclamation processes) by supporting uses of appropriate scale and intensity; (c) support uses which protect the amenity and safety of residents abutting and near the waterfront area, and the safety of recreational boat users, through the implementation of appropriate mitigation measures to manage noise, dust, light spill, increased traffic flow and security requirements; and (d) support opportunities to improve public amenity within the Precinct.

Planning Comment:

The following comments are provided against each Local Area Objective:

(a) The Incat site is the primary maritime industrial site at Prince of Wales Bay. Incat has international standing in terms of ferry construction and is an internal leader and innovator of electric ferry transportation. The proposed development further facilitates and strengthens Incat's operations.

(b) The boat building use to be undertaken in the proposed new shed is an intensification of a long established use of an appropriate scale and intensity on the subject site and in the surrounding Precinct. The proposed building neatly fits into an existing vacant area of 100 Derwent Park Road. No additional parking is proposed as there is considered sufficient parking within land owned, occupied and used by Incat for their operations. The scale and extent of the new building is substantially smaller than existing Incat boat building sheds within 100 Derwent Park Road.

(c) The extension of the boat building use at Incat is a use that has been in operation for nearly 30 years at the subject site in Prince of Wales Bay. Incat has employed appropriate mechanisms to manage noise, dust, light spill and security at their property and the proposal will not result in these mitigation measures becoming inadequate.

(d) The proposal does not obstruct Incat's ongoing commitment to public amenity in relation to their boat building activities at the subject site. The new shed has been designed to minimise light spill, avoid visually prominent illuminated signage and will

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fully enclose ferries under construction within the proposed shed. Only the latter stages of fit out will see ferries being moved into the partially open ‘wet dock’ area. Once this occurs, fit out works occur within the ferry itself. Therefore, emissions such as dust and noise are minimised due to how and where Incat construct their ferries.

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11 Planning Scheme Code overlays that apply to the subject site

The subject site has multiple Planning Scheme Code overlays that affect the subject site in question as well as the surrounding area.

Figure.16. Code overlays affecting the subject site. Source: TheLIST, sourced March 2026. No nominated scale.

These are depicted separately below in the following Figures.

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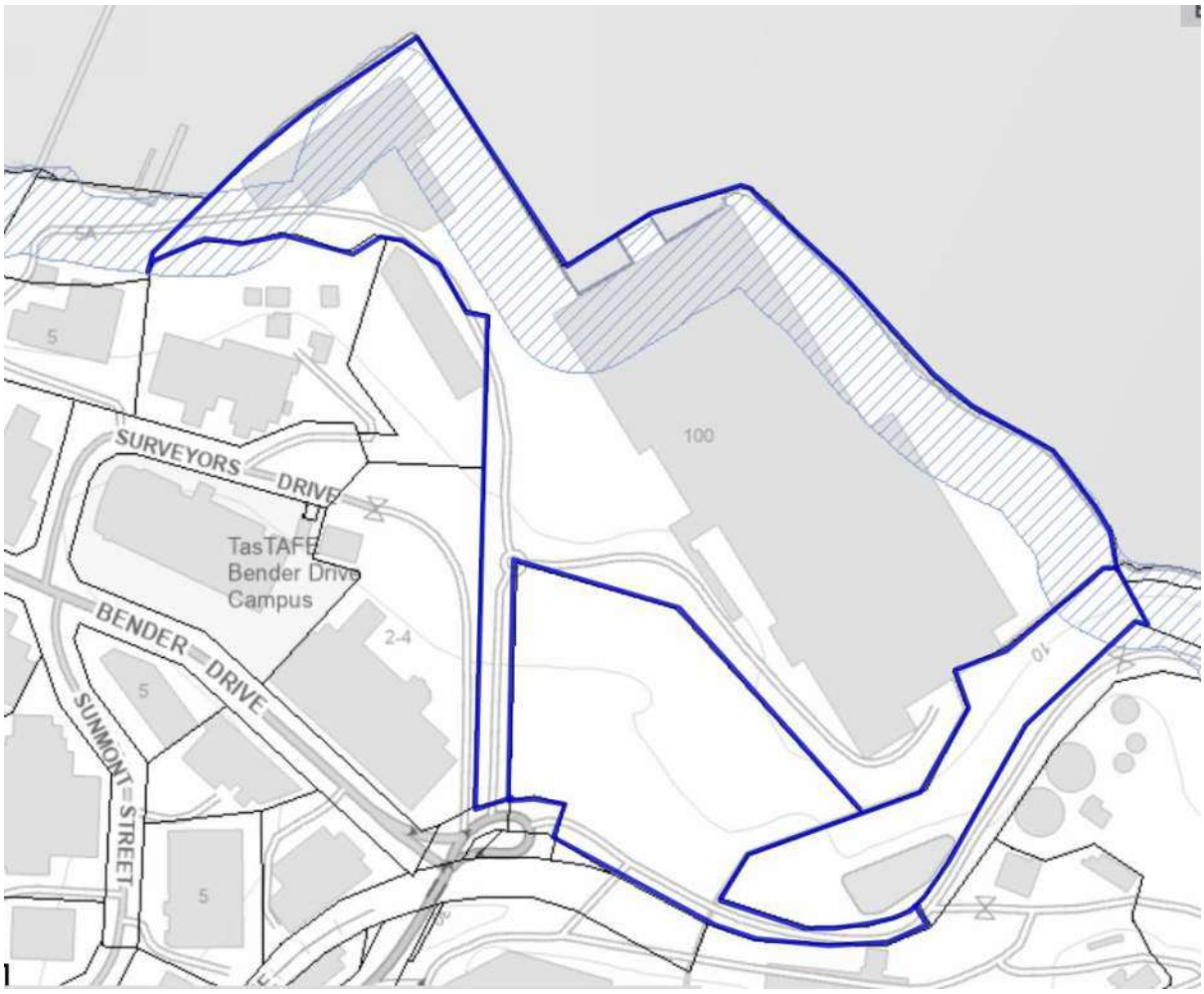

Figure.17. Waterway and Coastal Protection Area overlay that affects the water frontage portion of the subject site shown in blue diagonal stripes. This area is 40m wide. Source: TheLIST, sourced March 2026. No nominated scale.

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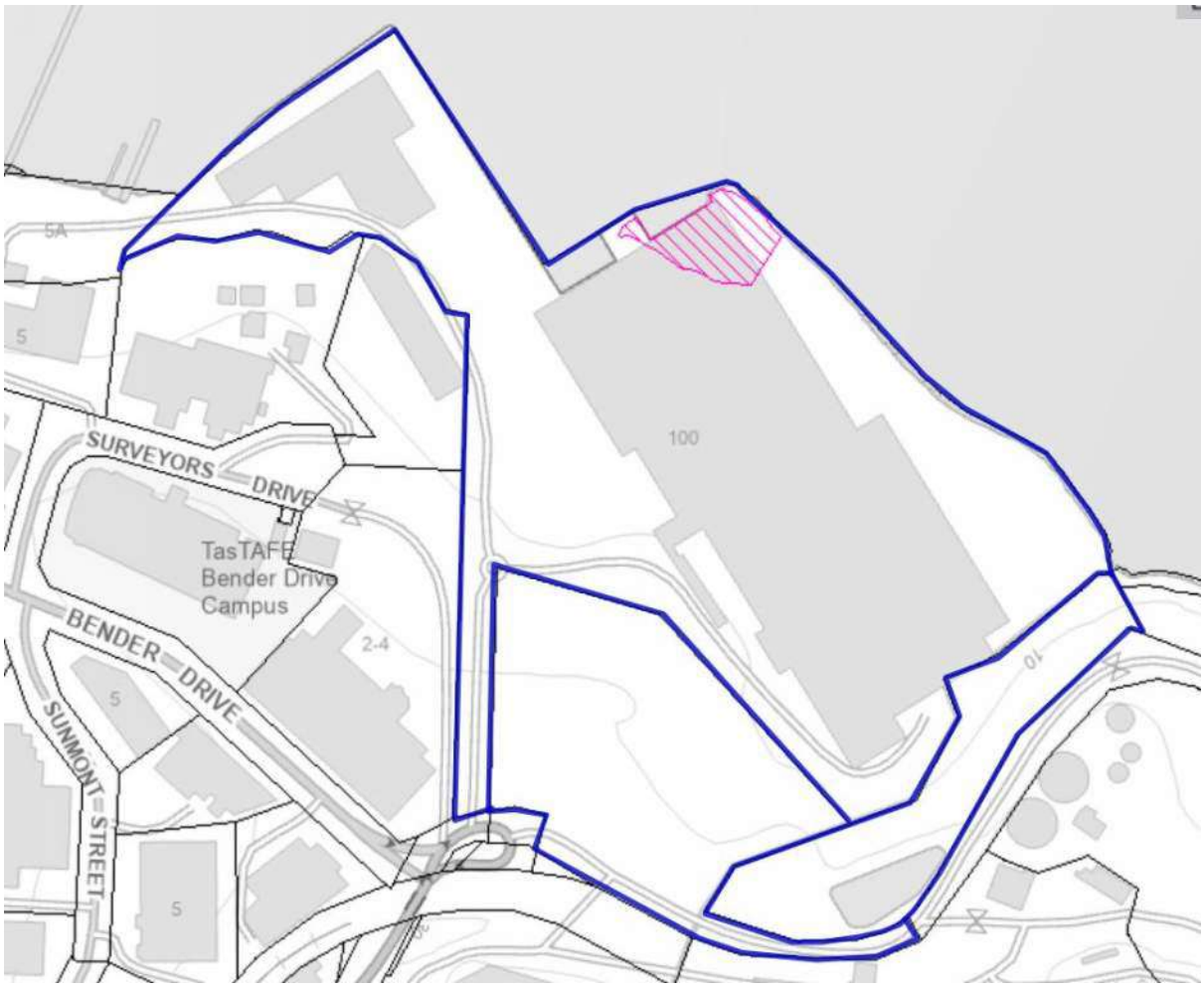

Figure.18. Coastal Erosion Investigation Area overlays in the northern portion of the subject site. All proposed works are located outside this area. Source: TheLIST, sourced March 2026. No nominated scale.

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Figure.19. Coastal Inundation Hazard Area overlays that affect the subject site shown in aqua diagonal stripes. There are low and medium bands that affect the subject site along the northern river frontage area. Most of the mapped area is Medium Hazard with smaller pockets of 'Low Hazard'. Low hazard is highlighted in orange while Medium is left aqua.
Source: TheLIST, sourced March 2026. No nominated scale.

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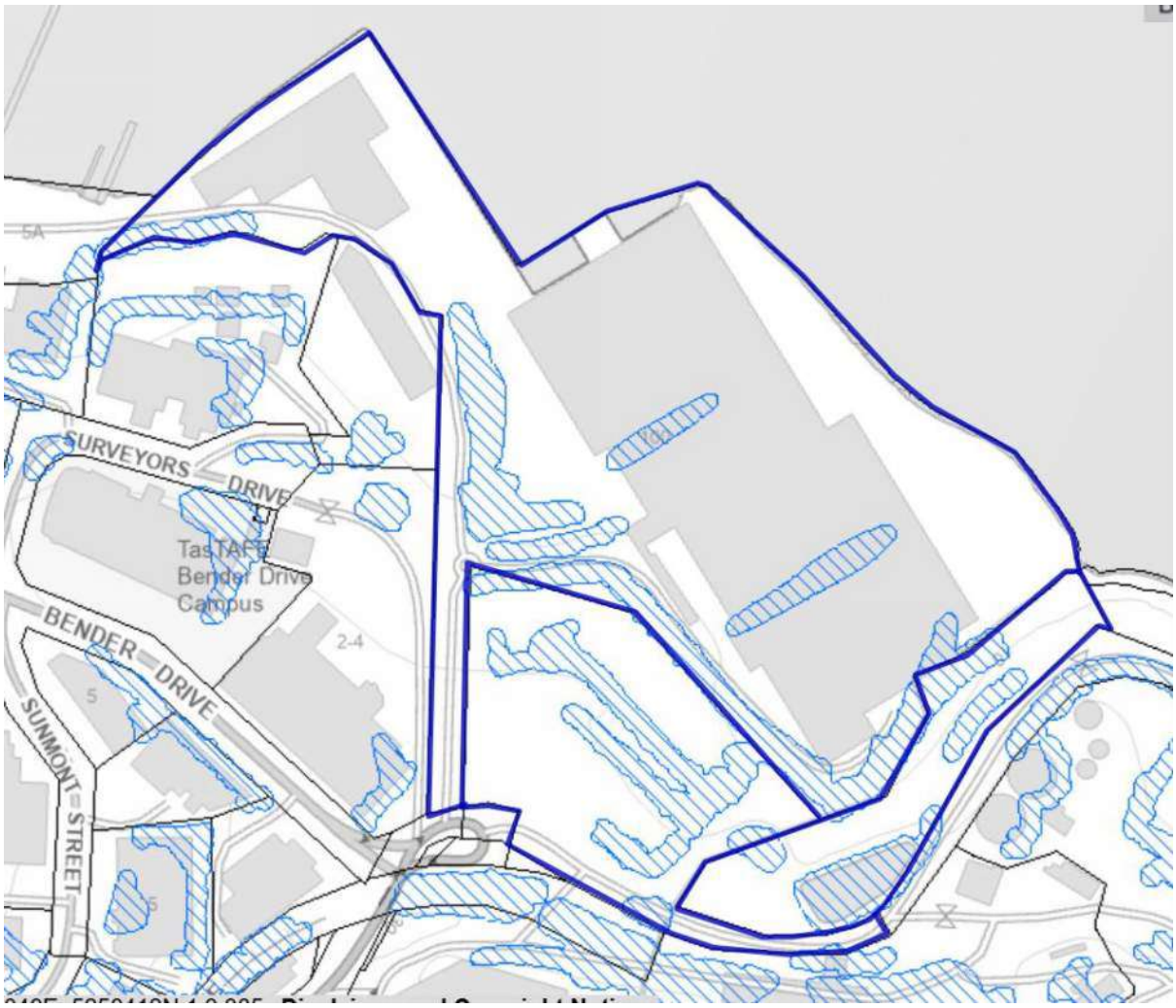

Figure.20. Flood Prone Area overlay that affects the subject site shown in blue diagonal stripes. No portions of the overlay are located in the proposed development site. Source: TheLIST, sourced March 2026. No nominated scale.

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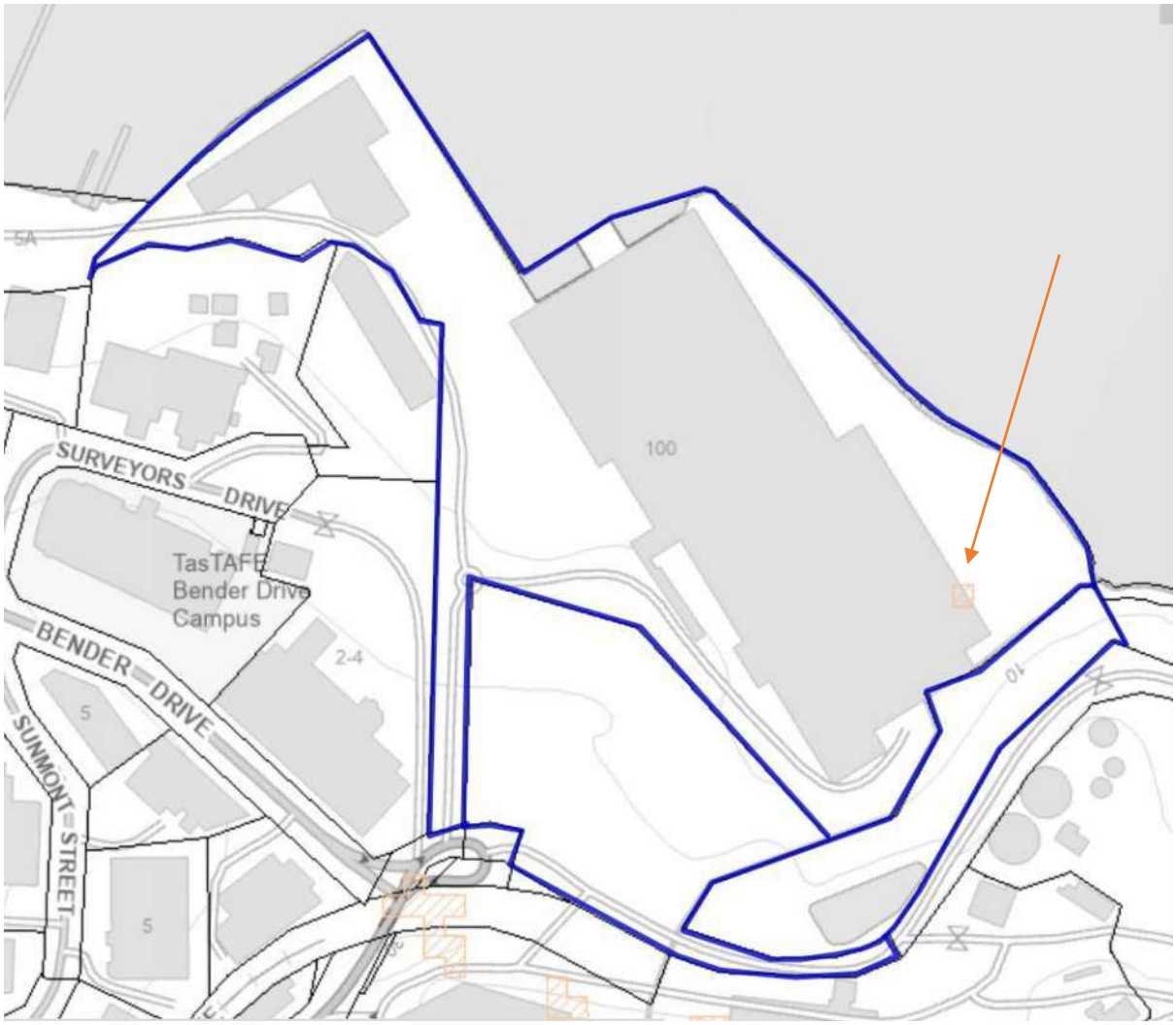

<u>Figure.21.</u> A very small portion of Medium risk Landslide Hazard area highlighted in orange. This small area of overlay is not located in the proposed development site. Source: TheLIST, sourced March 2026. No nominated scale.

The implications of the above overlays are discussed in more detail within the Codes section of this report.

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12 Planning Scheme Codes to apply to the proposed development, boat building use and subdivision

Comment has been provided under each Planning Scheme Code:

12.1 C1.0 Signs Code

C1.0 Signage Code

This Code applies to new signage. The proposed Eastern Elevation of the new boat building shed has lettering proposed along its entire length. This Code is therefore applicable to the proposed development. This sign is not proposed to be illuminated.

No traffic or directional signage is proposed.

The closest sign type for the proposed sign is a 'wall sign'.

Comments are provided against each of the following applicable clauses.

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C1.6.1 Design and siting of signs

Objective:	That: (a) signage is well designed and sited; and (b) signs do not contribute to visual clutter or cause an unreasonable loss of visual amenity to the surrounding area.

Acceptable Solutions	**Performance Criteria**
A1 A sign must: (a) be located within the applicable zone for the relevant sign type set out in Table C1.6; and (b) meet the sign standards for the relevant sign type set out in Table C1.6, excluding for the following sign types, for which there is no Acceptable Solution: (i) roof sign; (ii) sky sign; and (iii) billboard.	**P1.1** A sign must: (a) be located within an applicable zone for the relevant sign type as set out in Table C1.6; and (b) be compatible with the streetscape or landscape, having regard to: (i) the size and dimensions of the sign; (ii) the size and scale of the building upon which the sign is proposed; (iii) the amenity of surrounding properties; (iv) the repetition of messages or information; (v) the number and density of signs on the site and on adjacent properties; and (vi) the impact on the safe and efficient movement of vehicles and pedestrians. **P1.2** If a roof sign, sky sign or billboard, the sign must: (a) be located within the applicable zone for the relevant sign type set out in Table C1.6; (b) meet the sign standards for the relevant sign type in Table C1.6; and (c) not contribute to visual clutter or cause unreasonable loss of amenity to the surrounding area, having regard to: (i) the size and dimensions of the sign;

Planning Comment:

In terms of the A1 Acceptable Solution, a 'wall sign' is an appropriate sign for the General Industrial zone as per Table C1.6.

The relevant sign provisions for 'wall signs' under Table C1.6 are:

Must: (a) must not extend beyond the wall or above the top of the wall to which it is attached; (b) have a maximum area of 4.5m²; and (c) must not occupy more than 25% of the wall area.

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The proposed signage does not occupy more than 25% of the eastern façade wall area, does not extend beyond the wall or above the top of the wall but obvioiusly does exceed 4.5sqm in area.

Comments are provided against the P1.1 Performance Criteria (P1.2 is not applicable):

P1.1

A sign must:

(a) be located within an applicable zone for the relevant sign type as set out in Table C1.6; and

Planning Comment:

The sign is to be located within the wall (as part of the wall cladding) of a building predominantly located within the General Industrial zone which is an applicable zone under Table C1.6.

(b) be compatible with the streetscape or landscape, having regard to:

Planning Comment:

The proposed sign is to be located within a streetscape setting with a landscape (maritime) backdrop.

The sign will predominantly blend into the 'Surfmist' cladding of the proposed new shed due to the opaque material to be used for the sign lettering. Effectively, each letter will behave like a skylight or opaque window, letting in natural light inside the building.

The appearance of the proposed sign will be largely a visually subtle one because of the similarity of materials and colours to be used for both the sign cladding and the surrounding wall cladding.

The sign is to be located within an industrial backdrop and will be a visually subtle inclusion into this setting.

(i) the size and dimensions of the sign;

Planning Comment:

Given the visually subtle appearance the sign will have, the overall large scale of the letters and their extent will not be incompatible in its setting.

(ii) the size and scale of the building upon which the sign is proposed;

Planning Comment:

The sign is consistent and compatible with the size and scale of the building upon which it will be located.

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Again, because of the clever design of the sign (which will effectively act as natural skylights into the boat building shed), its visual appearance will be subtle and most of the time will largely blend with the 'Surfmist' cladding surrounding the letters.

(iii) the amenity of surrounding properties;

Planning Comment:

The surrounding properties are all industrial and the sign faces outwards to the River Derwent. There will be no adverse impact whatsoever on surrounding industrial properties.

In terms of residential properties to the east, across the Derwent River there will be no adverse minimal impact on residential amenity due to the distance of these properties to the proposed sign (more than 500m) and due to the sign being predominantly not backlit (as internal lights are not used during daylight hours) and therefore will largely blend into the surrounding 'Surfmist' wall cladding.

The only time the sign would be visually prominent would be when internal lighting is on and outside is dark and this will create an accentuated visual effect in the same manner that lights being on inside a house highlights windows.

The surrounding area is already very well illuminated at all hours, particularly the Nyrstar sites. The proposed signage will not be a noticeable or adverse visual addition to this highly illuminated environment.

(iv) the repetition of messages or information;

Planning Comment:

There are no other signs at the Incat sites with the wording 'Incat Electric'. There is, therefore, no repetition of messaging or information.

(v) the number and density of signs on the site and on adjacent properties; and

Planning Comment:

Incat has very few signs located within the sites is occupies and uses. It is considered that the proposed sign will not lead to visual clutter or a proliferation of any signage within the subject site or adjacent properties.

(vi) the impact on the safe and efficient movement of vehicles and pedestrians.

Planning Comment:

The proposed sign will have no impact on the safe and efficient movement of vehicles and pedestrians as it faces the waterfront of the subject site.

The proposed sign will have no adverse impact on maritime traffic or boat navigation as it will not mimic maritime direction signage or lighting and will not obstruct views of these.

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A2 A sign must be not less than 2m from the boundary of any lot in the General Residential Zone, Inner Residential Zone, Low Density Residential Zone, Rural Living Zone or Landscape Conservation Zone.	**P2** A sign must not cause an unreasonable loss of amenity to adjoining residential properties, having regard to: (a) the topography of the site and the surrounding area; (b) the relative location of buildings, habitable rooms of dwellings and private open space; (c) any overshadowing; and (d) the nature and type of the sign.

Planning Comment:

The proposed sign is not located in any of these zones and therefore this clause is not applicable.

A3 The number of signs for each business or tenancy on a road frontage of a building must be no more than: (a) 1 of each sign type, unless otherwise stated in Table C1.6; (b) 1 window sign for each window; (c) 3 if the street frontage is less than 20m in length; and (d) 6 if the street frontage is 20m or more, excluding the following sign types, for which there is no limit: (i) name plate; and (ii) temporary sign.	**P3** The number of signs for each business or tenancy on a street frontage must: (a) not unreasonably increase in the existing level of visual clutter in the streetscape, and where possible, reduce any existing visual clutter in the streetscape by replacing existing signs with fewer, more effective signs; and (b) not involve the repetition of messages or information.

Planning Comment:

No other signs (including wall signs) face the eastern River Derwent frontage. Therefore, this clause is complied with.

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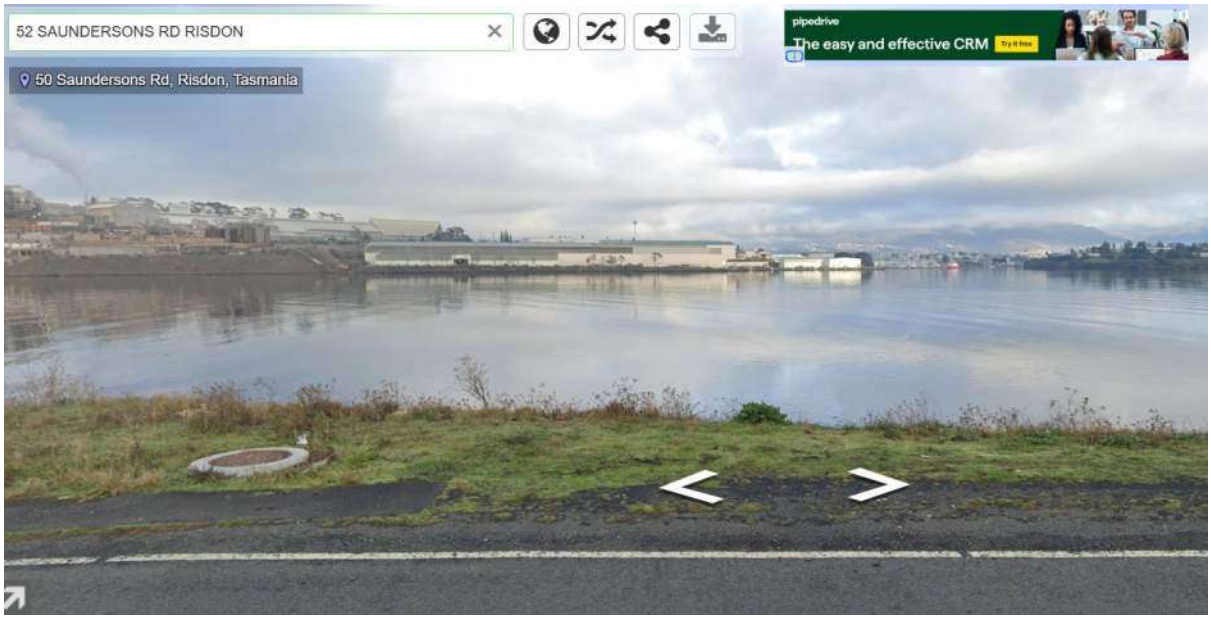

Figure.22. View from Saundersons Road at Risdon (adjacent to 52 Saundersons Road) showing no wall signs along the river facing frontage of the Incat site. Source: Instant Streetview, sourced December 2025. No image modification.

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C1.6.2 Illuminated signs

Objective:	That: (a) illuminated signs are compatible with the streetscape; (b) the cumulative impact of illuminated signs on the character of the area is managed, including the need to avoid visual disorder or clutter of signs; and (c) any potential negative impacts of illuminated signs on road safety and pedestrian movement are minimised.

Acceptable Solutions	Performance Criteria
A1 No Acceptable Solution.	**P1** An illuminated sign must not cause an unreasonable loss of amenity to adjacent properties or have an unreasonable effect on the safety, appearance or efficiency of a road, and must be compatible with the streetscape, having regard to: (a) the location of the sign; (b) the size of the sign; (c) the intensity of the lighting; (d) the hours of operation of the sign; (e) the purpose of the sign; (f) the sensitivity of the area in terms of view corridors, the natural environment and adjacent residential amenity; (g) the intended purpose of the changing message of the sign; (h) the percentage of the sign that is illuminated with changing messages; (i) proposed dwell time; and (j) whether the sign is visible from the road and if so the proximity to and impact on an electronic traffic control device.

Planning Comment:

While the proposed 'Incat Electric' sign is not illuminated per se, the construction materials will provide for an illuminated effect, much like internal lighting streaming through a window in a house.

The surrounding properties are all industrial and the sign faces outwards to the River Derwent. There will be no adverse impact whatsoever on surrounding industrial properties.

In terms of residential properties to the east, across the Derwent River there will be no adverse minimal impact on residential amenity due to the distance of these properties to

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the proposed sign (more than 500m) and due to the sign being predominantly not backlit and therefore blending into the surrounding 'Surfmist' wall cladding.

The only time the sign would be visually prominent would be when internal lighting is on and outside is dark and this will create an accentuated visual affect in the same manner that lights being on inside a house does with windows.

The surrounding area is already very well illuminated at all hours, particularly the Nyrstar sites. The proposed signage will not be a noticeable addition to this highly illuminated environment.

It is considered the proposed sign is not problematic under any of the P1 Performance Criteria.

A2 An illuminated sign visible from public places in adjacent roads must not create the effect of flashing, animation or movement, unless it is providing direction or safety information.	**P2** No Performance Criterion.

Planning Comment:

The proposed sign is visible from public places but does not create any flashing, animation or movement effects. The A2 Acceptable Solution is therefore complied with.

C1.6.3 Third party sign

Planning Comment:

The proposed sign is not a third party sign and therefore this clause does not apply.

C1.6.4 Signs on local heritage places and in local heritage precincts and local historic landscape precincts

Planning Comment:

The proposed sign is not on a local heritage place, local heritage precinct or a local landscape precinct and therefore this clause does not apply.

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12.2 C2.0 Parking and Sustainable Transport Code

C2.0 Parking and Sustainable Transport Code

Under Table C2.1, the following is the car parking requirement for Manufacturing and Processing uses:

Manufacturing and Processing	1 space per 200m² of floor area or 2 spaces per 3 employees, whichever is greater	1 space per 5 employees

The above requires 1 space per 200sqm of floor area or 2 spaces per 3 employees whichever is the greater.

On the Incat site, the following building areas are existing and/pr proposed:

Existing sheds at 100 Derwent Park Road:

FACTORY 9999.0sqm

HARD STANDING 9100.0sqm

FACTORY 7500.0sqm

Total spaces required:

26,599sqm = 132.995 spaces rounded up to 133 spaces

Existing shed at 13 Surveyors Road:

WAREHOUSE 1163sqm

Total spaces required:

1163sqm = 5.815 rounded up to 6 spaces

Proposed new shed at 100 Derwent Park Road"

NEW SHED 4897.2sqm plus 1224.3 roof area over wet dock = 6121.5 of new roofed area

Total spaces required:

6121.5sqm = 30.6 spaces rounded up to 31

Total spaces based on existing and proposed floor areas = 170 car parking spaces.

In terms of staff, 2 spaces per 3 employees, there are 380 existing staff (minus staff at the Inches site at 18 Bender Drive) which is proposed to increase by an additional 180 staff.

Existing staff: 470

Adding a further 180 new staff:

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Minus staff at Inches site (18 Bender Drive): 90

Total proposed staff in this DA working from 100 Derwent Park Road: 560 staff

150 transported by bus to and from the site at 100 Derwent Park Road.

Planning Scheme requires: 2 spaces per 3 staff (this is a greater minimum requirement than spaces per sqm of floor area)

Parking spaces required by development:

373.3 rounded up to 374 spaces

The updated proposal plans show a total of 374 car parking spaces spread throughout the subject site and this complies with the 374 spaces required.

Comments are provided against each clause in this Code:

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C2.5.1 Car parking numbers

Objective:	That an appropriate level of car parking spaces are provided to meet the needs of the use.

Acceptable Solutions	**Performance Criteria**
A1 The number of on-site car parking spaces must be no less than the number specified in Table C2.1, less the number of car parking spaces that cannot be provided due to the site including container refund scheme space, excluding if: (a) the site is subject to a parking plan for the area adopted by council, in which case parking provision (spaces or cash-in-lieu) must be in accordance with that plan; (b) the site is contained within a parking precinct plan and subject to Clause C2.7; (c) the site is subject to Clause C2.5.5; or (d) it relates to an intensification of an existing use or development or a change of use where: (i) the number of on-site car parking spaces for the existing use or development specified in Table C2.1 is greater than the number of car parking spaces specified in Table C2.1 for the proposed use or development, in which case no additional on-site car parking is required; or (ii) the number of on-site car parking spaces for the existing use or development specified in Table C2.1 is less than the number of car parking spaces specified in Table C2.1 for the proposed use or development, in which case on-site car parking must be calculated as follows: N = A + (C- B) N = Number of on-site car parking spaces required A = Number of existing on site car parking spaces B = Number of on-site car parking spaces required for the existing use or development specified in Table C2.1 C= Number of on-site car parking spaces	**P1.1** The number of on-site car parking spaces for uses, excluding dwellings, must meet the reasonable needs of the use, having regard to: (a) the availability of off-street public car parking spaces within reasonable walking distance of the site; (b) the ability of multiple users to share spaces because of: (i) variations in car parking demand over time; or (ii) efficiencies gained by consolidation of car parking spaces; (c) the availability and frequency of public transport within reasonable walking distance of the site; (d) the availability and frequency of other transport alternatives; (e) any site constraints such as existing buildings, slope, drainage, vegetation and landscaping; (f) the availability, accessibility and safety of on-street parking, having regard to the nature of the roads, traffic management and other uses in the vicinity; (g) the effect on streetscape; and (h) any assessment by a suitably qualified person of the actual car parking demand determined having regard to the scale and nature of the use and development. **P1.2** The number of car parking spaces for dwellings must meet the reasonable needs of the use, having regard to: (a) the nature and intensity of the use and car parking required; (b) the size of the dwelling and the number of bedrooms; and (c) the pattern of parking in the surrounding area.

Planning Comment:

The minimum number of car parking spaces has been calculated at 374 spaces. This clause has been address in the submitted TIA prepared by Midson Traffic.

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The proposal provides a compliant number of car parking spaces throughout the site, as per the updated JMG plans.

On this basis, the proposal complies with the A1 Acceptable Solution.

C2.5.2 Bicycle parking numbers

Objective:	That an appropriate level of bicycle parking spaces are provided to meet the needs of the use.
Acceptable Solutions	**Performance Criteria**
A1 Bicycle parking spaces must: (a) be provided on the site or within 50m of the site; and (b) be no less than the number specified in Table C2.1.	**P1** Bicycle parking spaces must be provided to meet the reasonable needs of the use, having regard to: (a) the likely number of users of the site and their opportunities and likely need to travel by bicycle; and (b) the availability and accessibility of existing and any planned parking facilities for bicycles in the surrounding area.

Planning Comment:

Table C2.1 requires 1 space per 5 employees for Manufacturing and Processing uses. The proposal seeks approval for up to 650 staff.

This means 130 bicycle spaces are required.

The JMG plans nominate 10 bicycle spaces. Incat undertook a survey of staff and less than half a dozen ever travelled to work using a bicycle.

The provision of 10 bicycle parking spaces is not considered problematic against the P1 Performance Criteria as the site is located within an Industrial area with limited opportunities to travel by bicycle due to a lack of bicycle infrastructure in the area. There is also a lack of connectivity to bicycle infrastructure in the area.

There is more than sufficient car parking spaces provided to meet staff needs. On any given day at any given time, the Incat car parking spaces are not fully occupied.

It is considered that the provisions of 10 bicycle parking spaces is reasonable and acceptable for the nature of the use and its location given the lack of connectivity to cycling infrastructure.

Incat have however flagged that they are happy to provide more spaces by way of a planning permit condition if considered necessary by Council.

This clause has been address in the submitted TIA prepared by Midson Traffic.

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C2.5.3 Motorcycle parking numbers

Objective:	That the appropriate level of motorcycle parking is provided to meet the needs of the use.
Acceptable Solutions	**Performance Criteria**
A1 The number of on-site motorcycle parking spaces for all uses must: (a) be no less than the number specified in Table C2.4; and (b) if an existing use or development is extended or intensified, the number of on-site motorcycle parking spaces must be based on the proposed extension or intensification, provided the existing number of motorcycle parking spaces is maintained.	**P1** Motorcycle parking spaces for all uses must be provided to meet the reasonable needs of the use, having regard to: (a) the nature of the proposed use and development; (b) the topography of the site; (c) the location of existing buildings on the site; (d) any constraints imposed by existing development; and (e) the availability and accessibility of motorcycle parking spaces on the street or in the surrounding area.

Planning Comment:

Table C2.4 requires the following:

Table C2.4 Motorcycle Parking Space Requirements

Number of car parking spaces required for a use	Number of motorcycle parking spaces required for a use
0-20	No requirement
21-40	1 space
41 or more	1 space for every additional 20 car parking spaces required

Planning Comment:

For uses requiring more than 41 spaces, 1 space for every additional 20 car parking spaces is required.

The updated JMG plans show a total of 14 motorcycle spaces.

There is no requirement for the first 20 car parking spaces.

The development requires a minimum 374 car parking spaces.

This equates to 17.7 motorcycle spaces, rounded up to 18 spaces.

The proposal must be assessed against the P1 Performance Criteria.

Incat undertook a survey of staff and less than a dozen opt to travel to work using a motorcycle.

The provisions of 14 motorcycle parking spaces is not considered problematic against the P1 Performance Criteria as the site is located within an Industrial area with a majority of staff working shifts that either start at 6am or late at night/early in the morning.

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There is more than sufficient can parking spaces provided to meet staff needs.

It is considered that the provisions of 14 motorcycle parking spaces is acceptable for the nature of the use and its location as well as the nature of the work and work hours.

Many staff lift share and this is probably a reason why Incat parking spaces are never fully occupied.

Incat have however flagged that they are happy to provide more motorcycle parking spaces by way of a planning permit condition if considered necessary by Council.

This clause has been address in the submitted TIA prepared by Midson Traffic.

C2.5.4 Loading Bays

Objective:	That adequate access for goods delivery and collection is provided, and to avoid unreasonable loss of amenity and adverse impacts on traffic flows.
Acceptable Solutions	**Performance Criteria**
A1 A loading bay must be provided for uses with a floor area of more than 1000m² in a single occupancy.	**P1** Adequate space for loading and unloading of vehicles must be provided, having regard to: (a) the type of vehicles associated with the use; (b) the nature of the use; (c) the frequency of loading and unloading; (d) the location of the site; (e) the nature of traffic in the surrounding area; (f) the area and dimensions of the site; and (g) the topography of the site; (h) the location of existing buildings on the site; and (i) any constraints imposed by existing development.

Planning Comment:

The updated JMG plans do not include loading bay areas. The building has been designed to enable light vehicle access into the new building. The vehicles accessing the building will be small forklift trucks and utes.

This clause has been address in the submitted TIA prepared by Midson Traffic.

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C2.5.5 Number of car parking spaces within the General Residential Zone and Inner Residential Zone

Planning Comment:

Not relevant as the subject site is not a Residential zoning.

C2.6.1 Construction of parking areas

Objective:	That parking areas are constructed to an appropriate standard.
Acceptable Solutions	**Performance Criteria**
A1 All parking, access ways, manoeuvring and circulation spaces must: (a) be constructed with a durable all weather pavement; (b) be drained to the public stormwater system, or contain stormwater on the site; and (c) excluding all uses in the Rural Zone, Agriculture Zone, Landscape Conservation Zone, Environmental Management Zone, Recreation Zone and Open Space Zone, be surfaced by a spray seal, asphalt, concrete, pavers or equivalent material to restrict abrasion from traffic and minimise entry of water to the pavement.	**P1** All parking, access ways, manoeuvring and circulation spaces must be readily identifiable and constructed so that they are useable in all weather conditions, having regard to: (a) the nature of the use; (b) the topography of the land; (c) the drainage system available; (d) the likelihood of transporting sediment or debris from the site onto a road or public place; (e) the likelihood of generating dust; and (f) the nature of the proposed surfacing.

Planning Comment:

The proposal plans by JMG show existing car parking areas and new car parking spaces.

The updated JMG plans show the construction of new parking spaces.

This clause has been address in the submitted TIA prepared by Midson Traffic.

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C2.6.2 Design and layout of parking areas

Objective:	That parking areas are designed and laid out to provide convenient, safe and efficient parking.

Acceptable Solutions	**Performance Criteria**
A1.1 Parking, access ways, manoeuvring and circulation spaces must either: (a) comply with the following: (i) have a gradient in accordance with *Australian Standard AS 2890 - Parking facilities, Parts 1-6*; (ii) provide for vehicles to enter and exit the site in a forward direction where providing for more than 4 parking spaces; (iii) have an access width not less than the requirements in Table C2.2; (iv) have car parking space dimensions which satisfy the requirements in Table C2.3; (v) have a combined access and manoeuvring width adjacent to parking spaces not less than the requirements in Table C2.3 where there are 3 or more car parking spaces; (vi) have a vertical clearance of not less than 2.1m above the parking surface level; and (vii) excluding a single dwelling, be delineated by line marking or other clear physical means; or (b) comply with *Australian Standard AS 2890-Parking facilities, Parts 1-6.* **A1.2** Parking spaces provided for use by persons with a disability must satisfy the following: (a) be located as close as practicable to the main entry point to the building; (b) be incorporated into the overall car park design; and (c) be designed and constructed in accordance with *Australian/New Zealand Standard AS/NZS 2890.6:2009 Parking facilities, Off-street parking for people with disabilities.*[1]	**P1** All parking, access ways, manoeuvring and circulation spaces must be designed and readily identifiable to provide convenient, safe and efficient parking, having regard to: (a) the characteristics of the site; (b) the proposed slope, dimensions and layout; (c) useability in all weather conditions; (d) vehicle and pedestrian traffic safety; (e) the nature and use of the development; (f) the expected number and type of vehicles; (g) the likely use of the parking areas by persons with a disability; (h) the nature of traffic in the surrounding area; (i) the proposed means of parking delineation; and (j) the provisions of *Australian Standard AS 2890.1:2004 - Parking facilities, Part 1: Off-street car parking* and *AS 2890.2 -2002 Parking facilities, Part 2: Off-street commercial vehicle facilities.*

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Planning Comment:

The proposal plans show the location and number of all existing car parking areas. This clause has been address in the submitted TIA prepared by Midson Traffic.

C2.6.3 Number of accesses for vehicles

Objective:	That: (a) access to land is provided which is safe and efficient for users of the land and all road network users, including but not limited to drivers, passengers, pedestrians and cyclists by minimising the number of vehicle accesses; (b) accesses do not cause an unreasonable loss of amenity of adjoining uses; and (c) the number of accesses minimise impacts on the streetscape.

Acceptable Solutions	Performance Criteria
A1 The number of accesses provided for each frontage must: (a) be no more than 1; or (b) no more than the existing number of accesses, whichever is the greater.	**P1** The number of accesses for each frontage must be minimised, having regard to: (a) any loss of on-street parking; and (b) pedestrian safety and amenity; (c) traffic safety; (d) residential amenity on adjoining land; and (e) the impact on the streetscape.
A2 Within the Central Business Zone or in a pedestrian priority street no new access is provided unless an existing access is removed.	**P2** Within the Central Business Zone or in a pedestrian priority street, any new accesses must: (a) not have an adverse impact on: (i) pedestrian safety and amenity; or (ii) traffic safety; and (b) be compatible with the streetscape.

Planning Comment:

Access arrangement will remain unchanged as a result of the boat building proposal and therefore this clause is not relevant. This clause has been address in the submitted TIA prepared by Midson Traffic.

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C2.6.4 Lighting of parking areas within the General Business Zone and Central Business Zone

Planning Comment:

Not relevant as the subject sites are not zoned General Business or Central Business.

C2.6.5 Pedestrian access

Objective:	That pedestrian access within parking areas is provided in a safe and convenient manner.
Acceptable Solutions	**Performance Criteria**
A1.1 Uses that require 10 or more car parking spaces must: (a) have a 1m wide footpath that is separated from the access ways or parking aisles, excluding where crossing access ways or parking aisles, by: (i) a horizontal distance of 2.5m between the edge of the footpath and the access way or parking aisle; or (ii) protective devices such as bollards, guard rails or planters between the footpath and the access way or parking aisle; and (b) be signed and line marked at points where pedestrians cross access ways or parking aisles. **A1.2** In parking areas containing accessible car parking spaces for use by persons with a disability, a footpath having a width not less than 1.5m and a gradient not steeper than 1 in 14 is required from those spaces to the main entry point to the building.	**P1** Safe and convenient pedestrian access must be provided within parking areas, having regard to: (a) the characteristics of the site; (b) the nature of the use; (c) the number of parking spaces; (d) the frequency of vehicle movements; (e) the needs of persons with a disability; (f) the location and number of footpath crossings; (g) vehicle and pedestrian traffic safety; (h) the location of any access ways or parking aisles; and (i) any protective devices proposed for pedestrian safety.

Planning Comment:

The proposal plans detail the location and number of all existing and proposed car parking areas across the three titles that make up the development site.

Existing parking areas have large aisle areas to enable safe pedestrian movement.

This clause has been address in the submitted TIA prepared by Midson Traffic.

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C2.6.6 Loading bays

Objective:	That the area and dimensions of loading bays are adequate to provide safe and efficient delivery and collection of goods.

Acceptable Solutions	**Performance Criteria**
A1 The area and dimensions of loading bays and access way areas must be designed in accordance with *Australian Standard AS 2890.2–2002, Parking facilities, Part 2: Off-street commercial vehicle facilities*, for the type of vehicles likely to use the site.	**P1** Loading bays must have an area and dimensions suitable for the use, having regard to: (a) the types of vehicles likely to use the site; (b) the nature of the use; (c) the frequency of loading and unloading; (d) the area and dimensions of the site; (e) the topography of the site; (f) the location of existing buildings on the site; and (g) any constraints imposed by existing development.
A2 The type of commercial vehicles likely to use the site must be able to enter, park and exit the site in a forward direction in accordance with *Australian Standard AS 2890.2 – 2002, Parking Facilities, Part 2: Parking facilities - Off-street commercial vehicle facilities.*	**P2** Access for commercial vehicles to and from the site must be safe, having regard to: (a) the types of vehicles associated with the use; (b) the nature of the use; (c) the frequency of loading and unloading; (d) the area and dimensions of the site; (e) the location of the site and nature of traffic in the area of the site; (f) the effectiveness or efficiency of the surrounding road network; and (g) site constraints such as existing buildings, slope, drainage, vegetation, parking and landscaping.

Planning Comment:

The updated JMG proposal plans have been designed to comply with both the A1 and A2 Acceptable Solution.

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C2.6.7 Bicycle parking and storage facilities within the General Business Zone and Central Business Zone

Planning Comment:

Not relevant as the subject site is zoned General Industrial.

C2.6.8 Siting of parking and turning areas

Planning Comment:

The proposal plans from JMG show existing car parking areas and proposed new spaces. This clause has been address in the submitted TIA prepared by Midson Traffic.

C2.7.1 Parking precinct plan

Planning Comment:

Not relevant as the subject site is not located within a Parking Precinct plan.

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12.3 C3.0 Road and Railway Assets Code

C3.0 Road and Railway Assets Code

This Code will apply in terms of any alteration of the access point into the subject site and will also apply where an entirely new access point is required.

None are proposed.

The Code also applies to traffic generation.

The proposal seeks approval for a further 180 new staff to be added to work in the new boat building shed across the morning and afternoon/evening shifts.

As previously outlined in this report, staff numbers and shifts are staggered to ensure that all staff are not on the site at any one time but rather staff numbers are staggered to avoid an overlap of knockoff with log on for shifts to minimise traffic movements and avoid congestion.

This Code has been address in the submitted TIA prepared by Midson Traffic in terms of traffic movements.

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C3.5 Use Standards

C3.5.1 Traffic generation at a vehicle crossing, level crossing or new junction

Objective:	To minimise any adverse effects on the safety and efficiency of the road or rail network from vehicular traffic generated from the site at an existing or new vehicle crossing or level crossing or new junction.

Acceptable Solutions	**Performance Criteria**
A1.1 For a category 1 road or a limited access road, vehicular traffic to and from the site will not require: (a) a new junction; (b) a new vehicle crossing; or (c) a new level crossing. **A1.2** For a road, excluding a category 1 road or a limited access road, written consent for a new junction, vehicle crossing, or level crossing to serve the use and development has been issued by the road authority. **A1.3** For the rail network, written consent for a new private level crossing to serve the use and development has been issued by the rail authority. **A1.4** Vehicular traffic to and from the site, using an existing vehicle crossing or private level crossing, will not increase by more than: (a) the amounts in Table C3.1; or (b) allowed by a licence issued under Part IVA of the *Roads and Jetties Act 1935* in respect to a limited access road. **A1.5** Vehicular traffic must be able to enter and leave a major road in a forward direction.	**P1** Vehicular traffic to and from the site must minimise any adverse effects on the safety of a junction, vehicle crossing or level crossing or safety or efficiency of the road or rail network, having regard to: (a) any increase in traffic caused by the use; (b) the nature of the traffic generated by the use; (c) the nature of the road; (d) the speed limit and traffic flow of the road; (e) any alternative access to a road; (f) the need for the use; (g) any traffic impact assessment; and (h) any advice received from the rail or road authority.

Planning Comment:

Of the above, only A1.4 is relevant to the proposal. A1.5 is met as all exiting parking spaces are able to leave the subject site (not a major road in any case) in a forward direction.

Under Table C3.1, the following increase in traffic cannot be exceeded in order to meet A1.4:

20% or 40 vehicle movements per day, whichever is the greater

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The following provides information about proposed staffing numbers, hours of operation and shift staggering:

Current and proposed staff numbers

Currently the number of staff working at Incat is 470. This proposal for a new boat building shed seeks approval for an additional 180 staff, to be spread across 2 shifts.

The maximum staff across Incat will be 650 staff, spread across 2 shifts. 90 of these staff are located at the Inches site at 18 Bender Drive.

On the 100 Derwent Park Road site this will be up to 560 staff (minus the 90 at the Inches site where there are 106 parking spaces available).

An increase in hours of operation is also being sought as part of the application.

Parking for the development has been based on the following numbers:

Existing staff: 470

Adding a further 180 new staff:

Minus staff at Inches site: 90

Total proposed staff in this DA: 560

150 bussed in to site.

Planning Scheme requirement of: 2 spaces per 3 staff

Parking spaces required by development against Planning Scheme:

373.3 rounded up to 374 car parking spaces

18 motorcycles spaces required

374 minimum spaces required for development based on Planning Scheme requirement

- 348 spaces are in previously approved Nystar carpark in 1999
- Plus 8 visitor previously approved in 1999 and existing
- Plus 3 disabled approved in 1999 and existing

Current Operating Hours

6.00am – 1.30am Monday – Thursday inclusive (for those staff who do 4 day a week)

6.00am – 4.30pm Friday (for those staff who do 5 days per week)

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6.00am – 11.30pm Saturday and Sunday

Proposed Operating Hours

6.00am – 1.30am Monday – Sunday inclusive (not Public Holidays as the current EBA does not allow work on Public Holidays)

Shifts

There are 2 shifts per day. There is a morning shift and an afternoon shift. The shift hours depend on whether staff work a 4 or 5 day week.

All morning shifts start 6:00am.

For those who do a 4 day week, the morning shift finishes at 4:20pm.

For those who do a 5 day week, the morning shift finishes at 2:20pm.

Currently, there are up to 430 staff doing the morning shifts total.

The number of people doing morning shifts is proposed to increase to 520.

For afternoon/evening shifts, these start at 3:30pm and finish by 1:30am the following morning.

Currently, there are up to 40 staff doing the afternoon/evening shift in total.

The number of people doing the afternoon/evening shift is proposed to increase to 130.

The morning shift knock off time is staggered so that those who do a 5 day week finish by 2:20pm and do not overlap with the arrival of afternoon shift staff who commence at 3:30pm.

Those who work the 4 day week and do the morning shift have a slight overlap with those arriving for the afternoon shift. Currently, 220 staff who do the 4 day work week finish their morning shift at 4:20pm which is after afternoon shift workers have arrived at 3:30pm.

Where there is an overlap between morning and afternoon shifts, there are up to 260 staff on site between 3:30pm and 4:20pm for less than an hour. This is proposed to increase to 430 staff being on site between 3:30pm and 4:20pm.

This staggering of shifts is shown in the below table provided by Incat.

The staggering of shifts is shown in the table below.

Shift	Timing	Current Staff	Proposed Staff	Historical Peak Resourcing

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Morning (5 day week)	**0600am – 1420pm**	**Up to 110 staff**	**Up to 140 staff**	**Up to 900 staff**
Morning 4 Day week)	**0600am – 1620pm**	**Up to 220 staff**	**Up to 300 staff**	**Up to 150 staff**
Afternoon/evening	**1530am – 0130pm**	**Up to 40 staff**	**Up to 130 staff**	**Up to 150 staff**

The staggering of shifts is something Incat has long done with its workforce to provide flexible days per week. This also works well with car parking availability to ensure sufficient on site parking spaces available for staff.

Most staff drive by private car with many lift sharing. Some walk or catch public transport, less than half a dozen ride a bike (bicycle) while around 10-12 max ride motorcycles.

Of the 180 new staff to be employed, 150 will live off site in arranged accommodation and will be transported to 100 Derwent Park Road by buses arrange by Incat – JMG to confirm location of bus stop.

Parking

Proposed total:

348 car spaces in Nyrstar carpark approved under 71-98 (existing)

8 visitor car spaces approved under 71-98 (existing)

4 new disabled car spaces (these replace the 3 spaces approved under 71-98);

16 new car parking spaces

= 376 car parking spaces to be provided

Plus 14 new motorcycle parking spaces

Plus 10 new bicycle spaces in rack(s)

The P1 Performance Criteria apply and have been commented against as follows:

P1

Vehicular traffic to and from the site must minimise any adverse effects on the safety of a junction, vehicle crossing or level crossing or safety or efficiency of the road or rail network, having regard to:

Planning Comment:

The proposal seeks approval for an increase of up to 90 additional staff across the morning and afternoon shifts.

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The increase in staff for both morning and afternoon shirts each is not expected to have an adverse impact on the safety of the entrance into the site. The entrance into the Incat site is a roundabout approach which acts to slow traffic and regulate entry into the site.

The access into 100 Derwent Park Road is easily navigated and experiences no significant delays at the commencement or end of shifts. The Midson Traffic TIA has addressed staffing numbers versus shift times and staggering of shifts.

(a) any increase in traffic caused by the use;

Planning Comment:

The proposed use will only result in increase traffic numbers from additional staff. No additional deliveries to or from the site are proposed or expected.

(b) the nature of the traffic generated by the use;

Planning Comment:

The nature of traffic generated by the use is predominantly single light vehicles with a substantial number of staff lift sharing.

(c) the nature of the road;

Planning Comment:

The road access to 100 Derwent Park Road is dual carriageway, has generally level gradients and has excellent sight distances along its length.

The timing of the Incat shifts does not coincide with most other uses in the surrounding area which have a more consistent flow of traffic between 8am to 4pm in their timing.

(d) the speed limit and traffic flow of the road;

Planning Comment:

The speed and traffic flow of the traffic when observed by Gray Planning on 5 separate weekdays between 8:15am to 5pm was not congested and typically travelled below the posted speed limit of 60kmph along this section of Derwent Park Road.

The Midson Traffic TIA has provided detailed analysis on traffic flow to and from the site.

(e) any alternative access to a road;

Planning Comment:

There is no alternative access to a road.

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(f) the need for the use;

Planning Comment:

The use is already existing and currently does not result in any significant traffic congestion on the connecting road.

(g) any traffic impact assessment; and

Planning Comment:

Midson Traffic have provided a TIA which is submitted along with this V2 planning report in response to the Council RFI dated 15 January 2026.

(h) any advice received from the rail or road authority

Planning Comment:

None has yet been received.

C3.6.1 Habitable buildings for sensitive uses within a road or railway attenuation area

Planning Comment:

Not relevant as the development does not seek approval for any sensitive uses (typically defined as dwellings).

C3.7.1 Subdivision for sensitive uses within a road or railway attenuation area

Planning Comment:

Not relevant as the development does not seek approval for any sensitive uses (typically defined as dwellings) or subdivision.

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12.4 C4.0 Electricity Transmission Infrastructure Protection Code

C4.0 Electricity Transmission Infrastructure Protection Code

This Code is not relevant as it is for development and new works in an Electricity Transmission Corridor, a Communications Station Buffer Area or a Substation Facility Buffer Area. The subject site is not mapped on TheList as being affected by any overlay.

12.5 C5.0 Telecommunications Code

C5.0 Telecommunications Code

This Code is not relevant as it is for developments involving telecommunications. This proposal will instead involve a boat building (Manufacturing and Processing use class) use with the second proposal for a boundary adjustment only.

12.6 C6.0 Local Historic Heritage Code

C6.0 Local Historic Heritage Code

This Code does not apply as the subject site is not within a Heritage Precinct and is not an individually listed Heritage Place. The subject site is not affected by any overlay.

12.7 C7.0 Natural Assets Code

C7.0 Natural Assets Code

This Code will apply as the subject site at 100 Derwent Park Road is mapped within the Waterway and Coastal Protection Area overlay which extends 40m into the subject site from high watermark along the eastern boundary adjoining the River Derwent.

The following clauses will be triggered in the Natural Assets Code:

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C7.6.1 Buildings and works within a waterway and coastal protection area or a future coastal refugia area

Objective:	That buildings and works within a waterway and coastal protection area or future coastal refugia area will not have an unnecessary or unacceptable impact on natural assets.

Acceptable Solutions	**Performance Criteria**
A1 Buildings and works within a waterway and coastal protection area must: (a) be within a building area on a sealed plan approved under this planning scheme; (b) in relation to a Class 4 watercourse, be for a crossing or bridge not more than 5m in width; or (c) if within the spatial extent of tidal waters, be an extension to an existing boat ramp, car park, jetty, marina, marine farming shore facility or slipway that is not more than 20% of the area of the facility existing at the effective date.	**P1.1** Buildings and works within a waterway and coastal protection area must avoid or minimise adverse impacts on natural assets, having regard to: (a) impacts caused by erosion, siltation, sedimentation and runoff; (b) impacts on riparian or littoral vegetation; (c) maintaining natural streambank and streambed condition, where it exists; (d) impacts on in-stream natural habitat, such as fallen logs, bank overhangs, rocks and trailing vegetation; (e) the need to avoid significantly impeding natural flow and drainage; (f) the need to maintain fish passage, where known to exist; (g) the need to avoid land filling of wetlands; (h) the need to group new facilities with existing facilities, where reasonably practical; (i) minimising cut and fill; (j) building design that responds to the particular size, shape, contours or slope of the land; (k) minimising impacts on coastal processes, including sand movement and wave action; (l) minimising the need for future works for the protection of natural assets, infrastructure and property; (m) the environmental best practice guidelines in the

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	Wetlands and Waterways Works Manual; and (n) the guidelines in the *Tasmanian Coastal Works Manual*. **P1.2** Buildings and works within the spatial extent of tidal waters must be for a use that relies upon a coastal location to fulfil its purpose, having regard to: (a) the need to access a specific resource in a coastal location; (b) the need to operate a marine farming shore facility; (c) the need to access infrastructure available in a coastal location; (d) the need to service a marine or coastal related activity; (e) provision of essential utility or marine infrastructure; or (f) provisions of open space or for marine-related educational, research, or recreational facilities.

Planning Comment:

The A1 Acceptable Solution will not be able to be met by the proposal as the boat building shed and any associated slip will be partially and unavoidably located within the Waterway and Coastal Protection Area overlay.

The following comment are provided against the P1.1 Performance Criteria in addition to the marine ecological assessment prepared by Marine Solutions:

P1.1

Buildings and works within a waterway and coastal protection area must avoid or minimise adverse impacts on natural assets, having regard to:

Planning Comment:

The 'natural asset' here is the River Derwent. The proposal avoids adverse impact by minimising the degree of reclamation to the absolute minimum required to facilitate the proposal, as designed and documented in the JMG plans submitted.

All construction works will be inside the building within an entirely managed and enclosed space. Ships will only be floated into the 'wet dock' area to be internally fit out, therefore minimising emissions or impact on the River Derwent.

The proposed wharf has been designed to create a constructed edge like other wharf edges in the surrounding area to avoid erosion and minimise the impact of activity in close proximity to the river's edge with land.

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(a) impacts caused by erosion, siltation, sedimentation and runoff;

Planning Comment:

The proposed wharf has been designed by JMG to provide an appropriate constructed edge to the Incat title on the river side to avoid erosion. The proposal will not result in any siltation or sedimentation. Run off from the proposed building is proposed to be discharged to a retention drain for management.

(b) impacts on riparian or littoral vegetation;

Planning Comment:

There is no vegetation existing in the overlay area within 100 Derwent Park Road and therefore this criteria is not applicable.

(c) maintaining natural streambank and streambed condition, where it exists;

Planning Comment:

There is no natural streambank or streambed and therefore this criteria is not relevant. The subject site is within a long established area of industrial development comprising extensive wharf areas along the waterfront as well as slipways, jetties and docks.

(d) impacts on in-stream natural habitat, such as fallen logs, bank overhangs, rocks and trailing vegetation;

Planning Comment:

There is no in-stream natural habitat such as fallen logs, bank overhangs, rocks or trailing vegetation and therefore this criteria is not relevant.

(e) the need to avoid significantly impeding natural flow and drainage;

Planning Comment:

The proposed works within the overlay area will not result in any impediment to the natural flow and drainage of the River Derwent. The portion of the river where the works will be located in around 500m wide.

(f) the need to maintain fish passage, where known to exist;

Planning Comment:

The proposal will not result in any impact on fish passage given the scale of the River Derwent in comparison to the area where the reclamation/fill and building works are proposed. The portion of the River Derwent where works are to be located is more than 500m wide. This clause is more applicable where works will substantially block or impede a stream or river.

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(g) the need to avoid land filling of wetlands;

Planning Comment:

There are no wetlands and therefore this criteria is not relevant.

(h) the need to group new facilities with existing facilities, where reasonably practical;

Planning Comment:

The proposal will group the new proposed facilities where there is already existing extensive development and works within the Incat site.

(i) minimising cut and fill;

Planning Comment:

The proposal minimises cut as the plans show very little excavation being required for the proposed building.

Fill has been minimised to the absolute minimum required for the works, as designed by JMG.

(j) building design that responds to the particular size, shape, contours or slope of the land;

Planning Comment:

The proposed building follows the line of the coast and minimises intrusion into the coastal area by running parallel along the coastline.

(k) minimising impacts on coastal processes, including sand movement and wave action;

Planning Comment:

The proposed works will have no noticeable impact on coastal processes such as sand movement or wave action. The works are in a tidal area but wave action is minimised due to the length, width and depth of the River Derwent at the location where the works will occur. The River Derwent at this point is more than 500m wide and in excess of 30m in depth. The works proposed comprise a very minor encroachment into a vast river area.

(l) minimising the need for future works for the protection of natural assets, infrastructure and property;

Planning Comment:

The works including the reclamation and in particular the wharf have been designed by JMG to minimise the future works associated with the protection of natural assets, infrastructure and property. The proposed wharf will form a hard constructed edge to avoid future eroision.

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(m) the environmental best practice guidelines in the Wetlands and Waterways Works Manual; and

Planning Comment:

The proposal has been designed by JMG with the guidelines in this manual in mind.

(n) the guidelines in the Tasmanian Coastal Works Manual.

Planning Comment:

The proposal has been designed by JMG with the guidelines in this manual in mind.

P1.2

Buildings and works within the spatial extent of tidal waters must be for a use that relies upon a coastal location to fulfil its purpose, having regard to:

Planning Comment:

The proposal involves a new shed for boat building of boats that are of a substantial size. A waterfront location is required to enable the boats to move from dry dock to wet dock easily and safely.

(a) the need to access a specific resource in a coastal location;

Planning Comment:

There is no specific resource required. The boat building use is entirely dependent on having a coastal location.

(b) the need to operate a marine farming shore facility;

Planning Comment:

The proposal is not for marine farming or a shore facility.

(c) the need to access infrastructure available in a coastal location;

Planning Comment:

There is no specific infrastructure required. The boat building use and associated operations are entirely dependent on having a coastal location.

(d) the need to service a marine or coastal related activity;

Planning Comment:

The boat building use is entirely dependent on having a coastal location.

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(e) provision of essential utility or marine infrastructure; or

Planning Comment:

The boat building use is entirely dependent on having a coastal location with a dry dock being directly adjacent to a wet dock. The marine infrastructure being proposed is essential to Incat's operations as a significant Tasmanian employer and international boat manufacturer.

(f) provisions of open space or for marine-related educational, research, or recreational facilities.

Planning Comment:

The proposal does not involve open space, recreational facilities or marine related education or research.

The proposal is considered to be acceptable against all of the P1.1 and P1.2 Performance Criteria.

A marine ecological report prepared by Marine Solutions has been submitted as part of the RFI response package.

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A2 Buildings and works within a future coastal refugia area must be located within a building area on a sealed plan approved under this planning scheme.	**P2.1** Buildings and works within a future coastal refugia area must allow for natural coastal processes to continue to occur and avoid or minimise adverse impacts on natural assets, having regard to: (a) allowing for the landward transgression of sand dunes and the landward colonisation of wetlands, saltmarshes and other coastal habitats from adjacent areas; (b) avoiding the creation of barriers or drainage networks that would prevent future tidal inundation; (c) allowing the coastal processes of sand deposition or erosion to continue to occur; (d) the need to group new facilities with existing facilities, where reasonably practical; (e) the impacts on native vegetation; (f) minimising cut and fill; (g) building design that responds to the particular size, shape, contours or slope of the land; (h) the impacts of sea-level rise on natural coastal

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	processes and coastal habitat; (i) the environmental best practice guidelines in the *Wetlands and Waterways Works Manual*; and (j) the guidelines in the *Tasmanian Coastal Works Manual*. **P2.2** Buildings and works within a future coastal refugia area must be for a use that relies upon a coastal location to fulfil its purpose, having regard to: (a) the need to access a specific resource in a coastal location; (b) the need to operate a marine farming shore facility; (c) the need to access infrastructure available in a coastal location; (d) the need to service a marine or coastal related activity; (e) provision of essential utility or marine infrastructure; and (f) provision of open space or for marine-related educational, research, or recreational facilities.

Planning Comment:

This clause is not applicable as the subject site is not affected by a future coastal refugia area overlay.

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A3 Development within a waterway and coastal protection area or a future coastal refugia area must not involve a new stormwater point discharge into a watercourse, wetland or lake.	**P3** Development within a waterway and coastal protection area or a future coastal refugia area involving a new stormwater point discharge into a watercourse, wetland or lake must avoid or minimise adverse impacts on natural assets, having regard to: (a) the need to minimise impacts on water quality; and (b) the need to mitigate and manage any impacts likely to arise from erosion, sedimentation or runoff.

Planning Comment:

This clause is triggered because the subject site is affected by a Waterway and Coastal Protection Area overlay.

The A3 Acceptable Solution will be met if the development does not involve stormwater discharge into the River Derwent.

The proposal will discharge stormwater into a catch drain, as per the JMG plans.

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A4 Dredging or reclamation must not occur within a waterway and coastal protection area or a future coastal refugia area.	**P4.1** Dredging or reclamation within a waterway and coastal protection area or a future coastal refugia area must minimise adverse impacts on natural coastal processes and natural assets, having regard to: (a) impacts caused by erosion, siltation, sedimentation and runoff; (b) impacts on riparian or littoral vegetation; (c) the need to avoid land filling of wetlands; (d) impacts on sand movement and wave action; and (e) the potential for increased risk to inundation of adjacent land. **P4.2** Dredging or reclamation within a waterway and coastal protection area or a future coastal refugia area must be necessary: (a) to continue an existing use or development on adjacent land; or (b) for a use which relies upon a coastal location to fulfil its purpose, having regard to: (i) the need to access a specific resource in a coastal location; (ii) the need to operate a marine farming shore facility; (iii) the need to access infrastructure available in a coastal location; (iv) the need to service a marine or coastal related activity; (v) provision of essential utility or marine infrastructure; and (vi) provision of open space or for marine-related educational, research, or recreational facilities.

Planning Comment:

The A4 Acceptable Solution cannot be met as the proposal will involve reclamation that is partially located within a Waterway and Coastal Protection Area overlay.

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The following comments are provided against the P4.1 and P4.2 Criteria:

P4.1

Dredging or reclamation within a waterway and coastal protection area or a future coastal refugia area must minimise adverse impacts on natural coastal processes and natural assets, having regard to:

Planning Comment:

The proposed reclamation has been designed by JMG to be the minimum required to facilitate the proposed works.

No natural coastal process will be adversely affected due to the characteristics (depth, scale and extent of the river where the works are proposed.

No natural assets will be adversely affected. The fill to be used is from a clean authority source.

(a) impacts caused by erosion, siltation, sedimentation and runoff;

Planning Comment:

The proposal also seeks approval for a wharf to form a controlled edge to the waterfront to avoid any resultant erosion. No siltation or sedimentation will result from the reclamation. No run off will be triggered by the reclamation works.

(b) impacts on riparian or littoral vegetation;

Planning Comment:

There is no known riparian or littoral vegetation in the footprint of the proposed reclamation works.

(c) the need to avoid land filling of wetlands;

Planning Comment:

There are no wetlands at the subject site and therefore this criteria is not applicable.

(d) impacts on sand movement and wave action; and

Planning Comment:

The reclamation will have no impact on sand movement outside the footprint of the works and will have no impact on wave movement due to the riverine nature of the river at this point which is tidal but not subject to any significant wave action.

The River Derwent is more than 500m wide at the location where the works will occur. The scale of the works is miniscule compared to the width, depth and extent of the river itself.

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(e) the potential for increased risk to inundation of adjacent land.

Planning Comment:

The works have been designed to avoid any inundation risk to any adjacent land. The depth and width of the river where the works will occur will not increase the risk of any inundation risk from the proposed works onto adjacent land.

P4.2

Dredging or reclamation within a waterway and coastal protection area or a future coastal refugia area must be necessary:

Planning Comment:

The proposed reclamation is entirely necessary due to the design and nature of the proposed boat building shed which has been specifically designed to be fit for purpose. The proposal requires a wet dock and dry dock There is no alternative to reclamation.

(a) to continue an existing use or development on adjacent land; or

Planning Comment:

The proposal will continue an existing boat building use and development at 100 Derwent Park Road.

There is no need to comply with (b) below as compliance is either (a) or (b) not both. However, comments have been made in any case.

(b) for a use which relies upon a coastal location to fulfil its purpose, having regard to:

Planning Comment:

The boat building use is entirely dependent on a coastal location to enable large ship building as ships are constructed on a dry dock within an enclosed building to provide for an optimal work environment in all conditions with minimal emissions. The ships must be able to be moved from dry dock to wet dock quickly and easily. The design of the development and the location of the works fully facilitate these operations.

(i) the need to access a specific resource in a coastal location;

Planning Comment:

There is no specific resource.

(ii) the need to operate a marine farming shore facility;

Planning Comment:

The proposal does not seek approval for a marine farming shore facility.

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(iii) the need to access infrastructure available in a coastal location;

Planning Comment:

There is no specific infrastructure required. The boat building use is entirely dependent on having a coastal location.

(iv) the need to service a marine or coastal related activity;

Planning Comment:

The boat building operation are entirely dependent on having a coastal location due to the size of the ships being constructed and their need to move easily from dry dock to wet dock.

(v) provision of essential utility or marine infrastructure; and

Planning Comment:

The boat building use is entirely dependent on having a coastal location with a dry dock being directly adjacent to a wet dock. The marine infrastructure being proposed is essential to Incat's operations as a significant Tasmanian employer and international boat manufacturer.

(vi) provision of open space or for marine related educational, research, or recreational facilities.

Planning Comment:

The proposal does not require or need to provide open space or recreational space and does not involve marine related research or education activities.

A marine ecological report prepared by Marine Solutions has been submitted as part of the RFI response package.

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A5 Coastal protection works or watercourse erosion or inundation protection works must not occur within a waterway and coastal protection area or a future coastal refugia area.	**P5** Coastal protection works or watercourse erosion or inundation protection works within a waterway and coastal protection area or a future coastal refugia area must be designed by a suitably qualified person and minimise adverse impacts on natural coastal processes, having regard to: (a) impacts on sand movement and wave action; and (b) the potential for increased risk of inundation to adjacent land.

Planning Comment:

The A5 Acceptable Solution will be met if the development does not involve waterfront coastal protection works. Such works typically involve levees, seawalls etc.

A sea wall is proposed as a 'wharf' on the JMG plans.

Comments are provide against the P5 Performance Criteria:

P5

Coastal protection works or watercourse erosion or inundation protection works within a waterway and coastal protection area or a future coastal refugia area must be designed by a suitably qualified person and minimise adverse impacts on natural coastal processes, having regard to:

Planning Comment:

The proposed works involving a wharf that has been designed and located by JMG to avoid any adverse impacts on natural coastal processes such as wave movement.

(a) impacts on sand movement and wave action; and

Planning Comment:

The proposed sea wall (wharf structure) will have no impact on sand movement outside the footprint of the works and will have no impact on wave movement due to the riverine nature of the river at this point which is tidal but not subject to any significant wave action due to the width (500m+) and depth (30m+) of the River where works will occur.

(b) the potential for increased risk of inundation to adjacent land.

Planning Comment:

The wharf structure will not result in any increased risk of inundation to adjacent land due to the physical characteristics of the River Derwent where the works will occur. The River Derwent is of reasonable depth (as shown in the JMG plans for the fill works) and the wharf

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has been designed to follow the current shoreline and will not redirect or deflect any inundation into adjacent land.

A marine ecological report prepared by Marine Solutions has been submitted as part of the RFI response package.

03 6288 8449
0439 342 696
danielle@grayplanning.com.au
224 Warwick St, West Hobart, Tas, 7000
grayplanning.com.au
ABN 99148920244

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C7.6.2 Clearance within a priority vegetation area

Objective:	That clearance of native vegetation within a priority vegetation area: (a) does not result in unreasonable loss of priority vegetation; (b) is appropriately managed to adequately protect identified priority vegetation; and (c) minimises and appropriately manages impacts from construction and development activities..

Acceptable Solutions	**Performance Criteria**
A1 Clearance of native vegetation within a priority vegetation area must be within a building area on a sealed plan approved under this planning scheme.	**P1.1** Clearance of native vegetation within a priority vegetation area must be for: (a) an existing use on the site, provided any clearance is contained within the minimum area necessary to be cleared to provide adequate bushfire protection, as recommended by the Tasmania Fire Service or an accredited person; (b) buildings and works associated with the construction of a single dwelling or an associated outbuilding; (c) subdivision in the General Residential Zone or Low Density Residential Zone; (d) use or development that will result in significant long term social and economic benefits and there is no feasible alternative location or design; (e) clearance of native vegetation where it is demonstrated that on-going pre-existing management cannot ensure the survival of the priority vegetation and there is little potential for long-term persistence; or (f) the clearance of native vegetation that is of limited scale relative to the extent of priority vegetation on the site. **P1.2** Clearance of native vegetation within a priority vegetation area must minimise adverse impacts on priority vegetation, having regard to: (a) the design and location of buildings and works and any constraints such as topography or land hazards;

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	(b) any particular requirements for the buildings and works; (c) minimising impacts resulting from bushfire hazard management measures through siting and fire-resistant design of habitable buildings; (d) any mitigation measures implemented to minimise the residual impacts on priority vegetation; (e) any on-site biodiversity offsets; and (f) any existing cleared areas on the site.

Planning Comment:

The subject site does not include any Priority Vegetation Area overlays and this clause is not applicable.

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C7.7.1 Subdivision within a waterway and coastal protection area or a future coastal refugia area

Objective:	That: (a) works associated with subdivision within a waterway and coastal protection area or a future coastal refugia area will not have an unnecessary or unacceptable impact on natural assets; and (b) future development likely to be facilitated by subdivision is unlikely to lead to an unnecessary or unacceptable impact on natural assets.

Acceptable Solutions	**Performance Criteria**
A1 Each lot, or a lot proposed in a plan of subdivision, within a waterway and coastal protection area or a future coastal refugia area, must: (a) be for the creation of separate lots for existing buildings; (b) be required for public use by the Crown, a council, or a State authority; (c) be required for the provision of Utilities; (d) be for the consolidation of a lot; or (e) not include any works (excluding boundary fencing), building area, services, bushfire hazard management area or vehicular access within a waterway and coastal protection area or future coastal refugia area.	**P1** Each lot, or a lot proposed in a plan of subdivision, within a waterway and coastal protection area or a future coastal refugia area, must minimise adverse impacts on natural assets, having regard to: (a) the need to locate building areas and any associated bushfire hazard management area to be outside a waterway and coastal protection area or a future coastal refugia area; and (b) future development likely to be facilitated by the subdivision.

Planning Comment:

No subdivision is proposed as part of this application and therefore this clause is not applicable.

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C7.7.2 Subdivision within a priority vegetation area

Objective:	That: (a) works associated with subdivision will not have an unnecessary or unacceptable impact on priority vegetation; and (b) future development likely to be facilitated by subdivision is unlikely to lead to an unnecessary or unacceptable impact on priority vegetation.

Acceptable Solutions	**Performance Criteria**
A1 Each lot, or a lot proposed in a plan of subdivision, within a priority vegetation area must: (a) be for the purposes of creating separate lots for existing buildings; (b) be required for public use by the Crown, a council, or a State authority; (c) be required for the provision of Utilities; (d) be for the consolidation of a lot; or (e) not include any works (excluding boundary fencing), building area, bushfire hazard management area, services or vehicular access within a priority vegetation area.	**P1.1** Each lot, or a lot proposed in a plan of subdivision, within a priority vegetation area must be for: (a) subdivision for an existing use on the site, provided any clearance is contained within the minimum area necessary to be cleared to provide adequate bushfire protection, as recommended by the Tasmania Fire Service or an accredited person; (b) subdivision for the construction of a single dwelling or an associated outbuilding; (c) subdivision in the General Residential Zone or Low Density Residential Zone; (d) use or development that will result in significant long term social and economic benefits and there is no feasible alternative location or design; (e) subdivision involving clearance of native vegetation where it is demonstrated that on-going pre-existing management cannot ensure the survival of the priority vegetation and there is little potential for long-term persistence; or (f) subdivision involving clearance of native vegetation that is of limited scale relative to the extent of priority vegetation on the site. **P1.2** Works association with subdivision within a priority vegetation area must minimise adverse impacts on priority vegetation, having regard to: (a) the design and location of any works, future development likely to be facilitated by the subdivision, and any constraints such as topography or land hazards;

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	(b) any particular requirements for the works and future development likely to be facilitated by the subdivision; (c) the need to minimise impacts resulting from bushfire hazard management measures through siting and fire-resistant design of any future habitable buildings; (d) any mitigation measures implemented to minimise the residual impacts on priority vegetation; (e) any on-site biodiversity offsets; and (f) any existing cleared areas on the site.

Planning Comment:

Not applicable as the subject site does not contain any Priority Vegetation Area overlay.

12.8 C8.0 Scenic Protection Code

C8.0 Scenic Protection Code

This Code will not apply as the subject site is not mapped as being within a scenic road corridor.

12.9 C9.0 Attenuation Code

C9.0 Attenuation Code

There is a no mapped attenuation area under Code mapping on TheList affecting the subject site.

The proposal is also for a an existing use involving activity details that are included in Table C9.1 of this Code, those activities being:

- boat building (maritime maintenance and construction works), metal fabrication and surface coating which are the activities that will be undertaken within the proposed shed.

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The boat building activity within the new shed will not involve Organotin compounds as confirmed by Incat.

The JMG plans show there are no dwellings (sensitive uses) located within 500m of the proposed development.

As part of their plans, JMG have mapped both 300m and 500m out from the edge of the proposed boat building and marked on a site plan to confirm no dwellings are picked up.

In Table C9.1 of the Attenuation Code, boat building (maritime maintenance and construction works), metal fabrication and surface coating are the activities that will be undertaken within the proposed shed.

These activities have either a 300m or 500m attenuation area.

The JMG plans show both 300m and 500m attenuation areas from the most eastern end of the proposed new shed. No sensitive uses are located within either attenuation area.

It is therefore considered that clause C9.5.1.A1 of the Attenuation Code is complied with due to greater than minimum attenuation areas for the nominated activities being able to be met.

C9.6.1 Lot design

Objective:	To provide for subdivision so that a lot intended for a sensitive use: (a) is located to avoid an activity with potential to cause emissions and enable appropriate levels of amenity; and (b) does not conflict with, interfere with or constrain an existing activity with potential to cause emissions.

Acceptable Solutions	**Performance Criteria**
A1 Each lot, or a lot proposed in a plan of subdivision, within an attenuation area must: (a) be for the creation of separate lots for existing buildings; (b) be for the creation of a lot where a building for a sensitive use can be located entirely outside the attenuation area; or (c) not be for the creation of a lot intended for a sensitive use.	**P1** Each lot, or a lot proposed in a plan of subdivision, within an attenuation area must not result in the potential for a sensitive use to be impacted by emissions, having regard to: (a) the nature of the activity with the potential to cause emissions, including: (i) operational characteristics of the activity; (ii) scale and intensity of the activity; and (iii) degree of emissions from the activity; and (b) the intended use of the lot.

Planning Comment:

No subdivision is proposed as part of this application and therefore this clause is not applicable.

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12.10 C10.0 Coastal Erosion Hazard Code

C10.0 Coastal Erosion Hazard Code

The subject site is not in a mapped coastal erosion area. A small portion of 100 Derwent Park Road is located in a mapped Coastal Erosion Investigation Area. However, no works are proposed within this mapped area and therefore this Code is not applicable.

12.11 C11.0 Coastal Inundation Hazard Code

C11.0 Coastal Inundation Hazard Code

The subject site is currently in a mapped coastal inundation area and therefore this Code has been considered.

The subject site contains both low and medium mapped coastal inundation areas.

The General Industrial zone is an 'urban zone' as confirmed in the State Planning Provisions:

urban zone	means land shown on a zone map in the relevant Local Provisions Schedule, as within the following zones: (a) General Residential Zone; (b) Inner Residential Zone; (c) Low Density Residential Zone; (d) Village Zone; (e) Urban Mixed Use Zone; (f) Local Business Zone; (g) General Business Zone; (h) Central Business Zone; (i) Commercial Zone; (j) Light Industrial Zone; (k) General Industrial Zone; (l) Major Tourism Zone; (m) Port and Marine Zone; (n) Community Purpose Zone; (o) Recreation Zone; and (p) any particular purpose zone.

The following clauses are relevant to the Boat Building proposal:

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C11.5.2 Uses located within a non-urban zone and within a medium coastal inundation hazard band

Objective:	To ensure that a use located within a non-urban zone and within a medium coastal inundation hazard band: (a) is reliant on a coastal location; and (b) can achieve and maintain a tolerable risk from exposure to coastal inundation.

Acceptable Solutions	**Performance Criteria**
A1 No Acceptable Solution.	**P1.1** A use within a non-urban zone and within a medium coastal inundation hazard band must be for a use which relies upon a coastal location to fulfil its purpose, having regard to: (a) the need to access a specific resource in a coastal location; (b) the need to operate a marine farming shore facility; (c) the need to access infrastructure available in a coastal location; (d) the need to service a marine or coastal related activity; (e) provision of an essential utility or marine infrastructure; (f) provision of open space or for marine-related educational, research, or recreational facilities; (g) any advice from a State authority, regulated entity or a council; and (h) the advice obtained in a coastal inundation hazard report. **P1.2** A coastal inundation hazard report also demonstrates that: (a) any increase in the level of risk from coastal inundation does not require any specific hazard reduction or protection measures; or (b) the use can achieve and maintain a tolerable risk from a 1% annual exceedance probability coastal inundation event in 2100 for the intended life of the use without requiring any specific hazard reduction or protection measures.

Planning Comment:

Not applicable as the Port and Marine zone and the General Industrial zone are both defined as an Urban zone.

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C11.5.3 Uses located within a non-urban zone and within a low coastal inundation hazard band

Objective:	That a use located within a non-urban zone and within a low coastal inundation hazard band can achieve and maintain a tolerable risk from coastal inundation.

Acceptable Solutions	**Performance Criteria**
A1 No Acceptable Solution.	**P1** A tolerable risk for a use located within a non-urban zone and within a low coastal inundation hazard band can be achieved and maintained, having regard to: (a) any increase in the level of risk from coastal inundation; (b) any requirement for specific hazard reduction or protection measures; (c) the need to minimise any:
	(i) increase in risk to public infrastructure; and (ii) reliance on coastal protection works; (d) any advice from a State authority, regulated entity or a council; and (e) the advice contained in a coastal inundation hazard report.

Planning Comment:

Not applicable as the Port and Marine zone and the General Industrial zone are both defined as an Urban zone.

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C11.5.4 Critical use, hazardous use or vulnerable use

Objective:	That critical, hazardous and vulnerable uses located within a coastal inundation hazard area can achieve and maintain a tolerable risk from coastal inundation.
Acceptable Solutions	**Performance Criteria**
A1 No Acceptable Solution.	**P1.1** If located within a non-urban zone or a high coastal inundation hazard band, the use must be for a use which relies upon a coastal location to fulfil its purpose, having regard to: (a) the need to access a specific resource in a coastal location; (b) the need to access infrastructure available in a coastal location; (c) the need to operate a marine farming shore facility; (d) the need to service a marine or coastal related activity; (e) provision of an essential utility or marine infrastructure; and (f) provision of open space or for marine-related educational, research, or recreational facilities; (g) the advice contained in a coastal inundation hazard report. **P1.2** A coastal inundation hazard report also demonstrates that: (a) an increase in the level of risk from a coastal inundation does not require any specific hazard reduction or protection measures; or (b) the use can achieve and maintain a tolerable risk from a 1% annual exceedance probability
	coastal inundation event in 2100 for the intended life of the use without requiring any specific hazard reduction or protection measures.

Planning Comment:

Not applicable as the Port and Marine zone and the General Industrial zone are both defined as an Urban zone and there is no mapping of High Hazard inundation within the subject site.

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A3 No Acceptable Solution.	**P3** In addition to the requirements in clause C11.5.4 P1.2, the impact of coastal inundation on a hazardous use within a coastal inundation hazard area must have a tolerable risk in a 1% annual exceedance probability coastal inundation event in 2100, having regard to: (a) the health and safety of people; (b) any impact on property; (c) any impact on the environment; (d) the advice contained in a coastal inundation hazard report; and (e) any advice from a State authority, regulated entity or a council.

Planning Comment:

A hazardous use is defined as follows:

hazardous use	means a use that is within one of the following Use Classes: (a) Crematoria and Cemeteries; (b) Extractive Industry, if the use involves the storage of a hazardous chemical of a manifest quantity; (c) Hospital Services, if the use involves the storage of a hazardous chemical of a manifest quantity; (d) Manufacturing and Processing, if the use involves the storage of a hazardous chemical of a manifest quantity; (e) Recycling and Waste Disposal; (f) Research and Development, if the use involves the storage of a hazardous chemical of a manifest quantity; (g) Storage, if the use involves the storage of a hazardous chemical of a manifest quantity; (h) Transport Depot and Distribution, if the use involves the storage of a hazardous chemical of a manifest quantity; (i) Utilities, if the use involves the storage of a hazardous chemical of a manifest quantity; or (j) Vehicle Fuel Sales and Service.

Incat have confirmed that no hazardous materials of a manifest quantity are proposed to be stored within the new boat building shed.

Boat building is not a use contained within the definition of 'hazardous uses'.

Therefore, the proposed shed will not be used for a 'hazardous use'.

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C11.6 Development Standards for Buildings and Works

C11.6.1 Buildings and works, excluding coastal protection works, within a coastal inundation hazard area

Objective:	That: (a) building and works, excluding coastal protection works, within a coastal inundation hazard area, can achieve and maintain a tolerable risk from coastal inundation; and (b) buildings and works do not increase the risk from coastal inundation to adjacent land and public infrastructure.

Acceptable Solutions	Performance Criteria
A1 No Acceptable Solution.	**P1.1** Buildings and works, excluding coastal protection works, within a coastal inundation hazard area must have a tolerable risk, having regard to: (a) whether any increase in the level of risk from coastal inundation requires any specific hazard reduction or protection measures; (b) any advice from a State authority, regulated entity or a council; and (c) the advice contained in a coastal inundation hazard report. **P1.2** A coastal inundation hazard report also demonstrates that the building or works: (a) do not cause or contribute to coastal inundation on the site, on adjacent land or public infrastructure; and (b) can achieve and maintain a tolerable risk from a 1% annual exceedance probability coastal inundation event in 2100 for the intended life of the use without requiring any specific coastal inundation protection works.

Planning Comment:

The following comments are provided against the P1.1 and P1.2 Performance Criteria:

P1.1

Buildings and works, excluding coastal protection works, within a coastal inundation hazard area must have a tolerable risk, having regard to:

Planning Comment:

The proposed works have been designed by JMG to have a tolerable risk based on projected sea level rises for the subject site and surrounding area.

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(a) whether any increase in the level of risk from coastal inundation requires any specific hazard reduction or protection measures;

Planning Comment:

The works have been designed by JMG will not result in an increase in the level of inundation.

No specific hazard reduction or protection measures have been required or nominated as part of the works are none have been considered necessary.

(b) any advice from a State authority, regulated entity or a council; and

Planning Comment:

The proposal has been submitted without any accompanying advice from a state authority or regulated entity or Council.

(c) the advice contained in a coastal inundation hazard report.

Planning Comment:

The application is not accompanied by a coastal inundation report.

P1.2

A coastal inundation hazard report also demonstrates that the building or works: (a) do not cause or contribute to coastal inundation on the site, on adjacent land or public infrastructure; and (b) can achieve and maintain a tolerable risk from a 1% annual exceedance probability coastal inundation event in 2100 for the intended life of the use without requiring any specific coastal inundation protection works.

Planning Comment:

The application is not accompanied by a coastal inundation report.

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C11.6.2 Coastal protection works within a coastal inundation hazard area

Objective:	That coastal protection works located within a coastal inundation hazard area are kept to a minimum, appropriately located, fit for purpose and do not increase the likely risks from coastal inundation to adjacent land.

Acceptable Solutions	**Performance Criteria**
A1 No Acceptable Solution.	**P1** Coastal protection works within a coastal inundation hazard area must be appropriately located, fit for purpose and kept to a minimum, having regard to: (a) if within a non-urban zone, the works are for the protection of a use that relies upon a coastal location to fulfil its purpose; (b) the advice contained in a coastal inundation hazard report that: (i) there will not be an increased risk of coastal inundation from a 1% annual exceedance probability coastal inundation event in 2100 on the site, on adjacent land or public infrastructure; and (ii) the risks from coastal inundation in a 1% annual exceedance probability coastal inundation event in 2100 can be mitigated; (c) the need for arrangements to be made, including with the applicant, to meet the cost of construction and ongoing maintenance of the coastal protection works; and (d) any advice from a State authority, regulated entity or a council.

Planning Comment:

The proposal includes a seawall described as a 'wharf' in the JMG plans. The following comments are provided against the P1 Performance Criteria:

P1

Coastal protection works within a coastal inundation hazard area must be appropriately located, fit for purpose and kept to a minimum, having regard to:

Planning Comment:

The proposed wharf has been designed to form a controlled constructed edge (like much of the surrounding area) to avoid any erosion from either the proposed works or the activity that will occur adjacent to the water's edge.

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(a) if within a non-urban zone, the works are for the protection of a use that relies upon a coastal location to fulfil its purpose;

Planning Comment:

The subject site is not within a non-urban zone.

(b) the advice contained in a coastal inundation hazard report that: (i) there will not be an increased risk of coastal inundation from a 1% annual exceedance probability coastal inundation event in 2100 on the site, on adjacent land or public infrastructure; and (ii) the risks from coastal inundation in a 1% annual exceedance probability coastal inundation event in 2100 can be mitigated; (c) the need for arrangements to be made, including with the applicant, to meet the cost of construction and ongoing maintenance of the coastal protection works; and (d) any advice from a State authority, regulated entity or a council.

Planning Comment:

The application has been submitted without a coastal inundation hazard report.

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C11.7.1 Subdivision within a coastal inundation hazard area

Objective:	That subdivision within a coastal inundation hazard area does not create an opportunity for use or development that cannot achieve and maintain a tolerable risk from coastal inundation.

Acceptable Solutions	Performance Criteria
A1 Each lot, or a lot proposed in a plan of subdivision, within a coastal inundation hazard area, must: (a) be able to contain a building area, vehicle access, and services, that are wholly located outside a coastal inundation hazard area; (b) be for the creation of separate lots for existing buildings; (c) be required for public use by the Crown, a council or a State authority; or (d) be required for the provision of Utilities.	**P1** Each lot, or a lot proposed in a plan of subdivision within a coastal inundation hazard area must not create an opportunity for use or development that cannot achieve and maintain a tolerable risk from coastal inundation, having regard to: (a) any increase in risk from coastal inundation for adjacent land; (b) the level of risk to use or development arising from an increased reliance on public infrastructure; (c) the need to minimise future remediation works; (d) any loss or substantial compromise, by coastal inundation, of access to the lot on or off site; (e) the need to locate building areas outside the coastal inundation hazard area; (f) any advice from a State authority, regulated entity or a council; and (g) the advice contained in a coastal inundation hazard report.

Planning Comment:

No subdivision is proposed as part of the application and therefore this clause is not triggered.

12.12 C12.0 Flood Prone Areas Code

C12.0 Flood Prone Areas Code

This Code does not apply as the subject site while mapped with scatters areas of overlay, overlay mapping is not in the proposed footprint of the new Boat Building shed works.

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12.13 C13.0 Bushfire Prone Areas Code

C13.0 Bushfire Prone Areas Code

The subject site is not affected by an overlay under the Tasmanian Planning Scheme, nor is the subject site able to meet the definition of 'bushfire prone'.

This Code therefore does not apply.

12.14 C14.0 Potentially Contaminated Land Code

C14.0 Potentially Contaminated Land Code

This Code will apply as the subject site has had at least one of the following activities (boat building) undertaken on it at any point:

Table C14.2 Potentially Contaminating Activities

Potentially Contaminating Activity	Potentially Contaminating Activity
Acid / alkali plant and formulation	Mineral processing
Ammunition manufacture and usage (e.g. shooting ranges)	Mine sites involving waste rock or tailings deposits
Asbestos production, handling or disposal	Oil or gas production or refining
Asphalt/bitumen manufacturing	Paint manufacture and formulation
Battery manufacturing or recycling	Pesticide manufacture and formulation
Boat/ship building, marinas, slip ways and associated boat yards	Petroleum product or oil storage
Boiler or kiln usage	Pharmaceutical manufacture and formulation
Chemical manufacture and formulation (e.g. fertilisers, paints, pesticides, photography, plastics, solvents)	Power stations
Commercial engine and machinery repair sites	Printing
Drum conditioning works	Radio-active material usage (e.g. hospitals)
Dry cleaning establishments	Railway yards
Electrical transformers	Scrap yards and recycling facilities
Ethanol production plants	Sewage treatment plants
Explosives industries	Sheep and cattle dips

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Fertiliser manufacturing plants	Sites of fires involving hazardous materials, including firefighting foam use
Fill material imported onto a site from a potentially contaminated source	Sites of incidents involving release of hazardous materials
Foundry operations	Spray painting industries
Gas works	Spray storage and mixing sites (e.g. for orchards)
Herbicide manufacture	Tanning and associated trades
Industrial activities involving hazardous chemicals in significant quantities	Textile operations
Iron and steel works	Tyre manufacturing and retreading works
Landfill sites, including on-site waste disposal and refuse pits	Wood preservation and storage or cutting of treated timber
Metal smelting, refining or finishing	Wool scouring
Metal treatments (e.g. electroplating) and abrasive blasting	

The following clause has been considered:

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C14.5.1 Suitability for intended use

Objective:	That potentially contaminated land is suitable for a sensitive use or a Use Class listed in Table C14.1 and is one of the specified uses.
Acceptable solutions	**Performance Criteria**
A1 For a sensitive use, or a specified use listed in Table C14.1, the Director, or a person approved by the Director for the purpose of this code: (a) certifies that land is suitable for the intended use; or (b) certifies a plan to manage contamination and associated risk to human health or the environment, so that the land is suitable for the intended use, or if in relation to redevelopment on land subject to the *Macquarie Point Development Corporation Act 2012*, the intended use must be in accordance with a certificate that has been or will be granted by an accredited environmental auditor.	**P1** For a sensitive use, or a specified use listed in Table C14.1, the land is suitable for the intended use, having regard to: (a) an environmental site assessment that demonstrates there is no evidence the land is contaminated; (b) an environmental site assessment that demonstrates that the level of contamination does not present a risk to human health or the environment; or (c) an environmental site assessment that includes a plan, to manage contamination and associated risk to human health or the environment that includes: (i) any specific remediation and protection measures required to be implemented before any use commences; and (ii) a statement that the land will be suitable for the intended use.

Planning Comment:

The proposal does not involve a sensitive use or a use specified in table C14.1. This clause is therefore not relevant.

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C14.6.1 Excavation works, excluding land subject to the *Macquarie Point Development Corporation Act 2012*

Objective:	That works involving excavation of potentially contaminated land, excluding on land subject to the *Macquarie Point Development Corporation Act 2012,* do not adversely impact on human health or the environment.

Acceptable solutions	**Performance Criteria**
A1 Excavation, excluding on land subject to the *Macquarie Point Development Corporation Act 2012,* must involve less than 250m^3 of site disturbance.	**P1** Excavation, excluding on land subject to the *Macquarie Point Development Corporation Act 2012,* must not have an adverse impact on human health or the environment, having regard to: (a) an environmental site assessment that demonstrates there is no evidence the land is contaminated; (b) an environmental site assessment that demonstrates that the level of contamination does not present a risk to human health or the environment; or (c) an environmental site assessment, including a plan to manage contamination and associated risk to human health and the environment, that includes: (i) any specific remediation and protection measures required to be implemented before excavation commences; and (ii) a statement that the excavation does not adversely impact on human health or the environment.

Planning Comment:

The proposed works will result in more than 250sqm of site disturbance.

An environmental site assessment dated 25 March 2025 has been prepared by Pitt and Sherry that confirms the proposal complies with clause C14.6.1.

C14.6.2 Redevelopment on land subject to the Macquarie Point Development Corporation Act 2012

Planning Comment:

Not applicable as the subject site is not subject to the Macquarie Point Development Corporation Act.

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C14.7.1 Subdivision for sensitive use

Objective:	That subdivision of potentially contaminated land that allows for a sensitive use or a Use Class listed in Table C14.1, and is one of the specified uses, does not adversely impact on human health or the environment.

Acceptable solutions	Performance Criteria
A1 For subdivision of land, the Director, or a person approved by the Director for the purpose of this code: (a) certifies that the land is suitable for the intended use or development; or (b) certifies a plan to manage contamination and associated risk to human health or the environment, so that the subdivision does not adversely impact on human health or the environment and is suitable for its intended use or development.	**P1** Subdivision of potentially contaminated land does not adversely impact on human health or the environment and is suitable for its intended use or development, having regard to: (a) an environmental site assessment that demonstrates there is no evidence the land is contaminated; (b) an environmental site assessment that demonstrates that the level of contamination does not present a risk to human health or the environment; or (c) an environmental site assessment, including a plan to manage contamination and associated risk to human health and the environment, that includes: (i) any specific remediation and protection measures required to be implemented before any use or development commences; and (ii) a statement that the land is suitable for the intended use or development.

Planning Comment:

No subdivision is proposed and therefore this clause is not applicable.

12.15 C15.0 Landslip Hazard Code

C15.0 Landslip Hazard Code

This Code will not apply as the proposed development site within the subject site is not affected by any overlay under the Tasmanian Planning Scheme.

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12.16 C16.0 Safeguarding of Airports Code

C16.0 Safeguarding of Airports Code

This Code will not apply as the subject site is not mapped with any overlay.

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pitt&sherry

Environmental Site Assessment

100 Derwent Park Road, Derwent Park

Prepared for

Incat Tasmania Pty Ltd

Client representative

Danielle Gray

Date

25 March 2026

Rev00

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Prepared by — Maddison Mayjor & Harry Fairweather		**Date** — 25 March 2026
Reviewed by — Fiona Keserue-Ponte		**Date** — 25 March 2026
Authorised by — Fiona Keserue-Ponte		**Date** — 25 March 2026

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Abbreviations

Abbreviation	Description
ACL	Added contaminant limit (aged)
AHD	Australian Height Datum
ACM	Asbestos-containing materials
ASC NEPM	*National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended 2013*
As	Arsenic
ASS	Acid sulfate soils
AST	aboveground storage tank
BaP	Benzo(a)pyrene
Cd	Cadmium
CEO	Chief Executive Officer
CEMP	Construction Environmental Management Plan
CEnvP SC	Certified Environmental Practitioner, Site Contamination specialist
CFEV(s)	Conservation of freshwater ecosystem value(s)
CoPC(s)	Contaminant(s) of potential concern
Council	Glenorchy City Council
Cr	Chromium
CSM	Conceptual Site Model
CT(s)	Certificate(s) of Title
Cu	Copper
DA	Development application
DG	Dangerous goods
EIANZ	Environment Institute of Australia and New Zealand
EIL(s) / ESL(s)	Ecological Investigation Level(s) / Ecological Screening Level (s)
EMPCA	(Tasmanian) *Environmental Management and Pollution Control Act 1994*
EPA	Environment Protection Authority, Tasmania
EPN(s)	Environmental Protection Notice(s)
ESA	Environmental Site Assessment
FCR	Fine crushed rock
GDE(s)	Groundwater dependent ecosystem(s)
GES	Geo-Environmental Solutions (GES) Pty Ltd
GIAP	Groundwater Information Access Portal
Hg	Mercury
IB105	*Information Bulletin No. 105 Classification and Management of Contaminated Soil for Disposal, Version* 3, Environment Protection Authority, 2018

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Abbreviation	Description
Incat	Incat Tasmania Pty Ltd
Jd	Dolerite and related rocks
km	Kilometre(s)
LISTmap	Land Information System Tasmania interactive mapping tool
m	Metre(s)
m^2	Square metres
Marine Solutions	Marine Solutions Tasmania Pty Ltd
m bgl	Metre(s) below ground level
Ni	Nickel
Pb	Lead
PCA(s)	Potentially contaminating activity(ies)
PCE(s)	Permit Condition(s) Environmental
PCLC	Potentially Contaminated Land Code (of the Planning Scheme)
PFAS	Perfluoroalkyl- and polyfluoroalkyl substances
PFD	PFD Food Services Pty Ltd
PFOS	perfluorooctanesulfonic acid
PID	Property Identification
pitt&sherry	Pitt & Sherry (Operations) Pty Ltd
Property	100 Derwent Park, Derwent Park, Tasmania 7009, as shown in Figure 1 (Appendix A)
QA/QC	Quality assurance and quality control
Qhmm	Man made deposits
RFI	Request for Information
Scheme	Tasmanian Planning Scheme - Glenorchy
SHR	Site History Review
Site	Area shown on Figure 2 (Appendix A) for the development of a new boat building shed and wharf
SMF	Synthetic mineral fibres
SPR	Source-pathway-receptor
SWMP	Soil and water management plan
SWS	Southern Waste Solutions Pty Ltd
SSP	Single superphosphate fertiliser
THR	Tasmanian Heritage Register
TPH / TRH	Total petroleum hydrocarbons / total recoverable hydrocarbons
UPSS	Underground petroleum storage system(s), including USTs and associated piping
WST	WorkSafe Tasmania
Zn	Zinc

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Executive Summary

Background

Incat Tasmania Pty Ltd (Incat) is undertaking the development of a new boat building shed (the Site) for the construction of electric ferries at its existing property at 100 Derwent Park Road, Derwent Park, in Tasmania (the Property). The Property is adjacent to the River Derwent and is located within the general industrial zone, currently utilised for the manufacturing of catamarans and fast ferries within roofed sheds. The Property is surrounded by other industrial facilities such as Impact Fertilisers and Nyrstar's zinc smelter. The proposed new shed will be 120 metres (m) long, 40.81 m wide and 25 m high, above the proposed ground level. The shed will also include a 30 m long wet dock, with sheet piling installed around three sides of the wet dock perimeter. The new shed ground surface will overlap a portion of existing reclamation and an extension of land reclamation. Reclamation works will be undertaken within Crown Land (River Derwent) immediately adjacent to the existing land surface. In addition to the shed, a 6 m wide wharf will also be constructed northwest of the new shed. All reclamation edges will be covered with armour rock on the water side.

Gray Planning lodged a Development Application (DA) to both Crown and Council in December 2025. The Crown have signed their consent to lodge the DA, and Glenorchy City Council (Council) have now issued a further information request. Item #17 of the Request for Information (RFI) from Council requires an Environmental Site Assessment (ESA) to address the Potentially Contaminated Land Code (PCLC) of the Tasmanian Planning Scheme – Glenorchy (the Scheme).

Findings and Conclusions

Based on the findings of this ESA, and noting the limitations in Section 1.5 and the remaining data gaps in Section 8.4 the following conclusions are made:

- A number of on- and offsite PCAs have been identified with potential to have impacted the Site, including:
    - River waters may also be contaminated from offsite sources and given the periodical tidal flooding of the Site and the ingress of tidal waters within the reclamation groundwater, contamination could be waterborne
    - Importation and placement of stockpiles of fill materials which from TasWater for which the source location and associated testing records are not clearly identifiable for each stockpile
    - Historical placement of fill of unknown origins and composition across the whole Site footprint for past reclamation
    - Solid wastes and presence of BDR often associated with ACM
    - Historical presence and operation of adjacent land users (Nyrstar, Impact Fertiliser) and upstream Derwent Barracks (firefighting foams - PFAS)
    - Storage of materials, shipping containers, etc. within the Site footprint, including the movement of mobile plant including hydrocarbon-fuelled equipment
    - The presence of river sediments beneath and adjacent to the Site footprint likely impacted by long term industrial emissions from adjacent industrial facilities
    - The presence of ASS (acid sulfate soils) beneath and adjacent to the Site footprint; the latter will be disturbed by reclamation, sheet piling and pile driving for the new wharf
- 13 test pits were excavated to a maximum depth of 2.0 m bgl and 30 stockpile samples were taken to provide representative coverage of those present at the time of sampling. The investigations identified:
    - Solid wastes and BDR were found through many of the test pit profiles and a number of stockpiles, including bitumen, bricks, concrete rubble, plastic pipe, plastic, terracotta piping, bricks, scrap metals, embedded reinforcing bars in concrete, which pose an aesthetic and environmental risk in poorly managed reclamation works

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- A confirmed asbestos fragment was present on the surface of the Site which is expected to have come from pre-existing fill beneath the Site associated with BDR (building demolition rubble)
- SMF were found in the Site soils (also associated with BDR)
- One test pit reported a possible hydrocarbon or similar odour in fill material at between 1.2 and 1.9 m bgl (TP02), but no hydrocarbons were detected in that sample
- No elevated VOCs were detected in test pits (via field screening); this was confirmed by the laboratory results
- Reported concentrations of **lead** were above adopted human health (commercial / industrial setting) in one test pit (TP10 between 0 – 1.0 m bgl)
- Reported concentrations of many metals (zinc, copper, lead, nickel and arsenic) were reported above adopted ecological criteria in a large number of test pit and stockpile samples (some for commercial / industrial criteria and many for areas of ecological significance criteria)

- Given the Site profile includes BDR (building demolition rubble which is often associated with ACM and SMF) and given the imported stockpiles also comprise BDR, the potential remains for ACM fragments and SMF, as well as other contaminants (including lead), to be present within all soils onsite; and
- Based on the proposed development and reclamation works and on the proposed Site use, the risks to human and ecological receptors have been assessed to include some **medium risks** and some **low risks**, for which appropriate mitigation measures must be put in place as detailed in Section 8.5 and reiterated in the Recommendations (Section 9.2).

Description of the Fill Material Quantity, Source and Composition Analysis

pitt&sherry was only able to inspect and sample fill soils that were present at the time of sampling, as new reclamation had already been undertaken with an unknown volume or quality of fill materials. Similarly, fill soils were actively carted and stockpiled onsite during pitt&sherry's sampling. Stockpiled fill soils comprised a range of materials including naturally derived: sands, silts, clays, rock, as well as solid wastes including small and large concrete pieces, bitumen pieces, plastic piping, plastic materials and mesh, scrap steel, partly concrete-embedded reinforced steel bars, bricks, timber, soil and vegetation/wood.

Imported fill soils test results are summarised in Section 7.1.3. It was noted that a number of stockpiles would be classified as Level 2 or Level 3 waste soils in accordance with IB105 (due to metals or benzo(a)pyrene concentrations). PFAS were also detected in some of the samples, and confirmed asbestos was detected in a fragment adjacent to the stockpiles (we could not confirm however if this fragment was from pre-existing disturbed fill, or from newly imported fill).

The source of the fill is from a range of properties which are undergoing works by TasWater as part of the Selfs Point Rising Main works in the sewerage rising main alignment. The risk of contamination from 'Section 2' of the alignment (Elgin, 2024) was deemed to be low. It is understood that TasWater has been carrying out contamination testing on some of the soils, however, reconciliation of the test results against imported soil loads could not be completed.

As no EPA approval (Regulation 21) was provided by TasWater for reuse of these soils onsite, it is understood that Incat is now in the process of removing these stockpiles and soil stockpiles of similar composition from Site. It is also understood that Incat has requested that only tested and confirmed clean fill (i.e. Level 1 fill, per IB105) be brought to Site for reclamation and reuse within the Site surface area. Incat has also requested detailed soil tracking for every load brought to the Site since around mid-February 2026. No EPA approval is required for confirmed Level 1 fill material.

In the event that Level 2 or above waste soils are to be brought to Site, the waste producer must obtain a Regulation 21 approval from EPA for reuse of those soils specifically on the Incat Site and will need to provide this documentation to Incat, and all waste loads will need to be tracked from the correct source to the Incat Site.

The estimated volume of new reclamation fill material required to accommodate the Site footprint for the proposed shed development is approximately 5470 m^3 (per information provided by D. Gray on 19 March 2026, based on JMG plans).

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Statement

In response to the PCLC objectives (Section 1.2.1), the proposed development of the Site as a new boat building shed and wharf, and associated reclamation within commercial / industrial and port / marine zonings (Figure 2, Appendix A) complies with:

- P1 (c) of C14.6.1 Performance Criteria – Excavation for the following reasons:
    - This ESA demonstrates that other than at one location (TP10 0 – 1 m bgl), all other soil results were within adopted human health criteria (commercial / industrial land use). This area will be covered by a concrete slab during Site use, and construction and reclamation works must be managed in accordance with a CEMP (refer to Section 9.2)
    - This ESA has identified exceedances of ecological criteria (both commercial / industrial and areas of ecological significance setting) which do not pose a risk under the proposed Site use or construction and reclamation works as long as the works are managed in accordance with a CEMP, and the unsealed Site surface is capped on completion of construction (refer to Section 9.2)
    - This ESA includes recommended protection measures (i.e. a CEMP - refer to Section 9.2), which must be developed before excavation and reclamation commences, and must be implemented for the duration of excavation and reclamation works
    - If the recommended protection measures outlined in Section 9.2 are implemented, excavation and reclamation works will not adversely impact on human health or the environment (including the Derwent Estuary)
- A range of potentially contaminating activities (PCAs) identified to have potentially impacted the Site including historical and ongoing industrial emissions from adjacent facilities (Nyrstar and Impact Fertiliser), PFAS impacted runoff from the upstream Derwent Barracks, importation of unverified TasWater fill stockpiles, and extensive historical placement of heterogeneous fill of unknown origin across the Property for past reclamation. Reclamation soils and river sediments beneath and adjacent to the Site are also likely to contain contaminants due to long-term industrial discharges and ingress of tidal water ingress within reclamation groundwater, with acid sulfate soils (ASS) expected to be disturbed during proposed reclamation and piling works
- Intrusive investigations were undertaken; including 13 test pits excavated to a maximum depth of 2.0 m below ground level and 30 stockpile samples taken to provide representative coverage of those present at the time of sampling. Investigations identified
    - Widespread building demolition rubble (BDR), including bitumen, brick, concrete, plastic and metal wastes found through many test pit profiles and a number of stockpiles.
    - One confirmed asbestos containing ACM fragment (at the Site surface)
    - Synthetic mineral fibres (SMF) were detected in one test pit
    - Lead exceeded adopted human-health criteria in one test pit, and multiple metals (zinc, copper, lead, nickel, arsenic), benzo(a)pyrene and PFAS exceeded ecological criteria across test pits and stockpiles.
- Several stockpiles classified as Level 2 or Level 3 waste (i.e. controlled waste) under IB105 are being removed from Site as an EPA approval for reuse of controlled waste on the Incat Site was not available; and
- Based on the investigation findings and the proposed reclamation and construction activities, the overall risks to human and ecological receptors are assessed as low to medium, requiring implementation of the mitigation measures outlined in the Recommendations (Section 9.2).

Recommendations

Refer to Section 9.2 for the full list of recommendations informed by the findings and conclusions of this ESA.

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1. Introduction

1.1 Background

Incat Tasmania Pty Ltd (Incat) is undertaking the development of a new boat building shed and wharf (the Site) for the construction of electric ferries at its existing operation at 100 Derwent Park Road, Derwent Park, in Tasmania (the Property). The Property is adjacent to the River Derwent and is located within a general industrial zone. The Property is surrounded by other industrial facilities such as Impact Fertilisers and Nyrstar's zinc smelter. The Property is utilised for the manufacturing of catamarans and fast ferries within roofed sheds. Refer to Figure 1 for the Property location and Figure 2 for the approximate Site outline and location – both figures are in Appendix A.

The proposed new shed will be 120 metres (m) long, 40.81 m wide and 25 m high, above the proposed ground level. The shed will also include a 30 m long wet dock, with sheet piling installed around three sides of the wet dock perimeter. The new shed ground surface will be constructed on a portion of existing reclaimed land, and a further extension of land reclamation. Reclamation works will be undertaken within Crown Land (River Derwent) immediately adjacent to the existing land surface.

In addition to the shed, a 6 m wide wharf will also be constructed northwest of the new shed. The wharf will comprise a suspended concrete slab, sitting on piles which will be driven into the ground on the land and water sides to support the wharf. All reclamation edges will be covered with armour rock on the water side.

Gray Planning lodged a Development Application (DA) to both Crown and Council in December 2025. The Crown have signed their consent to lodge the DA, and Glenorchy City Council (Council) have now issued a further information request. Item #17 of the Request for Information (RFI) from Council requires an Environmental Site Assessment (ESA) to address the Potentially Contaminated Land Code (PCLC) of the Tasmanian Planning Scheme – Glenorchy (the Scheme):

C14.0 Potentially Contaminated Land Code

C14.6.1 Development Standards for Building and Works

17. *An Environmental Site Assessment, prepared by a certified contaminated site assessment consultant, must be submitted to address the Performance Criteria (P1) for C14.6.1 in the Potentially Contaminated Land Code.*

    The assessment is to demonstrate how the site is suitable for the intended development in relation to risks to human health and the environment. To satisfy (P1) C14.6.1, the assessment must include, but not be limited to:

    1. *Any specific remediation or protection measures that are required to be implemented at the site prior to the commencement of excavation.*

    2. *Any recommended land reclamation construction methods specific to the site that would eliminate adverse impacts on the aquatic environment within the Derwent Estuary.*

    A description of proposed fill material including quantity, source and composition analysis is also required.

Pitt and Sherry (Operations) Pty Ltd (pitt&sherry) was initially engaged by Incat to provide a Site History Review (SHR) which represents Stage 1 of an Environmental Site Assessment (ESA). The purpose of the SHR was to identify potential contamination risks within the Site and from adjacent land, and to determine whether further investigation was required. Based on the SHR findings, and the potential risk of contamination, additional investigations were undertaken, and the assessment progressed to a full ESA. The objective of the ESA is to characterise contamination at the Site and provide recommendations to address the PCLC and Council's specific requirements outlined above.

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1.2 Objectives

1.2.1 Potentially Contaminated Land Code

The objective of the PCLC of the Planning Scheme is to ensure that use or development of potentially contaminated land does not adversely impact on human health or the environment (refer to Section C14.0 of the PCLC). The Council's RFI item #17 has been provided in *italics* in Section 1.1.

1.2.2 Environmental Site Assessment

The objectives of this ESA are to obtain and compile available information on the historical uses of the Property and immediate surrounds and assess:

- The potential for contamination to be present within the Site area
- The potential for possible contamination from offsite (including within the broader Property) to impact on the Site from current and historical potentially contaminating activities (PCAs)
- The risks posed by any potential, or identified contamination to human health and/or the environment from the Site during the proposed use and excavation works
- Whether any additional intrusive investigations (e.g. sampling) are required to confirm (or otherwise) the presence of contamination within the Site
- Provide a statement that the Site is suitable for the proposed use and development (from a land contamination perspective); and
- Detail any remediation and/or protection measures required for the Site prior to the commencement of excavation / reclamation.

1.3 Scope of Works

The scope of work for this ESA comprised:

- Scoping and review of the SHR by a Certified Environmental Practitioner, Site Contamination (CEnvP SC[1])
- Site inspection by a CEnvP SC
- Desktop review and compilation of Site-related documentation (from a site-contamination perspective)
- Excavating test pits within the proposed work areas (within the Site) and associated soil sampling
- Inspecting imported soil stockpiles and sampling
- Testing all soil samples for contaminants of potential concern (CoPCs)
- Assessing the potential for the Site to be contaminated and assessing the human health and ecological risks posed by any potential or identified contamination during proposed construction / reclamation work and proposed Site use
- Outlining any recommended management measures to minimise risks from any identified contamination; and
- Compiling the findings and recommendations into an ESA report (this report).

[1] Fiona Keserue-Ponte is a CEnvP SC. A CEnvP SC certified under the Environment Institute of Australia and New Zealand (EIANZ) is 'a site contamination practitioner or a person approved by the Director for the purpose of this code' [the PCLC]

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1.4 Legislation and Guidelines

This ESA was undertaken in general accordance with the following legislation and guidelines:

- National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended 2013 (ASC NEPM)
- Australia Standard (AS) 4482.1—2005: Guide to the investigation and sampling of sites with potentially contaminated soil – Part 1: Non-volatile and semi-volatile compounds
- AS 4482.2—1999: Guide to the sampling and analysis of contaminated soils – Part 2: Volatile substances
- PFAS National Environmental Management Plan (PFAS NEMP) Version 3.0. 2025.
- Tasmanian Planning Scheme – Glenorchy (the Scheme)
- Tasmanian Environmental Management and Pollution Control Act 1994 (EMPCA) and relevant Regulations
- Technical Report No. 10 Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater September 2011, including errata August 2012; and
- Information Bulletin No. 105, the Classification and Management of Contaminated Soil for Disposal (IB105).

1.5 Limitations

In addition to the general limitations of this report, outlined in *Important information about your report* at the end of this ESA, specific limitations of this ESA include:

- This ESA pertains to the proposed development area only (i.e. the Site, as shown in Figures 1 to 4 in Appendix A); land outside of the Site extent has not been investigated from a contamination perspective, other than where it may impact on the Site
- The quality resolution of some of the early historical images may be insufficient to identify potentially relevant details to this ESA (Section 3.2.2); other information sources have been used to supplement historical aerial photographs (throughout Section 3)
- No assessment of natural values or heritage (historic and/or Aboriginal) was undertaken; mapped features are provided in Table 2 (Section 2.2). A summary of Marine Solutions Tasmania Pty Ltd (Marine Solutions)' survey is outlined in Section 3.1.4; no heritage features are known to occur within the development footprint, which consists entirely of reclaimed land
- No historical title search for the Property was undertaken; potential contamination is expected to be related to the known use of the Property (Section 1.1) and the land has been entirely reclaimed with fill of unknown origins
- Historical information was limited to available information sourced and reviewed in Sections 2 and 3
- No acid sulfate soils (ASS) or sediment sampling of the riverbed adjacent to the Site, within the proposed reclamation footprint, was undertaken. ASS are expected to be present in this area and sediments are also expected to be impacted by heavy metals contamination due to the long-term operation of the zinc works adjacent to the Property
- No groundwater sampling was completed. The Site area is entirely within reclaimed land, and the compacted fill has groundwater which is subject to direct tidal action from the adjacent River Derwent. Groundwater quality is expected to mirror the river's water quality
- No soil leachability testing was undertaken as all soils were expected to remain onsite, with the exception of stockpiles, which were tested to confirm their suitability for reuse, based only on total concentrations

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- Soil investigations within the previously reclaimed area were limited by the relatively shallow groundwater level which was influenced by the tide level; as such soil testing did not include the full depth of reclamation. This is not considered to affect the conclusions or recommendations of this ESA, as disturbance of the Site surface will be minimal due to construction consisting of slab on ground; only installation of new underground services may result in soil trenching and disturbance
- As active reclamation was being undertaken during pitt&sherry's investigation, newly placed reclamation materials were not generally inspected or sampled due to lack of access; and
- New soils were being actively brought to Site during pitt&sherry's Site stockpiles' sampling. These new stockpiles were not sampled during our works due to the ongoing active stockpiling.

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2. Site Setting

2.1 Site Identification

Site identification details are provided in Table 1. The Property location is shown in Figure 1 (Appendix A).

For the purposes of this report, the Site refers to the proposed development area which partially overlaps the River Derwent as shown by the green shading in Figure 2 (Appendix A).

Much of the information in Table 1 has been sourced either from the LISTmap[2], or the LotSearch report[3] (provided in Appendix B). LotSearch provide a report which compiles a number of databases to help inform environmental context, contamination risk, historical site and neighbouring uses. The LotSearch report also provides a compilation of historical aerial imagery for the requested sites.

Table 1: Site Details

Item	Detail	Information Source
Site Address	Part of 100 Derwent Park Road, Derwent Park, Tasmania 7009	LISTmap - cadastral parcels layer
Certificate Of Title	Part of Volume 168298 Folio 1	LISTmap - cadastral parcels layer
Property ID	Part of PID 7671632	LISTmap – cadastral parcels layer
Property/Site Area	Property Area: 107 000 square metres (m^2) Site Area: 4897.2 m^2	LISTmap – cadastral parcels layer
Current Owner	Inter Cats (Tasmania) Pty Ltd	Client-supplied information
Current Land Use	Boat building yard	Client-supplied information
Local Government	Glenorchy City Council	LISTmap – local government areas layer
Land Tenure	Incat Property is Private Freehold. The proposed area for reclamation is Crown Land. DA documentation states that the Project has been lodged with the Crown for consent.	LISTmap – land tenure layer
Regional Setting	The Site has a waterfront boundary to the River Derwent. The Site is surrounded by industrial properties. The Site is bounded to the north and east by the River Derwent, to the south by the Nyrstar zinc works, Impact Fertiliser, and car parking (owned by Nyrstar, leased to Incat) and to the west by the remainder of Incat's operations / sheds, then further west, PFD Food Services (PFD) and other Incat-owned land and car parking.	LISTmap - Basemaps Property Inspection

[2] Land Information System Tasmania (LIST) interactive mapping tool. Available at: https://maps.thelist.tas.gov.au/listmap/app/list/map

[3] LotSearch 2026. Enviro Professional Report: 100 Derwent Park Road, Derwent Park, Tasmania 7009. Reference LS117721EP. 30 January 2026.

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Item	Detail	Information Source
Zoning	100 Derwent River Road, Derwent Park is zoned “General Industrial” under the Planning Scheme. The Site area for reclamation is zoned “Port and Marine.” • Zoning to the north and east of the Site is Port and Marine • Zoning to the south is General Industrial and Utilities; and • Zoning to the west is General Industrial.	LISTmap – Tasmanian Planning Scheme layers LotSearch report (Appendix B)

2.2 Site Description

Available information on Site features is summarised in Table 2. Note that generally only features present on the land are detailed. The marine environment is mostly addressed in a separate assessment undertaken by Marine Solutions (refer to Section 3.1.4). Note that **bold red text** signifies a risk of contamination.

Table 2: Site Description

Feature	Description	Information Source
Sensitive Receptors	**Onsite**: sensitive receptors within the Site include Incat employees (daily exposure), Incat contractors, Tasmanian Fast Ferry Museum visitors (intermittent exposure) who access the premises, and the River Derwent. **Offsite** sensitive receptors include: - The closest residential dwellings are present to the east along Saunderson Rd, Risdon located 550 m across the River Derwent to the northeast of the Site • PFD is located 280 m to the west of the Site • TasTafe is located 340 m to the west of the Site • Prince of Wales Bay Marina is located 580 m to the northeast of the Site; and • In addition, Impact Fertiliser is located within 100 m to the south of the Site but is not deemed to be a sensitive receptor due to the facility being a PCA.	LISTmap – multiple layers Site inspection (Section 3.4) LotSearch report (Appendix B)
Infrastructure Features	The Property predominantly comprises of large scale, roofed industrial sheds used for boat building, with an estimated total area of approximately 34,000 m². The area of the Property which includes the Site development footprint, is currently unsealed and was formed via land reclamation, as per the majority of the Property. Existing infrastructure within the Site footprint includes: underground fire main and stand pipes and possibly some underground now disconnected power lines. Refer to Section 3.4 which details Site inspection observations.	LISTmap - Aerial images Site inspection (Section 3.4)
Easements	The easements within the Property (Drainage Easement and Electricity Infrastructure Easement) will not be impacted by the proposed works. The Drainage Easement is located approximately 80 m south and 180 m west of the Site, and the Electricity Infrastructure Easement is located approximately 170 m west of the Site.	LISTmap – easements layer Gray Planning Report 2025

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Feature	Description	Information Source
Elevation	Elevation contours show the Site is at less than 5 m Australian Height Datum (AHD). It was evident during the Site inspection and Site sampling, that high tides reach onto the eastern extents of the Site.	LISTmap – elevation (5 m contour) layer LotSearch report (Appendix B)
Topography	The Site is generally level, with slight sloping towards the river. The existing land area of the Site has been formed by land reclamation with fill. Stockpiles were being actively brought to the Site during the pitt&sherry Site inspection and Site sampling, and reclamation works had recently been completed prior to both the inspection and sampling rounds. The western portion of the Property has a steep rock face (dolerite)/ embankment which was formed in the early stages of the reclamation works in the Property area. The rock face and embankment is also present along the southern edge of the Property.	LISTmap – elevation (5 m contour) layer Site inspection (Section 3.4) LotSearch report (Appendix B)
Surface Water	The Site is adjacent to the River Derwent, with no other permanent surface water bodies present onsite. The tidal line for the River Derwent runs along the northeast waterfront boundary, and there was evidence of high tides reaching onto the Site area during both the pitt&sherry Site inspection and Site sampling. Surface water runoff is anticipated to follow the built pavements and stormwater drains where present, or to infiltrate into the unsealed fill surface, and to drain towards the River Derwent.	LISTmap – elevation (5 m contour) layer, hydrographic lines layer Site inspection (Section 3.4) LotSearch report (Appendix B)
Groundwater	There are no public records regarding groundwater for the Site or immediate surrounds. The closest groundwater bore listed in the Groundwater Information Access Portal (GIAP) is 1.6 kilometres (km) west of the Site (Bore ID 17285, 35.1 m depth to water). The main aquifer geology is Tertiary Basalt. LotSearch Report lists the closest boreholes as IF1 (Drill ID 19577, 2.8 m length from surface) and IF2 (Drill ID 19578, 3 m length from surface) 145 m south of the Site. The engineering log by Sloane Weldon Pty Ltd from 2 June 1999 for IF1 and IF2 identifies dolerite as the predominant rock type with light brown orange staining, with fill and wood immediately below the concrete for IF1. As the Site is entirely underlain by reclaimed land comprising fill materials the soils are subject to tidal influence from the adjacent river estuary. Groundwater beneath the Site therefore consists of estuarine waters with fluctuating levels, controlled by the tide. This was confirmed during test pitting work, where some test pits could only be dug during low tide to maximise depth of excavation (to around 1 m below ground level (bgl), otherwise water ingress prevented digging.	GIAP search LotSearch report (Appendix B) Site sampling (Section 5)
Groundwater Dependent Ecosystems (GDE)	No GDEs are mapped within the Site. The River Derwent, immediately adjacent to the Site, is mapped as a moderate potential GDE – from National Assessment.	LISTmap – GDE layer LotSearch report (Appendix B)

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Feature	Description	Information Source
Geology	The Site geology consists of: • **Man made deposits** (Qhmm), which are expected to be underlain by • Undifferentiated Cenozoic sequences, or undifferentiated Quaternary sediments and Holocene Alluvial, lacustrine and littoral deposits, underlain by • Dolerite and related rocks (Jd).	LISTmap – geological polygons 25K layer LotSearch report (Appendix B)
Acid Sulfate Soils (ASS)	**ASS mapping includes a high probability (>70 %) of ASS occurrence beneath and adjacent to the Site.** The existing area of reclamation will have covered some of the likely ASS. The proposed new area of reclamation is likely to impact on ASS present beneath the water column.	LISTmap – Coastal ASS (0-20 m AHD) layer LotSearch report (Appendix B)
Heritage	**The Site is**: • Not listed on the Tasmanian Heritage Register (THR), the National Heritage List, the Commonwealth Heritage List or the World Heritage List; and • Not within a Heritage precinct, heritage place, or places of archaeological significance. **Offsite**: • 300 Risdon Road, Lutana is a permanently registered house on the THR 470 m to the southwest of the Site.	LISTmap – Tasmanian Heritage Register layer Planning Scheme LotSearch report (Appendix B)
Ecology	No threatened fauna or flora species have been mapped or recorded within the Site. There are records of the following threatened fauna within 1 km of the Site: • Grey Goshawk (Accipter novaehollandiae) • Eastern Quoll (Dasyurus viverrinus); and • White-bellied Sea-eagle (Haliaeetus leucogaster). There are records of the following threatened flora located within 1 km of the Site: • Risdon peppermint (*Eucalyptus ridonii*) • MacGillivray spiridium (*Spyridium eriocephalum* • Forest germander (*Teucrium corymbosum)* • Crimsontip daisybush (*Olearia hookeri*) • Narrow threadpetal (*Stenopetalum lineare*) • Spur velleia (*Goodenia paradoxa*) • Largefruit seatassel (*Ruppia megacarpa*) • Moleskin dogwood (*Pomaderris pilifera subsp. Talpicutica*) • Fuzzy new holland daisy (*Vittadinia cuneata var.* cuneata); and • Spreading knawel (*Scleranthus fasciculatus*).	LISTmap – Threatened Fauna and Flora layers LotSearch Report (Appendix B)

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Feature	Description	Information Source
	All bird records are assumed to be fly-over records only. The quoll record is located in the River Derwent, which is likely a coordinate accuracy error; quolls usage is expected to be a very rare occurrence as habitat present in this area is deemed to be extremely marginal for this species. Refer to Section 3.1.4 for a summary of Marine Solutions' findings regarding aquatic ecology adjacent to the land area.	
Vegetation	No vegetation is mapped for the Property. The vegetation of the immediate surrounds is mapped as "Modified Land – Urban areas (FUR)".	LISTmap – TASVEG 4.0 layer Site inspection (Section 3.4) LotSearch Report (Appendix B)
Wetlands	No wetlands are mapped on the Site. The nearest wetland, ID 15372, is located around 1.3 km northeast of the Site.	LISTmap – Wetlands and Ramsar wetlands, TNVC layers LotSearch Report (Appendix B)
Geoconservation	No geoconservation sites have been mapped within 500 m of the Site.	LISTmap – Geoconservation layer LotSearch Report (Appendix B)

2.3 Natural Hazards

The natural hazard overlays which apply to the Site, as identified through spatial data available on LISTmap and the LotSearch Report are summarised in Table 3.

Table 3: Natural Hazards

Natural Hazard	Description	Information Source
Flood	The Site is **not** within a mapped flood prone area. Flood prone areas **are** mapped within 15 m to the east, south and west of the Site.	LISTmap – flood plain layer and Glenorchy Planning Scheme - Code Overlay map LotSearch Report (Appendix B)
Coastal Inundation	The Site **is** mapped within low, medium and high coastal inundation areas.	LISTmap – coastal inundation layer and Launceston Planning Scheme - Code Overlay map LotSearch Report (Appendix B)
Coastal Erosion	The Site **is** within a mapped coastal erosion investigation area.	LISTmap – coastal erosion layer and Launceston Planning Scheme Code Overlay map LotSearch Report (Appendix B)

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Natural Hazard	Description	Information Source
Landslide	The Site is **not** mapped within a landslide area. An area approximately 8 m to the southwest of the Site is mapped as a "Medium Landslide Hazard Area." The western edge of the Property comprises a steep rock cutting in dolerite.	LISTmap – Landslide planning Map and Launceston Planning Scheme Code Overlay map LotSearch Report (Appendix B)
Bushfire	The Site is **not** within the Bushfire-Prone Areas Code under the Planning Scheme, and no records of fire events have been mapped for the Site. There is no vegetation on Site.	LISTmap – Launceston Planning Scheme – Code Overlay layer and fire history layer LotSearch Report (Appendix B)

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3. Site History Review

A desktop review of current and historical information (as it relates to potential contamination) was completed for the Site including:

- Review of publicly-available datasets, including Gray Planning Report (2025), GIAP, LISTmap and LotSearch (Appendix B) to document the Site settings (refer to Section 2)
- Client-supplied information (refer to Section 3.1)
- Database search and historical aerial images sourced from the LotSearch report (refer to Section 3.2)
- Consultation with authorities (refer to Section 3.3); and
- Site inspection (Section 3.4).

Where there is the potential for information identified in this section to impact the Site from a contamination perspective, this is identified in **bold red text**. Where PCAs are identified and are considered unlikely to impact on the Site from a contamination perspective, justification is provided.

PCAs which have been identified within the Site and surrounds are shown on Figure 3 (Appendix A). In many instances the location of the PCA is approximate and it is likely that any impact extends beyond the labelled location.

3.1 Client Supplied Information

A summary of Client-supplied information is provided below.

3.1.1 Request For Information

A Request for Information (RFI) was sent to Gray Planning on 2 February 2025. From the information supplied by Incat, the following points are relevant to the Project and potential PCAs:

- No environmentally related incidents (such as fires or spills) that may have impacted soils within the development footprint or adjacent estuarine sediments are known to have occurred from / within the Property and Incat operation
- The visible overflow channel adjacent to the southern Site boundary is known to drain periodically from adjacent operations to the south. From inspection of aerial imagery (refer to Section 3.2.2), the drain appears to flow from a holding pond located south of the Site which is likely managed by Impact Fertilisers; a second drain may feed from the Nyrstar operation as well
- A review of Dangerous Goods (DG) manifest plan for the Property suggests that there are no underground fuel or chemical storage tanks or underground lines, although there could be a short underground feed line between an above ground storage tank (AST), situated in the south of the existing sheds, as it is believed to supply some equipment located within the shed.
- Chemicals stored onsite are understood to be mostly methylated spirits, gas bottles and vehicle oils for onsite activities such as welding and forklift operation
- The fire water main linked to the fire hydrants is the only underground service on the River Derwent side of the Incat sheds (Appendix C)
- The known previous use of the land within the development area was the storage of aluminium components and some shipping containers used as workshops
- **The source of materials used for the reclamation works undertaken approximately 25 years ago is unknown.** It is understood that the loads were visually inspected at the time of unloading, however, these inspections are likely to have been for material suitability from a reclamation compaction perspective, as opposed to contamination perspective

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- Antifouling coatings used by Incat are said to be sustainable biocide-free silicone systems. They are stored in a closed environment in the original ship building sheds
- It is understood that no excavation is required as part of the Project as the shed will be installed onto a slab on ground. However, underground services may require trenching excavations and the wharf will require piling which will disturb and potentially generate excess soils
- Waste soil generated will be spread across other areas of the development Site and reused in the reclamation
- The reclamation process will involve placing and pushing imported fill materials along the river's edge, followed by placement of armour rock along the edge of the reclamation to contain the soils. The armour rock is likely to be dolerite boulders sourced from the HBMI Leslie Vale quarry; and
- No environmental monitoring is currently undertaken.

Details regarding the importation of fill to the Incat Property were supplied by Sophie Feltrin (TasWater - Project Delivery Lead) to Stephen Casey (Incat Chief Executive Officer (CEO)) on 11 February 2026.

- Soil and rock from the construction of the Selfs Point Sewer Rising Main, have been imported to the Incat Property under the existing agreement "*Provision of Clean Fill from Selfs Point Sewer Rising Main Construction Site*" (dated 28 November 2025; updated 16 January 2026)
- The topsoil is stripped and retained onsite in windrows prior to transport. The remaining material is then transported for 'temporary storage' at Incat
- Elgin undertook a desktop Preliminary Site Assessment (PSA) in 2024 assessing the alignment for potentially contaminating activities (PCAs). The PSA concluded that the soils could be classified as Clean Fill Type 1. Elgin concluded:
    - Excavated natural soils and FCR [fine crushed rock] from the majority of the Rising Main can be classified as Clean Fill Type 1 without the need for testing. An extract from the Elgin letter is included below for ease of reference:
        - In areas where potentially contaminated material may be present, fill has been tested, segregated, and either reused onsite or disposed of at an appropriately licensed waste facility where classified above Level 1 – Fill Material; and
        - Where testing classified material as Level 1 – Fill Material, some of this material has been transported to INCAT."

3.1.2 Planning Documents

Planning documents relevant to 100 Derwent Park Road, Derwent Park were provided by Gray Planning. From the information supplied, the following points are relevant to the Project and potential PCAs.

- The Proposed works excavation will result in more than 250 square metres (m^2) of disturbance. This disturbance will be predominantly located reclaimed land formed by fill of unknown origins[4].

3.1.3 Environmental Site Assessment by Geo-Environmental Solutions (GES) November 2019

The objective of the GES ESA[5] was to investigate potential site contamination and to assess the suitability and safety of soils for excavation, including potential risks to human health and the environment. It is important to note that the investigation areas assessed as part of the GES ESA (shown in Figure 2 of that ESA) are located 220 m north of the Site; therefore the findings of the ESA are not representative of the contamination conditions within the Site, but provide an indication of the type of contamination which could be encountered, given both GES' investigation and the Site are over reclaimed land. From the ESA, the following key points are relevant to the Project and potential PCAs:

[4] Pers. Comm. John Smith, Construction Manager, 3/2/2026

[5] Geo -Environmental Solutions (GES). Environmental Site Assessment – 100 Derwent Park Road, Derwent Park (Incat Site). 7 November 2019.

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- The potential contamination identified in the ESA was the presence of fill for reclaimed land, as well as industrial activities on the land (boat building and storage of materials) and nearby industrial activities (zinc smelter). All of these activities are similar PCAs to those which are currently present on and near the Site
- The Contaminants of Potential Concern (CoPCs) identified included total petroleum hydrocarbons (TPH), total recoverable hydrocarbons (TRH), benzene, toluene, ethylbenzene and xylenes (BTEX) and polycyclic aromatic hydrocarbons (PAHs) and heavy metals. They were based on past and ongoing site activities (including boat building and the storage, milling and joining of timber) and surrounding industrial activities (zinc smelter and fertiliser facilities)
- Three boreholes sampled to a depth of 1 m had zinc levels at 1 to 2 times above the ASC NEPM Ecological Investigations Levels (EIL) guideline concentration. A soil and water management plan (SWMP) was recommended to mitigate ecological impacts. Two of the boreholes are the closest sampling locations to the Site (approximately 160 m). The elevated zinc levels are likely related to the proximity of the **Nyrstar (zinc smelter)**
- No risks to human receptors associated with dermal contact, dust inhalation, soil ingestion or vapour intrusion were identified, as no exceedances of human health guideline values were detected; and
- Heavy metals were found in 9 of 11 samples and soil waste classification for offsite disposal to landfill was deemed to be Level 2 per IB105.

3.1.4 Marine Ecological Assessment at Incat by Marine Solutions February 2026

Marine Solutions conducted a desktop assessment and field survey to support the marine ecological assessment for the proposed construction and reclamation works at the Incat site, surveying the foreshore area within the Site footprint. The desktop review identified 12 threatened marine species that may occur, or are known to occur, within the proposed development area. Targeted surveys for four of these species were undertaken on 3 February 2026. From the assessment, the following key points are relevant to the Project and potential PCAs.

- Surveys were limited due to the shoreline being located 10 – 15 m further offshore than expected suggesting that at least 10 m of reclamation has occurred since satellite imagery recorded in 2025
- Reclamation works were progressing during the survey period
- Significant water quality impacts were observed, with a plume of high turbidity due to suspended sediment in the water around the reclamation works
- Results from the survey of the intertidal area noted anthropogenic fill and the subtidal habitat was characterised by bioturbated silt and predominately unvegetated benthic habit, **suggesting the area was previous land reclamation**
- No threatened species (including seastars, spotted handfish) were identified during surveys; and
- Marine Solutions proposed the recommendations outlined in Table 4 (Table 1 of their report).

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Table 4: Marine Solutions Summary of Findings, Potential Impacts and Recommendations for the Proposed Incat Development (Table 1 Of MS 2026)

	Summary of findings	Potential impacts	Mitigation methods
Threatened and protected species.	• Desktop assessment revealed 12 threatened marine species may occur in the survey area. • No threatened species were identified in field investigations. • Mobile and migratory species may utilise study area.	• Injury or death of marine fauna. • Loss of habitat. • Acoustic disturbance. • Suspended sediments resulting in: o Resuspension of historically deposited contaminants (i.e., heavy metals). o Deposition of suspended sediment into adjacent habitats. • Pest species introduction and/or proliferation. • Pollution of waterway with debris.	• Implement best practice construction methods that minimise benthic disturbance. • Implement thorough cleaning protocols to reduce risk of pest species translocation. • Silt curtain installation and maintenance. • Development of a soil management plan to mitigate impacts of run off. • If a sediment plume is observed beyond the silt curtain, additional water quality monitoring may be required. • Responsible removal of debris and waste from site. • Marine mammal monitoring prior to and during any construction activities that create noise intrusion (e.g., piling) by a trained Marine Mammal Observer (MMO) as per the Underwater Piling and Dredging Noise Guidelines (DIT 2023). • A slow start-up of construction works to avoid causing unnecessary shock to animals and to allow them to vacate the area. • Implementation of an environmental management plan to manage risk and maintain integrity of mitigations.
Habitat characterisation.	• Desktop assessment highlighted ecologically important habitats in the mid - upper Derwent Estuary. • Several native and introduced marine species were recorded during field investigations. • Evidence of historical land reclamation in the intertidal zone. • Debris recorded throughout the survey area. • Sediment plume observed around active reclamation works.		

3.2 LotSearch Report

An Enviro Pro report has been obtained from LotSearch for the Site and is provided in Appendix B. The report includes:

- A compilation of the data for the Site, sourced from publicly-available and privately-sourced databases; and
- High-resolution historical aerial images for the Site.

The Site history data from the LotSearch report are presented in the following subsections. Where applicable, information from the LotSearch report has also been used to inform the Site setting section (Section 2).

3.2.1 Database Information

Key findings from the databases compiled in the LotSearch report include:

- Environmental Protection Notice (EPN) 7316/2 relates to the operation of a chemical fertiliser plant at Impact Fertilizer (Ameropa Australia Pty Ltd) at 300 Risdon Road, Lutana, 10 m south of the Site. The original Permit Conditions Environmental (PCE) (5960) was granted in 1994. The activity is currently approved to process 220,000 tonnes per year. Impact Fertilizer produce Single Superphosphate (SSP) fertiliser. Given Impact Fertilizer have been approved for operation since 1994 and due to the close proximity to the Site, there is potential that the production process for SSP may have contributed to the contamination at or beneath the Site either due to emissions to air, or to water / sediments prior to reclamation. However, due to the thickness of the reclamation layer over the former sediment layer, contamination in sediments beneath the Site reclamation layer is not expected to pose a risk to Site users or the environment. The main fallout from air emissions from Impact Fertilizers which could have impacted on the Site soils includes fluoride, oxides of nitrogen and total particulates

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- EPN 7043/6 relates to the operation of a zinc smelter at 300 Risdon Road, Lutana, 20 m southeast of the Site. Issued to Nyrstar Hobart Pty Ltd, the activity was first approved by the then Department of Environment and Land Management in June 1996 per Permit 3314. **However, the premises have been operating as a zinc smelter for around a century under various permits and operators. The close proximity of the zinc works to the Site and storage / handling / processing of heavy metals (zinc) there is a risk that Nyrstar may have contributed to contamination at or beneath the Site. Air emissions from the zinc smelter are known to impact on soil metals concentrations at locations downwind of the smelter, which could include the Site.** Sediments beneath the reclamation on Site are also likely to have been impacted by the zinc works metals emissions, although, since reclamation is several metres thick, risks to human health and the environment from these contaminated sediments are minimal. **Sediments adjacent to the Site which are proposed to be covered by fill for reclamation purposes are most likely also impacted by heavy metals from the zinc works (and from other industrial operations along the Derwent River)**
- EPN 8736/1 issued to the Glenorchy City Council relates to the operation of aquifer storage and recovery for the Derwent Park Stormwater Harvesting & Industrial Reuse Project. This former activity is located 180 m southwest topographically upgradient of but lateral to the Site, therefore it is unlikely this activity would contribute to contamination of the Site
- EPN 7167/1 relates to the ferrous and non-ferrous foundry located at 12-14 Bender Drive, Derwent Park, 410 m west of the Site. The activity was permitted in 1991 and the EPN was issued in 2009 to vary the conditions. The EPN outlines the regulatory limit for the foundry to not exceed 1400 kg of melting metal per 8-hour day. The distance of this facility from the Site and the fact that the Site is on reclaimed land, suggests that it is unlikely that any contamination from this facility could have impacted directly on the Site
- Permit 7554 relates to the operation of a clinical and related waste depot at 129 Derwent Park Road, located 570 m southwest of the Site. Issued in 2006 to Southern Waste Solutions (SWS), the activity is limited to the receival of 560 tonnes per year of waste. Due to the distance and topographical and lateral location of this current activity relative to the Site, it is unlikely to have contributed to contamination of the Site
- EPN 9208/1 and EPN 8545 relates to the operation of wastewater treatment plant at Prince of Wales Bay, located 631 m southwest of the Site. Permit 3540 was issued by the then Department of Environment and Land Management in 1991 for the Activity and is unlikely to have contributed to contamination of the Site due to being situated lateral to the Site
- There are three surrounding waste management facilities (Shred X – e-waste drop-off facility and paper / cardboard recycling, Cleanaway - Material Recovery Facility; and SWS Transfer station) located between 430 m and 700m of the Site, that are unlikely to have contributed to contamination of the Site as they mostly handle solid wastes
- The closest underground petroleum storage system (UPSS) is within 831 m southeast of the Site, at Nyrstar, 300 Risdon Road, Lutana, located topographically and hydraulically upgradient, but lateral to the Site. The UPSS is unlikely to impact on the Site due to the distance and topographical location; and
- The Derwent Barracks located at Dowsing Point, 910 m northwest of the Site, is a known contamination location that has been assessed as part Defence 3-Year Regional Contamination Investigation Program. **There is a slight risk that mobile contamination from this operation (including perfluoroalkyl- and polyfluoroalkyl substances [PFAS]), could have impacted on the river sediments and water quality near the Site. And given the tidal nature of the river adjacent to the Site, it is possible that PFAS may have been deposited within Site soils.**

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3.2.2 Historical Aerial Images Review

Historical aerial images sourced from the LotSearch report are provided in Appendix B.

A review of the main features observed in the historical aerial images is provided in Table 5. Notable information for the images ranging from 1946 to 2025 includes:

- Adjacent industrial activities, including the zinc smelter (Nyrstar) and fertiliser manufacturing operations (Impact Fertiliser), have historically operated to the southeast of the Site. These activities have the potential to have impacted the Site from a contamination perspective. Ongoing industrial operations, including the intensification of Nyrstar's activities from 1969 and the storage and processing of heavy metals (zinc and others) (including storage of waste jarosite), are likely to have contributed to contamination at or beneath the Site, particularly within the underlying sediments, although airshed fallout is also known to have impacted soils in surrounding areas with heavy metals concentrations above background
- The pipeline discharging from the zinc smelter (Nyrstar) is evident since 1969, with a visible plume observed at the discharge location. The pipeline was located 160 m southeast of the Site and was no longer visible in 1997. The nature of the discharge is unknown. It is likely that discharged materials have settled into river sediments and along the shoreline of the River Derwent and would have been reworked and moved around during flood and tide cycles. Given this uncertainty, **there is potential for impacted sediments to have accumulated along the shoreline beneath and adjacent to the Site. These sediments may be disturbed during reclamation works as well as during installation of sheet piles and wharf piles**; and
- Historical aerial imagery from 2003 to 2014 shows evidence of land reclamation within the Site footprint. The chemical and physical composition of the fill materials is unknown[6]. **Given the lack of detail on the nature of the fill materials, there is potential for contaminants to be present within the fill beneath the Site.**

Table 5: Historical Aerial Images Review

Year	Site	Property	Surrounds
1946	• River Derwent	• Not developed, cleared land	• Surrounding areas to the southeast appears to be a timber yard • Train line between the road and large shed west of the Property, road running parallel to the Property; and • Cleared land along the coastline and five houses located along the road frontage.
1957	• River Derwent	• Not developed, cleared land	• The coastline predominantly looks the same as 1946, however a wharf has been constructed to the southeast • The timber yard has been redeveloped into a large industrial facility (zinc works); and • No further development has occurred to the housing.

[6] Pers. Comm. John Smith, Construction Manager, 3/2/2026: although loads of fill brought in around 25 years ago were visually inspected for contamination, the source of the materials is not known and not contamination testing was undertaken

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Year	Site	Property	Surrounds
1969	• River Derwent	• Not developed, cleared land	• A pipeline has been constructed north of the wharf. 160 m southeast of the Site. A white plume believed to be from the zinc works surrounding the discharge point can be observed • Further development of the zinc works has occurred • The area between the housing and industrial site has been developed and is utilised for car parking; and • Large shed has approximately doubled in length and appears to have a powder material located outside on the west end (Impact Fertiliser).
1977	• River Derwent	• Not developed, cleared land	• Predominately no change except further expansion to the zinc works (one large tank).
1988	• River Derwent	• Not developed, cleared land	• Further development of the zinc works (one large tank) • Difficult to identify the location of the existing railway and no train carriages indicating a shift towards road transport • Further land clearing has occurred to extend the car park to the northeast; and • Evident white plume from the pipe into the River Derwent (Nyrstar discharge).

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Year	Site	Property	Surrounds
1997	• River Derwent	• Significant development has occurred to the Property; and • Significant land reclamation for the development of Incat's Site (long industrial shed, car parking, unsealed storage area); the slope appears to have been cut back along the western and southern side of the Property	• Housing has been removed and land has revegetated (grass); and • Building at the industrial site (zinc works) has been demolished and have not been entirely removed.
2003	• The Site area has been partially reclaimed.	• Further land reclamation has occurred for the development of Incat second shed the development of Incat's Site (second long industrial shed, car parking, unsealed storage area)	• Vegetated land has been cleared for car parking to the southwest of the Property.
2014	• Further reclamation work has occurred within the Site footprint • The site is being used for storage of aluminium components; and • Works have been undertaken along the foreshore, possibly to straighten and reinforce the foreshore edge.	• The building of the second shed has been completed; and • The area surrounding the Incat shed appears to now be a hardstand.	• The car parking to the south west of the Property appears to now be a hardstand.
2025	• No change to the Site footprint is evident; however, storage use has increased.	• A smaller shed has been built onto the eastern side of the second shed.	• The pond to the east of the Property is full. • No other evident changes.

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3.3 Consultation with Authorities

WorkSafe Tasmania (WST) have been consulted regarding documents relating to contamination and/or PCAs at the Site or within its vicinity.

The records obtained from these communications are supplied in Appendix D.

3.3.1 WorkSafe Tasmania

An enquiry was lodged with WorkSafe Tasmania (WST) regarding dangerous goods (DG) records for the Site on 28 January 2026. WST confirmed on 12 February 2026 that no files were identified for the Site according to WST general records management system and the EPA's Environmental Relevant Land Use Register (ERLUR).

3.3.2 EPA

Given the extensive public databases on current and historical activities (and known PCAs) in the area of the Site, no direct enquiries have been made with the EPA. A summary of currently regulated premises is provided in Section 3.2.1.

A review of EPA UPSS records in LISTmap identified one UPSS within 1 km of the Site. The nearest active UPSS is Site ID 260, located approximately 830 m southeast of the Site at Nyrstar, 300 Risdon Road, Lutana. Given the distance and as it is topographically and hydraulically lateral to the Site, the UPSS is not expected to have impacted the Site.

3.4 Site Inspection

A Site inspection was completed by Fiona Keserue-Ponte (CEnvP SC) on 3 February 2026. Fiona also attended site on 18 February 2026, at the onset of Site sampling in test pits and in stockpiles.

The inspection checklist is provided in Appendix E and Site photographs in Appendix F.

A summary of Site observations is provided below:

- The western edge of the Property was cut into fresh dolerite; the embankment is near vertical
- The Site surface was unsealed
- Numerous soil and rubble stockpiles were present as well as sundry steel equipment storages
- Reclamation works appeared to have recently occurred and a sediment plume was very visible all along the foreshore
- The northern end of the Site, along the former reclamation edge, showed evidence of erosion with only coarser materials remaining and all fines having been washed away
- Numerous soil and rubble stockpiles were present onsite, many had mixed solid wastes including plastic piping, PVC piping, bent reinforcement steel bars still embedded in concrete, bricks and other demolition rubble. Stockpiles also included rock, gravel, sand, soil, organic matter and plant matter
- There was clear evidence of the high tide flooding the lower reaches of the Site area
- As the Site is underlain entirely by reclamation / fill materials, groundwater beneath the Site is expected to be tidally influenced and water quality would be strongly influenced by the river water quality in terms of both salinity and potential contaminants
- Two underground services were noted onsite, a fire main and standpipes, and an apparently disconnected power plug in pole

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- The Site surface showed evidence of the mixed fill nature of the previous reclamation materials which also appeared to have included concrete rubble, bricks, and other solid wastes; and
- A black plastic sheet was present along the southern embankment, south of the Site. The plastic sheet appears to act as erosion control for occasional discharges from either Impact Fertilisers or Nyrstar or both. The discharge flows directly into the river.

The main issues relating to contamination included:

- The presence of mixed fill of unknown origins and contamination status within the existing reclamation
- The presence of mixed fill of unknown contamination status within the existing stockpiles and recent reclamation materials, some of which were eroding and being transported from Site via a sediment plume
- The informal and inadequate containment along the foreshore reclamation, particularly along the recent reclamation edge but also along the older northern edge where all fines had washed away leaving residual small rocks and rubble only acting as very weak armouring for that area of older reclamation
- Groundwater quality beneath the Site is likely to be affected by the river water quality, as groundwater within the reclaimed material would be almost entirely tidally derived; water quality in the area can be strongly affected by discharges from adjacent industrial operations, including from the discharge channel noted along the southern edge of the Site; and
- The unknown contamination status and ASS status of soil being impacted by the active reclamation works which could be mobilising previously contaminated sediment lying at the bottom of the river and also disturbing ASS which could begin oxidising and releasing acid due to the disturbance.

3.5 Integrity Assessment

In order to confirm the findings of the desktop review, cross-referencing between the different information sources has been completed as far as practicable and the information presented within this report is considered to be generally correct, with consideration of the following:

- The LotSearch report (Appendix B) does not identify any addresses associated with potentially contaminating business activities extracted from Universal Business Directories that are mapped to a specific premise or road intersection. This is due to there being no such records captured within the dataset buffer zone, despite the presence of known surrounding industrial activities. The LotSearch report is limited to the datasets available and their defined spatial coverage.

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4. Summary of Potential for Contamination

4.1 Potential for Contamination on and Adjacent to the Site

PCAs identified in the SHR sections above as having potential to impact the Site from a contamination perspective are summarised below. Some of the PCAs are shown in Figure 3 within Appendix A. Where an identified PCA is not listed below, it has been dismissed in Section 3 as being unlikely to impact on the Site from a contamination perspective.

- Previously reclaimed land beneath the Site consists of mixed fill of unknown origins, composition and contamination status
- Storage of materials, shipping containers, etc. within the Site footprint (since at least 2003), including movement of mobile plant including hydrocarbon-fuelled equipment
- Recent fill brought to Site and used as recent reclamation materials also included mixed fill from various sources including TasWater earthworks, which does not appear to have been thoroughly tested / characterized for contamination and permitted for reuse onsite
- Recent stockpiles brought to Site but not yet used for the reclamation included mixed fill from various sources including TasWater earthworks, which does not appear to have been thoroughly tested / characterized for contamination and permitted for reuse onsite. BDR was included in the stockpiles; BDR is often associated with asbestos containing materials (ACM). Many stockpiles appear to include organic matter / vegetation / timber pieces which is not suitable as inert reclamation material. Scrap materials such as plastic and PVC piping, steel reinforcement bars sticking out of concrete, etc. are not deemed suitable for reclamation materials as they will break down into micro plastics and rusty by-products respectively
- Fallout from nearby industrial operations is known to have impacted soil quality of downwind land areas with heavy metals concentrations above background; these include impacts from zinc, lead and other heavy metals
- The hydraulically upgradient Australian Defence Force facility at Dowsing Point may be a source of PFAS contamination which could have impacted on the Site as it is regularly flooded by high tides
- Groundwater quality beneath the Site is likely to be affected by the river water quality, as groundwater within the reclaimed material would be almost entirely tidally derived; water quality in the area can be strongly affected by discharges from adjacent industrial operations, including from the discharge channel noted along the southern edge of the Site
- Historically contaminated sediments are expected to be present within the sediment column all along the riverbed, within the proposed reclamation area and beneath the existing reclamation
- ASS are expected to be present all along the riverbed, within the proposed reclamation area and beneath the existing reclamation
- Sediment plumes were observed actively eroding and moving in the tidal river waters from the active reclamation edges of the Site
- There is evidence that the finer materials along the foreshore of the existing reclamation have been eroding due to lack of: proper containment, inadequate reclamation construction method and lack of large armour rock; and
- Abundant reclamation spoil was noted on the riverbed (Marine Solutions, 2026) suggesting that former and current reclamation materials are not contained to the reclamation area only but are also rolling off the reclamation face and spreading on the riverbed. Given the mixed nature and unconfirmed contamination status of the fill used historically and recently for reclamation, there is a risk that contaminated materials have been released onto the nearby riverbed.

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4.2 Contaminants of Potential Concern

On the basis of the above, CoPCs are expected to include:

- Heavy metals, in particular zinc and lead
- Hydrocarbons
- ACM and potentially loose fibres; and
- PFAS.

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5. Intrusive Investigations

5.1 Objectives

Due to the identified potential Site contamination concerns outlined in Section 4, intrusive investigations were recommended for the Site to characterise the potential contamination of the fill materials, as the contaminants may affect the proposed Site use, proposed construction works, and the proposed extension to the reclamation to create a larger footprint for the Site. As removal of reclaimed materials was not expected to occur, characterisation of soils focussed on the shallower soil horizons in the existing reclamation and on the soil stockpiles present on the Site at the time of sampling. Groundwater was not included in the investigation as groundwater quality is likely to be similar to the river water quality as the Site groundwater is expected to be tidally influenced within the reclaimed fill materials.

The objectives of the intrusive investigations were therefore to:

- Determine the presence and concentrations of CoPCs (refer to Section 4.2), presence / absence of asbestos-containing materials (ACM) and asbestos fibres in the soils / fill materials at the Site as a result of identified PCAs, specifically the fill from unknown sources used during past reclamation works and untested fill recently brought in from TasWater and still stockpiled onsite
- Assess the findings and confirm (or otherwise) the presence of contamination within the Site
- Inform any remediation and protection measures required to be implemented prior to any reclamation works commencing within the Site; and
- If possible, based on the findings, provide a statement that the Site is suitable for proposed development (as per zoning) and proposed excavation, from a contamination perspective.

5.2 Overview

Intrusive investigations completed by pitt&sherry within the Site as a component of this ESA comprised:

- Inspecting and sampling 13 test pits excavated within the Site to a maximum depth of 2 m bgl; and
- Inspecting all fill stockpiles and sampling 30 representative stockpiles within the Site.

Investigation locations and the estimated stockpile area are shown in Figure 4 (Appendix A).

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5.3 Sampling Plan

5.3.1 Data Quality Objectives

The data quality objective (DQO) process for this ESA is summarised in Table 6.

Table 6 Summary of Data Quality Objectives

DQO	Details
The Problem	• Unknown concentrations of CoPCs (including presence / absence of ACM or asbestos fibres) in soil / fill materials within the Site due to identified PCAs – specifically the uncontrolled fill used during historical and recent reclamation works from unconfirmed and some untested sources.
Investigation Questions	Investigation questions for this ESA include: • What is the current contamination status (if any) of the soils / fill materials within the Site footprint up to depths relevant to the proposed use and proposed development? • What is the contamination status and waste classification of stockpiles proposed for onsite reuse and reclamation? • Does the level of contamination (if any) at the sampled locations represent an unacceptable risk to human health and/or the environment for the proposed development and reclamation; and • Are any management measures for soils / fill materials likely to be required during the proposed use or redevelopment including reclamation?
Inputs to the Decision	Information inputs to this ESA comprise: • Site setting and Site History Review, including Site inspection – refer to Section 2 and Section 3 • Field visual, olfactory and screening data – refer to Section 5.4 • Summary of potential for contamination – refer to Section 4 • Assessment criteria – refer to Section 5.5 • Summary of results – refer to Section 6 • Interpretation of results, and review of quality assurance and quality control (QA/QC) information, Section 6.1.2 and • Conceptual site model (CSM), source-pathway-receptor (SPR) linkages and risk assessment – refer to Section 8.1
Boundary of the Assessment	• Intrusive investigations were limited to the 13 test pits and 30 waste stockpiles within the Site footprint • A maximum of three samples were taken from each test pit for analyses • A maximum of one sample was taken from each waste stockpile for analyses • Test pit and stockpile locations are shown in Figure 4 (Appendix A); and • Limitations, exclusions, and gaps are noted in Sections 1.5 and 8.4; in addition to "*Important information about your report*", at the end of this ESA.

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DQO	Details
Decision Rules	Comparison of reported concentrations of CoPCs in soils / fill materials against adopted assessment criteria (where available) to: • Allow an assessment of whether the contamination status of the soil / fill materials within the Site represents an unacceptable risk to human health and/or the environment under the permitted land uses (based on zoning) and under the proposed land use (general industrial); and • Identify whether any management measures are likely to be needed to manage or remediate any identified contamination risks.
Acceptable Limits on Decision Errors	• Variation in data may arise from samples collected in succession from a single sampling point due to: ○ The potential heterogenous nature of the soils / fill materials ○ The potential heterogenous dispersion of contaminants within the soil / fill profile; and ○ Fragments of materials which may bias samples in certain elements.
Design for Obtaining Data	• Intrusive investigations for the ESA targeted locations for the collection of soil / fill material samples within the Site accordance with the legislation and guidelines outlined in Section 1.4 as applicable to an ESA and considering the limitations in Section 1.5; and • The sampling plan is detailed in Section 5.3.

5.3.2 Sampling Methodology

The sampling methodology for this ESA is summarised in Table 7.

Table 7: Sampling Methodology

Activity	Details
Rationale	• Intrusive investigations were undertaken as a component of this ESA to enable characterisation of the type and contamination status of the fill stockpiles and reclamation fill material • Sampling was developed to enable the determination of the potential risks to human and/or environmental health during proposed reclamation, construction and Site use, posed by the known placement of fill of unknown origins • Contaminants in the fill can be a diffused source and can also be localised, so sampling in accordance with *AS4482.1-2005*[7] was applied to this Site as the fill has been present for several decades and hotspots could also be present from Site PCAs. • The existing reclaimed land area of the Site was estimated at approximately 5000 m^2 or 0.5 ha. According to *AS4482.1-2005,* around 13 sampling locations are recommended to characterise the contamination via a square grid and to detect a circular hotspot of contamination with 95% confidence • Selection of samples in each test pit was based on the logged profile and selected to provide representative samples from the main fill horizons and the base of the test pits

[7] *AS 4482.1-2005 Guide to the investigation and sampling of sites with potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds – Table E1*

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Activity	Details
	• The number of stockpile samples was based on the total volume of soil stockpiles present onsite during sampling; the volume was estimated at 800m3. A total of 30 soil stockpile samples was considered appropriate to provide 1 sample per 27 m3; IB105 requires 1 sample per 25 m3; given the estimated 800 m3 of stockpiles onsite, the density of sampling is deemed sufficient to characterise the contamination status of the stockpiles that were present on the morning of 18 February 20268; and • Soil stockpile samples were selected to provide a representative sample of a group of similar stockpiles, or to characterise stockpiles of only one type of material. The aim was to take representative samples relative to the volume of similar soil types noted in the stockpiles.
CoPCs	Based on previous Site investigations and on identified PCAs, potential CoPCs for the Site were selected as follows (refer to Section 4.2): • 8 heavy metals (arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), nickel (Ni), zinc (Zn), mercury (Hg)) – total concentrations only • Hydrocarbons: total petroleum and total recoverable hydrocarbon suite (TPH/TRH), benzene, toluene, ethylbenzene and xylenes (BTEX), and polycyclic aromatic hydrocarbons (PAHs) – total concentrations only • Asbestos fibres and asbestos presence/absence in solid fragments; and • PFAS – total concentrations only.
Investigation Works	• Investigation works were supported by: ○ John Smith – who operated the excavator and identified underground services to be avoided during excavation of test pits • Test pitting work comprised the excavation of 13 test pits to a maximum depth of 2 m bgl, inspecting the profile and collecting soil samples from different fill horizons/materials for CoPC analysis; water seepage was encountered (refer to Section 6) • Stockpile sampling to provide representative samples of the soil types present onsite at the time of sampling. Soil samples were taken from the surface of stockpiles; and • In accordance with ASC NEPM practice, on completion of sampling, excavated soils / fill materials were backfilled into the excavated test pits. No materials were disposed offsite as a component of this ESA.

[8] It should be noted that new soils were being actively brought to Site during pitt&sherry sampling. These were not sampled during our works

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Activity	Details

Sample Collection	• Screening and sampling were undertaken by pitt&sherry staff experienced with contaminated land sampling and under the initial guidance of a CEnvP SC
	• All soil / fill material samples were collected using single-use disposable nitrile gloves into laboratory-supplied receptacles and snap-lock bags (as appropriate) suitable for the CoPCs to be tested, filled with minimal headspace, sealed, labelled, and placed on ice in portable chiller boxes
	• Soil / fill material samples were collected from the excavated piles from the nominated depths of the profile. The sampling depth was selected to obtain representative samples from the profile (i.e. different fill materials, natural soils/sediments), was guided by the depth of any obvious contamination (i.e. odour / staining / fill)
	• Additional samples were collected to satisfy QA/QC requirements at the rate of:
	  ○ One triplicate set per 20 samples resulting in:
	  – Two triplicate sets for test pits
	  – Two triplicate sets for soil stockpiles; and
	• Profile descriptions, location information were recorded on test pit / stockpile logs (refer to Appendix F) and sampling locations are shown on Figure 4 (Appendix A).

Visual Observations and Screening	• Refer to Section 5.4 for a summary of visual observations; and • Details are recorded on test pit and stockpile logs (Appendix F).
Photographs	• Representative photographs of test pit profiles and stockpile sampling locations and context are provided in Appendix F.
Decontamination	Decontamination and cross-contamination mitigation procedures included: • Removing excess soil from the excavator bucket between investigation locations • Using single-use disposable nitrile gloves, changed after collection of each sample; and • Using new laboratory-supplied receptacles suitable for the CoPC to be tested for each sample.
Sample Transport	• A chain of custody (CoC) form was submitted to the laboratory with the samples for analysis • Ice was added to the chiller boxes for sample preservation • The samples were transport to the primary laboratory under CoC conditions and within relevant holding times for the CoPCs to be tested; and • CoC forms and laboratory sample receipt notifications are provided in Appendix G.

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Activity	Details

Samples For Analysis	• Test pit soils:
	  ○ 38 primary samples were tested for hydrocarbons (TPH/TRH/BTEXN/PAH), total metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)
	  ○ 11 primary samples were tested for absence / presence of asbestos; these were selected from horizons that had BDR
	  ○ 7 primary samples were tested for PFAS (short suite); these were selected from approximately a quarter of the test pits and only from the shallowest soil horizons which are most likely to have been affected by PFAS from the identified offsite source
	  ○ 2 triplicate sets (2 replicated samples of a primary sample) were tested for total metals and hydrocarbons (BTEXN, PAH, TPH/TRH)
	  ○ 2 samples were tested for ASC NEPM soil characterisation screening to assist in determining Site specific EILs for relevant metals (Cr, Cu, Ni and Zn)
	• Soil stockpiles:
	  ○ 30 primary samples were tested for hydrocarbons (TPH/TRH/BTEXN/PAH), total metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)
	  ○ 3 primary samples were tested for absence / presence of asbestos
	  ○ 5 primary samples were tested for PFAS (short suite, total concentrations)
	  ○ 2 triplicate sets (2 replicated samples of a primary sample) were tested for total metals and hydrocarbons (BTEXN, PAH, TPH/TRH)
	  ○ 2 samples were tested for ASC NEPM soil characterisation screening to assist in determining Site specific EILs for relevant metals (Cr, Cu, Ni and Zn); and
	• 3 samples for asbestos in bulk solids.

Laboratory Analysis	• All samples were submitted to the National Association of Testing Authorities (NATA)-accredited ALS (ALS Limited – laboratory services; Accreditation No. 825) for testing of identified CoPCs; and • Secondary samples for QA/QC were onforwarded to the NATA-accredited Eurofins Laboratory (Accreditation No. 1261) for testing of identified CoPCs.
Holding Times	• All soil samples were received by the laboratories within the required holding times for the individual parameters tested, with exceptions discussed in Section 7.3.2; and • Quality control details are discussed in Section 7.3.
Assessment Criteria	• Refer to Section 5.5 for adopted assessment criteria and rationale.
Results	• Summary tabulated results are discussed in Section 6 and Section 7 and provided Appendix H.

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5.4 Visual Observation and Field Screening

To accompany the visual observations summary provided in the following subsections, refer to Appendix F – for the photographic log, field sheets and details of the encountered soil types, depth intervals, field screening results for VOCs, odours and staining.

5.4.1 Site Observations During Sampling

Site observations during sampling included:

- Field personnel observed that additional fill was being imported to the Site and placed alongside the existing stockpiles
- There was evidence of the high tide having flooded the eastern edge of the Site and the water ingress in the test pits was clearly controlled by the tide. Test pits dug along the eastern portion of the Site were excavated during low tide to maximise the depth of test pitting; and
- Existing stockpiles were moved and mixed in order to facilitate access to the required locations for excavation of some test pits. Stockpiles that had been mixed prior to sampling were noted in the comments of the field sheets (Appendix F).

5.4.2 Soil Profile

The typical, generalised soil profile of test pits encountered (Appendix F) consisted of:

- A fill capping between 0 to approximately 0.2 m bgl, mostly consisting of gravelly silts, clay and sand
- Below 0.2 m bgl, profiles consisted of BDR including red bricks, bitumen, concrete, plastic and PVC pipes, etc. intermixed with predominately gravelly clay and gravelly silt; and
- Water ingress was encountered between 0.7 – 1.9 m bgl, deepening to the west, away from the river. The water ingress was also controlled by the timing of the tide cycle (i.e. shallower water ingress at high tide and vice versa), and the original ground level (the higher the ground level the deeper the water ingress).

5.4.3 Odour and Staining

As documented on the field sheets / logs (Appendix F):

- No odour or staining consistent with potential odourous or staining CoPCs was encountered within fill layers of the test pits, other than in TP02, as noted below
- A slight hydrocarbon odour was noted in one test pit (TP02) at a depth of between 1.2 and 1.9 m bgl; the odourous layer was logged as black clays with gravel; neither of the samples around these depths in TP02 reported any detectable hydrocarbons. The odours may have been due to organic matter in the profile; and
- Stockpiles with organic matter and topsoils were observed to be slightly odorous, likely due to decaying organic matter (e.g. SP03, SP05, SP08 and SP25).

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5.5 Assessment Criteria

5.5.1 Rationale

The Site assessment criteria were selected based on the following:

- Unknown composition of fill across the Site, with fill being placed since at least 2003, refer to Section 3.2.2
- Adjacent contaminating land uses which have been ongoing for decades (Impact Fertilisers and others) and near a century in the case of the zinc works (Nyrstar)
- Storage of materials, shipping containers, etc. within the Site footprint (since at least 2003), including movement of mobile plant including hydrocarbon-fuelled equipment
- Importation and placement of stockpiles of fill materials which from TasWater for which the source location and associated testing records are not clearly identifiable; and
- Onsite or adjacent sensitive receptors, including Site users and aquatic ecology (refer to Table 2 and Section 3.1.4).

5.5.2 Soil and Fill Material Adopted Criteria – CoPCs

On the basis of the above rationale and due to the reclamation for the proposed development the following Site assessment criteria have been selected for this ESA:

- ASC NEPM:
    - Health Screening Levels (HSLs) / Health Investigation Levels (HILs) for commercial / industrial land use (HIL/HSL D)
    - Ecological Screening Levels (ESLs) / EILs for commercial / industrial land use settings and nearby areas of ecological significance (River Derwent) to assess the risk to ecological receptors during the proposed commercial Site use and against the permissible zoning uses (Port and Marine), as well as to assess risks to more sensitive ecological receptors within the nearby waterway
    - Site-specific EILs were calculated for Cr, Cu, Ni and Zn for both the test pits and the stockpiles based on the most stringent calculated aged added contaminant limit (ACL) value for each of these metals, and based on two samples each of the test pits and the stockpiles. It should be noted that the ACL was adopted as an EIL in the absence of an established background value. Therefore, the adopted EILs for these metals are very conservative and an exceedance of the EIL does not necessarily signify that ecological harm will occur
- CRC CARE Technical Report No. 10:
    - HSLs for commercial / industrial land uses to assess the risk to human health during direct contact
    - HSLs for Intrusive Maintenance Workers (IMW; i.e. construction and maintenance workers) to assess the risk to human health from vapour intrusion and during direct contact in a shallow trench; and
- PFAS NEMP for HIL D (direct contact).

In addition to these, IB105 waste classification criteria have also been considered to determine the likely classification of the soil stockpiles. It should be noted that soils which are taken from one property to another need to have been classified and any soils classified as Level 2 require approval from EPA for reuse on another property and Level 3 and above are not typically approved by EPA for reuse on another property.

Laboratory reported concentrations of tested CoPCs in soil / fill have been compared against these criteria (where available and as appropriate) (i.e. a Tier 1 Risk Assessment). The criteria are used as thresholds to assist in determining if further investigation, risk assessment and/or management may be required. Asbestos was assessed on a presence / absence basis.

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6. Analytical Results

6.1 Analytical Results and Comparison to Adopted Assessment Criteria

Laboratory Certificates of Analysis are provided in Appendix G. Analytical results have been summarised and compared to adopted assessment criteria (where applicable) in the result tables in Appendix H. Basic statistics are also provided.

Appendix H contains:

- Tabulated soil and fill results compared to the following adopted guideline criteria; and
- Tabulated soil triplicate results and calculated relative percentage differences (RPDs) for quality control.

Results are provided in the following:

- The reported concentrations in soils and fill materials are summarised in Section 6.1.1
- The reported concentrations in soils and fill materials assessed against waste classification criteria (Section 6.1.2); and
- Field and laboratory QA/QC are discussed in Section 7.3.

6.1.1 Soils / Fill Materials

A summary of exceedances of adopted Site use assessment criteria (irrespective of soil type, texture or depth) is provided in Table 8 (test pit samples) and Table 9 (stockpile samples). These results represent an assessment of the suitability of soils / fill materials for remaining onsite as part of the existing reclaimed materials (test pit soils) and for reuse in the reclamation (stockpiled soils).

Three solid grab samples of potential ACM fragments were taken from the Site (loose fragments sampled as ACM1 and ACM2, and one solid sample from stockpile SP06, one of which detected asbestos (sample ACM2)).

Assessment Against Human Health Criteria – Commercial / Industrial Site Setting

The results show that there were two human health guideline exceedances for lead in test pit 10 in samples TP10_0.2 m and TP10_0.5 m, which reported concentrations of 2,040 mg/kg and 2,220 mg/kg respectively.

As noted above, sample ACM2 reported presence of three asbestos types, chrysotile, amosite and crocidolite. The fragment was found at surface on the Site, near TP03. The fragment is likely to have come from previous BDR containing fill placed within the previously reclaimed area.

Assessment Against Ecological Criteria – Commercial / Industrial Site Setting

A range of exceedances of commercial / industrial ecological criteria were reported in both the test pits and stockpiles. Of note is the following:

- Two samples reported concentrations of lead in excess of the commercial / industrial lead EIL of 1,800 mg/kg, these were the two samples taken at 0.2 m and 0.5 m bgl in TP10
- Two samples reported concentrations of benzo(a)pyrene (BaP) in excess of the commercial / industrial lead EIL of 1.4 mg/kg; samples TP12_1.0 m and SP08 reported concentrations of 3.2 and 2.1 mg/kg BaP respectively; and
- Four samples reported concentrations of perfluorooctanesulfonic acid (PFOS) in excess of the PFAS NEMP ecological *indirect* exposure criterion (applicable to all land uses). These were in TP05_0.2, TP08_0.1, TP09_0.7 and SP23.

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Assessment Against Ecological Criteria – Areas of Ecological Significance Setting

- Test pits

  The following exceedances of ecological criteria for areas of ecological significance were noted in test pits samples:

  - Arsenic: There was one exceedance in TP13_1.0 m bgl
  - Copper: There were seven exceedances of the copper EIL (conservative ACL), which were reported from a range of depths, including near surface and down to 2 m bgl
  - Lead: There were three exceedances' of the lead EIL (generic EIL), all were in TP10 at depths ranging from 0.2 to 1.1 m bgl
  - Nickel: There was one exceedance of adopted nickel EIL (conservative ACL), in TP08 at 1.2 m bgl
  - Zinc: There were 25 exceedances of adopted zinc EIL (conservative ACL), i.e. around 66 % of samples reported exceedances, across all depths of samples
  - BaP: There were two exceedances of adopted BaP EIL, both in TP12 in both the shallow and deeper samples
  - PFOS: There were three exceedances of PFOS ecological criterion (applicable to all land uses) which were reported at depths ranging from 0.1 to 0.7 m bgl
- Stockpiles
  - Copper: There was one exceedance of adopted EIL (conservative ACL) in SP05
  - Lead: There was one exceedance of generic lead EIL in SP05
  - Nickel: There was one exceedance of adopted nickel EIL (conservative ACL) in SP07
  - Zinc: There were 2 exceedances of adopted zinc EIL (conservative ACL) in SP03 and SP05
  - BaP: There was one exceedance of adopted BaP EIL in SP08; and
  - PFOS: There was one exceedance of PFOS ecological criterion (applicable to all land uses) which was reported in SP23.

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Table 8: Summary of Exceedances of the Adopted Criteria – Test Pits

Sample ID / Depth (mbgl)	Human Health Criteria				Ecological Criteria			Presence of Asbestos and Other Fibres		
	ASC NEPM HIL / HSL D (vapour intrusion)	CRC CARE HSL D (vapour intrusion)	CRC CARE HSL D (direct contact)	CRC CARE HSL D (IMW)	ASC NEPM EIL/ESL Commercial / Industrial	ASC NEPM - EIL/ESL (areas of ecological significance)	PFAS NEMP - ecological indirect exposure (all land uses)	Asbestos Presence and Type	Synthetic Mineral Fibres (SMF)	Organic Fibres
TP01_0.9	NE	NE	NE	NE	NE	Zn	--	ND	ND	Yes
TP01_1.2	NE	NE	NE	NE	NE		--	--	--	--
TP02_0.1	NE	NE	NE	NE	NE	Zn	NE	--	--	--
TP02_0.9	NE	NE	NE	NE	NE	Zn	--	ND	ND	Yes
TP02_1.9	NE	NE	NE	NE	NE	NE	--	--	--	--
TP03 0.5	NE	NE	NE	NE	NE	NE	--	--	--	--
TP03_1.4	NE	NE	NE	NE	NE	NE	--	--	--	--
TP04_0.2	NE	NE	NE	NE	NE	NE	NE	--	--	--
TP04_1.0	NE	NE	NE	NE	NE	NE	--	--	--	--
TP04_2.0	NE	NE	NE	NE	NE	Cu, Zn	--	--	--	--
TP05_0.2	NE	NE	NE	NE	NE	Zn	PFOS	ND	ND	Yes
TP05_0.6	NE	NE	NE	NE	NE	Zn	--	--	--	--
TP05_1.0	NE	NE	NE	NE	NE	Zn	--	ND	ND	Yes
TP06_0.2	NE	NE	NE	NE	NE	NE	--	--	--	--
TP06_0.4	NE	NE	NE	NE	NE	NE	--	--	--	--
TP06_0.7	NE	NE	NE	NE	NE	NE	--	ND	ND	Yes
TP07_0.1	NE	NE	NE	NE	NE	Zn	--	--	--	--
TP07_0.5	NE	NE	NE	NE	NE	Zn	--	--	--	--
TP07_1.3	NE	NE	NE	NE	NE	Zn	--	--	--	--
TP08_0.1	NE	NE	NE	NE	NE	Zn	PFOS	--	--	--
TP08_0.4	NE	NE	NE	NE	NE	Cu, Zn	--	--	--	--

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Sample ID / Depth (mbgl)	Human Health Criteria				Ecological Criteria			Presence of Asbestos and Other Fibres		
	ASC NEPM HIL / HSL D (vapour intrusion)	CRC CARE HSL D (vapour intrusion)	CRC CARE HSL D (direct contact)	CRC CARE HSL D (IMW)	ASC NEPM EIL/ESL Commercial / Industrial	ASC NEPM - EIL/ESL (areas of ecological significance)	PFAS NEMP - ecological indirect exposure (all land uses)	Asbestos Presence and Type	Synthetic Mineral Fibres (SMF)	Organic Fibres
TP08_1.2	NE	NE	NE	NE	NE	Zn	--	ND	ND	Yes
TP09_0.1	NE	NE	NE	NE	NE	Zn	NE	--	--	--
TP09_0.7	NE	NE	NE	NE	NE	Zn	PFOS	ND	ND	Yes
TP09_1.0	NE	NE	NE	NE	NE	NE	--	--	--	--
TP09_1.4	NE	NE	NE	NE	NE	Cu, Zn	--	--	--	--
TP10_0.2	Pb	NE	NE	NE	PB	Cu, Pb, Zn	--	--	--	--
TP10_0.5	Pb	NE	NE	NE	PB	Cu, Pb, Zn	--	--	--	--
TP10_1.1	NE	NE	NE	NE	NE	Pb, Zn	--	ND	ND	Yes
TP11_0.1	NE	NE	NE	NE	NE	Cu, Zn	--	--	--	--
TP11_0.4	NE	NE	NE	NE	NE	Zn	--	--	--	--
TP11_1.0	NE	NE	NE	NE	NE	Zn	--	ND	Yes	Yes
TP11_1.5	NE	NE	NE	NE	NE	Zn	--	--	--	--
TP12_0.2	NE	NE	NE	NE	NE	B(a)P	--	--	--	--
TP12_1.0	NE	NE	NE	NE	B(a)P	B(a)P	--	ND	ND	Yes
TP13_0.1	NE	NE	NE	NE	NE	Zn	NE	ND	ND	Yes
TP13_1.0	NE	NE	NE	NE	NE	As, Cu, Zn	--	--	--	--
TP13_1.4	NE	NE	NE	NE	NE	Zn	--	--	--	--

Notes:

NE – no exceedances reported in the sample.
ND – no asbestos or synthetic mineral fibres (SMF) detected.
BaP - benzo(a)pyrene
'--' not tested for that analyte / suite.
Green shaded cells – indicate exceedances of adopted ecological assessment criteria for the analyte(s) reported within the cell irrespective of soil type, texture and depth.
Blue shaded cells – indicate presence of fibres as reported within the cell.
Yellow shaded cells – indicate exceedance of human health criterion/criteria for the analyte(s) reported within the cell irrespective of soil type, texture and depth.

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Table 9: Summary of Exceedances of the Adopted Criteria – Stockpiles

Sample ID / Depth (mbgl)	Human Health Criteria				Ecological Criteria			Presence of Asbestos and Other Fibres		
	ASC NEPM HIL / HSL D (vapour intrusion)	CRC CARE HSL D (vapour intrusion)	CRC CARE HSL D (direct contact)	CRC CARE HSL D (IMW)	ASC NEPM EIL/ESL Commercial / Industrial	ASC NEPM - EIL/ESL (areas of ecological significance)	PFAS NEMP - ecological indirect exposure (all land uses)	Asbestos Presence and Type	Synthetic Mineral Fibres (SMF)	Organic Fibres
SP01	NE	NE	NE	NE	NE	NE	NE	--	--	--
SP02	NE	NE	NE	NE	NE	NE	--	--	--	--
SP03	NE	NE	NE	NE	NE	Zn	--	--	--	--
SP04	NE	NE	NE	NE	NE	NE	--	--	--	--
SP05	NE	NE	NE	NE	NE	Cu, Pb, Zn	--	--	--	--
SP06	NE	NE	NE	NE	NE	NE	NE	ND	--	--
SP07	NE	NE	NE	NE	NE	Ni	--	--	--	--
SP08	NE	NE	NE	NE	BaP	BaP	--	--	--	--
SP09	NE	NE	NE	NE	NE	NE	--	--	--	--
SP10	NE	NE	NE	NE	NE	NE	NE	--	--	--
SP11	NE	NE	NE	NE	NE	NE	--	--	--	--
SP12	NE	NE	NE	NE	NE	NE	--	--	--	--
SP13	NE	NE	NE	NE	NE	NE	--	--	--	--
SP14	NE	NE	NE	NE	NE	NE	--	--	--	--
SP15	NE	NE	NE	NE	NE	NE	--	--	--	--
SP16	NE	NE	NE	NE	NE	NE	--	--	--	--
SP17	NE	NE	NE	NE	NE	NE	--	--	--	--
SP18	NE	NE	NE	NE	NE	NE	--	--	--	--
SP19	NE	NE	NE	NE	NE	NE	--	--	--	--
SP20	NE	NE	NE	NE	NE	NE	--	--	--	--
SP21	NE	NE	NE	NE	NE	NE	--	--	--	--

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Sample ID / Depth (mbgl)	Human Health Criteria				Ecological Criteria			Presence of Asbestos and Other Fibres		
	ASC NEPM HIL / HSL D (vapour intrusion)	CRC CARE HSL D (vapour intrusion)	CRC CARE HSL D (direct contact)	CRC CARE HSL D (IMW)	ASC NEPM EIL/ESL Commercial / Industrial	ASC NEPM - EIL/ESL (areas of ecological significance)	PFAS NEMP - ecological indirect exposure (all land uses)	Asbestos Presence and Type	Synthetic Mineral Fibres (SMF)	Organic Fibres
SP22	NE	NE	NE	NE	NE	NE	--	ND	ND	Yes
SP23	NE	NE	NE	NE	NE	NE	PFOS	--	--	--
SP24	NE	NE	NE	NE	NE	NE	--	--	--	--
SP25	NE	NE	NE	NE	NE	NE	--	--	--	--
SP26	NE	NE	NE	NE	NE	NE	--	--	--	--
SP27	NE	NE	NE	NE	NE	NE	--	ND	ND	Yes
SP28	NE	NE	NE	NE	NE	NE	NE	--	--	--
SP29	NE	NE	NE	NE	NE	NE	--	--	--	--
SP30	NE	NE	NE	NE	NE	NE	--	--	--	--
ACM1	NE	NE	NE	NE	NE	NE	--	ND	--	--
ACM2	NE	NE	NE	NE	NE	NE	--	Yes	--	--

Notes:

NE – no exceedances reported in the sample.
ND – no asbestos or synthetic mineral fibres (SMF) detected.
BaP - benzo(a)pyrene
'--' not tested for that analyte / suite.
Green shaded cells – indicate exceedances of adopted ecological assessment criteria for the analyte(s) reported within the cell irrespective of soil type, texture and depth.
Blue shaded cells – indicate presence of fibres as reported within the cell.
Yellow shaded cells – indicate exceedance of human health criterion/criteria for the analyte(s) reported within the cell irrespective of soil type, texture and depth.

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6.1.2 Waste Classification of Soils / Fill Materials

A summary of exceedances of waste classification criteria of stockpiles is provided in the summary results tables (Appendix H). It provides an assessment of the waste classification of the soil fill materials stockpiled for reuse onsite either within the reclamation area or to build up the Site surface.

The results show that several of the stockpiles sampled would be classified as either Level 2 – low level contaminated soils or Level 3 – contaminated soils according to classification against IB105 criteria. Exceedances were reported in the following:

- Stockpiles classified as Level 2 low level contaminated soil:
  - Three stockpiles (SP03, SP05, SP07) reported Cu, Pb, Ni and/or Zn total concentrations in excess of IB105 Level 1 fill criteria
  - One stockpile (SP10) reported an exceedance for BaP IB105 Level 1 fill criterion
- Level 3 contaminated soil:
  - One stockpile (SP08) reported and exceedance of BaP IB105 Level 2 low level contaminated criterion; and
- Two stockpiles (SP10 and SP23) reported detectable PFAS concentrations.

These results are discussed further in Section 7.1.3.

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7. Discussion

The following sections provide a discussion of the results summarised in Section 6.

In addition, findings from the QA/QC assessment are discussed in Section 7.3.

7.1 CoPCs in Solid / Fill Materials / Solids Remaining Onsite

7.1.1 Asbestos, Synthetic Mineral Fibres and Organic Fibres

Asbestos is a known carcinogen. Disturbing any amount of asbestos can release fibres into the air. These could be inhaled, which may lead to diseases such as asbestosis, lung cancer or mesothelioma in later years in the lungs and potentially other diseases or complications if swallowed. Selected soil samples from test pits and stockpiles from the Site were tested for presence and absence of asbestos fibres, generally when BDR was identified, where fibres were more likely to be present. Where tested, no asbestos was found in soils / fill materials at or above the LOR of 0.1 g/kg by polarised light microscopy including dispersion staining, as noted in Table 8 and Table 9. Three solid fragment grab samples were collected from the Site (two from the ground and one from stockpile SP22) which were considered potential ACM material. Sample ACM2, returned a positive asbestos result; this sample was found loose on the Site, near TP03. The fragment is likely to have come from previous BDR containing fill placed within the previously reclaimed area.

Synthetic mineral fibres (SMF) presence or absence has been reported for the same samples tested for asbestos fibres. From the samples tested, one test pit sample, TP11 at 1 m bgl detected the presence of SMF. A significant quantity of red bricks was observed within this test pit layer. The next deeper horizon in TP11, at 1.5 m bgl contained extensive BDR, including bricks, tiles, bitumen, metal fragments, wire, and concrete. SMF may have been from insulating materials or similar, related to the BDR materials.

Organic fibres generally do not pose risks to human health or the environment and are likely associated with vegetation rootlets. Organic fibres presence or absence has been reported for the same samples tested for asbestos fibres. All 13 samples tested reported the presence of organic fibres. The fibres are likely related to vegetation rootlets in soils intermixed with the BDR and other fill materials tested; they do not require any particular management other than erosion and sediment control, which is applicable to all earthworks.

7.1.2 Other CoPCs Within Existing Reclamation Soils (Test Pits)

Human Health Criteria (Commercial / Industrial)

The reported exceedances of the human health criterion (commercial / industrial land use setting) for lead were limited to one test pit (TP10) and occurred in the samples taken from the shallow profile (0.2 m bgl: 2040 mg/kg Pb, and 0.5 m bgl: 2220 mg/kg Pb) within the existing reclaimed area of the Site. The next deeper sample in TP10, taken at 1.1 m bgl, reported a relatively elevated concentration (655 mg/kg), but not in excess of the ASC NEPM human health HIL commercial / industrial criterion of 1,500 mg/kg Pb.

Shallow soils (0 – 1 m bgl) at, and around the location of TP10 should therefore be considered a risk to human health for both Site users and earthmoving contractors. The source of the contamination is likely to be from the imported fill used for the reclamation, since the contamination extends to 0.5 m bgl and beyond.

During previous land reclamation activities on the Property there was limited tracking / testing of imported fill. The isolated nature of this exceedance is consistent with the use of heterogeneous fill materials from multiple sources imported during the reclamation process, however it also highlights the fact that other similarly contaminated soils could be present anywhere within the previous reclamation area beneath and around the Site footprint.

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Sample ACM2 was confirmed as asbestos containing. It was found near TP03 and likely associated with BDR previously used as fill in the pre-existing reclaimed area. As BDR was also detected within the new fill soils, it is very possible for ACM to also be present in imported soils which contain BDR.

Ecological Criteria (Commercial / Industrial)

Exceedances of commercial / industrial ecological criteria within the existing reclamation area included the following:

- Lead in TP10 at 0.2 m and 0.5 m bgl
- BaP in sample TP12_1.0 m bgl; and
- PFOS (ecological *indirect* exposure criterion, applicable to all land uses) in TP05_0.2, TP08_0.1 and TP09_0.7 m bgl.

All exceedances are at shallow depths, which are typically considered higher risk for ecological receptors. Ecological receptors within the Site are limited to seagulls, based on observations during the investigations; there is no vegetation onsite and wildlife use is expected to be very rare. There is however a risk of these soils being disturbed and eroding during the proposed construction and reclamation earthworks, particularly given the proximity to the River Derwent and more sensitive ecological receptors within the aquatic ecosystem.

These exceedances are assessed as presenting limited ecological risk during the proposed Site use, as most of the Site soils will be covered by a slab and exposure to terrestrial organisms will be limited. Groundwater permeating the reclamation is from the river and could potentially leach metals, BaP and PFOS, however, these are already ubiquitous in the immediate area of the Site and Property, due to existing industrial operations, and the contributions from the Site reclamation materials leaching into groundwater are expected to be negligible compared to contributions from other nearby industrial activities.

Ecological Criteria (Areas Of Ecological Significance)

Over 60% of test pit soil samples reported Zn concentrations in excess of adopted ecological (conservative ACL) criterion, with a number of samples also reporting Pb, Cu and one each of As and Ni exceedances of adopted ecological criteria. The Pb exceedances are the most significant as they also exceeded commercial / industrial Pb ecological criterion in TP10. In addition, BaP in TP12 and PFOS was reported in excess of ecological criteria, with BaP in TP12 (1 m bgl) also exceeding the commercial / industrial ecological criterion.

The areas of ecological significance criteria were adopted to assess the risk from soil eroding from Site and impacting on more sensitive aquatic and foreshore environments. Given the above, strict management of Site soils should be implemented during excavations for construction / underground services, etc, and during earthmoving reclamation works. Site soils are not considered suitable for use within the reclamation area, unless the are placed within a fully contained bunded pocket which will prevent any erosion into the waterway.

7.1.3 Other CoPCs Within Newly Imported Stockpiled Soils

Human Health Criteria (Commercial / Industrial)

None of the tested stockpile soil samples reported any exceedances of commercial / industrial human health criteria adopted for the Site and proposed earthworks.

Ecological Criteria (Commercial / Industrial)

The following tested stockpile soil samples reported exceedances of commercial / industrial ecological criteria adopted for the Site and proposed earthworks:

- BaP in SP08; and
- PFOS (ecological *indirect* exposure criterion, applicable to all land uses) in SP23.

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It is understood that Incat has organised for these two stockpiles and others with similar materials, to be removed from Site[9].

Ecological Criteria (Areas of Ecological Significance)

A number of stockpiles reported exceedances of areas of ecological significance criteria, including: SP03, SP05, SP07, SP08 and SP23.

As noted above, SP08 and SP23 (and stockpiles with similar materials) are understood to have been removed from Site. In addition, SP03, SP05, SP07, and stockpiles of similar materials, are also understood to have been removed from Site.

7.1.4 Future Fill Material

As noted in Section 6.1.2, a number of sampled soil stockpiles reported concentrations which were either Level 2 or Level 3 per IB105, and a number of the samples reported detectable PFAS concentrations. A confirmed ACM piece was also sampled near TP03 likely associated with BDR which was previously used in the pre-existing reclamation. As BDR is also present in imported fill, there is a risk that ACM could be included in that fill.

As no EPA approval (Regulation 21) was provided by TasWater for reuse of Level 2 and Level 3 (controlled waste) soils onsite, it is understood that Incat is now in the process of removing these stockpiles and soil stockpiles of similar composition from Site.

It is also understood that Incat has requested that only tested and confirmed clean fill (i.e. Level 1 fill, per IB105) be brought to Site for reclamation and reuse within the Site surface area. Due to the presence of BDR in some stockpiles and the risk of ACM being associated with BDR and due to the detected PFAS in some stockpiles, the waste producer must test for all potential contaminants in the waste soils prior to classifying them under IB105. Incat has also requested detailed soil tracking for every load brought to the Site since around mid-February 2026.

No EPA approval is required for confirmed Level 1 fill material.

In the event that Level 2 or above waste soils are to be brought to Site, the waste producer must obtain a Regulation 21 approval from EPA for reuse of those soils specifically on the Incat Site and will need to provide this documentation to Incat, and all waste loads will need to be tracked from the correct source to the Incat Site. IB105 does not normally permit the reuse of soils classified as Level 3 or above, nor soils which contain asbestos or PFAS.

7.2 Summary of Identified Contamination

Analytical results (Section 6) and the associated discussion (Section 6.1.2 and 7.1) demonstrates that within the Site:

- **One** confirmed ACM fragment was identified at the Site surface and is likely to have come from pre-existing fill / BDR materials
- **One** confirmed sample for SMF was detected in pre-existing fill materials
- **One** test pit, TP02, had a hydrocarbon odour in soils / fill materials, but none of the TP02 samples reported any detectable hydrocarbons
- **No** elevated VOCs were detected in soils / fill materials samples (via field screening)
- Reported concentrations of CoPCs were **above** adopted **human health** for **Pb** in one test pit (TP10)
- Reported concentrations of CoPCs were sporadically **above** adopted commercial / industrial **ecological** criteria
- Reported concentrations of CoPCs were predominantly **above** adopted areas of **ecological** significance criteria (adopted to assess potential impacts from reclamation on sensitive aquatic receptors)

[9] Brett Gadd, Incat, emails of 4 and 5 March 2026

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- Some solid wastes were noted within the profile and stockpiles, including bitumen, bricks, concrete rubble, plastic pipe, plastic, terracotta piping, bricks, scrap metals, embedded reinforcing bars in concrete; and
- In addition, although a number of newly-imported stockpiles reported concentrations above Level 2 or Level 3 IB105 waste soil classification, and exceeded adopted ecological criteria, it is understood that due to these results, Incat is in the process of removing these stockpiles and similar soils from Site and these are therefore not included in the risk assessment of this ESA.

7.3 Quality Control / Quality Assurance Assessment

Laboratory QA/QC reports are provided in Appendix G. A tabulated summary of the field QA/QC results is provided in Appendix H.

7.3.1 Field QA/QC Assessment

Field QA/QC results are summarised below:

- Samples for CoPC analysis were received by the laboratory at a temperature of less than 6 degrees Celsius (0.8, 1.3, 2.6 °C) (refer to ALS sample receipt notification, Appendix G)
- One trip blank was submitted with the soils batch, and all VOCs were reported below the laboratory LOR
- Triplicated samples results show that:
    - Metals concentrations are variable with both the interlaboratory and intralaboratory triplicated samples, this is expected to be due to the fill heterogeneity. The number of samples taken from both the stockpiles and test pits however, provided a sufficient dataset to characterise the expected ranges in metals concentrations across the Site area and within the imported fill stockpiles; and
    - Hydrocarbon concentrations were generally consistent between interlaboratory and intralaboratory triplicated samples.

7.3.2 Laboratory QA/QC Assessment

The laboratory quality interpretive report from ALS noted:

- No method blank value outliers occurred
- No laboratory control outliers occurred
- Duplicate outliers exist: the laboratory carried out internal duplication of several of the Incat soil samples, the RPDs exceeded their criteria for reported metals concentrations, confirming the very heterogeneous mix of the Site fill materials. Due to the number of samples taken, the spread of samples provide a good representation of the expected range of metal concentrations within the shallower profile of the Site
- Matrix spike outliers exist: the laboratory spiked a number of Incat soil samples with known metals concentrations. The reported concentrations (recoveries) were generally less than the laboratory objective and in some instances were higher than the laboratory recovery target. It is therefore possible that the metals concentrations reported in this ESA are under-reported (or over-reported) or this could be a reflection of the very heterogeneous nature of the fill
- No surrogate recovery outliers occurred
- No analysis holding time outliers occurred; and
- No quality control sample frequency outliers occurred.

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7.3.3 QA/QC Conclusions

Based on the findings of the QA/QC assessment detailed in this section (and related appendices), it is considered that the analytical data are generally representative of the concentrations of tested CoPC at the specified locations at the time of sampling. Although some variation in reported concentrations of some CoPC between primary and secondary samples exists, particularly for metals, the reported concentrations of CoPCs are overall of acceptable quality for the purposes of this ESA as they characterise the range of metals concentrations across the Site.

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8. Risk Assessment

8.1 Conceptual Site Model

A preliminary Conceptual Site Model (CSM) has been developed, to identify potentially significant source-pathway-receptor (SPR) linkages in relation to human health and the environment. Unacceptable risks from contamination may occur if the SPR linkage is complete.

8.1.1 Sources of Potential Contamination

Sources of potential contamination at the Site were documented in Section 4.1 and identified contamination was summarised in Section 7.2.

Sources

In summary, contamination sources for the Site are:

- Historical and recent placement of fill of unknown origins and composition across the whole Site
- Storage of materials, and use of hydrocarbon-fuelled mobile equipment
- Solid wastes and presence of BDR often associated with ACM
- The presence of river sediments beneath and adjacent to the Site footprint which are expected to be impacted by long term industrial emissions from adjacent industrial facilities – these have not being tested as part of this ESA
- The presence of acid sulfate soils beneath and adjacent to the Site footprint
- Historic and current adjacent industrial land uses which are known to have metals-contaminated air emissions; and
- River waters may also be contaminated from offsite sources and given the periodical tidal flooding of the Site and the ingress of tidal waters within the reclamation groundwater, contamination could be waterborne.

Identified Contamination

- **SMF** were detected in Site fill materials, associated with BDR
- One confirmed **ACM** fragment was identified at the Site surface and is likely to have come from pre-existing fill / BDR materials
- **Solid wastes** were noted within the test pit profiles and in numerous new stockpiles including bitumen, bricks, concrete rubble, plastic pipe, plastic, terracotta piping, bricks, scrap metals, embedded reinforcing bars in concrete, which pose an aesthetic and environmental risk in poorly managed reclamation works
- Isolated pockets of contamination in excess of **human health** criterion of lead at TP10 and potentially in other areas of the Site; and
- Metals concentrations including As, Cu, Pb, Ni, and Zn, as well as BaP and PFOS reported in excess of **ecological** criteria both commercial / industrial and areas of ecological significance criteria.

In addition, ASS and contaminated sediments are expected to be present within the footprint of the proposed reclamation area.

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8.1.2 Potential Receptors

Potential receptors within, and in the vicinity of the Site, which may be exposed to identified CoPC include:

- Human receptors:
  - Current and future Site and Property users (general industrial)
  - Construction and excavation workers at the Site
- Ecological receptors:
  - Terrestrial fauna and existing flora in the vicinity of the Site – expected to be minimal; and
  - Aquatic ecosystem near the Site.

Any future development (other than the proposed development) should undergo a separate investigation and risk assessment. This CSM only considers the proposed Site use as a boat building yard, and specifically, only considers the proposed development described in Section 1.1.

Furthermore, the risk posed by ASS which may be present beneath, and in particular, adjacent to the Site on the riverbed, has not been assessed in the CSM. If more than 100 tonnes of ASS are to be disturbed by the reclamation works, an ASS investigation should be undertaken to assess whether ASS are present and therefore, whether an ASS Management Plan is required.

The contamination status of sediments adjacent to the Site and within the proposed reclamation footprint on the riverbed has not been assessed. However, these sediments are known to be impacted by heavy metals contamination. Dumping of materials for reclamation is likely to mobilise sediments into the water column and cause them to be transported further by the river waters.

8.1.3 Potential Exposure Pathways

Potential migration pathways through which receptors within, and in the vicinity of the Site, may be exposed to identified CoPC include:

- Human and biota contact with contaminated soils (if excavated and if allowed to erode into the waterway)
- Inhalation of loose soil particles impacted by Pb, other heavy metals, SMF or asbestos fibres; and
- Safety and aesthetic impacts from exposure to solid wastes (onsite, along the reclamation edge and on the riverbed).

Migration of contamination to groundwater has not been considered in the CSM. Most of the groundwater is from tidal influence from the adjacent river and the groundwater quality beneath the Site will be strongly influenced by the tidal waters. Minor leaching inputs from the reclamation fill contaminants is likely to be insignificant compared to inputs from adjacent industrial operations.

Refer to Section 3.1.4 for the Marine Ecological Assessment undertaken on the aquatic environment adjacent to the reclamation and within the proposed reclamation area (MS, 2026).

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8.2 Risk Matrices

Potential human health and environmental risks have been assessed using the matrices outlined in Table 10, Table 11 and Table 12. The matrices have been developed by pitt&sherry based on the principles outlined in AS ISO 31000 *Risk Management – Guidelines*.

Table 10: Likelihood Ranking

Likelihood	Description
Almost Certain	Expected to happen
Likely	Expected to happen more than once per year
Possible	Expected to happen more than once or twice every five years
Unlikely	Expected to happen once or twice every ten years
Rare	Expected to happen once or twice every 100 years

Table 11: Consequence Ranking

Consequence	Description
Catastrophic	• One or more fatalities; and • and Significant impairment of ecosystem function.
Major	• Injury or illness that requires hospitalisation and/or results in permanent impairment (e.g. inhalation of asbestos fibres) • Major impairment of ecosystem function • Major impacts on soil, air or water that requires a large, coordinated clean-up; and • Offsite discharges / emissions with an impact that is long term.
Moderate	• Injury or illness that requires medical treatment and/or a temporary work restriction (e.g. direct contact with contaminants and/or acidic drainage water) • Moderate impacts on soil, air or water that requires coordinated clean-up; and • Offsite discharges / emissions with an impact that is short term.
Minor	• Direct contact with contaminants and/or acidic drainage water that requires medical treatment and/or a temporary work restriction • Minor impacts on soil, air or water that requires local clean-up; and • No offsite discharges / emissions.
Insignificant	• Injury or illness that requires no more than first aid treatment and no work restriction; and • Direct impacts on soil or water within immediate work area and immediately cleaned up with no residual contamination.

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Table 12: Risk Assessment Matrix

Consequence / Likelihood	Catastrophic	Major	Moderate	Minor	Insignificant
Almost Certain	Extreme	Extreme	Extreme	High	Medium
Likely	Extreme	Extreme	High	Medium	Medium
Possible	Extreme	High	Medium	Medium	Low
Unlikely	High	Medium	Medium	Low	Very Low
Rare	High	Medium	Low	Very low	Very Low

8.3 Source-Pathway-Receptor Linkages

The source-pathway-receptor (SPR) assessment evaluates the identified and potential sources, receptors and exposure pathways for contamination in light of the findings of intrusive investigations. Unacceptable risks from identified contamination may occur if the SPR linkage is complete.

SPR linkages for the various combinations are provided in Table 13, with shading as follows:

- Grey shading indicates the SPR linkage is incomplete or not applicable
- Green shading indicates the SPR linkage is potentially complete and low risk or can be managed (management measure noted in blue font)
- Yellow shading indicates the SPR linkage is potentially complete and medium risk and can be managed (management measure noted in blue font); and
- Blue font indicates a recommended management measure.

8.4 Remaining Data Gaps

The heterogeneous nature of soils / fill materials means that concentrations of CoPCs are likely to vary across adjacent sample locations (stockpiles and test pits) and depths. The following data gaps are noted with respect to the DQOs outlined in Table 6 (Section 5.3.1):

- Concentrations of CoPCs in test pit soils / fill materials at depths greater than 2.0 m bgl and beyond the locations and stockpiles tested are not known, and associated human health and ecological risks are not known. Screening and analytical results are limited to the locations, depths and media tested, at the time of sampling. The testing grid aimed to provide a statistically robust dataset which can provide reasonable certainty regarding the type and level of contamination that may be present within the Site and could be encountered within the shallower profile of the Site during excavation works
- Groundwater quality beneath the Site was not tested; as groundwater is expected to be from river water ingress into the reclamation fill, the water quality will be very similar to the river water quality
- Ambient concentrations of CoPCs in surface water are not known. However, surface water from the Site is expected to percolate through the soil surface within the Site or in close proximity to the Site and would discharge directly to the adjacent River Derwent; and
- No ASS investigation or sediment sampling was completed within the riverbed.

In addition, the limitations listed in Section 1.5 and the general limitations and qualifications listed at the end of this ESA, in the section titled *Important information about your report* should be noted.

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8.5 Risk Evaluation and Proposed Management Measures

Based on Table 14, and noting the limitations of this ESA described above, and the remaining data gaps in Section 8.4, the CSM has identified a number of complete SPR linkages. The risk to human health (including workers during potential future excavation works) and ecological receptors (terrestrial and aquatic) at and near the Site under the proposed commercial / industrial boat building use is considered to include mostly **low and medium risks.**

The identified low and medium risks to Site users (under the proposed development arrangements), construction workers for the proposed development and reclamation, ongoing maintenance workers who may need to access service trenches, or periodically carry out excavations, and sensitive ecological receptors on- and adjacent to the Site are to be managed by:

- Excavation, reclamation and construction works related to the Site area and Site development, must be managed under a Construction Environmental Management Plan (CEMP) which must include measures for:
    - Nominating a responsible person to oversee the proper implementation of the CEMP in order to minimise the identified risks to human health and the environment (Table 13)
    - Advising construction and reclamation **workers** of the following and ensuring appropriate work health and safety measures are put in place:
        - A confirmed asbestos fragment was present on the surface of the Site which is expected to have come from pre-existing fill beneath the Site associated with BDR (building demolition rubble)
        - SMF were found in the Site soils (also associated with BDR)
        - An elevated Pb concentration was detected in shallow soils (0-1 m bgl) in and around TP10 and could occur elsewhere in Site soils
        - CoPC concentrations in the Site soils and the new fill exceed ecological criteria and must be handled in accordance with the CEMP
        - Other contamination could be encountered and may require additional management
    - Any **fill** brought to Site (for reclamation or to raise surface levels, etc.) must either be certified clean fill, or fill approved for reuse on *this* Site by the EPA. Confirmation documents and fill transport tracking should be obtained to ensure the fill received is acceptable from a contamination perspective
    - **Debris** such as plastics, scrap steel, cement sheeting, plastic piping, and other demolition materials unsuitable for reclamation, such as vegetation and wood, should be removed from the imported fill before the fill is used in the new reclamation area; dispose of these wastes to landfill or prevent them from being brought to Site
    - **Dust** management must be put in place at all times to prevent soils and any potential asbestos- or SMF fibres from becoming airborne
    - **Effective erosion** and sediment runoff controls including stockpile management and containment must be put in place to **prevent erosion** into the river
    - The entire new reclamation footprint is expected to be underlain by **ASS** (acid sulfate soils). If more than 100 t of ASS are likely to be disturbed during the reclamation works, an ASS assessment should be undertaken, and an ASS Management Plan should be developed to address the risk and minimise environmental impacts
    - **Reclamation works** must be undertaken in a manner that (these have adopted and have expanded on the Marine Solutions (2026) Mitigation Methods outlined in their report's Table 1):
        - Implements a slow start up of construction works to avoid causing unnecessary shock to aquatic animals and to allow them to vacate the area (Marine Solutions, 2026)
        - Implements marine mammal monitoring prior to and during any construction activities that create noise intrusion (e.g. sheet piling, and pier piling, as well as reclamation) by a trained Marine Mammal Observer as per the *Underwater Piling and Dredging Noise Guidelines* (2023) (Marine Solutions, 2026)

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- Avoids using solid wastes such as plastic and scrap steel, etc. which breakdown and pose safety and contamination risks
- Minimises generation of silt plumes from materials dumped into the river's edge
- Ensures any solid wastes used are fully and deeply buried in the reclamation to prevent safety and environmental risks
- Minimises impacts on riverbed sediments which are expected to be contaminated and likely ASS, and avoid these sediments becoming waterborne or mobilising beyond the reclamation footprint. If an ASS Management Plan has been developed (as mentioned above), it must be implemented
- Avoids discharging any solid wastes and soils beyond the proposed reclamation footprint, and avoids littering the riverbed
- Contains all reclamation materials to within the reclamation footprint with the use of containment strategies such as rock bunding, silt curtains and/or other best practice reclamation methods
- The whole reclamation edge must be covered effectively to prevent erosion of fines over time and must include armour rock to prevent wave erosion. The edge treatment should be extended for the full length of the proposed new wharf

  - Dealing with any encountered pockets of contamination, which may include stop works, communicate with Site supervisor, and involvement of an experienced contaminated land professional if necessary to assist with management measures
  - Sheet piling and wharf piling works should be undertaken with similar precautions to the reclamation works, outlined above
  - Any soils excavated, extruded or otherwise generated during the construction works of the slab/shed, wharf and underground services, etc. must either be buried onsite, or placed in a controlled manner within the reclamation, as detailed above. If any Site soils are to be taken offsite, they must be tested for offsite disposal in accordance with IB105; any soils which are Level 2 or above are controlled wastes and require EPA approval for disposal to landfill. None of the onsite soils are permitted for reuse on any other property without testing and prior EPA approval
  - On completion of construction works, the Site surface areas should be checked for any potential ACM fragments which should be removed from the Site surface. The roadway and all unsealed areas around the Site must be covered by blue metal gravel or similar to prevent access to soils by Site users and fauna, and to prevent erosion and dust generation from Site soils; this will also improve trafficability

- **Any future earthworks or underground maintenance works on Site** must consider the presence of the following in the Site fill soils and advice workers to take effective work health and safety precautions:
  - Potential presence of asbestos materials and fibres
  - Potential presence of (SMF) synthetic mineral fibres
  - Potential presence of pockets of elevated metals contamination e.g. lead, in excess of commercial/industrial criteria
  - Potential presence of solid wastes such as rusted scrap metal and other hazardous angular materials
  - Any excavated soils must be placed back into the Site profile, or must be tested for offsite disposal in accordance with IB105; any soils which are Level 2 or above are controlled wastes and require EPA approval for disposal to landfill. None of the onsite soils within the existing reclamation are permitted for reuse on any other property without testing and prior EPA approval; and
  - Excavated soils must be contained to prevent dust generation and erosion and must not be allowed to discharge to the river.

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Table 13: Source-Pathway-Receptor Linkages, Risk Assessment and Recommended Management

Source	Human Receptors		Ecological Receptors	
	Current And Future Site and Property Users (Industrial)	**Construction And Excavation Workers at the Site**	**Terrestrial Fauna and Existing Flora In The Vicinity of the Site (Likely Minimal)**	**Aquatic Ecosystem Near the Site**
SMF were detected in Site fill materials, associated with BDR	SMF could become airborne and inhaled if excavated Site users as part of Incat's operation will not come into contact with soils and SMF as the new shed will be on a slab and the roadway will be covered by blue metal gravel or similar for trafficability	SMF could become airborne and inhaled if excavated Excavation works within the Site and adjacent Property area for the proposed new shed and wharf development must be completed under a CEMP which must address avoidance of dust generation and soil erosion	SMF could become airborne and inhaled by avifauna if excavated; other fauna are unlikely to use the Site Excavation works within the Site and adjacent Property area for the proposed new shed and wharf development must be completed under a CEMP which must address avoidance of dust generation and soil erosion	SMF will not impact on the adjacent aquatic ecosystems
One asbestos fragment was detected within the fill onsite (it is not clear if it was from the old or the new fill)	Asbestos fibres could become airborne and inhaled if excavated Site users as part of Incat's operation will not come into contact with soils and ACM as the new shed and wharf will be on a slab and the roadway will be covered by blue metal gravel or similar for trafficability	Asbestos fibres could become airborne and inhaled if excavated Excavation works within the Site and adjacent Property area for the proposed new shed and wharf development must be completed under a CEMP which must address avoidance of dust generation and soil erosion, as well as potential to encounter ACM and other contaminants	Asbestos fibres could become airborne and inhaled by avifauna if excavated; other fauna are unlikely to use the Site Excavation works within the Site and adjacent Property area for the proposed new shed and wharf development must be completed under a CEMP which must address avoidance of dust generation and soil erosion, as well as potential to encounter ACM and other contaminants	ACM will not impact on the adjacent aquatic ecosystem

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Source	Human Receptors		Ecological Receptors	
	Current And Future Site and Property Users (Industrial)	**Construction And Excavation Workers at the Site**	**Terrestrial Fauna and Existing Flora In The Vicinity of the Site (Likely Minimal)**	**Aquatic Ecosystem Near the Site**
Solid wastes were noted within the test pit profiles and in numerous new stockpiles including bitumen, bricks, concrete rubble, plastic pipe, plastic, terracotta piping, bricks, scrap metals, embedded reinforcing bars in concrete, which pose an aesthetic and environmental risk in poorly managed reclamation works	Site users will not come into contact with solid wastes as the reclamation and construction works will ensure any solid wastes are buried in the reclamation, the new shed and wharf will have a slab and roadways will be covered with blue metal gravel or similar for trafficability	Construction and excavation workers during development and maintenance works may come into contact with solid wastes within the reclamation and the fill material brought to Site for the new areas of reclamation. Construction and reclamation works should be completed under a CEMP which should outline how solid wastes should be handled, either by offsite disposal, or effectively buried to prevent safety or aesthetic impacts.	Solid wastes, in particular plastics, scrap steel and other sharp or contaminating wastes pose a risk to any fauna using the Site, if left exposed at the soil surface. Construction and reclamation works should be completed under a CEMP which should outline how solid wastes should be handled, either by offsite disposal, or effectively buried to prevent safety or aesthetic impacts	Solid wastes, in particular plastics, scrap steel and other sharp or contaminating wastes pose a risk to the aquatic ecosystem (leaching of plastic/micro plastics and oxidising steel) and aquatic fauna (swallowing, injury, etc.) if left exposed along the reclamation edge or if they breakdown over time and leach/shed into the aquatic ecosystem. Construction and reclamation works should be completed under a CEMP which should outline how solid wastes should be handled, either by offsite disposal, or effectively buried to prevent safety or aesthetic impacts; reclamation must be undertaken to prevent solid wastes from being deposited beyond the actual reclamation footprint to avoid littering the riverbed

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Source	Human Receptors		Ecological Receptors	
	Current And Future Site and Property Users (Industrial)	**Construction And Excavation Workers at the Site**	**Terrestrial Fauna and Existing Flora In The Vicinity of the Site (Likely Minimal)**	**Aquatic Ecosystem Near the Site**
Isolated pockets of contamination in excess of human health criterion of lead at TP10 and potentially in other areas of the Site	Site users as part of Incat's operation will not come into contact with soils as the new shed and wharf will be on a slab and the roadway will be covered by blue metal gravel or similar for trafficability	Pb concentrations at and around TP10 between 0 and 1 m bgl exceeded human health commercial / industrial criteria. Construction and reclamation works should be completed under a CEMP which should ensure excavated soils are contained to prevent them becoming airborne or eroding and to prevent human contact	Refer to next row which addresses impacts to terrestrial ecological receptors	Refer to next row which addresses impacts to aquatic ecological receptors
Metals concentrations including As, Cu, Pb, Ni, and Zn, as well as BaP and PFOS reported in excess of ecological criteria both commercial / industrial and areas of ecological significance criteria.	Other than Pb discussed above, none of the other reported CoPCs exceeded human health criteria for Site use.	There is a risk that excavated soils from the existing reclamation or new fill soils impacted by CoPCs in excess of ecological criteria could impact on the receiving aquatic ecosystem. Construction and reclamation works should be completed under a CEMP which should ensure excavated soils are contained to prevent them becoming airborne or eroding and any soils being used for reclamation must be contained to prevent silt plumes.	Birds or other occasional fauna will not come into contact with Site soils as the new shed and wharf will be on a slab and the roadway will be covered by blue metal gravel or similar for trafficability. Construction and reclamation works should be completed under a CEMP which should ensure excavated soils are contained to prevent them becoming airborne or eroding and any soils being used for reclamation must be contained to prevent silt plumes.	There is a risk that excavated soils during construction and dumped soils during reclamation, will create a silt plume in the aquatic system and could cause contaminated soils to migrate into the aquatic ecosystem since some CoPC concentrations exceed ecological criteria for both commercial / industrial and areas of ecological significance. Construction and reclamation works should be completed under a CEMP which should ensure excavated soils are contained to prevent them becoming airborne or eroding and any soils being used for reclamation must be contained to prevent silt plumes.

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Source	Human Receptors		Ecological Receptors	
	Current And Future Site and Property Users (Industrial)	**Construction And Excavation Workers at the Site**	**Terrestrial Fauna and Existing Flora In The Vicinity of the Site (Likely Minimal)**	**Aquatic Ecosystem Near the Site**
The presence of acid sulfate soils beneath and adjacent to the Site footprint.	Site users under Incat's operation will not come into contact with ASS.	There is a risk of disturbing ASS during the dumping of materials to construct the reclamation. If more than 100 t of ASS are likely to be disturbed an ASS assessment and ASS management plan should be developed to address the risk.	Not applicable to terrestrial fauna as not ASS will be brought to surface.	There is a risk of disturbing ASS during the dumping of materials to construct the reclamation. Disturbed ASS generate acidity which can impact on water quality. If more than 100 t of ASS are likely to be disturbed an ASS assessment and ASS management plan should be developed to address the risk.
The presence of contaminated sediments adjacent to the Site footprint	Site users under Incat's operation will not come into contact with river sediments	There is a risk of disturbing and mobilising contaminated river sediments from the riverbed during the dumping of materials to construct the reclamation. The reclamation works should be managed under a CEMP which must outline best practice methods to minimise sediment disturbance and mobilisation and measures to contain and prevent offsite dispersal of any mobilised (potentially contaminated) sediments.	Not applicable to terrestrial fauna as not riverbed sediments will be brought to surface	There is a risk of disturbing and mobilising contaminated river sediments from the riverbed during the dumping of materials to construct the reclamation. The reclamation works should be managed under a CEMP which must outline best practice methods to minimise sediment disturbance and mobilisation and measures to contain and prevent offsite dispersal of any mobilised (potentially contaminated) sediments.

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9. Conclusions and Recommendations

9.1 Conclusions

Based on the findings of this SHR and noting the limitations in Section 1.5 and the remaining data gaps in Section 8.4, the conclusions are as follows:

- A number of on- and offsite PCAs have been identified with potential to have impacted the Site, including:
  - River waters may also be contaminated from offsite sources and given the periodical tidal flooding of the Site and the ingress of tidal waters within the reclamation groundwater, contamination could be waterborne.
  - Importation and placement of stockpiles of fill materials which from TasWater for which the source location and associated testing records are not clearly identifiable for each stockpile
  - Historical placement of fill of unknown origins and composition across the whole Site footprint for past reclamation
  - Solid wastes and presence of BDR often associated with ACM
  - Historical presence and operation of adjacent land users (Nyrstar, Impact Fertiliser) and upstream Derwent Barracks (firefighting foams - PFAS)
  - Storage of materials, shipping containers, etc. within the Site footprint, including the movement of mobile plant including hydrocarbon-fuelled equipment
  - The presence of river sediments beneath and adjacent to the Site footprint likely impacted by long term industrial emissions from adjacent industrial facilities
  - The presence of ASS (acid sulfate soils) beneath and adjacent to the Site footprint; the latter will be disturbed by reclamation, sheet piling and pile driving for the new wharf
- 13 test pits were excavated to a maximum depth of 2.0 m bgl and 30 stockpile samples were taken to provide representative coverage of those present at the time of sampling
- The investigations identified:
  - Solid wastes and BDR were found through many of the test pit profiles and a number of stockpiles, including bitumen, bricks, concrete rubble, plastic pipe, plastic, terracotta piping, bricks, scrap metals, embedded reinforcing bars in concrete, which pose an aesthetic and environmental risk in poorly managed reclamation works
  - A confirmed asbestos fragment was present on the surface of the Site which is expected to have come from pre-existing fill beneath the Site associated with BDR (building demolition rubble)
  - SMF were found in the Site soils (also associated with BDR)
  - One test pit reported a possible hydrocarbon or similar odour in fill material at between 1.2 and 1.9 m bgl (TP02), but no hydrocarbons were detected in that sample
  - No elevated VOCs were detected in test pits (via field screening); this was confirmed by the laboratory results
  - Reported concentrations of **lead** were above adopted human health (commercial / industrial setting) in one test pit (TP10 between 0 – 1.0 m bgl)
  - Reported concentrations of many metals (zinc, copper, lead, nickel and arsenic) were reported above adopted ecological criteria in a large number of test pit and stockpile samples (some for commercial / industrial criteria and many for areas of ecological significance criteria)
- Given the Site profile includes BDR (building demolition rubble which is often associated with ACM and SMF) and given the imported stockpiles also comprise BDR, the potential remains for ACM fragments and SMF, as well as other contaminants (including lead), to be present within all soils onsite; and

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- Based on the proposed development and reclamation works and on the proposed Site use, the risks to human and ecological receptors have been assessed to include some **medium risks** and some **low risks**, for which appropriate mitigation measures must be put in place as detailed in Section 8.5 and reiterated in the Recommendations (Section 9.2).

Description of the Fill Material Quantity, Source and Composition Analysis

pitt&sherry was only able to inspect and sample fill soils that were present at the time of sampling, as new reclamation had already been undertaken with an unknown volume or quality of fill materials. Similarly, fill soils were actively carted and stockpiled onsite during pitt&sherry's sampling. Stockpiled fill soils comprised a range of materials including naturally derived: sands, silts, clays, rock, as well as solid wastes including small and large concrete pieces, bitumen pieces, plastic piping, plastic materials and mesh, scrap steel, partly concrete-embedded reinforced steel bars, bricks, timber, soil and vegetation/wood.

Imported fill soils test results are summarised in Section 7.1.3. It was noted that a number of stockpiles would be classified as Level 2 or Level 3 waste soils in accordance with IB105 (due to metals or benzo(a)pyrene concentrations). PFAS were also detected in some of the samples, and confirmed asbestos was detected in a fragment adjacent to the stockpiles (we could not confirm however if this fragment was from pre-existing disturbed fill, or from newly imported fill).

The source of the fill is from a range of properties which are undergoing works by TasWater as part of the Selfs Point Rising Main works in the sewerage rising main alignment. The risk of contamination from 'Section 2' of the alignment (Elgin, 2024) was deemed to be low. It is understood that TasWater has been carrying out contamination testing on some of the soils, however, reconciliation of the test results against imported soil loads could not be completed.

As no EPA approval (Regulation 21) was provided by TasWater for reuse of Level 2 and Level 3 (controlled waste) soils onsite, it is understood that Incat is now in the process of removing these stockpiles and soil stockpiles of similar composition from Site.

It is also understood that Incat has requested that only tested and confirmed clean fill (i.e. Level 1 fill, per IB105) be brought to Site for reclamation and reuse within the Site surface area. Due to the presence of BDR in some stockpiles and the risk of ACM being associated with BDR and due to the detected PFAS in some stockpiles, the waste producer must test for all potential contaminants in the waste soils prior to classifying them under IB105. Incat has also requested detailed soil tracking for every load brought to the Site since around mid-February 2026.

No EPA approval is required for confirmed Level 1 fill material.

In the event that Level 2 or above waste soils are to be brought to Site, the waste producer must obtain a Regulation 21 approval from EPA for reuse of those soils specifically on the Incat Site and will need to provide this documentation to Incat, and all waste loads will need to be tracked from the correct source to the Incat Site. IB105 does not normally permit the reuse of soils classified as Level 3 or above, nor soils which contain asbestos or PFAS.

The estimated volume of new reclamation fill material required to accommodate the Site footprint for the proposed shed development is approximately 5740 m^3 (based on information from D.Gray on 19 March 2026, obtained from JMG plans)

Statement

In response to the PCLC objectives (Section 1.2.1), the proposed development of the Site as a new boat building shed and wharf, and associated reclamation within commercial / industrial and port / marine zonings (Figure 2, Appendix A) complies with:

- P1 (c) of C14.6.1 Performance Criteria – Excavation for the following reasons:
    - This ESA demonstrates that other than at one location (TP10 0 – 1 m bgl), all other soil results were within adopted human health criteria (commercial / industrial land use). This area will be covered by a concrete slab during Site use, and construction and reclamation works must be managed in accordance with a CEMP (refer to Section 9.2)
    - This ESA has identified exceedances of ecological criteria (both commercial / industrial and areas of ecological significance setting) which do not pose a risk under the proposed Site use or construction and

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reclamation works as long as the works are managed in accordance with a CEMP, and the unsealed Site surface is capped on completion of construction (refer to Section 9.2)

- This ESA includes recommended protection measures (i.e. a CEMP - refer to Section 9.2), which must be developed before excavation and reclamation commences, and must be implemented for the duration of excavation and reclamation works; and
- If the recommended protection measures outlined in Section 9.2 are implemented, excavation and reclamation works will not adversely impact on human health or the environment (including the Derwent Estuary).

9.2 Recommendations

Based on the findings of this ESA, **identified low and medium risks** to Site users (under the proposed development arrangements), construction workers for the proposed development and reclamation, ongoing maintenance workers who may need to access service trenches, or periodically carry out excavations, and sensitive ecological receptors on- and adjacent to the Site are to be managed by:

- Excavation, reclamation and construction works related to the Site area and Site development, must be managed under a Construction Environmental Management Plan (CEMP) which must include measures for:
  - Nominating a responsible person to oversee the proper implementation of the CEMP in order to minimise the identified risks to human health and the environment (Table 13)
  - Advising construction and reclamation **workers** of the following and ensuring appropriate work health and safety measures are put in place:
    - A confirmed asbestos fragment was present on the surface of the Site which is expected to have come from pre-existing fill beneath the Site associated with BDR (building demolition rubble)
    - SMF were found in the Site soils (also associated with BDR)
    - An elevated Pb concentration was detected in shallow soils (0-1 m bgl) in and around TP10 and could occur elsewhere in Site soils
    - CoPC concentrations in the Site soils and the new fill exceed ecological criteria and must be handled in accordance with the CEMP
    - Other contamination could be encountered and may require additional management
  - Any **fill** brought to Site (for reclamation or to raise surface levels, etc.) must either be certified clean fill, or fill approved for reuse on *this* Site by the EPA. Confirmation documents and fill transport tracking should be obtained to ensure the fill received is acceptable from a contamination perspective
  - **Debris** such as plastics, scrap steel, cement sheeting, plastic piping, and other demolition materials unsuitable for reclamation, such as vegetation and wood, should be removed from the imported fill before the fill is used in the new reclamation area; dispose of these wastes to landfill or prevent them from being brought to Site
  - **Dust** management must be put in place at all times to prevent soils and any potential asbestos- or SMF fibres from becoming airborne
  - **Effective erosion** and sediment runoff controls including stockpile management and containment must be put in place to **prevent erosion** into the river
  - The entire new reclamation footprint is expected to be underlain by **ASS** (acid sulfate soils). If more than 100 t of ASS are likely to be disturbed during the reclamation works, an ASS assessment should be undertaken, and an ASS Management Plan should be developed to address the risk and minimise environmental impacts
  - **Reclamation works** must be undertaken in a manner that (these have adopted and have expanded on the Marine Solutions (2026) Mitigation Methods outlined in their report's Table 1):

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- Implements a slow start up of construction works to avoid causing unnecessary shock to aquatic animals and to allow them to vacate the area (Marine Solutions, 2026)
- Implements marine mammal monitoring prior to and during any construction activities that create noise intrusion (e.g. sheet piling, and pier piling, as well as reclamation) by a trained Marine Mammal Observer as per the *Underwater Piling and Dredging Noise Guidelines* (2023) (Marine Solutions, 2026)
- Avoids using solid wastes such as plastic and scrap steel, etc. which breakdown and pose safety and contamination risks
- Minimises generation of silt plumes from materials dumped into the river's edge
- Ensures any solid wastes used are fully and deeply buried in the reclamation to prevent safety and environmental risks
- Minimises impacts on riverbed sediments which are expected to be contaminated and likely ASS, and avoid these sediments becoming waterborne or mobilising beyond the reclamation footprint. If an ASS Management Plan has been developed (as mentioned above), it must be implemented
- Avoids discharging any solid wastes and soils beyond the proposed reclamation footprint, and avoids littering the riverbed
- Contains all reclamation materials to within the reclamation footprint with the use of containment strategies such as rock bunding, silt curtains and/or other best practice reclamation methods
- The whole reclamation edge must be covered effectively to prevent erosion of fines over time and must include armour rock to prevent wave erosion. The edge treatment should be extended for the full length of the proposed new wharf

  - Dealing with any encountered pockets of contamination, which may include stop works, communicate with Site supervisor, and involvement of an experienced contaminated land professional if necessary to assist with management measures
  - Sheet piling and wharf piling works should be undertaken with similar precautions to the reclamation works, outlined above
  - Any soils excavated, extruded or otherwise generated during the construction works of the slab/shed, wharf and underground services, etc. must either be buried onsite, or placed in a controlled manner within the reclamation, as detailed above. If any Site soils are to be taken offsite, they must be tested for offsite disposal in accordance with IB105; any soils which are Level 2 or above are controlled wastes and require EPA approval for disposal to landfill. None of the onsite soils are permitted for reuse on any other property without testing and prior EPA approval; and
  - On completion of construction works, the Site surface areas should be checked for any potential ACM fragments which should be removed from the Site surface. The roadway and all unsealed areas around the Site must be covered by blue metal gravel or similar to prevent access to soils by Site users and fauna, and to prevent erosion and dust generation from Site soils; this will also improve trafficability.

- **Any future earthworks or underground maintenance works on Site** must consider the presence of the following in the Site fill soils and advice workers to take effective work health and safety precautions:
  - Potential presence of asbestos materials and fibres
  - Potential presence of (SMF) synthetic mineral fibres
  - Potential presence of pockets of elevated metals contamination e.g. lead, in excess of commercial/industrial criteria
  - Potential presence of solid wastes such as rusted scrap metal and other hazardous angular materials
  - Any excavated soils must be placed back into the Site profile, or must be tested for offsite disposal in accordance with IB105; any soils which are Level 2 or above are controlled wastes and require EPA approval for disposal to landfill. None of the onsite soils are permitted for reuse on any other property without testing and prior EPA approval; and
  - Excavated soils must be contained to prevent dust generation and erosion and must not be allowed to discharge to the river.

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10. References

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Important information about your report

In some circumstances the scope of services may have been limited by a range of factors such as time, budget, access and/or site disturbance constraints. The Report may only be used and relied on by the Client for the purpose set out in the Report. Any use which a third party makes of this document, or any reliance on or decisions to be made based on it, is the responsibility of the Client or such third parties.

The services undertaken by pitt&sherry in connection with preparing the Report were limited to those specifically detailed in the report and are subject to the restrictions, limitations and exclusions set out in the Report. The Report's accuracy is limited to the time period and circumstances existing at the time the Report was prepared. The opinions, conclusions and any recommendations in the Report are based on conditions encountered and information reviewed at the date of preparation of the Report. pitt&sherry has no responsibility or obligation to update the Report to account for events or changes occurring after the date that the report was prepared. If such events or changes occurred after the date that the report was prepared render the Report inaccurate, in whole or in part, pitt&sherry accepts no responsibility, and disclaims any liability whatsoever for any injury, loss or damage suffered by anyone arising from or in connection with their use of, reliance upon, or decisions or actions based on the Report, in whole or in part, for whatever purpose.

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To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in the Report ("Conclusions") are based in whole or part on the Data, those Conclusions are contingent upon the accuracy, completeness, usefulness or relevance of the Data. pitt&sherry does not warrant the accuracy and will not be liable in relation to Conclusions should any of the Data, be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to pitt&sherry.

The opinions, conclusions and any recommendations in the Report are based on conditions encountered and information reviewed at the date of the Site visit.

pitt&sherry has no responsibility or obligation to update the Report to account for events or changes occurring subsequent to the date that the site visit was carries out.

pitt&sherry does not accept responsibility arising from, or in connection with, any change to the Site conditions. pitt&sherry is also not responsible for updating the Report if the Site conditions change.

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Figures

Appendix A

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River Derwent

INCAT

Surveyors Drive

Bender Drive Campus

Bender Drive

PFD Food Services

Sunmount Street

Nyrstar

Impact Fertilisers Australia

Derwent Park Road

1:1,383,91

INCAT ESA

Figure 1: Property Location

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N

0 100 200 300

Metres

Scale: 1:3,000 @A3

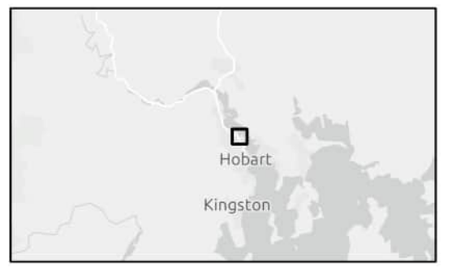
Coordinate System: GDA2020 MGA Zone 55

MAP REF: P.26.0075
AUTHOR: HF
REV: C
DATE: 13/03/2026
DATA SOURCES: Aerial imagery from ESRI, Data from Spatial Services, State of NSW, Project Specific Data

LEGEND

Name
- INCAT
- Impact Fertilisers Australia
- Nyrstar
- PFD Food Services

- Cadastral Parcels
- Property
- General Industrial
- Port and Marine
- Utilities



Document Set ID: 3628399
Version: 1, Version Date: 19/06/2026

INCAT ESA

Figure 2:
Proposed Development Footprint

pitt&sherry

N

0 25 50 75 100
Metres

Scale: 1:2,500 @A3

Coordinate System: GDA2020 MGA Zone 55

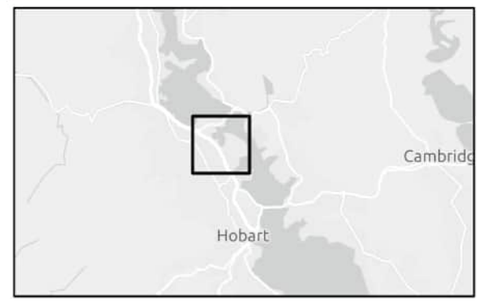
MAP REF: P.26.0075
AUTHOR: HF
REV: C
DATE: 13/03/2026
DATA SOURCES: Aerial imagery from ESRI, Data from Spatial Services, State of NSW, Project Specific Data

LEGEND

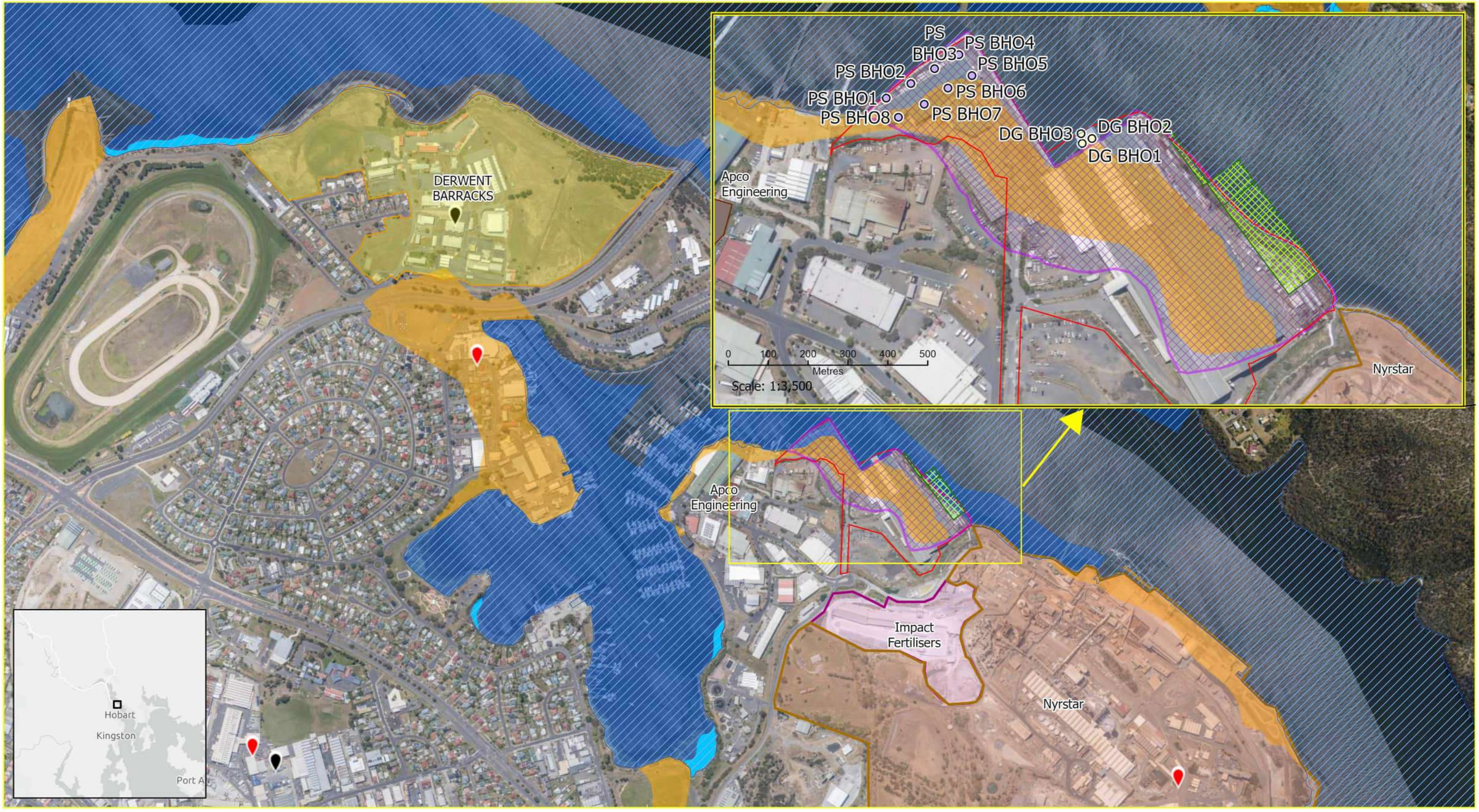
- Site Outline (approximate)
- Property
- Cadastral Parcels

Facility

- New Shed Structure
- New Wet Dock
- New Wharf Structure



Document Set ID: 3628299
Version: 1, Version Date: 19/06/2026



INCAT ESA

Figure 3:
Potentially Contaminating Activities

pitt&sherry

N 0 100 200 300 400
Metres
Scale: 1:9,000 @A3

Coordinate System: GDA2020 MGA Zone 55

MAP REF: P.26.0075
AUTHOR: HF
REV: A
DATE: 13/03/2026
DATA SOURCES: Aerial imagery from ESRI, Data from Spatial Services, State of NSW, Project Specific Data

LEGEND

Property
- Property

Site Outline (approximate)
- Site Outline (approximate)

Coastal Acid Sulfate Soils [0 - 20m AHD]
- Low
- High (Intertidal)
- High (Subtidal)

Regulated Premesis
- Impact Fertilisers
- Nyrstar
- Apco Engineering

Long term PCAs
- Derwent Barracks
- Long-term industrial discharges - River Derwent
- Reclaimed land - Fill of unkown origin

EPA Underground Petroleum Storage Systems
- Active
- Permanently Decommissioned

Boreholes
- DeGraves
- Plate Shed

Document Set ID: 3628299
Version: 1, Version Date: 19/06/2026

INCAT ESA

Figure 4:
Sampling Locations

pitt&sherry

N

Coordinate System: GDA2020 MGA Zone 55

MAP REF: P.26.0075
AUTHOR: HF
REV: D
DATE: 13/03/2026
DATA SOURCES: Aerial imagery from ESRI, Data from Spatial Services, State of NSW, Project Specific Data

LEGEND

Sample Type
- Stockpile
- Test Pit
- Confirmed Asbestos Containing Material
- Potential Asbestos Containing Material
- Stockpile extents (approximate)
- Site Outline (approximate)

Document Set ID: 3628399
Version: 1, Version Date: 19/06/2026

LotSearch Report

Appendix B

pitt&sherry

Document Set ID: 3625399
Version: 1, Version Date: 11/06/2026

LOTSEARCH

LOTSEARCH ENVIRO PROFESSIONAL

Date: 30 January 2026 14:39:05

Reference: LS117721 EP

Address: 100 Derwent Park Road, Derwent Park, TAS 7009

Disclaimer:
The purpose of this report is to provide an overview of some of the site history, environmental risk and planning information available, affecting an individual address or geographical area in which the property is located. It is not a substitute for an on-site inspection or review of other available reports and records. It is not intended to be, and should not be taken to be, a rating or assessment of the desirability or market value of the property or its features.
You should obtain independent advice before you make any decision based on the information within the report.
The detailed terms applicable to use of this report are set out at the end of this report.

Document Set ID: 3625399
Version: 1, Version Date: 19/06/2026

Dataset Listing

Datasets contained within this report, detailing their source and data currency:

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
EPA Regulated Premises	Environment Protection Authority TAS	09/01/2026	18/07/2025	Monthly	1000	0	12	19
National Waste Management Facilities Database	Geoscience Australia	30/05/2025	19/01/2023	Annually	1000	0	0	4
National Liquid Fuel Facilities	Geoscience Australia	28/10/2025	30/11/2022	Annually	1000	0	0	0
EPA Underground Petroleum Storage Systems	Environment Protection Authority TAS	07/01/2026	07/01/2026	Monthly	1000	0	0	1
Points of Interest - Service Stations	Land Tasmania	17/11/2025	11/07/2025	Quarterly	1000	0	0	0
Airservices Australia National PFAS Management Program	Airservices Australia	12/01/2026	21/05/2025	Monthly	2000	0	0	0
Defence Controlled Areas	Australian Department of Defence	13/01/2026	13/01/2026	Quarterly	2000	0	0	0
Defence 3 Year Regional Contamination Investigation Program	Australian Department of Defence	12/11/2025	02/09/2022	Quarterly	2000	0	0	1
National Unexploded Ordnance (UXO)	Australian Department of Defence	13/01/2026	13/01/2026	Quarterly	2000	0	0	1
Authority Land - Defence	Land Tasmania	06/11/2025	11/07/2025	Quarterly	2000	0	0	0
UBD Business Directories (Premise & Intersection Matches)	Hardie Grant			Not required	100	0	0	0
UBD Business Directories (Road & Area Matches)	Hardie Grant			Not required	100	-	0	0
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Premise & Intersection Matches)	Hardie Grant			Not required	250	0	0	0
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Road & Area Matches)	Hardie Grant			Not required	250	-	0	0
Points of Interest	Land Tasmania	17/11/2025	11/07/2025	Quarterly	1000	0	0	1
Easements	Land Tasmania	17/11/2025	16/07/2025	Quarterly	0	0	0	0
Groundwater Prospectivity	Mineral Resources Tasmania	03/06/2025	02/08/2010	Annually	1000	0	1	3
Boreholes (Drill Holes)	Mineral Resources Tasmania	07/11/2025	06/11/2025	Quarterly	2000	0	0	106
National Groundwater Information System (NGIS) Boreholes	Bureau of Meteorology	30/05/2025	04/03/2025	Annually	2000	0	0	1
Geology of Tasmania: Geology Units 1:25000	Mineral Resources Tasmania	11/02/2025	16/07/2024	Annually	1000	0	2	22
Geology of Tasmania: Geology Faults 1:25000	Mineral Resources Tasmania	11/02/2025	16/07/2024	Annually	1000	0	0	0
Geology of Tasmania: Geology Linears 1:25000	Mineral Resources Tasmania	11/02/2025	16/07/2024	Annually	1000	0	1	5
Atlas of Australian Soils	Australian Bureau of Agricultural and Resource Economics and Sciences	13/01/2026	17/02/2011	Annually	1000	1	1	1
Atlas of Australian Acid Sulfate Soils	CSIRO	13/01/2026	21/02/2013	Annually	1000	1	3	3
Areas of Tasmania with Potential to Contain Acid Sulfate Soils	TAS Department of Natural Resources and Environment	08/05/2025	18/01/2019	Annually	1000	1	2	11
Tasmanian Planning Scheme & Interim Planning Scheme - Zones	Tasmanian Planning Commission	09/01/2026	29/10/2025	Monthly	1000	2	2	34
Tasmanian Planning Scheme & Interim Planning Scheme - Overlays	Tasmanian Planning Commission	09/01/2026	29/10/2025	Monthly	1000	2	3	64
Tasmanian Planning Scheme & Interim Planning Scheme - Flood Overlay	Tasmanian Planning Commission	09/01/2026	29/10/2025	Monthly	1000	0	1	3
Tasmanian Planning Scheme & Interim Planning Scheme - Coastal Inundation Overlay	Tasmanian Planning Commission	09/01/2026	29/10/2025	Monthly	1000	3	3	11
Tasmanian Planning Scheme & Interim Planning Scheme - Coastal Erosion Overlay	Tasmanian Planning Commission	09/01/2026	29/10/2025	Monthly	1000	1	1	2

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Tasmanian Planning Scheme & Interim Planning Scheme - Landslide Overlay	Tasmanian Planning Commission	09/01/2026	29/10/2025	Monthly	1000	0	1	3
Tasmanian Planning Scheme & Interim Planning Scheme - Bushfire Overlay	Tasmanian Planning Commission	09/01/2026	29/10/2025	Monthly	1000	0	0	1
Fire History	TAS Department of Natural Resources and Environment	09/01/2026	02/09/2025	Monthly	1000	0	0	9
Commonwealth Heritage List	Australian Department of Climate Change, Energy, the Environment and Water	28/10/2025	04/12/2014	Annually	500	0	0	0
National Heritage List	Australian Department of Climate Change, Energy, the Environment and Water	28/10/2025	04/12/2014	Annually	500	0	0	0
Tasmanian Heritage Register	Heritage Tasmania	17/11/2025	18/07/2025	Quarterly	500	0	0	1
Authority Land - Aboriginal Land	Land Tasmania	06/11/2025	11/07/2025	Quarterly	500	0	0	0
TASVEG 4.0	TAS Department of Natural Resources and Environment	17/12/2025	11/10/2020	Annually	1000	0	1	9
Threatened Native Vegetation Communities 2014	TAS Department of Natural Resources and Environment	16/12/2025	19/02/2021	Annually	1000	0	0	2
Ramsar Wetlands of Australia	Australian Department of Climate Change, Energy, the Environment and Water	19/05/2025	05/03/2025	Annually	1000	0	0	0
Collaborative Australian Protected Areas Database (CAPAD) 2022 - Terrestrial	Australian Department of Climate Change, Energy, the Environment and Water	20/03/2025	19/06/2024	Annually	1000	0	0	1
Collaborative Australian Protected Areas Database (CAPAD) 2022 - Marine	Australian Department of Climate Change, Energy, the Environment and Water	20/03/2025	30/06/2022	Annually	1000	0	0	0
Groundwater Dependent Ecosystems Atlas	Bureau of Meteorology	30/05/2025	07/05/2020	Annually	1000	0	0	1
Inflow Dependent Ecosystems Likelihood	Bureau of Meteorology	30/05/2025	07/05/2020	Annually	1000	0	0	1
Property Boundaries & Roads	Land Tasmania	09/01/2026	10/07/2025	Monthly		-	-	-
Topographic Data	Land Tasmania	17/11/2025	09/07/2025	Annually		-	-	-

Aerial Imagery 2025

100 Derwent Park Road, Derwent Park, TAS 7009

Legend

- Site Boundary
- Report Buffer

Scale:

0 30 60 90 120
Meters

Coordinate System:
GDA 2020 MGA Zone 55

Date: 30 January 2026

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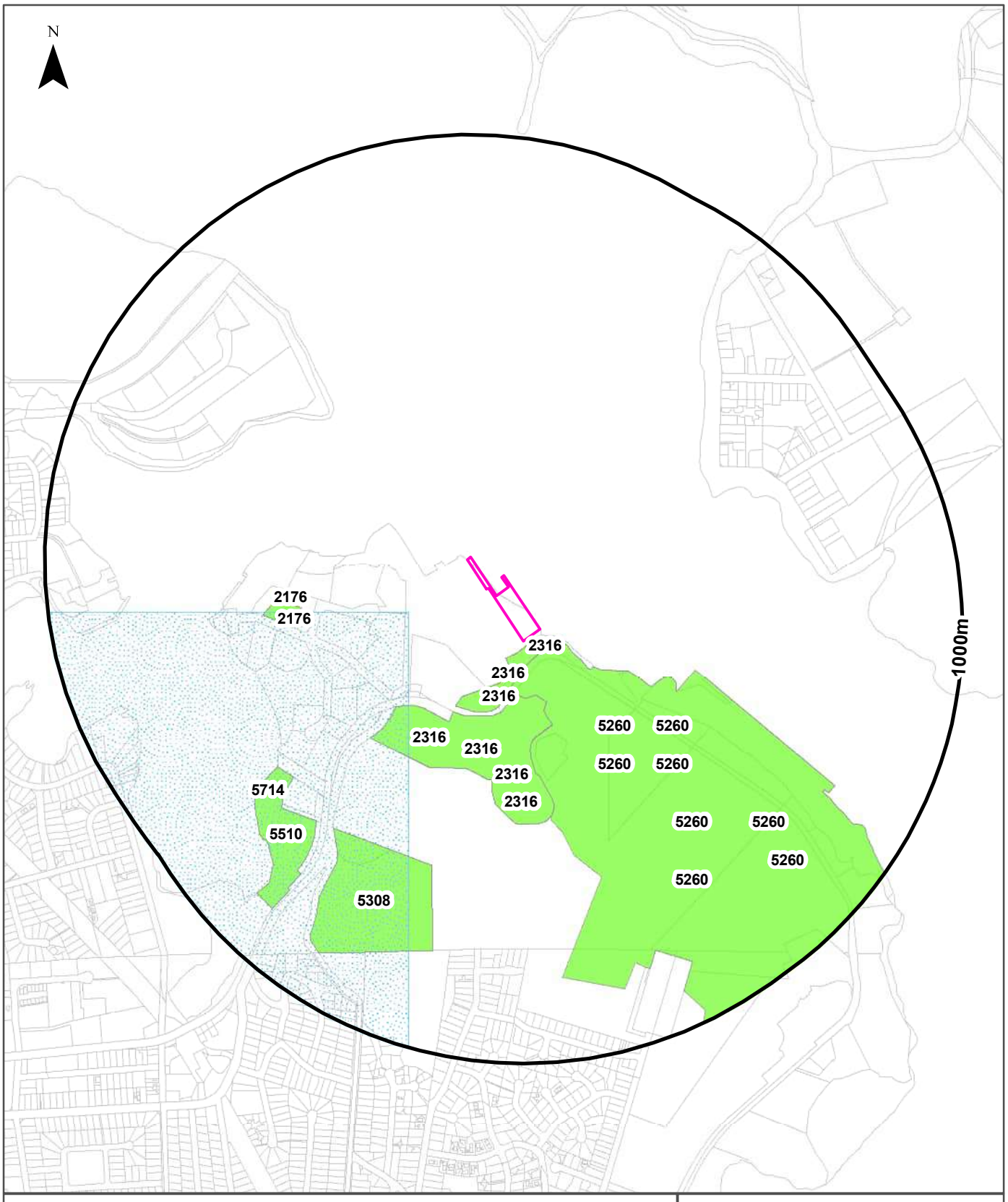
Document Set ID: 3625399
Version: 1, Version Date: 09/06/2026

EPA Regulated Premises

100 Derwent Park Road, Derwent Park, TAS 7009



Legend

- Site Boundary
- Report Buffer
- Property Boundaries
- Current Contaminated Land
- Former Contaminated Land
- Former Other Activity
- Current Other Activity

Scale: 0 100 200 400 600 Metres

Data Sources: Cadastral Parcels from www.theLIST.tas.gov.au © StateofTasmania Released under CC BY Aus 3.0

Coordinate System: GDA 2020 MGA Zone 55

Date: 30 January 2026

EPA Regulated Premises

100 Derwent Park Road, Derwent Park, TAS 7009

EPA Regulated Premises

EPA Regulated Premises within the dataset buffer:

Site Id	Premise	Client	Activity Category	Activity Type	Doc No.	Document Type	Status	Loc Conf	Dist	Dir
2316	FERTILISER MANUFACTURER DERWENT PARK	AMEROPA AUSTRALIA PTY LTD	Petroleum and Chemical Activities	1A1 Chemical Works - manufacture (through chemical reaction) of any inorganic chemical	5960	Permit or Permit Conditions Environmental (PCE)	Current	Premise Match	9m	South
	FERTILISER MANUFACTURER DERWENT PARK	AMEROPA AUSTRALIA PTY LTD	Petroleum and Chemical Activities	1A1 Chemical Works - manufacture (through chemical reaction) of any inorganic chemical	6159	Permit or Permit Conditions Environmental (PCE)	Current	Premise Match	9m	South
	FERTILISER MANUFACTURER DERWENT PARK	AMEROPA AUSTRALIA PTY LTD	Petroleum and Chemical Activities	1A1 Chemical Works - manufacture (through chemical reaction) of any inorganic chemical	7316/2	Environment Protection Notice (EPN)	Current	Premise Match	9m	South
	FERTILISER MANUFACTURER DERWENT PARK	AMEROPA AUSTRALIA PTY LTD	Petroleum and Chemical Activities	1A1 Chemical Works - manufacture (through chemical reaction) of any inorganic chemical	7316/1	Environment Protection Notice (EPN)	Former	Premise Match	9m	South
5260	HOBART ZINC SMELTER	NYRSTAR HOBART PTY LTD	Petroleum and Chemical Activities	1A1 Chemical Works - manufacture (through chemical reaction) of any inorganic chemical	10449	Permit or Permit Conditions Environmental (PCE)	Current	Premise Match	20m	South East
	HOBART ZINC SMELTER	NYRSTAR HOBART PTY LTD	Petroleum and Chemical Activities	2D Metallurgical Works	3314	Permit or Permit Conditions Environmental (PCE)	Current	Premise Match	20m	South East
	HOBART ZINC SMELTER	NYRSTAR HOBART PTY LTD	Petroleum and Chemical Activities	3B2 Other (non-inert) Waste Depots	6120	Permit or Permit Conditions Environmental (PCE)	Current	Premise Match	20m	South East
	HOBART ZINC SMELTER	NYRSTAR HOBART PTY LTD	Petroleum and Chemical Activities	2D Metallurgical Works	6158	Permit or Permit Conditions Environmental (PCE)	Current	Premise Match	20m	South East
	HOBART ZINC SMELTER	NYRSTAR HOBART PTY LTD	Petroleum and Chemical Activities	2D Metallurgical Works	7043/5	Environment Protection Notice (EPN)	Current	Premise Match	20m	South East
	HOBART ZINC SMELTER	NYRSTAR HOBART PTY LTD	Petroleum and Chemical Activities	2D Metallurgical Works	7043/6	Environment Protection Notice (EPN)	Current	Premise Match	20m	South East
	HOBART ZINC SMELTER	NYRSTAR HOBART PTY LTD	Petroleum and Chemical Activities	111A an activity that requires a permit and is co-located with a level 2 activity and is NOT ancillary to that level 2 activity.	8664	Permit or Permit Conditions Environmental (PCE)	Current	Premise Match	20m	South East
	HOBART ZINC SMELTER	NYRSTAR HOBART PTY LTD	Petroleum and Chemical Activities	2D Metallurgical Works	10058	Environment Protection Notice (EPN)	Former	Premise Match	20m	South East

Site Id	Premise	Client	Activity Category	Activity Type	Doc No.	Document Type	Status	Loc Conf	Dist	Dir
5714	DERWENT PARK STORMWATER HARVESTING & INDUSTRIAL REUSE PROJECT - AQUIFER STORAGE & RECOVERY	GLENORCHY CITY COUNCIL	Miscellaneous	B2 activity assessed by the Board under section 27(2) of EMPCA	8736/1	Environment Protection Notice (EPN)	Former	Area Match	184m	South West
2176	BENDERS DRIVE DERWENT PARK METAL FOUNDRY	APCO ENGINEERING PTY LTD	Manufacturing and Mineral Processing	2C1 Ferrous & Non-ferrous Metal Melting (works discharging all wastewater to external approved Wastewater Treatment Works)	55	Permit or Permit Conditions Environmental (PCE)	Current	Premise Match	409m	West
	BENDERS DRIVE DERWENT PARK METAL FOUNDRY	APCO ENGINEERING PTY LTD	Manufacturing and Mineral Processing	2C1 Ferrous & Non-ferrous Metal Melting (works discharging all wastewater to external approved Wastewater Treatment Works)	7617/1	Environment Protection Notice (EPN)	Current	Premise Match	409m	West
5308	LUTANA CLINICAL WASTE TREATMENT PLANT	COPPING REFUSE DISPOSAL SITE JOINT AUTHORITY	Materials Handling	3B1 Inert Waste Depots	7554	Permit or Permit Conditions Environmental (PCE)	Current	Premise Match	572m	South West
5510	PRINCE OF WALES BAY WASTEWATER TREATMENT PLANT	TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD	Wastewater Treatment	3A Wastewater Treatment Works	3540	Permit or Permit Conditions Environmental (PCE)	Current	Premise Match	631m	South West
	PRINCE OF WALES BAY WASTEWATER TREATMENT PLANT	TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD	Wastewater Treatment	3A Wastewater Treatment Works	8545/1	Environment Protection Notice (EPN)	Current	Premise Match	631m	South West
	PRINCE OF WALES BAY WASTEWATER TREATMENT PLANT	TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD	Wastewater Treatment	3A Wastewater Treatment Works	9208/1	Environment Protection Notice (EPN)	Current	Premise Match	631m	South West

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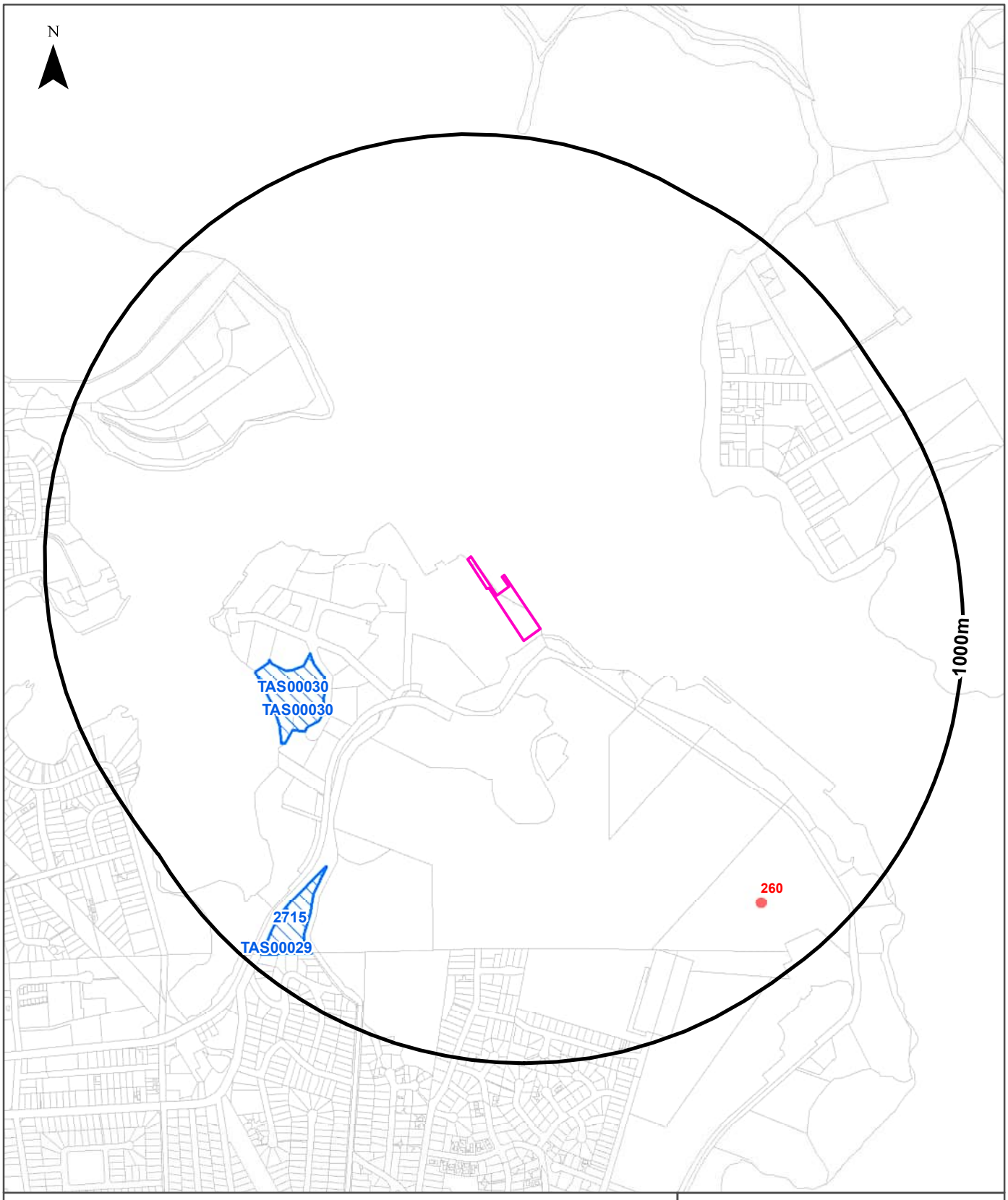
Waste Management and Liquid Fuel Facilities

100 Derwent Park Road, Derwent Park, TAS 7009



Legend

- Site Boundary
- Report Buffer
- Property Boundaries
- Service Station
- EPA Underground Petroleum Storage System
- Waste Management Facilities
- National Liquid Fuel Facilities

Scale: 0 100 200 400 600 Metres

Data Sources: Cadastral Parcels from www.theLIST.tas.gov.au © StateofTasmania Released under CC BY Aus 3.0

Coordinate System: GDA 2020 MGA Zone 55

Date: 30 January 2026

Waste Management and Liquid Fuel Facilities

100 Derwent Park Road, Derwent Park, TAS 7009

National Waste Management Facilities Database

Sites on the National Waste Management Facilities Database within the dataset buffer:

Site Id	Owner	Name	Address	Management Type	Facility Type	Status	Loc Conf	Dist	Dir
TAS00030	SHRED-X	SHRED-X TAS	4-8 SUNMONT STREET, DERWENT PARK	DROP-OFF	E-WASTE DROP-OFF FACILITY	OPERATIONAL	Premise Match	433m	West
TAS00030	SHRED-X	SHRED-X TAS	4-8 SUNMONT STREET, DERWENT PARK	RECYCLING	PAPER AND CARDBOARD RECYCLING FACILITY	OPERATIONAL	Premise Match	433m	West
2715	SKM	SKM Derwent Park Transfer Station	127 Derwent Park Road, Derwent Park		Transfer Station		Premise Match	708m	South West
TAS00029	CLEANAWAY	CLEANAWAY MRF DERWENT PARK	127 DERWENT PARK ROAD, DERWENT PARK	RECYCLING	MATERIALS RECOVERY FACILITY (MRF)	OPERATIONAL	Premise Match	708m	South West

Source: Waste Management Facilities Database

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National Liquid Fuel Facilities

National Liquid Fuel Facilities within the dataset buffer:

Map Id	Owner	Name	Address	Suburb	Class	Operational Status	Operator	Revision Date	Loc Conf	Dist	Dir
N/A	No records in buffer										

National Liquid Fuel Facilities Data Source: Geoscience Australia

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Waste Management and Liquid Fuel Facilities

100 Derwent Park Road, Derwent Park, TAS 7009

EPA Underground Petroleum Storage Systems

EPA Underground Petroleum Storage Systems within the dataset buffer:

Site Id	Site Status	Register Status	Loc Conf	Distance	Direction
260	Active	Current EPA Site	As Supplied	831m	South East

EPA Underground Petroleum Storage Systems Data Source: Environment Protection Authority Tasmania
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Service Stations

Service stations from the LIST Points of Interest dataset within the dataset buffer:

Map Id	Name	Distance	Direction
N/A	No records within buffer		

Points of Interest from www.theLIST.tas.gov.au©State of Tasmania
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PFAS Investigation and Management Programs

100 Derwent Park Road, Derwent Park, TAS 7009

Airservices Australia National PFAS Management Program

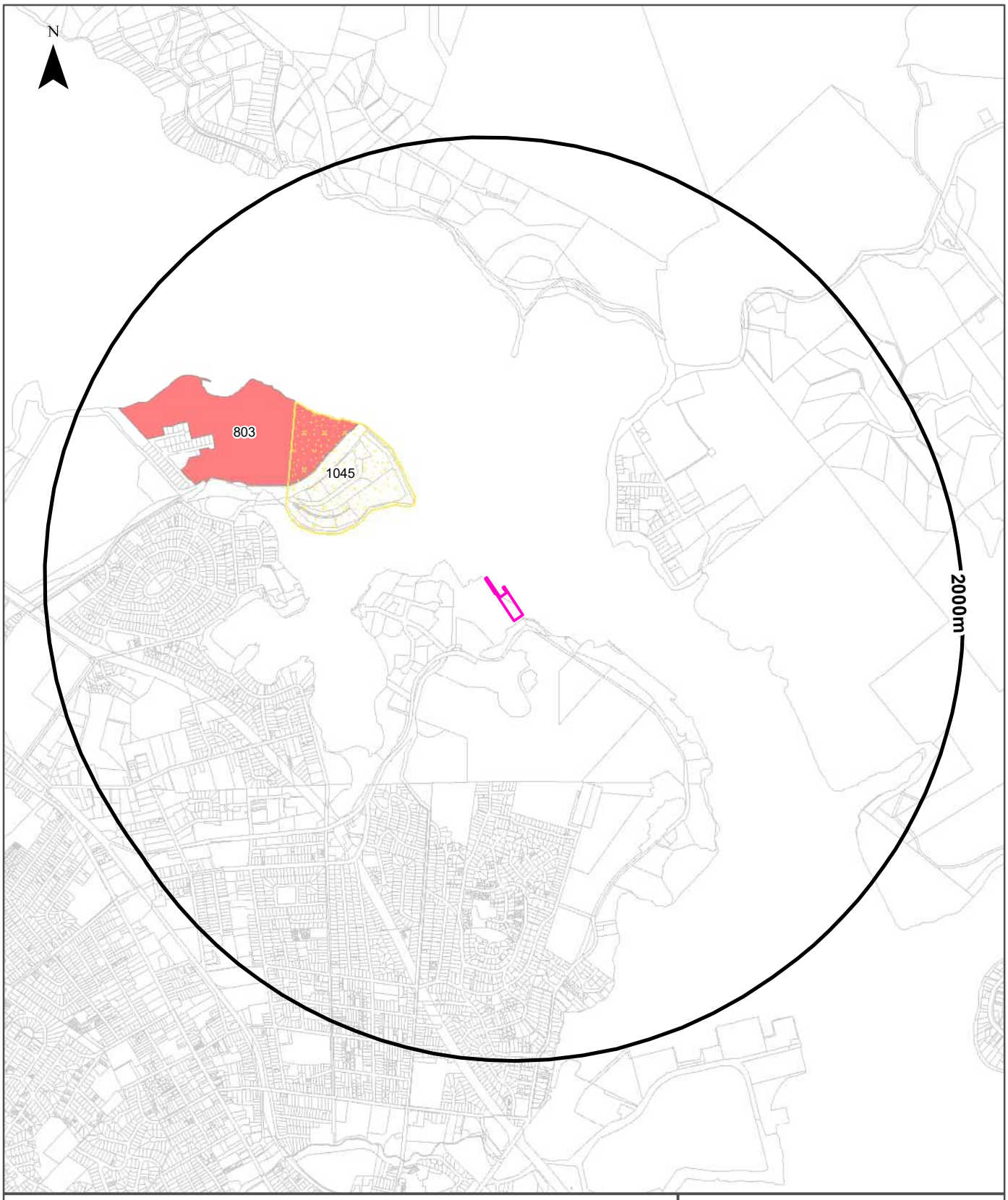
Sites being investigated or managed by Airservices Australia for PFAS contamination within the dataset buffer:

Map Id	Site Name	Impacts	Location Confidence	Distance	Direction
N/A	No records in buffer				

Airservices Australia National PFAS Management Program Data Custodian: Airservices Australia

Defence Sites and Unexploded Ordnance

100 Derwent Park Road, Derwent Park, TAS 7009



Legend

- Site Boundary
- Report Buffer
- Property Boundaries

Defence 3 Year RCIP

- Known Contamination
- No Known Contamination

Authority Land

- Defence Land

DCA

- Defence Controlled Area

UXO

- Substantial Potential
- Slight Potential
- Remote Potential
- Sea Dumping of Depth Charges
- Information
- Other
- Other Sea Dumping Sites

Scale:

0 100 200 400 600 800 1,000 1,200
Metres

Data Sources: Cadastral Parcels from www.theLIST.tas.gov.au © StateofTasmania Released under CC BY Aus 3.0

Coordinate System: GDA 2020 MGA Zone 55

Date: 30 January 2026

Defence Sites and Unexploded Ordnance

100 Derwent Park Road, Derwent Park, TAS 7009

Defence Controlled Areas (DCA)

Defence Controlled Areas provided by the Department of Defence within the dataset buffer:

Site ID	Location Name	Loction Confidence	Distance	Direction
N/A	No records in buffer			

Defence Controlled Areas, Data Custodian: Department of Defence, Australian Government

Defence 3 Year Regional Contamination Investigation Program

Sites which have been assessed as part of the Defence 3 Year Regional Contamination Investigation Program within the dataset buffer:

Property Id	Base Name	Address	Known Contamination	Location Confidence	Distance	Direction
803	Derwent Barracks	Dowsing Point, Tasmania	YES	Premise Match	910m	North West

Defence 3 Year Regional Contamination Investigation Program, Data Custodian: Department of Defence, Australian Government

National Unexploded Ordnance (UXO)

Sites which have been assessed by the Department of Defence for the potential presence of unexploded ordnance within the dataset buffer:

Site ID	Location Name	Category	Area Description	Additional Information	Commonwealth	Loc Conf	Distance	Direction
1045	Dowsing Point	Other	This site was a Ammunition Depot during WW2.		Contains Commonwealth Land	11	470m	North West

National Unexploded Ordnance (UXO), Data Custodian: Department of Defence, Australian Government

Defence Land

Defence land from the LIST Authority Land dataset within the dataset buffer:

Map Id	Title Volume	Title Folio	Location Confidence	Distance	Direction
N/A	No records in buffer				

Authority Land from www.theLIST.tas.gov.au©State of Tasmania
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Historical Business Directories

100 Derwent Park Road, Derwent Park, TAS 7009

Business Directory Records 1950-1991 Premise or Road Intersection Matches

Potentially contaminative business activities extracted from Universal Business Directories from years 1950, 1960, 1971, 1984 and 1991, mapped to a premise or road intersection, within the dataset buffer:

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance	Direction
	No records in buffer						

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Business Directory Records 1950-1991 Road or Area Matches

Potentially contaminative business activities extracted from Universal Business Directories from years 1950, 1960, 1971, 1984 and 1991, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published.

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance
	No records in buffer					

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Historical Business Directories

100 Derwent Park Road, Derwent Park, TAS 7009

Dry Cleaners, Motor Garages & Service Stations 1950-1991 Premise or Road Intersection Matches

Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories for years 1950, 1960, 1971, 1984 and 1991, mapped to a premise or road intersection, within the dataset buffer:

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance	Direction
	No records in buffer						

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Dry Cleaners, Motor Garages & Service Stations 1950-1991 Road or Area Matches

Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories for years 11950, 1960, 1971, 1984 and 1991, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published.

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance
	No records in buffer					

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Aerial Imagery 2014

100 Derwent Park Road, Derwent Park, TAS 7009

Legend

- Site Boundary
- Report Buffer

Scale:

0 30 60 90 120
Meters

Coordinate System:
GDA 2020 MGA Zone 55

Date: 30 January 2026

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Aerial Imagery 2003

100 Derwent Park Road, Derwent Park, TAS 7009

Legend

- Site Boundary
- Report Buffer

Scale:

0 30 60 90 120
Meters

Coordinate System:
GDA 2020 MGA Zone 55

Date: 30 January 2026

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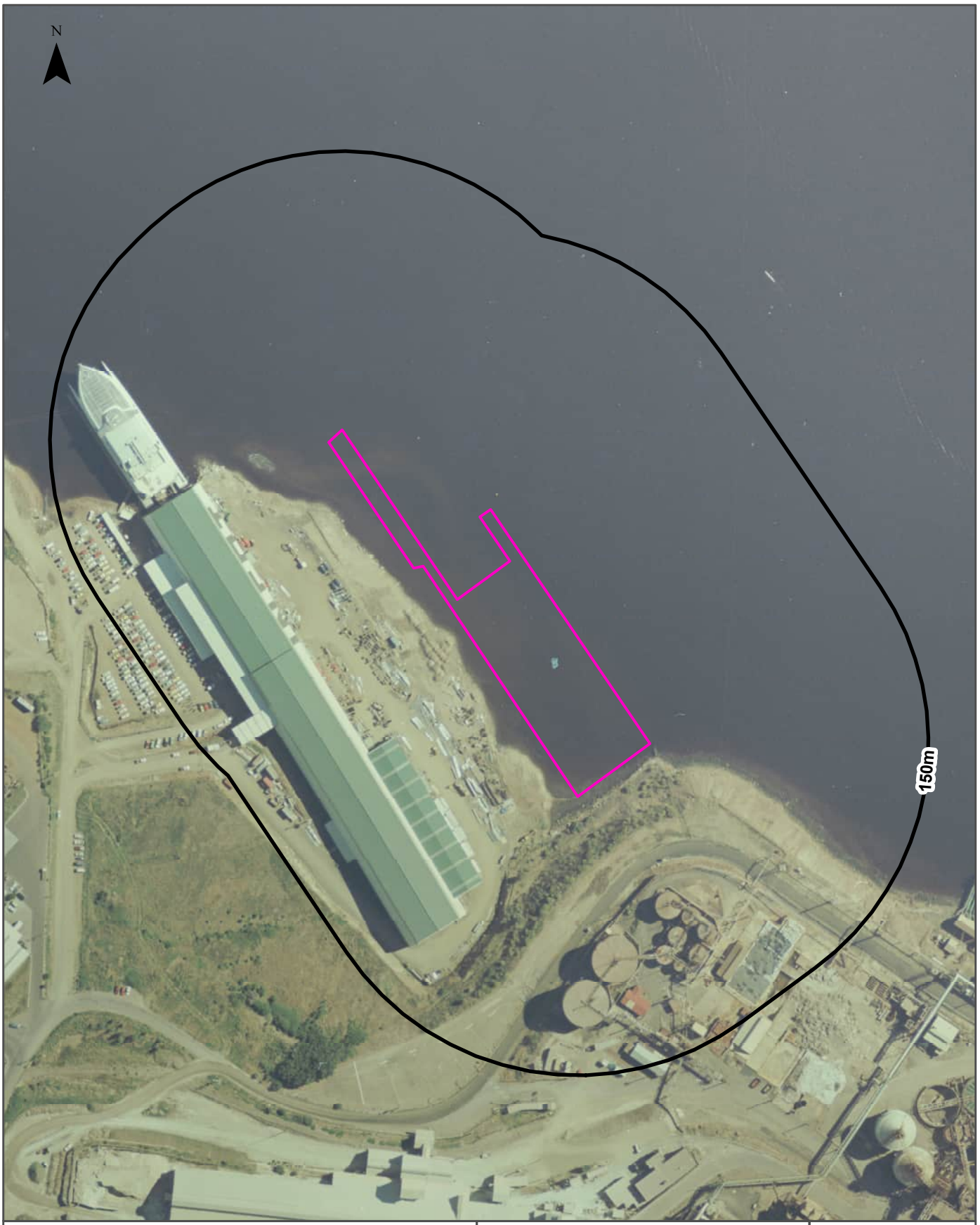
Document Set ID: 3625399
Version: 1, Version Date: 19/06/2026

Aerial Imagery 1997

100 Derwent Park Road, Derwent Park, TAS 7009



Legend

Site Boundary

Report Buffer

Scale:

0 30 60 90 120

Meters

Coordinate System:
GDA 2020 MGA Zone 55

Date: 30 January 2026

Data Source Aerial Imagery: Base image by TASMAP © State of Tasmania

Aerial Imagery 1988

100 Derwent Park Road, Derwent Park, TAS 7009

Legend

Site Boundary

Report Buffer

Scale:

0 30 60 90 120

Meters

Coordinate System:
GDA 2020 MGA Zone 55

Date: 30 January 2026

Data Source Aerial Imagery: Base image by TASMAP © State of Tasmania

Aerial Imagery 1977

100 Derwent Park Road, Derwent Park, TAS 7009

Legend

Site Boundary

Report Buffer

Scale:

0 30 60 90 120

Meters

Coordinate System:
GDA 2020 MGA Zone 55

Date: 30 January 2026

Data Source Aerial Imagery: Base image by TASMAP © State of Tasmania

Document Set ID: 3625399
Version: 1, Version Date: 09/06/2026

Aerial Imagery 1969

100 Derwent Park Road, Derwent Park, TAS 7009

Legend

Site Boundary

Report Buffer

Scale:

0 30 60 90 120
Meters

Coordinate System:
GDA 2020 MGA Zone 55

Date: 30 January 2026

Data Source Aerial Imagery: Base image by TASMAP © State of Tasmania

Document Set ID: 3625399
Version: 1, Version Date: 09/06/2026

Aerial Imagery 1957

100 Derwent Park Road, Derwent Park, TAS 7009

Legend

Site Boundary

Report Buffer

Scale:

0 30 60 90 120

Meters

Coordinate System:
GDA 2020 MGA Zone 55

Date: 30 January 2026

Data Source Aerial Imagery: Base image by TASMAP © State of Tasmania

Aerial Imagery 1946

100 Derwent Park Road, Derwent Park, TAS 7009

Legend

Site Boundary

Report Buffer

Scale:

0 30 60 90 120

Meters

Coordinate System:
GDA 2020 MGA Zone 55

Date: 30 January 2026

Data Source Aerial Imagery: Base image by TASMAP © State of Tasmania

Historical Map c.1987

100 Derwent Park Road, Derwent Park, TAS 7009

Legend

- Site Boundary
- Buffer 1000m

Scale: 0 360 720 1,080 1,440 Meters

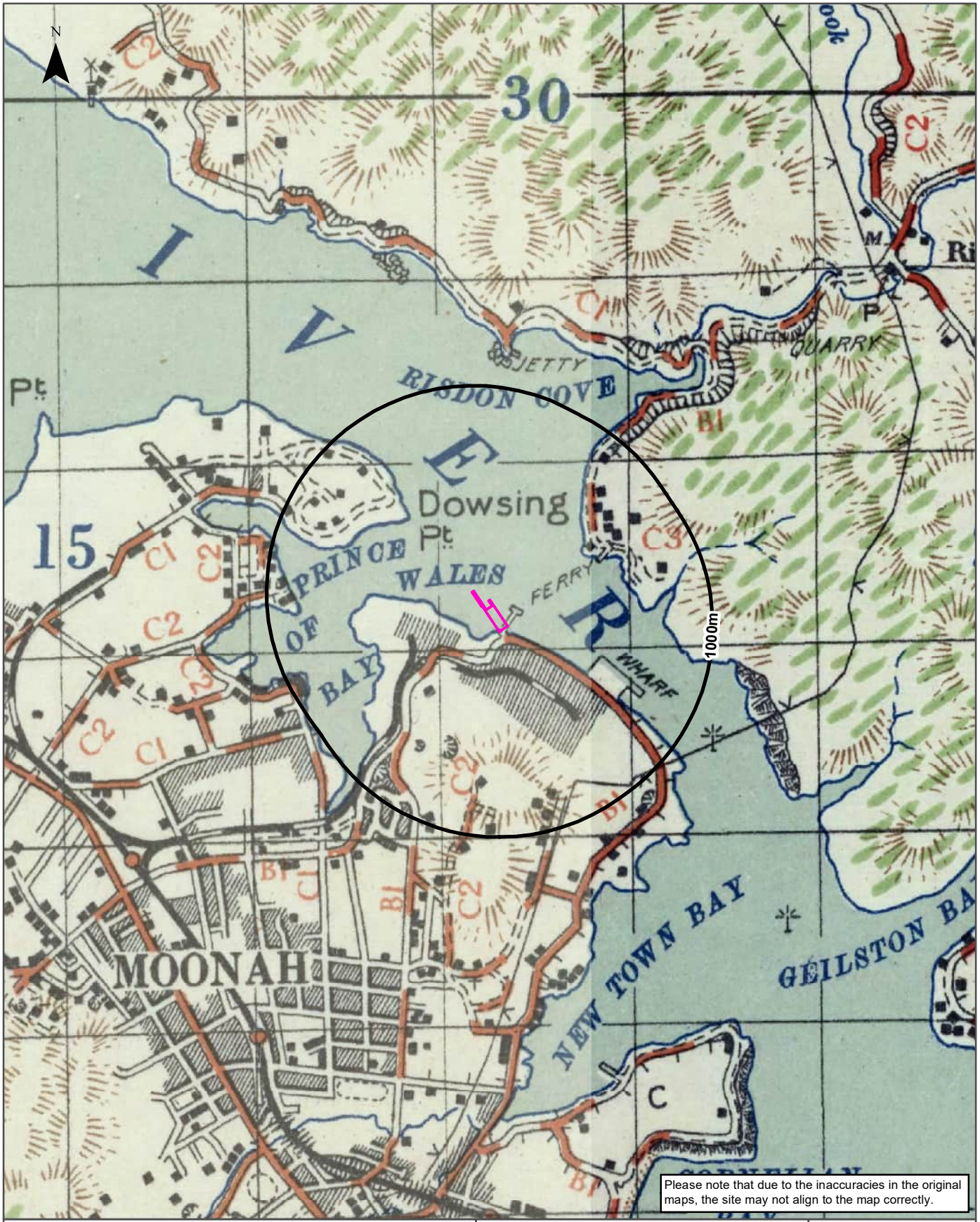
Coordinate System: GDA 2020 MGA Zone 55

Date: 29 January 2026

Data Source: Tasmania 1:100,000 Topographic Mapping Series
Department of Natural Resources and Environment Tasmania

Historical Map c.1942

100 Derwent Park Road, Derwent Park, TAS 7009



Legend

- Site Boundary
- Buffer 1000m

Scale: 0 360 720 1,080 1,440 Meters

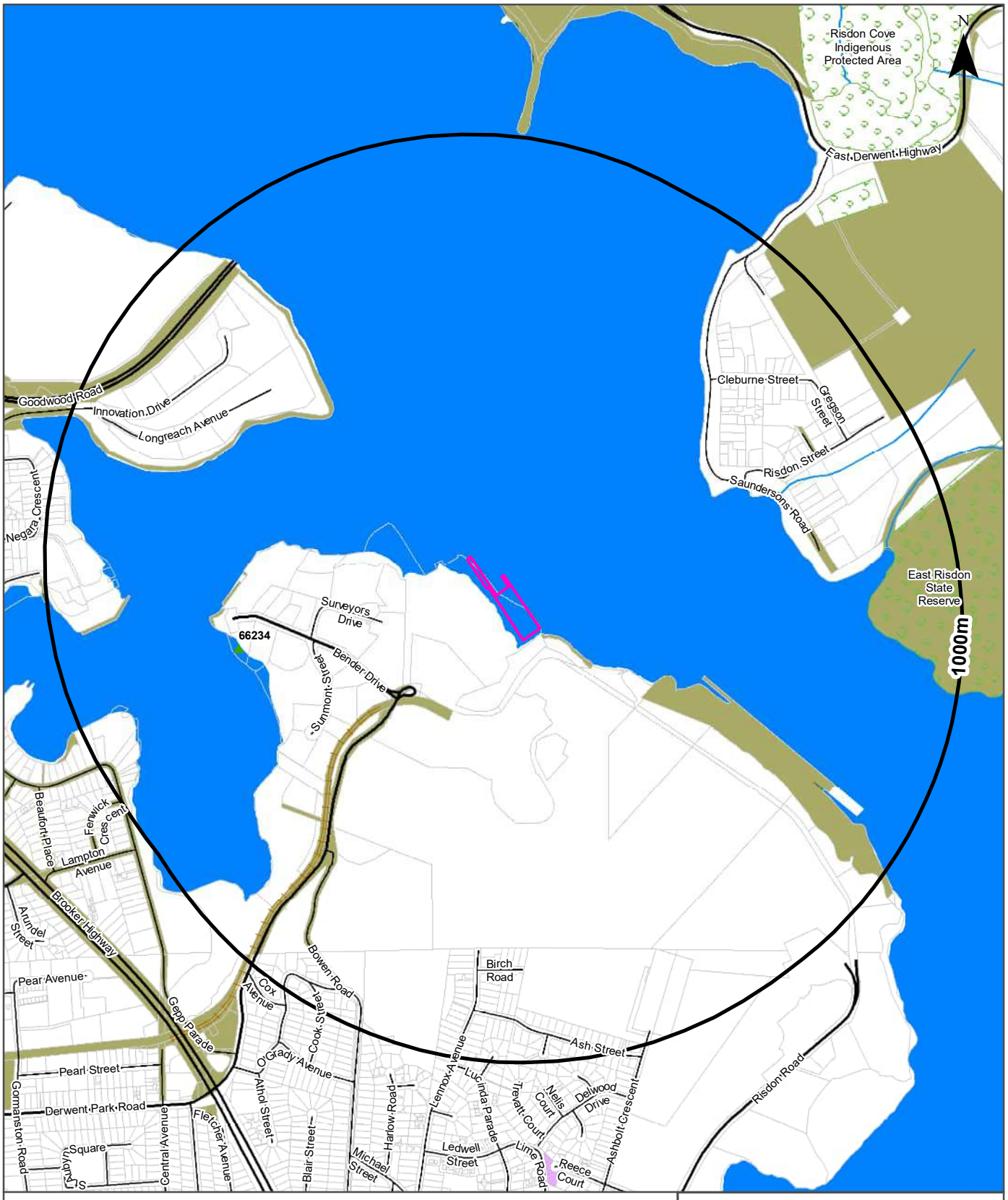
Coordinate System: GDA 2020 MGA Zone 55

Date: 29 January 2026

Data Sources: Australia 1:63,360 Military Survey
Produced by Australian Section Imperial General Staff

Topographic Features

100 Derwent Park Road, Derwent Park, TAS 7009



Legend

- Site Boundary
- Report Buffer
- Property Boundaries
- Point of Interest
- Easement
- Crown Land
- Reserves
- National Parks, Forests and Conservation Areas
- Waterbody
- Road
- Arterial Road/Highway
- Rail
- Fire Trail
- Rivers

Scale: 0 100 200 400 600 Metres

Data Sources: Cadastral Parcels from www.theLIST.tas.gov.au © StateofTasmania Released under CC BY Aus 3.0

Coordinate System: GDA 2020 MGA Zone 55

Date: 30 January 2026

Topographic Features

100 Derwent Park Road, Derwent Park, TAS 7009

Points of Interest

Features from the LIST Points of Interest dataset that exist within the dataset buffer:

Map Id	Feature Type	Feature Subtype	Name	Distance	Direction
66234	Tourist feature	Industrial	Spotty Dog Brewery and Taphouse	581m	West

Points of Interest from www.theLIST.tas.gov.au©State of Tasmania
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Easements

Features from the LIST Easements dataset that exist on-site:

Map Id	Feature Type	Feature Subtype
N/A	No records within buffer	

Easements from www.theLIST.tas.gov.au©State of Tasmania
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Elevation Contours (m AHD) 10m Interval at 1:25,000

100 Derwent Park Road, Derwent Park, TAS 7009

Legend

- Site Boundary
- Report Buffer
- Property Boundaries
- Elevation Contour (m AHD)

Scale: 0 100 200 400 600 Metres

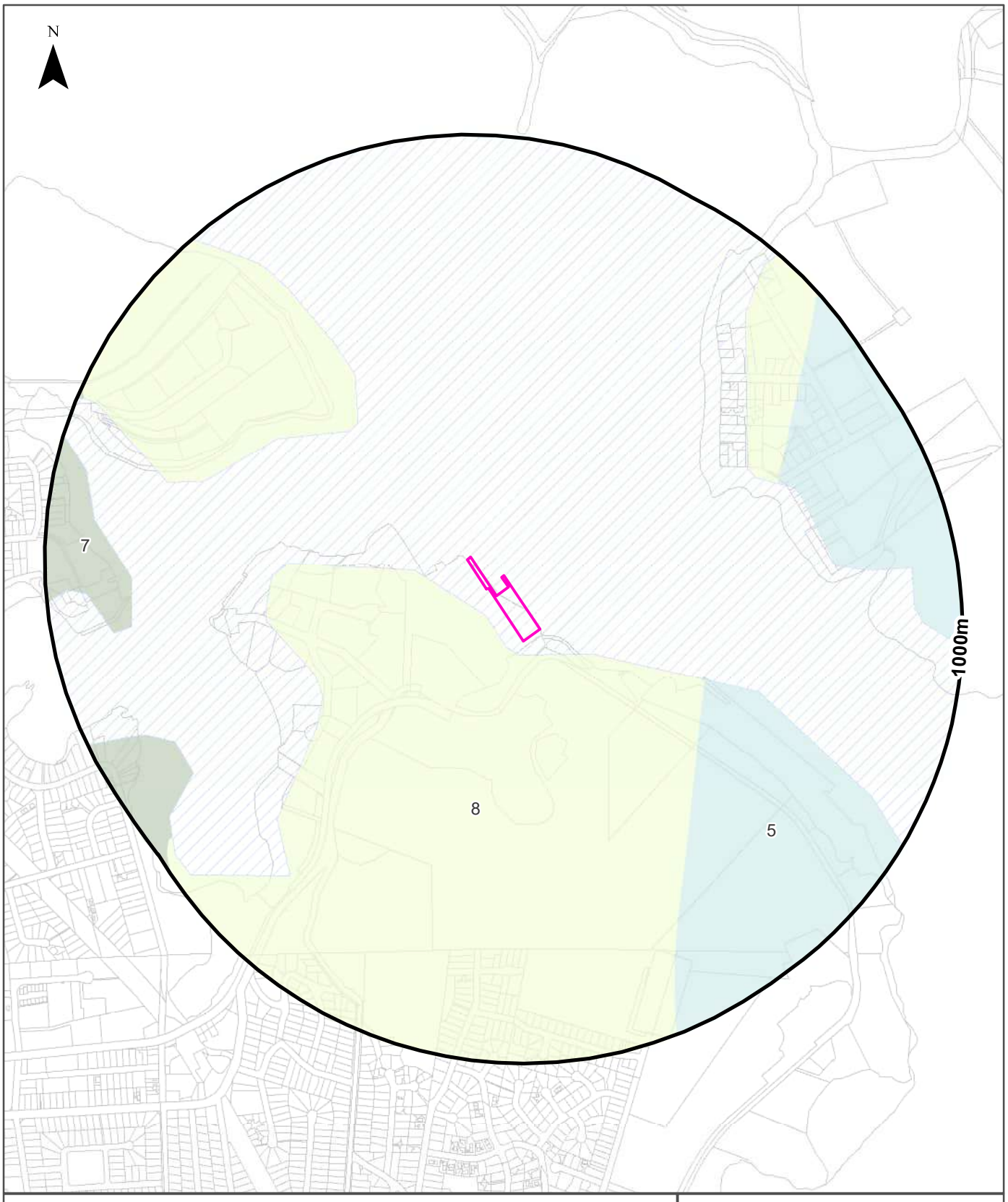
Data Sources: Cadastral Parcels from www.theLIST.tas.gov.au © StateofTasmania Released under CC BY Aus 3.0

Coordinate System: GDA 2020 MGA Zone 55

Date: 30 January 2026

Hydrogeology

100 Derwent Park Road, Derwent Park, TAS 7009



Legend

- Site Boundary
- Report Buffer
- Property Boundaries

Hydrogeology

- 0: Not Mapped
- 1: Porous - High
- 2: Porous - Moderate to High
- 3: Porous - Low to Moderate
- 4: Porous - Low to High
- 5: Fractured Rock (Intergranular) - High
- 6: Fractured Rock - Moderate to High
- 7: Fractured Rock (Tertiary basalt) - High
- 8: Fractured Rock - Moderate
- 9: Fractured Rock - Low to Moderate
- Water body

Scale: 0 100 200 400 600 Metres

Data Sources: Cadastral Parcels from www.theLIST.tas.gov.au © StateofTasmania Released under CC BY Aus 3.0

Coordinate System: GDA 2020 MGA Zone 55

Date: 30 January 2026

Hydrogeology & Groundwater

100 Derwent Park Road, Derwent Park, TAS 7009

Hydrogeology

Description of aquifers within the dataset buffer:

Proscode	Aquifer Type	Prospectivity	Rock Groups	General Aquifer Characteristics	Pollution Vulnerability	Pollution Vulnerability Description	Distance
8	FRACTURED ROCK	MODERATE	Jurassic dolerite. Triassic basalt - St Marys. Tertiary basalt - Scottsdale, Ringarooma, Tamar and Bream Creek.	Yields often suitable for domestic/stock purposes; less commonly irrigation quantities (up to 20 L/s) have been found. Dolerite is usually less fractured than basalts and in most locations is of lower prospectivity. Quality is variable and water salinity in the low rainfall areas often restricts its use (water quality is expected to be mainly good in the north and northeast parts of Tasmania, as well as the Central Plateau). Aquifers are often unconfined, semiconfined to confined.	Moderate	Can be high if fractured zones are not overlain by low permeability material.	30m
5	FRACTURED ROCK (Intergranular on some horizons)	HIGH	Triassic, quartzose and lithic sandstones, mudstone, minor coal. Terrestrial origin (R, Rv, Rq). Permian mudstone, siltstone and sandstone (often pebbly), minor limestone, conglomerate and tillite. Mainly marine origin (P).	Yields suitable for most domestic and livestock purposes; in some cases sufficient for irrigation (up to 25 L/s). Quality is good in the north and the northeast where water is usually suitable for a wide range of purposes. In the southeast water salinity restricts use in many locations. Here near surface small yielding zones often yield poorer quality groundwater than deeper higher yielding zones. Aquifers are mainly unconfined to confined locally.	High	High - Unless a layer of low permeability material overlies the aquifer.	406m
7	FRACTURED ROCK	HIGH	Tertiary basalt.	Usually highly prospective, yields mostly sufficient for domestic and stock purposes; small to moderate irrigation quantities are often obtained (yields up to 38 L/s). Aquifers often intensely fractured and vesicular. Yields are generally higher than for other fractured rock aquifers. Prone to overuse in low rainfall areas (Pawleena Road near Sorell and Campbell Town). Quality usually suitable for most purposes in the north and northeast. In the low rainfall southeastern part of the state salinity is moderate to high and restricts water use. Aquifers can be unconfined to confined.	High	Very occasional deep clay soils may offer some protection and lower vulnerability	794m

Mineral Resources Tasmania
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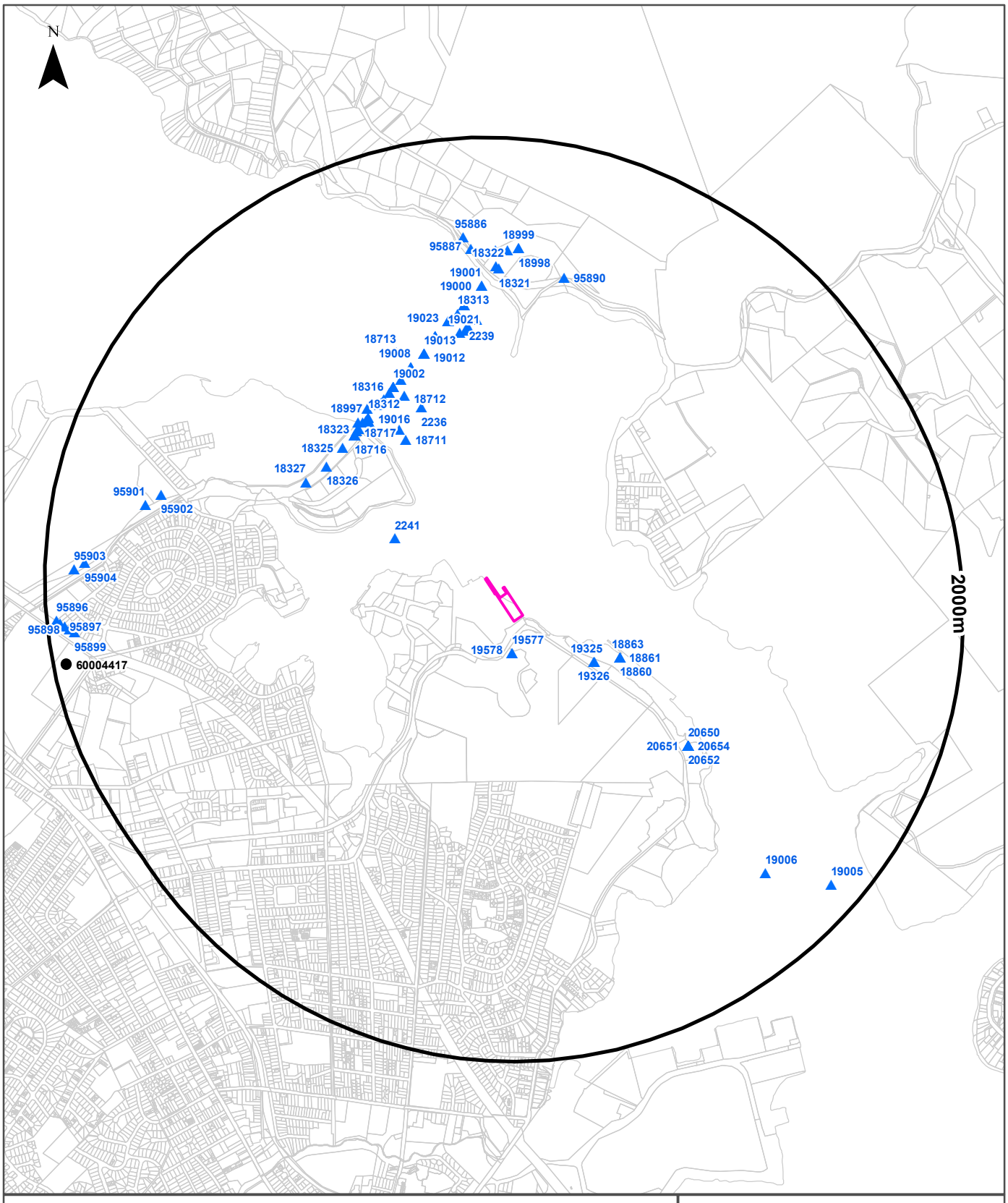
Boreholes

100 Derwent Park Road, Derwent Park, TAS 7009



Legend

- Site Boundary
- Report Buffer
- Property Boundaries
- NGIS Boreholes
- MRT Drillholes

Scale: 0 100 200 400 600 800 1,000 1,200 Metres

Data Sources: Cadastral Parcels from www.theLIST.tas.gov.au © StateofTasmania Released under CC BY Aus 3.0

Coordinate System: GDA 2020 MGA Zone 55

Date: 30 January 2026

Boreholes

100 Derwent Park Road, Derwent Park, TAS 7009

Boreholes (Drill Holes)

Drill hole locations provided by Mineral Resources Tasmania within the dataset buffer:

Drill ID	Name	Purpose	Location	Drill Date	Start Point	Length (m)	Elevation (m AHD)	Azimuth	Dip	Dist	Dir
19577	IF1	Engineering geology	Impact Fertilizers - EZ Risdon	6/2/1999	Surface	2.8	29.3	0	-90	145m	South
19578	IF2	Engineering geology	Impact Fertilizers - EZ Risdon	6/2/1999	Surface	3	29.3	0	-90	145m	South
19326	PEZ-2	Engineering geology	Pasminco - EZ Risdon	10/8/1997	Surface	6.25	5	0	-90	386m	South East
19325	PEZ-1	Engineering geology	Pasminco - EZ Risdon	10/8/1997	Surface	6.55	5	0	-90	389m	South East
2241	Hole 7	Engineering geology	Dowsing Point Bridge	10/7/1963	unknown	47				449m	North West
18863	BH4	Engineering geology	Pasminco Acid Storage - EZ Risdon	12/12/1995	Surface	6		0	-90	482m	South East
18860	BH1	Engineering geology	Pasminco Acid Storage - EZ Risdon	12/12/1995	Surface	5.94	14.9	0	-90	482m	South East
18862	BH3	Engineering geology	Pasminco Acid Storage - EZ Risdon	12/12/1995	Surface	5.2	14	0	-90	482m	South East
18861	BH2	Engineering geology	Pasminco Acid Storage - EZ Risdon	12/12/1995	Surface	4.45	16.3	0	-90	482m	South East
18711	BH1 (J1)	Engineering geology	Bowen Bridge	4/24/1975	Surface	49		0	-90	725m	North West
2235	Hole 1	Engineering geology	Dowsing Point Bridge	8/19/1963	unknown	52				781m	North West
2236	Hole 2	Engineering geology	Dowsing Point Bridge	8/28/1963	unknown	50				828m	North West
18325	WA1	Engineering geology	Bowen Bridge West Approach	5/6/1976	Surface	17.36		0	-90	880m	North West
18716	BW3	Engineering geology	Bowen Bridge	3/29/1977	Surface	14		0	-90	881m	North West
18717	BW4	Engineering geology	Bowen Bridge	3/23/1977	Surface	13		0	-90	881m	North West
18718	BW5	Engineering geology	Bowen Bridge	2/15/1977	Surface	19		0	-90	881m	North West
18721	BW9	Engineering geology	Bowen Bridge	4/4/1977	Surface	23		0	-90	881m	North West
18720	BW8	Engineering geology	Bowen Bridge	7/7/1977	Surface	6		0	-90	881m	North West
18719	BW7	Engineering geology	Bowen Bridge	4/6/1977	Surface	4		0	-90	881m	North West
18326	WA2	Engineering geology	Bowen Bridge West Approach	5/26/1976	Surface	15.25		0	-90	884m	North West
19016	BHD21	Engineering geology	Bowen Bridge	12/8/1976	Surface	51		0	-90	886m	North West
19018	BHD23	Engineering geology	Bowen Bridge	12/6/1976	Surface	53		0	-90	886m	North West
19015	BHD20	Engineering geology	Bowen Bridge	11/29/1976	Surface	52		0	-90	886m	North West
18324	W2	Engineering geology	Bowen Bridge West Abutment	8/18/1976	Surface	20.27		0	-90	889m	North West
18323	W1	Engineering geology	Bowen Bridge West Abutment	4/27/1976	Surface	12.11		0	-90	891m	North West
18319	D10	Engineering geology	Bowen Bridge	7/8/1976	Surface	25.66		0	-90	899m	North West
18320	D11	Engineering geology	Bowen Bridge	8/2/1976	Surface	29.84		0	-90	903m	North West
18312	D3	Engineering geology	Bowen Bridge	4/21/1976	Surface	40.14		0	-90	904m	North West

Drill ID	Name	Purpose	Location	Drill Date	Start Point	Length (m)	Elevation (m AHD)	Azimuth	Dip	Dist	Dir
18997	BHD-Pier 1	Engineering geology	Bowen Bridge	7/1/1975	Surface	19		0	-90	904m	North West
18712	BH2 (J2)	Engineering geology	Bowen Bridge	5/3/1975	Surface	55		0	-90	907m	North West
19017	BHD22	Engineering geology	Bowen Bridge	12/10/1976	Surface	48		0	-90	917m	North West
18318	D9	Engineering geology	Bowen Bridge	6/21/1976	Surface	54.28		0	-90	923m	North West
18310	D1	Engineering geology	Bowen Bridge	3/30/1976	Surface	57.32		0	-90	924m	North West
18327	WA3	Engineering geology	Bowen Bridge West Approach	6/10/1976	Surface	11.97		0	-90	924m	North West
18317	D8	Engineering geology	Bowen Bridge	6/16/1976	Surface	51.54		0	-90	928m	North West
18316	D7	Engineering geology	Bowen Bridge	6/10/1976	Surface	52.69		0	-90	934m	North West
18714	BH4 (J4)	Engineering geology	Bowen Bridge	8/23/1975	Surface	49		0	-90	940m	North West
18311	D2	Engineering geology	Bowen Bridge	3/9/1976	Surface	50.6		0	-90	947m	North West
20650	MB64	Engineering geology	Pasminco Smelter	9/6/2002	Surface	11.8		0	-90	958m	South East
20651	MB65	Engineering geology	Pasminco Smelter	9/2/2002	Surface	15.1		0	-90	958m	South East
20652	MB66	Engineering geology	Pasminco Smelter	9/2/2002	Surface	15.2		0	-90	958m	South East
20653	MB67	Engineering geology	Pasminco Smelter	9/3/2002	Surface	13.65		0	-90	958m	South East
20654	MB68	Engineering geology	Pasminco Smelter	9/5/2002	Surface	11.6		0	-90	958m	South East
20655	MB69	Engineering geology	Pasminco Smelter	9/1/2002	Surface	10.3		0	-90	958m	South East
20656	MB70	Engineering geology	Pasminco Smelter	9/3/2002	Surface	13.15		0	-90	958m	South East
20657	MB71	Engineering geology	Pasminco Smelter	9/4/2002	Surface	11.5		0	-90	958m	South East
20658	MB72	Engineering geology	Pasminco Smelter	9/4/2002	Surface	9.15		0	-90	958m	South East
20659	MB73	Engineering geology	Pasminco Smelter	9/9/2002	Surface	7.45		0	-90	958m	South East
20660	MB74	Engineering geology	Pasminco Smelter	9/9/2002	Surface	8.75		0	-90	958m	South East
20661	MB75	Engineering geology	Pasminco Smelter	9/5/2002	Surface	6.15		0	-90	958m	South East
19002	BHP301	Engineering geology	Bowen Bridge Pier 3	12/1/1975	Surface	55		0	-90	965m	North West
19032	BHD38	Engineering geology	Bowen Bridge	12/16/1977	Surface	46		0	-90	965m	North West
19031	BHD36	Engineering geology	Bowen Bridge	12/21/1977	Surface	44		0	-90	965m	North West
19033	BHD39	Engineering geology	Bowen Bridge	12/15/1977	Surface	48		0	-90	965m	North West
18315	D6	Engineering geology	Bowen Bridge	5/17/1976	Surface	43.23		0	-90	980m	North West
19008	BHD13	Engineering geology	Bowen Bridge	1/18/1977	Surface	37		0	-90	1017m	North
19010	BHD15	Engineering geology	Bowen Bridge	1/12/1977	Surface	40		0	-90	1017m	North
19009	BHD14	Engineering geology	Bowen Bridge	1/1/1977	Surface	43		0	-90	1017m	North
19007	BHD12	Engineering geology	Bowen Bridge	1/1/1977	Surface	43		0	-90	1017m	North
19012	BHD17	Engineering geology	Bowen Bridge	1/4/1977	Surface	32		0	-90	1055m	North
19013	BHD18	Engineering geology	Bowen Bridge	1/28/1977	Surface	35		0	-90	1055m	North
19011	BHD16	Engineering geology	Bowen Bridge	1/20/1977	Surface	40		0	-90	1055m	North
19014	BHD19	Engineering geology	Bowen Bridge	2/2/1977	Surface	32		0	-90	1055m	North

Drill ID	Name	Purpose	Location	Drill Date	Start Point	Length (m)	Elevation (m AHD)	Azimuth	Dip	Dist	Dir
18713	BH3 (J3)	Engineering geology	Bowen Bridge	7/10/1975	Surface	42		0	-90	1103m	North West
18314	D5	Engineering geology	Bowen Bridge	5/24/1976	Surface	43.85		0	-90	1105m	North
2239	Hole 5	Engineering geology	Dowsing Point Bridge	9/19/1963	unknown	30				1120m	North
19029	BHD34	Engineering geology	Bowen Bridge	2/9/1977	Surface	25		0	-90	1121m	North
19030	BHD35	Engineering geology	Bowen Bridge	2/15/1977	Surface	32		0	-90	1121m	North
19003	BHP601	Engineering geology	Bowen Bridge Pier 6	5/1/1980	Surface	33		0	-90	1121m	North
19027	BHD32	Engineering geology	Bowen Bridge	2/21/1977	Surface	36		0	-90	1121m	North
19028	BHD33	Engineering geology	Bowen Bridge	12/10/1977	Surface	31		0	-90	1121m	North
2238	Hole 4	Engineering geology	Dowsing Point Bridge	9/11/1963	unknown	17				1127m	North
2237	Hole 3	Engineering geology	Dowsing Point Bridge	9/5/1963	unknown	23				1146m	North
2240	Hole 6	Engineering geology	Dowsing Point Bridge	10/1/1963	unknown	23				1174m	North
19023	BHD28	Engineering geology	Bowen Bridge	2/24/1977	Surface	19		0	-90	1179m	North
19025	BHD30	Engineering geology	Bowen Bridge	3/3/1977	Surface	20		0	-90	1179m	North
19026	BHD31	Engineering geology	Bowen Bridge	3/4/1977	Surface	15		0	-90	1179m	North
19004	BHP700	Engineering geology	Bowen Bridge Pier 7	12/6/1980	Surface	30		0	-90	1179m	North
19024	BHD29	Engineering geology	Bowen Bridge	2/7/1977	Surface	15		0	-90	1179m	North
18313	D4	Engineering geology	Bowen Bridge	6/2/1976	Surface	30.33		0	-90	1206m	North
19020	BHD25	Engineering geology	Bowen Bridge	3/9/1977	Surface	11		0	-90	1241m	North
19022	BHD27	Engineering geology	Bowen Bridge	3/1/1977	Surface	12		0	-90	1241m	North
19021	BHD26	Engineering geology	Bowen Bridge	3/10/1977	Surface	14		0	-90	1241m	North
19019	BHD24	Engineering geology	Bowen Bridge	3/8/1977	Surface	16		0	-90	1241m	North
19001	BHE6	Engineering geology	Bowen Bridge	1/24/1977	Surface	15		0	-90	1327m	North
19000	BHE4	Engineering geology	Bowen Bridge	3/23/1977	Surface	10		0	-90	1327m	North
18321	E1	Engineering geology	Bowen Bridge East Abutment	7/27/1976	Surface	15.19		0	-90	1405m	North
95890	3216451_05	Engineering geology	East Derwent Highway Slip Lane	9/6/2012	Surface	2.5		0	-90	1408m	North
18322	E2	Engineering geology	Bowen Bridge East Abutment	8/6/1976	Surface	14.6		0	-90	1415m	North
95888	3216451_03	Engineering geology	East Derwent Highway Slip Lane	9/6/2012	Surface	2.1		0	-90	1489m	North
95889	3216451_04	Engineering geology	East Derwent Highway Slip Lane	9/6/2012	Surface	1.7		0	-90	1490m	North
95887	3216451_02	Engineering geology	East Derwent Highway Slip Lane	9/6/2012	Surface	2.3		0	-90	1494m	North
18998	BHEO3	Engineering geology	Bowen Bridge	7/1/1975	Surface	58		0	-90	1504m	North
18999	BHEO4	Engineering geology	Bowen Bridge	7/1/1975	Surface	60		0	-90	1504m	North
95902	TP2	Engineering geology	Brooker Highway, Elwick Road & Goodwood Road Upgrade	4/1/2015	Surface	2.1		0	-90	1520m	West
95886	3216451_01	Engineering geology	East Derwent Highway Slip Lane	9/6/2012	Surface	2.5		0	-90	1550m	North
95901	TP1	Engineering geology	Brooker Highway, Elwick Road & Goodwood Road Upgrade	4/1/2015	Surface	1.6		0	-90	1580m	West

Drill ID	Name	Purpose	Location	Drill Date	Start Point	Length (m)	Elevation (m AHD)	Azimuth	Dip	Dist	Dir
19006	BH2	Engineering geology	Bedlam Walls Bridge	1/1/1975	Surface	77		0	-90	1609m	South East
95904	TP4	Engineering geology	Brooker Highway, Elwick Road & Goodwood Road Upgrade	4/1/2015	Surface	1.1		0	-90	1820m	West
19005	BH1	Engineering geology	Bedlam Walls Bridge	1/1/1975	Surface	58		0	-90	1860m	South East
95903	TP3	Engineering geology	Brooker Highway, Elwick Road & Goodwood Road Upgrade	4/1/2015	Surface	1.25		0	-90	1867m	West
95899	3217132_04	Engineering geology	Brooker Highway, Elwick Road & Goodwood Road Upgrade	4/8/2014	Surface	3		0	-90	1881m	West
95898	3217132_03	Engineering geology	Brooker Highway, Elwick Road & Goodwood Road Upgrade	4/8/2014	Surface	3		0	-90	1901m	West
95900	3217132_05	Engineering geology	Brooker Highway, Elwick Road & Goodwood Road Upgrade	4/8/2014	Surface	3.3		0	-90	1921m	West
95897	3217132_02	Engineering geology	Brooker Highway, Elwick Road & Goodwood Road Upgrade	4/8/2014	Surface	3		0	-90	1940m	West
95896	3217132_01	Engineering geology	Brooker Highway, Elwick Road & Goodwood Road Upgrade	4/8/2014	Surface	3.1		0	-90	1956m	West

Source: Boreholes (Drill Holes) Creative Commons 4.0 © Mineral Resources Tasmania

Boreholes

100 Derwent Park Road, Derwent Park, TAS 7009

Boreholes (NGIS)

Boreholes from the National Groundwater Information System (NGIS) within the dataset buffer:

NGIS Bore Id	State Bore Id	Drilled Date	Bore Depth (m)	Drilled Depth (m)	Elevation (m)	Distance	Direction
60004417	3228	26/10/1984		29.00	19.90	1940m	West

Borehole Data Source: © Commonwealth of Australia (Bureau of Meteorology)
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Borehole Logs (NGIS)

Borehole logs from the National Groundwater Information System (NGIS) within the dataset buffer:

NGIS Bore Id	Driller's Log	Distance	Direction
60004417	0.00m-29.00m 29.00m-29.00m	1940m	West

Borehole Log Data Source: © Commonwealth of Australia (Bureau of Meteorology)
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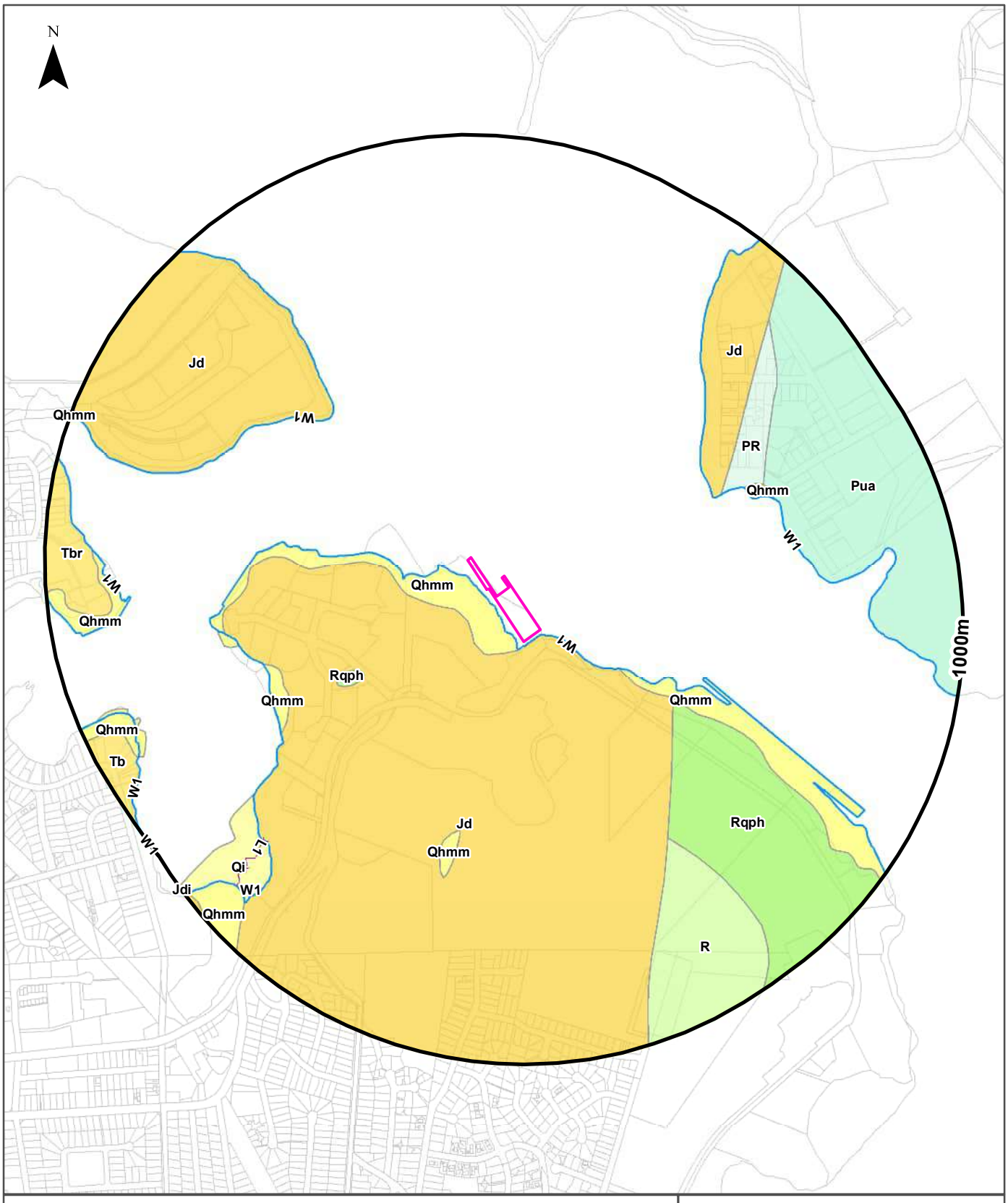
Geology 1:25,000

100 Derwent Park Road, Derwent Park, TAS 7009



Legend

- Site Boundary
- Report Buffer
- Property Boundaries

Linear Geological Structures and Boundaries

- Faulted boundary
- Geological contact
- Trendline
- Fold axis
- Lineament
- Water/coastline

Scale: 0 100 200 400 600 Metres

Data Sources: Cadastral Parcels from www.theLIST.tas.gov.au © StateofTasmania Released under CC BY Aus 3.0

Coordinate System: GDA 2020 MGA Zone 55

Date: 30 January 2026

Geology

100 Derwent Park Road, Derwent Park, TAS 7009

Geological Units (1:25,000)

Geological units that occur within the dataset buffer:

Code	Description	Stratigraphy	Age Range	Distance
Jd	Dolerite and related rocks	Jurassic igneous rocks>Tasmanian Dolerite	Pliensbachian to Toarcian	7m
Qhmm	Man-made deposits.	Undifferentiated Cenozoic sequences>Undifferentiated Quaternary sediments>Holocene alluvial, lacustrine and littoral deposits	Upper Pleistocene to Holocene	11m
Rqph	Freshwater predominantly cross-bedded quartzose to feldspathic sandstone commonly with overturned cross-bedding, subordinate siltstone with sparse plant and vertebrate fossils (Knocklofty Formation).	Late Carboniferous to Triassic sedimentary sequences>Parmeener Supergroup>Upper Parmeener Supergroup>Upper Fluviolacustrine Sequence - Quartz Sandstone Sequence (Rq)>Knocklofty Formation	Wuchiapingian to Carnian	351m
PR	Undifferentiated Parmeener Supergroup rocks.	Late Carboniferous to Triassic sedimentary sequences>Parmeener Supergroup	Kasimovian to Norian	531m
R	Undifferentiated Upper Parmeener Supergroup rocks.	Late Carboniferous to Triassic sedimentary sequences>Parmeener Supergroup>Upper Parmeener Supergroup>Upper Fluviolacustrine Sequence (Rv)	Changhsingian to Norian	573m
Pua	Generally unfossiliferous glaciomarine interbedded non-fissile and fissile siltstone and silty sandstone, with common bioturbation and lonestones, rare pebbly beds and fossiliferous beds; top beds of laminated grey to brown siltstone with thin beds of we	Late Carboniferous to Triassic sedimentary sequences>Parmeener Supergroup>Lower Parmeener Supergroup>Upper Glaciomarine Sequence - Abels Bay Formation and correlates>Abels Bay Formation	Roadian to Wuchiapingian	625m
Qi	Undifferentiated bay, estuarine, deltaic and alluvial deposits of sand, shelly sand, pebbly sand, pebble to boulder size gravels, clayey sand, silt and clay.	Undifferentiated Cenozoic sequences>Undifferentiated Quaternary sediments	Gelasian to Holocene	727m
Tbr	Transitional olivine basalt.	Undifferentiated Cenozoic sequences>Undifferentiated Paleogene - Neogene sequences>Paleogene - Neogene basalt and related rocks	Maastrichtian to Tortonian	847m
Tb	Basalt.	Undifferentiated Cenozoic sequences>Undifferentiated Paleogene - Neogene sequences>Paleogene - Neogene basalt and related rocks	Maastrichtian to Tortonian	904m
Jdi	Inferred dolerite beneath soil or Cainozoic deposits.	Jurassic igneous rocks>Tasmanian Dolerite	Pliensbachian to Toarcian	986m

Geology

100 Derwent Park Road, Derwent Park, TAS 7009

Linear Geological Structures (1:25,000)

Faults that occur within the dataset buffer:

Code	Description	Movement Sense	Observation Method	Distance
N/A	No records in buffer			

Other linear geological structures that occur within the dataset buffer:

Code	Description	Observation Method	Distance
W1	coastline	unknown	7m
L1	lineament	aerial photograph	774m

Data Source: Geology of Tasmania, Mineral Resources Tasmania
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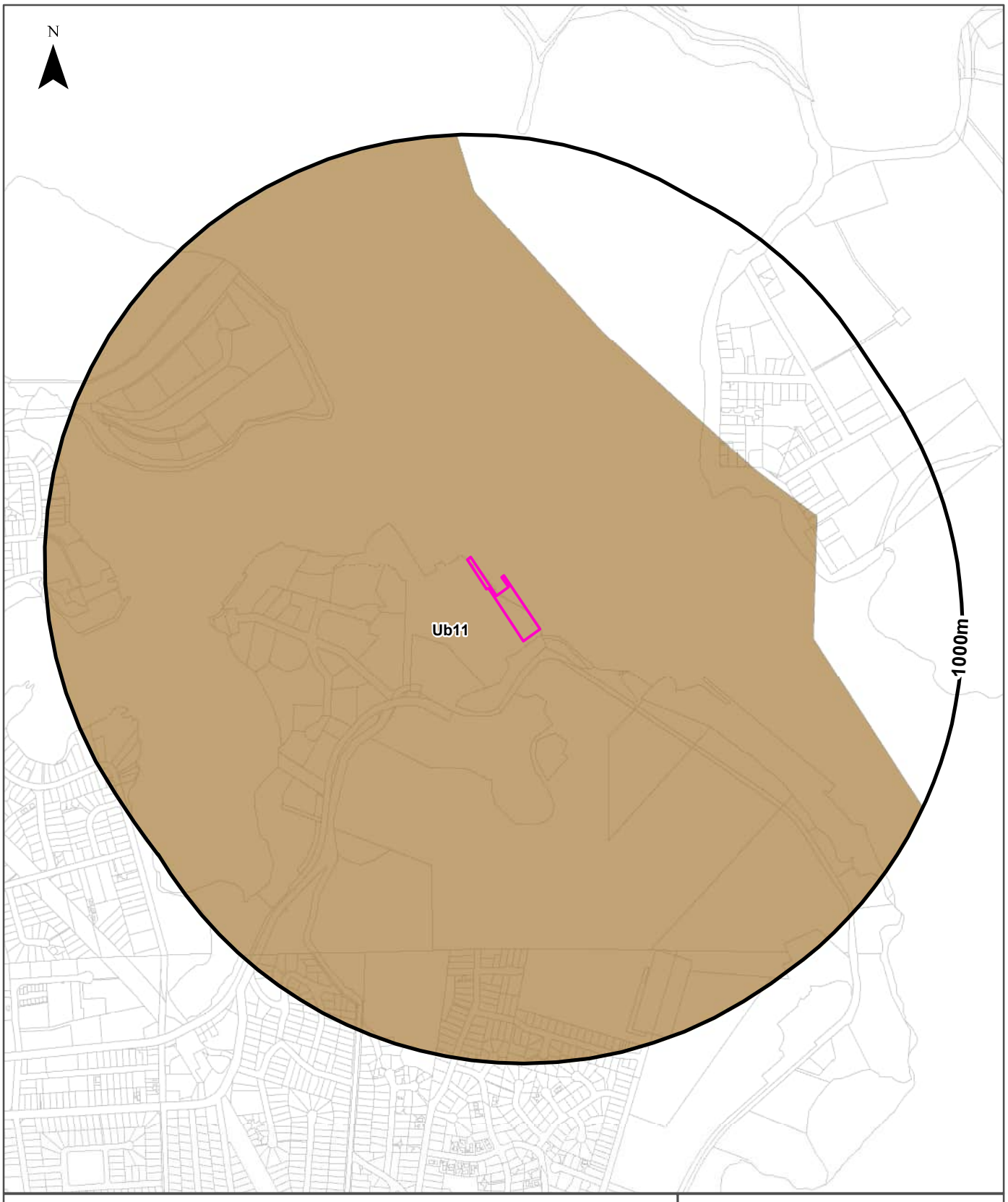
Atlas of Australian Soils

100 Derwent Park Road, Derwent Park, TAS 7009



Legend

- Site Boundary
- Report Buffer
- Property Boundaries

Australian Soil Classification Orders

- Anthroposol
- Calcarosol
- Chromosol
- Dermosol
- Ferrosol
- Hydrosol
- Kandosol
- Kurosol
- Organosol
- Podosol
- Rudosol
- Sodosol
- Tenosol
- Vertosol
- Lake
- No Data

Scale: 0 100 200 400 600 Metres

Data Sources: Cadastral Parcels from www.theLIST.tas.gov.au © StateofTasmania
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Coordinate System: GDA 2020 MGA Zone 55

Date: 30 January 2026

Soils

100 Derwent Park Road, Derwent Park, TAS 7009

Atlas of Australian Soils

Australian soil types within the dataset buffer:

Symbol	Soil Order	Map Unit Description	Distance to Nearest Feature
Ub11	Sodosol	Coastal plains: plains of hard neutral yellow mottled soils (Dy3.42) in association with (Dy3.43), (Dy3.12), (Ug5.16), and (Uc2.33); some saline flats and marshes with undescribed soils, fringed in places along the coast by dunes, as for unit A8.	On-site

Atlas of Australian Soils: ABARES
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Atlas of Australian Acid Sulfate Soils

100 Derwent Park Road, Derwent Park, TAS 7009

Legend

- Site Boundary
- Report Buffer
- Property Boundaries

Probability of occurrence of Acid Sulfate Soils

- A. High (>70%)
- B. Low (6-70%)
- C. Extremely Low (1-5%)
- D. No Chance (0%)
- No Data

Scale: 0 100 200 400 600 Metres

Data Sources: Cadastral Parcels from www.theLIST.tas.gov.au © StateofTasmania Released under CC BY Aus 3.0

Coordinate System: GDA 2020 MGA Zone 55

Date: 30 January 2026

Acid Sulfate Soils

100 Derwent Park Road, Derwent Park, TAS 7009

Atlas of Australian Acid Sulfate Soils

Atlas of Australian Acid Sulfate Soil categories within the dataset buffer:

Class	Description	Distance to Nearest Feature
A	High Probability of occurrence. >70% chance of occurrence.	On-site
C	Extremely low probability of occurrence. 1-5% chance of occurrence with occurrences in small localised areas.	10m
B	Low Probability of occurrence. 6-70% chance of occurrence.	11m

Atlas of Australian Acid Sulfate Soils Data Source: CSIRO
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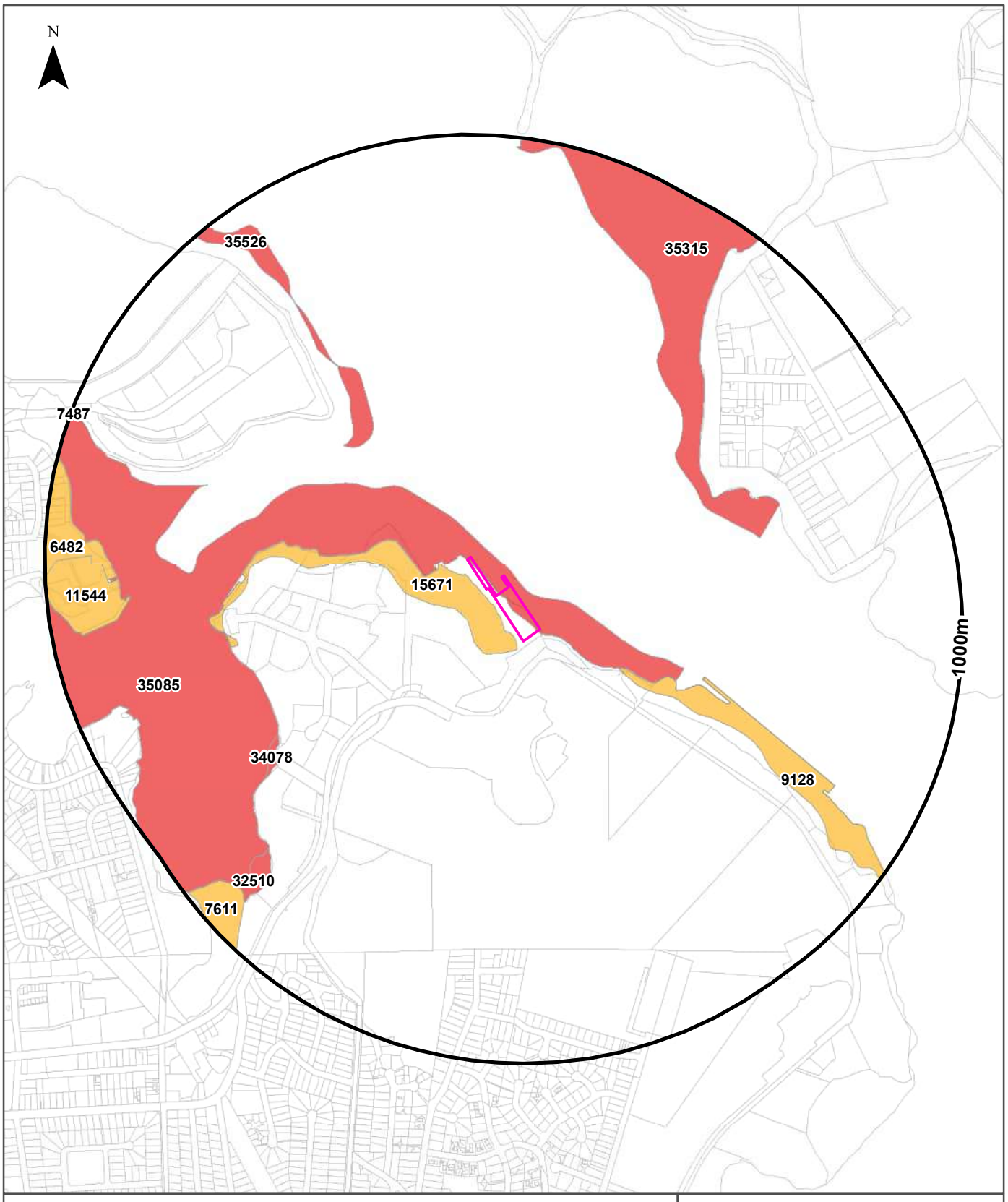
Acid Sulfate Soils

100 Derwent Park Road, Derwent Park, TAS 7009



Legend

- Site Boundary
- Report Buffer
- Property Boundaries

Probability of occurrence of Acid Sulfate Soils

- Extremely Low (1-5%)
- Low (6-70%)
- High (>70%)

Scale: 0 100 200 400 600 Metres

Data Sources: Cadastral Parcels from www.theLIST.tas.gov.au © StateofTasmania Released under CC BY Aus 3.0

Coordinate System: GDA 2020 MGA Zone 55

Date: 30 January 2026

Acid Sulfate Soils

100 Derwent Park Road, Derwent Park, TAS 7009

Areas of Tasmanian with Potential to Contain Acid Sulfate Soils

Coastal, inland and marine areas of Tasmania with the potential to contain acid sulfate soils, within the dataset buffer:

Map Id	Atlas Code	Probability	Total Weight	Depth Range	Distance	Direction
35085	Aa(p2)	High		0-5m	0m	On-site
15671	Bx(p3)	Low	1.5		11m	West
9128	Bx(p3)	Low	1.5		204m	South East
35526	Aa(p2)	High		0-5m	371m	West
35315	Aa(p2)	High		0-5m	484m	North
34078	Ab(p3)	High		0-5m	601m	South West
32510	Ab(p3)	High		0-5m	775m	South West
11544	Bu(p3)	Low	2		802m	West
6482	Bu(p3)	Low	2		831m	West
7611	Bf(p3)	Low	3		890m	South West
7487	Bx(p3)	Low	2.5		977m	West

Coastal areas of Tasmania with potential to contain Acid Sulfate Soils fromwww.theLIST.tas.gov.au©State of Tasmania
Inland areas of Tasmania with potential to contain Acid Sulfate Soils fromwww.theLIST.tas.gov.au©State of Tasmania
Marine areas of Tasmania with potential to contain Acid Sulfate Soils fromwww.theLIST.tas.gov.au©State of Tasmania
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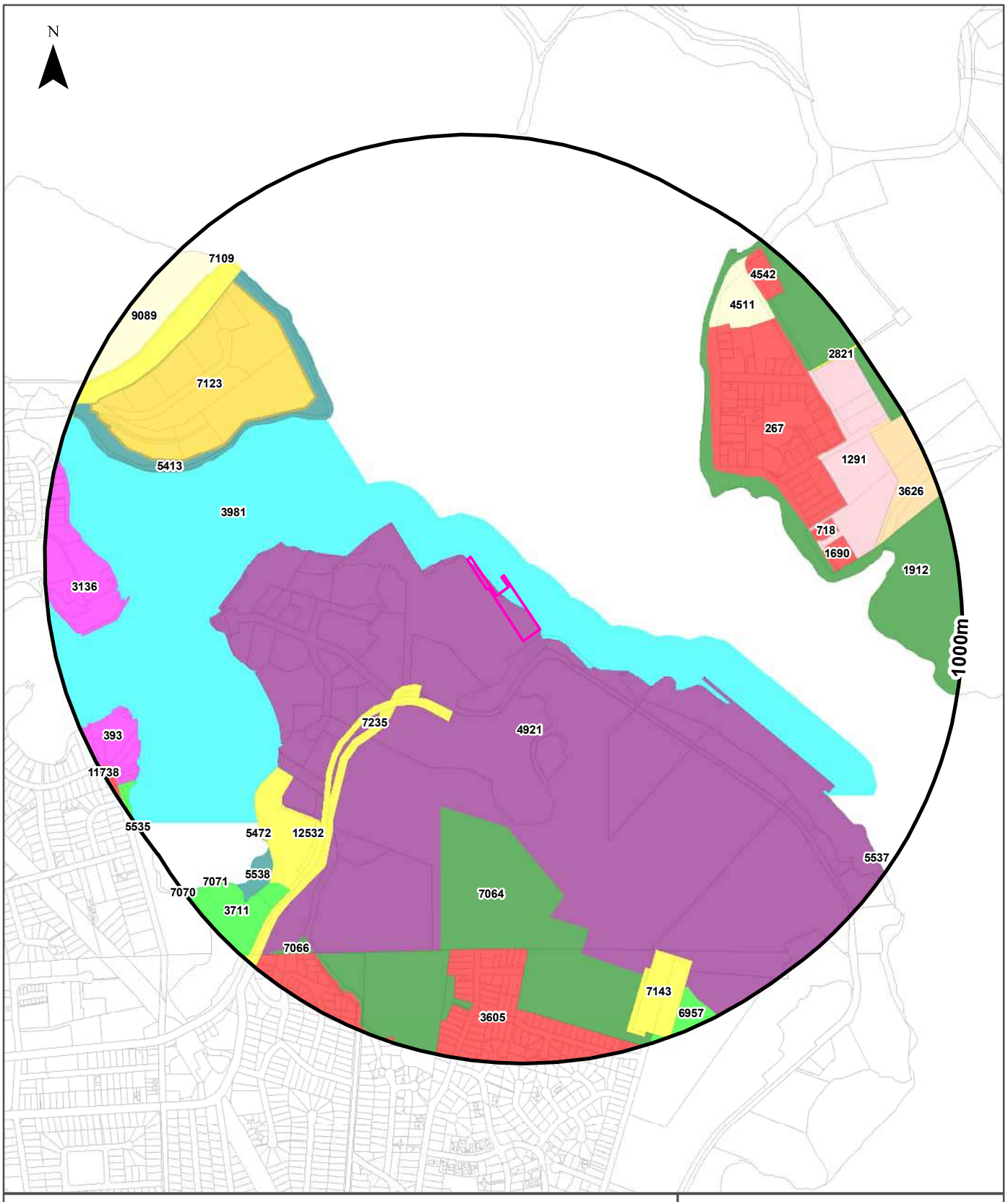
Planning Zones

100 Derwent Park Road, Derwent Park, TAS 7009



Legend

- Site Boundary
- Report Buffer
- Property Boundaries

Scale: 0 100 200 400 600 Metres

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Coordinate System: GDA 2020 MGA Zone 55

Date: 30 January 2026

Planning

100 Derwent Park Road, Derwent Park, TAS 7009

Planning Scheme Zoning

Planning Scheme Zones within the dataset buffer:

Map Id	Zone Code	Zone Name	Plan Scheme	Distance	Direction
4921	19	General Industrial	Glenorchy Local Provisions Schedule	0m	On-site
3981	25	Port and Marine	Glenorchy Local Provisions Schedule	0m	On-site
12532	26	Utilities	Glenorchy Local Provisions Schedule	236m	North West
7235	19	General Industrial	Glenorchy Local Provisions Schedule	376m	South West
7064	29	Open Space	Glenorchy Local Provisions Schedule	431m	South
5413	23	Environmental Management	Glenorchy Local Provisions Schedule	471m	North West
1912	29	Open Space	Clarence Local Provisions Schedule	513m	East
7123	31	Particular Purpose	Glenorchy Local Provisions Schedule	527m	North West
267	8	General Residential	Clarence Local Provisions Schedule	551m	North East
1291	11	Rural Living	Clarence Local Provisions Schedule	677m	North East
718	8	General Residential	Clarence Local Provisions Schedule	679m	East
1690	8	General Residential	Clarence Local Provisions Schedule	692m	East
3605	8	General Residential	Glenorchy Local Provisions Schedule	727m	South
4511	27	Community Purpose	Clarence Local Provisions Schedule	762m	North East
5472	23	Environmental Management	Glenorchy Local Provisions Schedule	762m	South West
5538	23	Environmental Management	Glenorchy Local Provisions Schedule	775m	South West
7143	26	Utilities	Glenorchy Local Provisions Schedule	793m	South
3136	18	Light Industrial	Glenorchy Local Provisions Schedule	803m	West
3711	28	Recreation	Glenorchy Local Provisions Schedule	807m	South West
3626	22	Landscape Conservation	Clarence Local Provisions Schedule	812m	East
393	18	Light Industrial	Glenorchy Local Provisions Schedule	867m	West
7066	29	Open Space	Glenorchy Local Provisions Schedule	870m	South West
2821	26	Utilities	Clarence Local Provisions Schedule	875m	East
7072	23	Environmental Management	Glenorchy Local Provisions Schedule	893m	South West
4542	8	General Residential	Clarence Local Provisions Schedule	899m	North East
6957	28	Recreation	Glenorchy Local Provisions Schedule	901m	South
9089	27	Community Purpose	Glenorchy Local Provisions Schedule	910m	West
7109	23	Environmental Management	Glenorchy Local Provisions Schedule	914m	North West
7071	23	Environmental Management	Glenorchy Local Provisions Schedule	917m	South West
5537	23	Environmental Management	Glenorchy Local Provisions Schedule	937m	South East
7069	23	Environmental Management	Glenorchy Local Provisions Schedule	959m	South West
11738	8	General Residential	Glenorchy Local Provisions Schedule	975m	West
7070	23	Environmental Management	Glenorchy Local Provisions Schedule	995m	South West
5535	23	Environmental Management	Glenorchy Local Provisions Schedule	995m	South West

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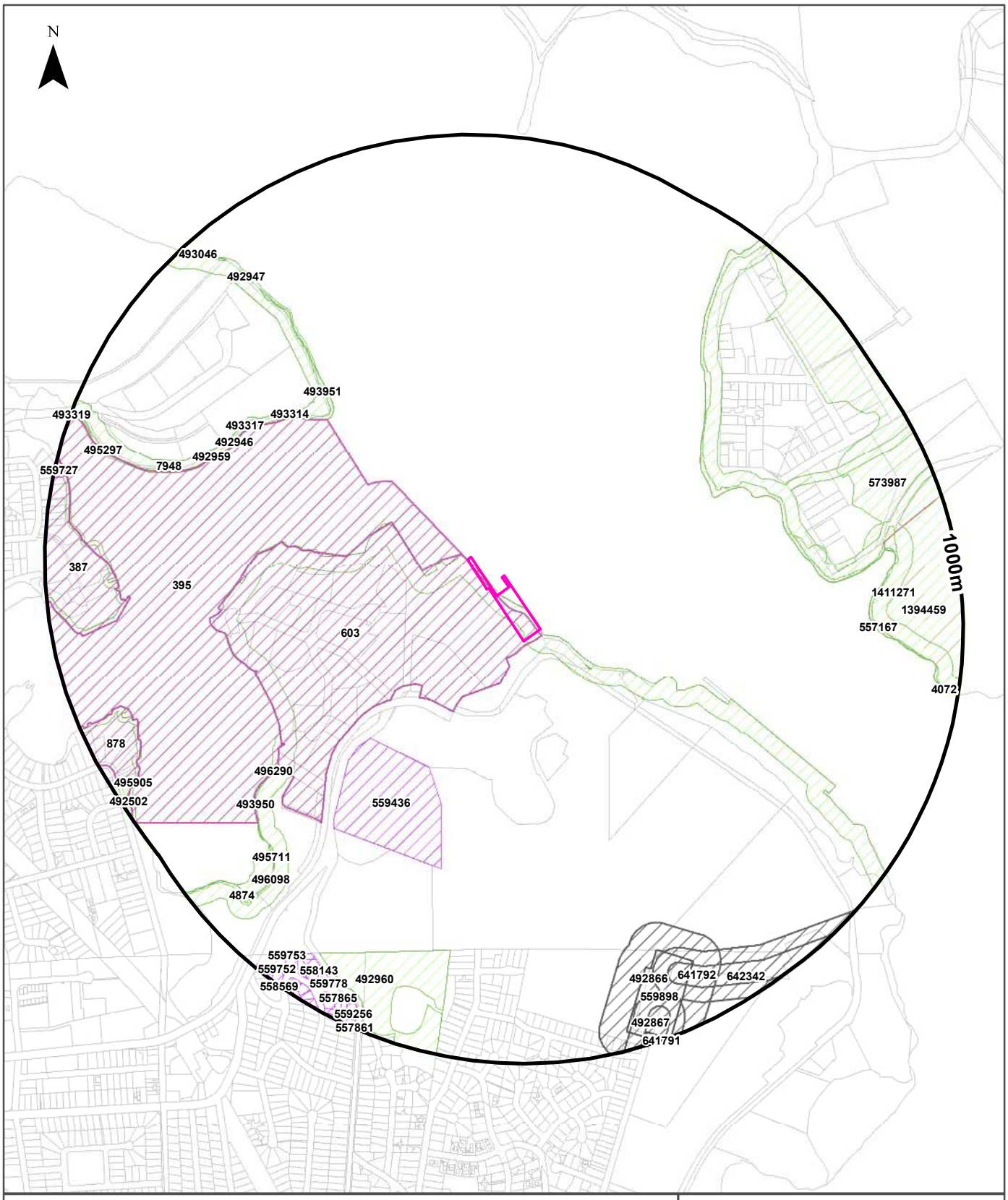
Planning Overlays

100 Derwent Park Road, Derwent Park, TAS 7009



Legend

- Site Boundary
- Report Buffer
- Property Boundaries

Scale: 0 100 200 400 600 Metres

Data Sources: Cadastral Parcels from www.theLIST.tas.gov.au © StateofTasmania Released under CC BY Aus 3.0

Coordinate System: GDA 2020 MGA Zone 55

Date: 30 January 2026

Planning

100 Derwent Park Road, Derwent Park, TAS 7009

Planning Scheme Overlays

Planning Scheme Overlays within the dataset buffer:

Map Id	Overlay Code	Overlay Name	Plan Scheme	Description	Class	Distance	Direction
603	1	Local Area Objectives	Glenorchy Local Provisions Schedule	General Industrial Local Objective Overlay Area		0m	On-site
7948	Natural Assets Code	Waterway and coastal protection area	Glenorchy Local Provisions Schedule	Alterations of electronic planning map made under s.80O of LUPAA		0m	On-site
395	1	Local Area Objectives	Glenorchy Local Provisions Schedule	Port and Marine Local Objective Overlay Area		21m	West
559436	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place and place listed on Tasmanian Heritage Register,REF_NO: 0137, THR_REF: 1614		373m	South West
493951	Natural Assets Code	Future coastal refugia area	Glenorchy Local Provisions Schedule			471m	North West
557167	Natural Assets Code	Future coastal refugia area	Clarence Local Provisions Schedule	Alterations of electronic planning map made under s.80O of LUPAA		513m	North East
1411271	Natural Assets Code	Waterway and coastal protection area	Clarence Local Provisions Schedule	Alterations of electronic planning map made under s.80O of LUPAA		513m	North East
493314	Natural Assets Code	Priority vegetation area	Glenorchy Local Provisions Schedule			527m	North West
493317	Natural Assets Code	Priority vegetation area	Glenorchy Local Provisions Schedule			588m	North West
492946	Natural Assets Code	Future coastal refugia area	Glenorchy Local Provisions Schedule			618m	North West
573987	Natural Assets Code	Priority vegetation area	Clarence Local Provisions Schedule	Data source - Entura. Alterations of electronic planning map made under s.80O of LUPAA		626m	East
492959	Natural Assets Code	Priority vegetation area	Glenorchy Local Provisions Schedule			637m	North West
496290	Natural Assets Code	Future coastal refugia area	Glenorchy Local Provisions Schedule			646m	South West
493937	Natural Assets Code	Future coastal refugia area	Glenorchy Local Provisions Schedule			671m	West
493950	Natural Assets Code	Future coastal refugia area	Glenorchy Local Provisions Schedule			684m	South West
492866	Electricity Transmission Infrastructure Protection Code	Substation facility buffer area	Glenorchy Local Provisions Schedule			729m	South
492960	Natural Assets Code	Priority vegetation area	Glenorchy Local Provisions Schedule			750m	South
495711	Natural Assets Code	Future coastal refugia area	Glenorchy Local Provisions Schedule			768m	South West
1394459	Potentially Contaminated Land Code	Potentially contaminated land	Clarence Local Provisions Schedule	Historic Lime Stone Quarry/Fertiliser Plant/Zinc Smelter Soil Contamination		777m	East
559898	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0425, THR_REF:		793m	South
492867	Electricity Transmission Infrastructure Protection Code	Substation facility	Glenorchy Local Provisions Schedule			794m	South
387	1	Local Area Objectives	Glenorchy Local Provisions Schedule	Light Industrial Local Objective Overlay Area		803m	West
642342	Electricity Transmission Infrastructure Protection Code	Electricity transmission corridor	Glenorchy Local Provisions Schedule			804m	South
496098	Natural Assets Code	Future coastal refugia area	Glenorchy Local Provisions Schedule			808m	South West
4874	Natural Assets Code	Future coastal refugia area	Glenorchy Local Provisions Schedule			827m	South West
492947	Natural Assets Code	Future coastal refugia area	Glenorchy Local Provisions Schedule			830m	North West

Map Id	Overlay Code	Overlay Name	Plan Scheme	Description	Class	Distance	Direction
641792	Electricity Transmission Infrastructure Protection Code	Inner protection area	Glenorchy Local Provisions Schedule			839m	South East
495297	Natural Assets Code	Future coastal refugia area	Glenorchy Local Provisions Schedule			862m	West
878	1	Local Area Objectives	Glenorchy Local Provisions Schedule	Light Industrial Local Objective Overlay Area		867m	West
559948	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0022, THR_REF:		893m	South West
559287	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0023, THR_REF:		899m	South West
558143	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0024, THR_REF:		906m	South West
493046	Natural Assets Code	Future coastal refugia area	Glenorchy Local Provisions Schedule			910m	North West
559753	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0066, THR_REF:		912m	South West
559778	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0025, THR_REF:		914m	South West
641791	Electricity Transmission Infrastructure Protection Code	Inner protection area	Glenorchy Local Provisions Schedule			918m	South
558297	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0065, THR_REF:		918m	South West
559729	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0064, THR_REF:		922m	South West
4072	Natural Assets Code	Future coastal refugia area	Clarence Local Provisions Schedule	Alterations of electronic planning map made under s.80O of LUPAA		934m	East
557865	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0026, THR_REF:		940m	South West
495905	Natural Assets Code	Future coastal refugia area	Glenorchy Local Provisions Schedule			940m	South West
559448	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0027, THR_REF:		941m	South West
559445	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0028, THR_REF:		943m	South
558301	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0055, THR_REF:		946m	South West
559293	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0054, THR_REF:		962m	South West
559256	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0029, THR_REF:		962m	South
558141	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0060, THR_REF:		963m	South West
558831	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0061, THR_REF:		964m	South West
559752	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0068, THR_REF:		967m	South West
559280	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0059, THR_REF:		968m	South West
492502	Natural Assets Code	Future coastal refugia area	Glenorchy Local Provisions Schedule			968m	South West
560691	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place and place listed on Tasmanian Heritage Register,REF_NO: 0071, THR_REF:1614		970m	South West
559727	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0416, THR_REF:		971m	West
559929	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0053, THR_REF:		973m	South West
558856	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0058, THR_REF:		979m	South West
559289	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0069, THR_REF:		980m	South West
559908	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0030, THR_REF:		980m	South
559440	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0062, THR_REF:		984m	South West
558548	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0052, THR_REF:		987m	South West
560057	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0057, THR_REF:		992m	South West

Map Id	Overlay Code	Overlay Name	Plan Scheme	Description	Class	Distance	Direction
558569	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0157, THR_REF:		993m	South West
558303	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0063, THR_REF:		994m	South West
493319	Natural Assets Code	Priority vegetation area	Glenorchy Local Provisions Schedule			995m	North West
557861	Local Historical Heritage Code	Local heritage place	Glenorchy Local Provisions Schedule	heritage place,REF_NO: 0031, THR_REF:		996m	South

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Natural Hazards - Flood

100 Derwent Park Road, Derwent Park, TAS 7009

Legend

- Site Boundary
- Report Buffer
- Property Boundaries
- Flood Prone Area

Scale:
0 100 200 400 600
Metres

Data Sources: Cadastral Parcels from www.theLIST.tas.gov.au © StateofTasmania Released under CC BY Aus 3.0

Coordinate System: GDA 2020 MGA Zone 55

Date: 30 January 2026

Document Set ID: 3625399
Version: 1, Version Date: 09/06/2026

Natural Hazards

100 Derwent Park Road, Derwent Park, TAS 7009

Planning Scheme Overlays - Flood

Planning Scheme Flood Overlays within the dataset buffer:

Overlay Code	Overlay Name	Plan Scheme	Description	Class	Distance to Nearest Feature
Flood-prone Hazard Areas Code	Flood-prone areas	Glenorchy Local Provisions Schedule			15m
Flood-prone Hazard Areas Code	Flood-prone areas	Clarence Local Provisions Schedule	Amendment PDPSAMEND-2021-022806. Alterations of electronic planning map made under s.80O of LUPAA		513m
Flood-prone Hazard Areas Code	Flood-prone areas	Clarence Local Provisions Schedule	Amendment reference: PDPSAMEND-2021-022806		600m

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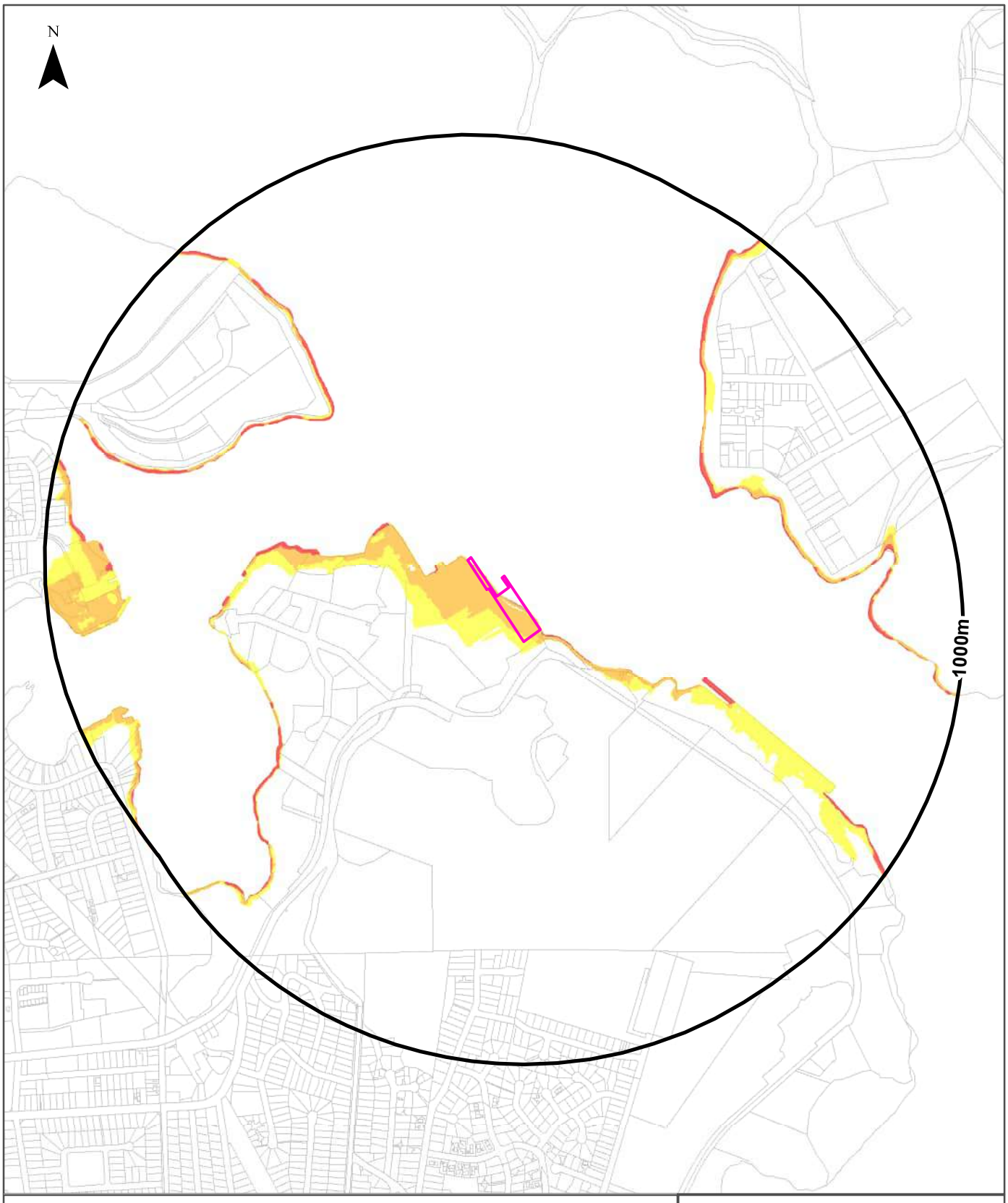
Natural Hazards - Coastal Inundation

100 Derwent Park Road, Derwent Park, TAS 7009



Legend

- Site Boundary
- Report Buffer
- Property Boundaries

Coastal Inundation Hazard Areas

- Coastal Inundation Hazard Area
- Coastal Inundation Investigation Area
- High Coastal Inundation Hazard
- Medium Coastal Inundation Hazard
- Low Coastal Inundation Hazard
- Non LiDAR < 10m

Scale:
0 100 200 400 600
Metres

Data Sources: Cadastral Parcels from www.theLIST.tas.gov.au © StateofTasmania Released under CC BY Aus 3.0

Coordinate System: GDA 2020 MGA Zone 55

Date: 30 January 2026

Natural Hazards

100 Derwent Park Road, Derwent Park, TAS 7009

Planning Scheme Overlays - Coastal Inundation

Planning Scheme Coastal Inundation Overlays within the dataset buffer:

Overlay Code	Overlay Name	Plan Scheme	Description	Class	Distance to Nearest Feature
Coastal Inundation Hazard Code	High coastal inundation hazard band	Glenorchy Local Provisions Schedule		High coastal inundation hazard band	On-site
Coastal Inundation Hazard Code	Low coastal inundation hazard band	Glenorchy Local Provisions Schedule		Low coastal inundation hazard band	On-site
Coastal Inundation Hazard Code	Medium coastal inundation hazard band	Glenorchy Local Provisions Schedule		Medium coastal inundation hazard band	On-site
Coastal Inundation Hazard Code	High coastal inundation hazard band	Clarence Local Provisions Schedule	Alterations of electronic planning map made under s.80O of LUPAA		513m
Coastal Inundation Hazard Code	Medium coastal inundation hazard band	Clarence Local Provisions Schedule			522m
Coastal Inundation Hazard Code	Low coastal inundation hazard band	Clarence Local Provisions Schedule			525m
Coastal Inundation Hazard Code	High coastal inundation hazard band	Clarence Local Provisions Schedule	Data source - DPAC		547m
Coastal Inundation Hazard Code	Medium coastal inundation hazard band	Clarence Local Provisions Schedule	Data source - DPAC		549m
Coastal Inundation Hazard Code	Low coastal inundation hazard band	Clarence Local Provisions Schedule	Data source - DPAC		564m
Coastal Inundation Hazard Code	Medium coastal inundation hazard band	Clarence Local Provisions Schedule	Alterations of electronic planning map made under s.80O of LUPAA		628m
Coastal Inundation Hazard Code	Low coastal inundation hazard band	Clarence Local Provisions Schedule	Alterations of electronic planning map made under s.80O of LUPAA		843m

Tasmanian Planning Scheme Overlay from www.theLIST.tas.gov.au©State of Tasmania
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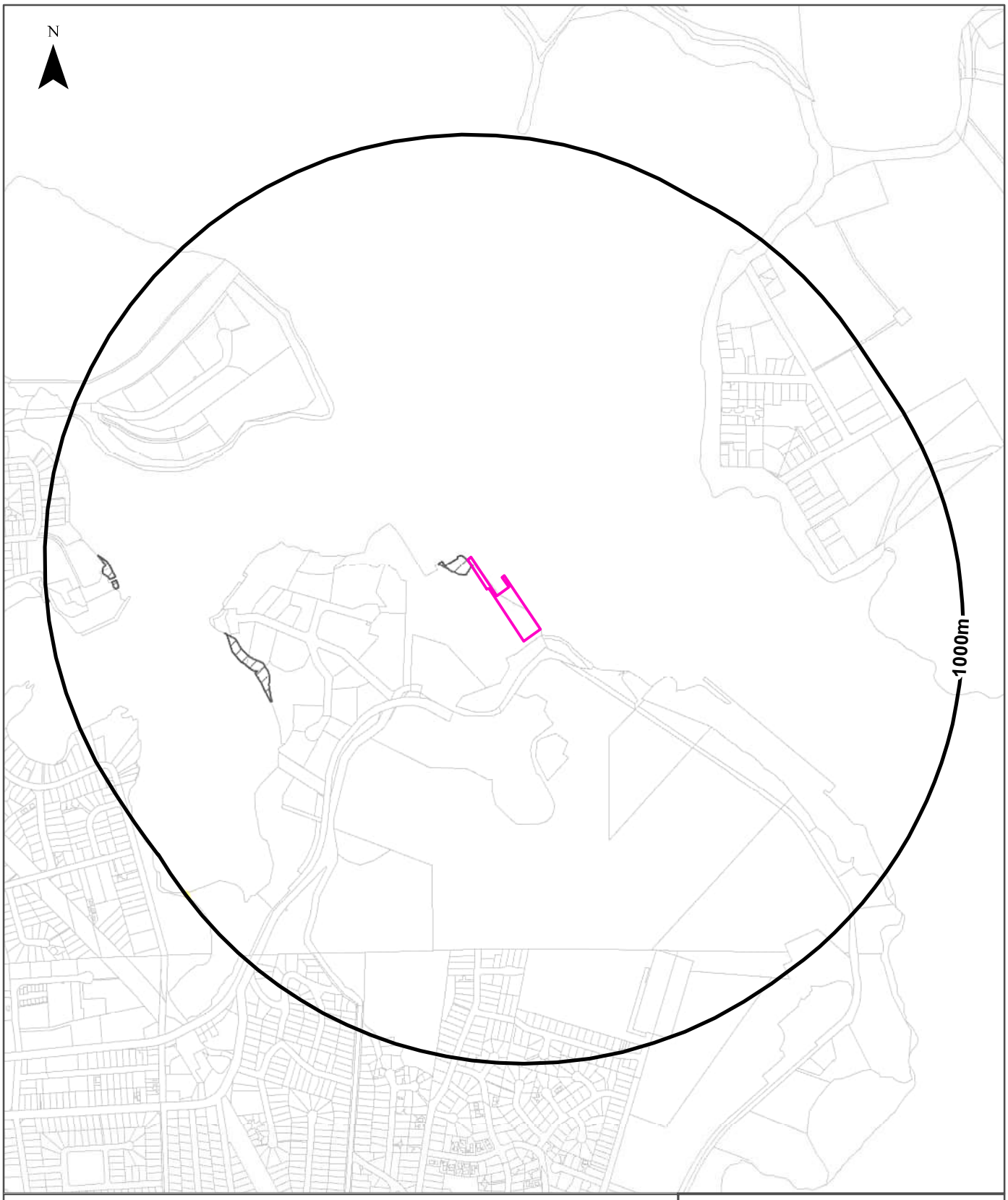
Natural Hazards - Coastal Erosion

100 Derwent Park Road, Derwent Park, TAS 7009



Legend

- Site Boundary
- Report Buffer
- Property Boundaries

Coastal Erosion Hazard Areas

- Coastal Erosion Hazard
- Coastal Erosion Investigation Area
- High Coastal Erosion Hazard
- Medium Coastal Erosion Hazard
- Low Coastal Erosion Hazard

Scale:
0 100 200 400 600
Metres

Data Sources: Cadastral Parcels from www.theLIST.tas.gov.au © StateofTasmania
Released under CC BY Aus 3.0

Coordinate System: GDA 2020 MGA Zone 55

Date: 30 January 2026

Natural Hazards

100 Derwent Park Road, Derwent Park, TAS 7009

Planning Scheme Overlays - Coastal Erosion

Planning Scheme Coastal Erosion Overlays within the dataset buffer:

Overlay Code	Overlay Name	Plan Scheme	Description	Class	Distance to Nearest Feature
Coastal Erosion Hazard Code	Coastal erosion investigation area	Glenorchy Local Provisions Schedule		Coastal erosion investigation area	On-site
Coastal Erosion Hazard Code	Low coastal erosion hazard band	Glenorchy Local Provisions Schedule		Low coastal erosion hazard band	992m

Tasmanian Planning Scheme Overlay from www.theLIST.tas.gov.au©State of Tasmania
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Natural Hazards - Landslide

100 Derwent Park Road, Derwent Park, TAS 7009

Legend

- Site Boundary
- Report Buffer
- Property Boundaries

Landslide Hazard Areas

- High Landslide Hazard
- Medium-Active Landslide Hazard
- Medium Landslide Hazard
- Low Landslide Hazard
- Landslide Hazard Area

Scale:
0 100 200 400 600
Metres

Data Sources: Cadastral Parcels from www.theLIST.tas.gov.au © StateofTasmania Released under CC BY Aus 3.0

Coordinate System: GDA 2020 MGA Zone 55

Date: 30 January 2026

Natural Hazards

100 Derwent Park Road, Derwent Park, TAS 7009

Planning Scheme Overlays - Landslide

Planning Scheme Landslide Overlays within the dataset buffer:

Overlay Code	Overlay Name	Plan Scheme	Description	Class	Distance to Nearest Feature
Landslip Hazard Code	Medium landslip hazard band	Glenorchy Local Provisions Schedule			8m
Landslip Hazard Code	Low landslip hazard band	Glenorchy Local Provisions Schedule			637m
Landslip Hazard Code	Medium landslip hazard band	Clarence Local Provisions Schedule			702m

Tasmanian Planning Scheme Overlay from www.theLIST.tas.gov.au©State of Tasmania
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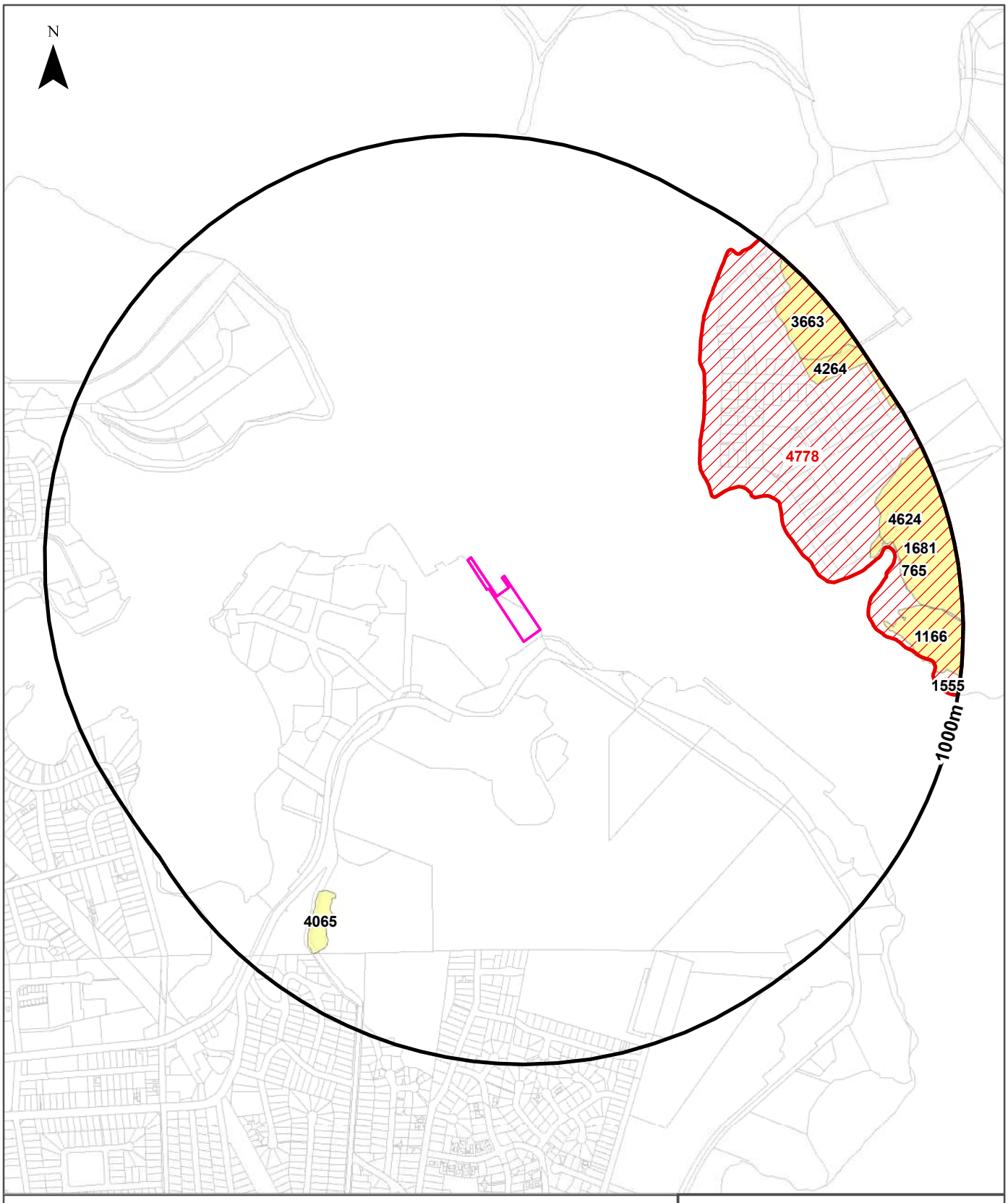
Natural Hazards - Bushfire

100 Derwent Park Road, Derwent Park, TAS 7009



Legend

- Site Boundary
- Report Buffer
- Property Boundaries
- Bushfire Prone Areas

Bushfire History - Fire Severity

- High
- Moderate
- Medium
- Low-Medium
- Low
- No Severity Provided

Scale: 0 100 200 400 600 Metres

Data Sources: Cadastral Parcels from www.theLIST.tas.gov.au © StateofTasmania Released under CC BY Aus 3.0

Coordinate System: GDA 2020 MGA Zone 55

Date: 30 January 2026

Natural Hazards

100 Derwent Park Road, Derwent Park, TAS 7009

Planning Scheme Overlays - Bushfire

Planning Scheme Bushfire Overlays within the dataset buffer:

Map Id	Overlay Code	Overlay Name	Plan Scheme	Description	Class	Distance	Direction
4778	Bushfire-prone Areas Code	Bushfire-prone areas	Clarence Local Provisions Schedule	Alterations of electronic planning map made under s.80O of LUPAA		513m	North East

Tasmanian Planning Scheme Overlay from www.theLIST.tas.gov.au©State of Tasmania
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Bushfire History

Bushfire history within the dataset buffer:

Map Id	Fire Name	Fire Type	Ignition Date	Severity	Incident Number	Distance	Direction
4065	Bender Drive	Bushfire	2015-03-22		226926	743m	South West
765	Risdon NR	Bushfire	1994-03-09		1602	797m	East
1681	Porter Bay (East Risdon)	Bushfire	2001-01-28		1604	797m	East
1166	East Risdon #2	Bushfire	2003-03-18		1608	810m	East
4624	Porter Bay ERSR5AP	Planned Burn	2018-03-03		ERSR5AP	832m	East
4264	Gregson Street ERCL2AP	Planned Burn	2014-09-24		ERCL2AP	859m	North East
3663	Church Point Road ERCLIAP	Planned Burn	2014-03-27		ERCLIAP	868m	North East
1555	Tommy's Bight (East Risdon)	Bushfire	2002-02-04		1602	957m	East
1724	Saundersons Rd Risdon	Bushfire	2012-01-10		190332	964m	East

Fire History from www.theLIST.tas.gov.au©State of Tasmania
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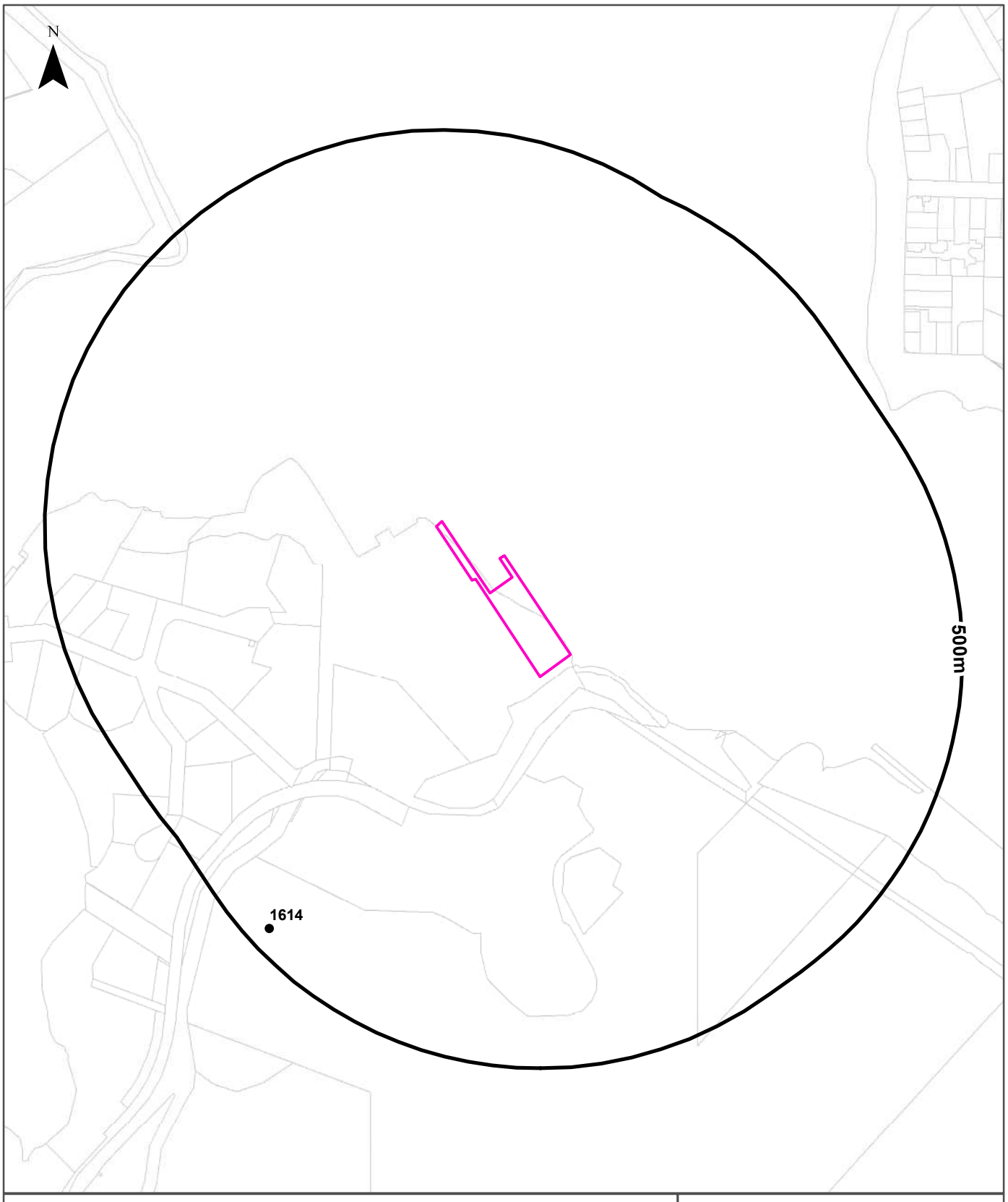
Heritage

100 Derwent Park Road, Derwent Park, TAS 7009



Legend

- Site Boundary
- Report Buffer
- Property Boundaries
- Heritage Register
- National Heritage List
- Commonwealth Heritage List
- Aboriginal Land

Scale:
0 100 200
Metres

Data Sources: Cadastral Parcels from www.theLIST.tas.gov.au © StateofTasmania
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Coordinate System:
GDA 2020 MGA Zone 55

Date: 30 January 2026

Heritage

100 Derwent Park Road, Derwent Park, TAS 7009

Commonwealth Heritage List

What are the Commonwealth Heritage List Items located within the dataset buffer:

Place Id	Name	Address	Place File No	Class	Status	Register Date	Distance	Direction
N/A	No records in buffer							

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch
Creative Commons 3.0 © Commonwealth of Australia https://creativecommons.org/licenses/by/3.0/au/deed.en

National Heritage List

What are the National Heritage List Items located within the dataset buffer:

Place Id	Name	Address	Place File No	Class	Status	Register Date	Distance	Direction
N/A	No records in buffer							

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch
Creative Commons 3.0 © Commonwealth of Australia https://creativecommons.org/licenses/by/3.0/au/deed.en

Tasmanian Heritage Register

Tasmanian Heritage Register sites within the dataset buffer:

Map Id	Name	Address	Status	CPR No	Title	Folio	Dist	Dir
1614	Derwent Park	300 RISDON RD LUTANA TAS 7009	Permanently Registered	CPR10979	128862	1	472m	South West

Tasmanian Heritage Register from www.theLIST.tas.gov.au©State of Tasmania
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Aboriginal Land

Aboriginal land from the LIST Authority Land dataset within the dataset buffer:

Map Id	Instrument Type	Instrument No	Gazettal Date	Volume	Folio	Distance	Direction
N/A	No records in buffer						

Authority Land from www.theLIST.tas.gov.au©State of Tasmania
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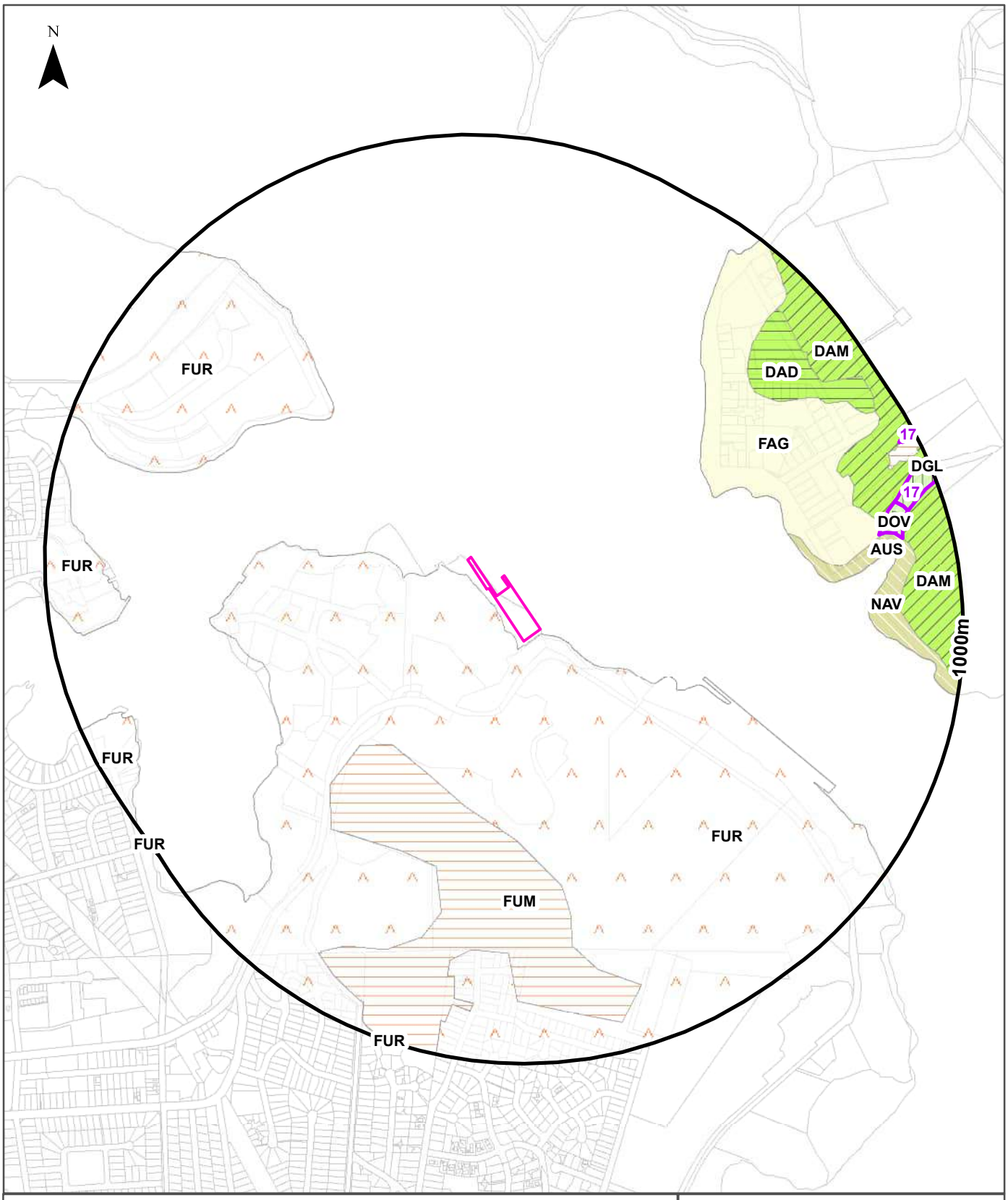
Ecological Constraints

100 Derwent Park Road, Derwent Park, TAS 7009



Legend

- Site Boundary
- Report Buffer
- Property Boundaries
- Ramsar Wetlands
- Threatened Native Vegetation Communities

Scale: 0 100 200 400 600 Metres

Data Sources: Cadastral Parcels from www.theLIST.tas.gov.au © StateofTasmania Released under CC BY Aus 3.0

Coordinate System: GDA 2020 MGA Zone 55

Date: 30 January 2026

Ecological Constraints

100 Derwent Park Road, Derwent Park, TAS 7009

TASVEG

TASVEG vegetation units within the dataset buffer:

Vegetation Code	Vegetation Group	Description	Distance to Nearest Feature
FUR	Modified land	Urban areas	7m
FUM	Modified land	Extra-urban miscellaneous	386m
FAG	Modified land	Agricultural land	513m
NAV	Non eucalypt forest and woodland	Allocasuarina verticillata forest	626m
DAD	Dry eucalypt forest and woodland	Eucalyptus amygdalina forest and woodland on dolerite	734m
DAM	Dry eucalypt forest and woodland	Eucalyptus amygdalina forest on mudstone	793m
AUS	Saltmarsh and wetland	Saltmarsh (undifferentiated)	831m
DOV	Dry eucalypt forest and woodland	Eucalyptus ovata forest and woodland	831m
DGL	Dry eucalypt forest and woodland	Eucalyptus globulus dry forest and woodland	891m

TASVEG from www.theLIST.tas.gov.au©State of Tasmania
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Threatened Native Vegetation Communities

Threatened native vegetation communties within the dataset buffer:

Schedule Id	Schedule Name	Distance to Nearest Feature
20	Eucalyptus ovata forest and woodland	831m
17	Eucalyptus globulus dry forest and woodland	891m

Threatened Native Vegetation Communities 2014 from www.theLIST.tas.gov.au©State of Tasmania
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Ramsar Wetlands

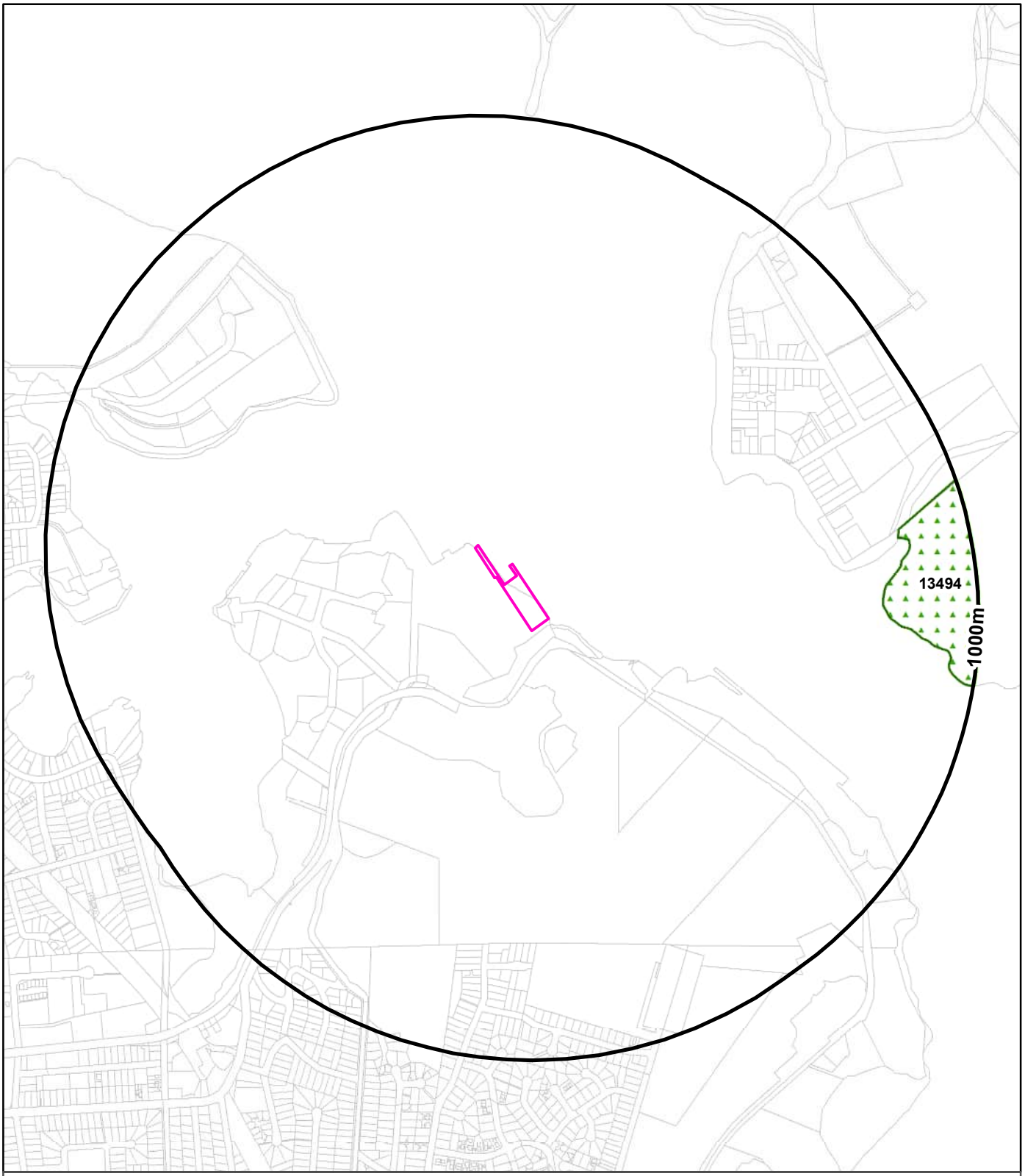
Ramsar Wetlands within the dataset buffer:

Map Id	Ramsar Name	Wetland Name	Designation Date	Source	Distance	Direction
N/A	No records in buffer					

Ramsar Wetlands Data Source: © Commonwealth of Australia - Department of Environment

Ecological Constraints - Protected Areas

100 Derwent Park Road, Derwent Park, TAS 7009



Legend

IUCN category

- Site Boundary
- Buffer 1000m
- Property Boundary
- Strict Nature Reserve
- Wilderness Area
- National Park
- Natural Monument or Feature
- Habitat/Species Management Area
- Protected Landscape/Seascape
- Protected area sustainable use of natural resources
- Uncategorised Protected Area

Scale: 0 100 200 400 600 Meters

Data Sources: Cadastral Parcels from www.theLIST.tas.gov.au © StateofTasmania Released under CC BY Aus 3.0

Coordinate System: GDA 2020 MGA Zone 55

Date: 30 January 2026

Ecological Constraints

100 Derwent Park Road, Derwent Park, TAS 7009

Collaborative Australian Protected Areas Database - Terrestrial

Protected areas in terrestrial environments identified by the CAPAD within the dataset buffer:

Map ID	Area Name	Area Details	Management Category	Authority	Jurisdiction	Dist	Dir
13494	East Risdon	State Reserve	National Park	Department of Natural Resources and Environment Tasmania	State	777m	East

Collaborative Australian Protected Areas Database - Marine

Protected areas in marine environments identified by the CAPAD within the dataset buffer:

Map ID	Area Name	Area Details	Management Category	Authority	Jurisdiction	Dist	Dir
N/A	No records in buffer						

Source: Collaborative Australian Protected Areas Database (CAPAD) 2022
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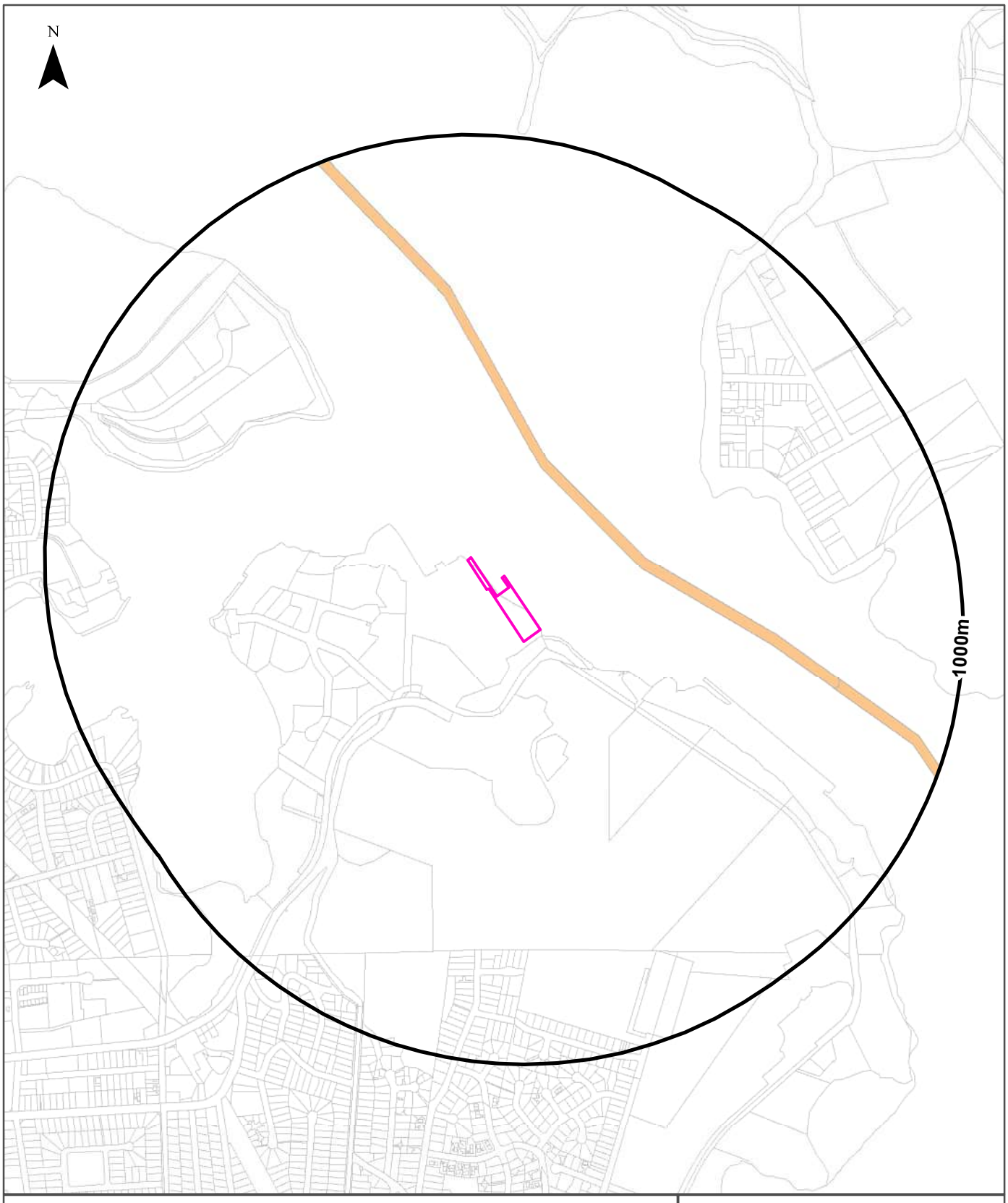
Ecological Constraints - Groundwater Dependent Ecosystems Atlas

100 Derwent Park Road, Derwent Park, TAS 7009



Legend

- Site Boundary
- Report Buffer
- Property Boundaries
- High potential GDE - from national assessment
- High potential GDE - from regional studies
- Moderate potential GDE - from national assessment
- Moderate potential GDE - from regional studies
- Low potential GDE - from national assessment
- Low potential GDE - from regional studies
- Known GDE - from regional studies
- Unclassified potential GDE - from national assessment
- Unclassified potential GDE - from regional studies

Scale: 0 100 200 400 600 Metres

Data Sources: Cadastral Parcels from www.theLIST.tas.gov.au © StateofTasmania Released under CC BY Aus 3.0

Coordinate System: GDA 2020 MGA Zone 55

Date: 30 January 2026

Ecological Constraints

100 Derwent Park Road, Derwent Park, TAS 7009

Groundwater Dependent Ecosystems Atlas

GDEs within the dataset buffer:

Type	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance to Nearest Feature
Aquatic	Moderate potential GDE - from national assessment	Fault block hills and mountains on dolerite, sandstone, and mudstone, with granite residuals, ria coast.	River		242m

Groundwater Dependent Ecosystems Atlas Data Source: The Bureau of Meteorology
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Ecological Constraints - Inflow Dependent Ecosystems Likelihood

100 Derwent Park Road, Derwent Park, TAS 7009

Legend

- Site Boundary
- Report Buffer
- Property Boundaries
- NULL
- 1 (Low)
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10 (High)

Scale:
0 100 200 400 600
Metres

Data Sources: Cadastral Parcels from www.theLIST.tas.gov.au © StateofTasmania Released under CC BY Aus 3.0

Coordinate System: GDA 2020 MGA Zone 55

Date: 30 January 2026

Ecological Constraints

100 Derwent Park Road, Derwent Park, TAS 7009

Inflow Dependent Ecosystems Likelihood

IDEs within the dataset buffer:

Type	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance to Nearest Feature
Aquatic	10	Fault block hills and mountains on dolerite, sandstone, and mudstone, with granite residuals, ria coast.	River		242m

Inflow Dependent Ecosystems Likelihood Data Source: The Bureau of Meteorology
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Location Confidences

Where Lotsearch has had to georeference features from supplied addresses, a location confidence has been assigned to the data record. This indicates a confidence to the positional accuracy of the feature. Where applicable, a code is given under the field heading “LC” or “LocConf”. These codes lookup to the following location confidences:

LC Code	Location Confidence
Premise Match	Georeferenced to the site location / premise or part of site
Area Match	Georeferenced to an approximate or general area
Road Match	Georeferenced to a road or rail corridor
Road Intersection	Georeferenced to a road intersection
Buffered Point	A point feature buffered to x metres
Adjacent Match	Land adjacent to a georeferenced feature
Network of Features	Georeferenced to a network of features
Suburb Match	Georeferenced to a suburb boundary
As Supplied	Spatial data supplied by provider

Click for Use of Report - Applicable Terms

Fire Services Plan

Appendix C

pitt&sherry

Document Set ID: 3625399
Version: 1, Version Date: 11/06/2026

DO NOT SCALE | ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED

PRINCE OF WALES BAY

DERWENT RIVER

329 deg N

HIGHLY FLAMABLE — CLASS 3
COMPRESSED GAS — CLASS 2
CHEMICALS — CLASS 8
CYNDEN — CLASS 6
ELECTRIC BOARD
FIRE HOSE REEL
FIRE HYDRANT (FH)
WATER ISOLATION
FIRST AID
MANIFEST

JONES SHED
CREESE SHED
ROSS SHED
MECHANICS WORKSHOP
TOTAL SURFACE PROTECTION
CONTINENTAL ENGINEERING
INCAT CARPARK
WILSONS SHED
COVERDALES SHED
DEGREAVES SHED
LUCAS SHED
MAIN STORE
FITTERS STORE
BULK STORE
ACCESS (LOCKED)
CYCLONE MESH FENCE 2400 HIGH
JONES/CREESE FIREMAIN ISOLATION VALVE
ARGON, OXYGEN, ARCAL & NITROGEN CYLINDER STORAGE
ACETYLENE & LPG CYLINDER STORAGE
GATE 1A
GATE 1B
GATE 2
GATE 3
GATE 5
GATE 6
GATE 7
BREATHING APPARATUS
FIRST AID STATION
MAIN OFFICE
SECURITY STATION
ELECTRICAL SERVICES PIT
FIRE HYDRANT BOOSTER STATION
MAIN AC
GDA94 (7712326)
ENTRY POINT
CARPORT
Main Bd 1
2x1 MAINS TRANSFORMERS 11kV — 1500kVA
DRY DOCK 3M DEEP
DRY DOCK 2M DEEP
ARGON GAS BULK STORAGE CYLINDER
MAIN GAS ISOLATION VALVES COVERDALES / INCHES / WILSONS
DIESEL FUEL PUMP ISOLATOR
DIESEL FUEL BULK TANK
SURVEYOR DRIVE
BENDER DRIVE
BENDER DRIVE TAFE CAMPUS
PFD FOODS
INCAT MAIN CARPARK

DRAWING No.	TO BE READ IN CONJUNCTION WITH:	Rev	JNo	Date	Drawn	Chk	Description

Client/ Project: INCAT

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revolution DESIGN PTY LTD
16 Bender Drive Moonah Tasmania 7009 Australia
PHONE/ FACSIMILE +61 3 6274 1845
EMAIL revolutiondesign@revolutiondesign.com.au
INTERNET www.revolutiondesign.com.au

Title: AREA 1 FIRE SERVICES

SHEET 1 OF X

Drawn	Approved
R.TURNER	J.SMITH
Checked	Date
J.SMITH	DD/MMM/YY
Designed	Scale
J.S (OTHERS)	N.T.S
Drg. No.	Rev
100-DP-001-5	-

Document Set ID: 3628299
Version: 1, Version Date: 09/06/2026

B&W A2

WorkSafe Tasmania Email

Appendix D

pitt&sherry

Document Set ID: 3625399
Version: 1, Version Date: 11/06/2026

Jeannie Stuart

From: Fiona Keserue-Ponte
Sent: Thursday, 12 February 2026 10:27 AM
To: Case, Lorraine
Cc: Maddison Mayjor
Subject: RE: P.26.0075 DG File - 100 Derwent Pk Rd - Incat

Hi Lorraine,
Welcome back 😊 I hope you had a good break.
Thanks very much for the reply and clarification.
Warm regards,
Fiona

pitt&sherry | **Fiona Keserue-Ponte**
Senior Principal Environmental Scientist
Mobile +61 0490 942 351 | fkeserueponte@pittsh.com.au | pittsh.com.au

From: Case, Lorraine <Lorraine.Case@justice.tas.gov.au>
Sent: Thursday, 12 February 2026 10:25 AM
To: Fiona Keserue-Ponte <FKeseruePonte@pittsh.com.au>
Subject: RE: P.26.0075 DG File - 100 Derwent Pk Rd - Incat

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Hi Fiona

I'm back today – checked our general records management system and the EPA's Environmentally Relevant Land Use Register (ERLUR) and no file/s were identified for this site. We do have a dangerous substances file for Incat Tasmania at 18 Bender Drive only.

Kind regards

Lorraine Case
Information Support Officer | Business Services / Corporate Governance

Department of Justice
30 Gordons Hill Road
Rosny Park Tasmania 7018 Australia
PO Box 56, Rosny Park TAS 7018
P: 03 6166 4656
E: WSTDisclosures@justice.tas.gov.au | **W:** worksafe.tas.gov.au

Document Set ID: 3625399
Version: 1, Version Date: 09/06/2026

In recognition of the deep history and culture of this Island, we acknowledge Tasmanian Aboriginal people, the original and continuing Custodians of the Land, Sea and Sky. We acknowledge and pay our respects to all Tasmanian Aboriginal people, all of whom have survived invasion and dispossession, and continue to maintain their identity, culture and Aboriginal rights.

From: Fiona Keserue-Ponte <FKeseruePonte@pittsh.com.au>
Sent: Thursday, 12 February 2026 10:13 AM
To: Clifford, Amy <Amy.Clifford@justice.tas.gov.au>; Maddison Mayjor <MMayjor@pittsh.com.au>
Cc: Case, Lorraine <Lorraine.Case@justice.tas.gov.au>
Subject: RE: P.26.0075 DG File - 100 Derwent Pk Rd - Incat

Hi Amy, (or Lorraine if you are back?)
Have you had any luck with this search?
We understand there should be a file, but don't want to put in a formal request unless you can confirm there is definitely one, as we need to obtain client/landowner authorisation.
Thanks,
Fiona

pitt&sherry | **Fiona Keserue-Ponte**
Senior Principal Environmental Scientist
Mobile +61 0490 942 351 | fkeserueponte@pittsh.com.au | pittsh.com.au

---

From: Clifford, Amy <Amy.Clifford@justice.tas.gov.au>
Sent: Wednesday, 28 January 2026 12:02 PM
To: Maddison Mayjor <MMayjor@pittsh.com.au>
Cc: Fiona Keserue-Ponte <FKeseruePonte@pittsh.com.au>
Subject: RE: P.26.0075 DG File

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Hi Maddy

Thanks for your email. We will investigate it and get back to you as soon as practicable.

Kind regards
Amy

Document Set ID: 3625399
Version: 1, Version Date: 09/06/2026

Amy Clifford
Executive Officer | Office of the Executive Director

Department of Justice
30 Gordons Hill Road
ROSNY PARK TAS 7018
PO Box 56
ROSNY PARK TAS 7018
P: 03 6166 9160 (please note my new number)
E: amy.clifford@justice.tas.gov.au | **W**: worksafe.tas.gov.au

In recognition of the deep history and culture of this Island, we acknowledge Tasmanian Aboriginal people, the original and continuing Custodians of the Land, Sea and Sky. We acknowledge and pay our respects to all Tasmanian Aboriginal people, all of whom have survived invasion and dispossession, and continue to maintain their identity, culture and Aboriginal rights.

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From: Maddison Mayjor <MMayjor@pittsh.com.au>
Sent: Wednesday, 28 January 2026 9:29 AM
To: Clifford, Amy <Amy.Clifford@justice.tas.gov.au>
Cc: Fiona Keserue-Ponte <FKeseruePonte@pittsh.com.au>
Subject: FW: P.26.0075 DG File

> You don't often get email from mmayjor@pittsh.com.au. Learn why this is important

Good morning Amy,

I have just sent the below email off to Lorainne and have received the out of office to contact yourself!

We are currently undertaking a Site History Review for development at Incat's boat building yard at 100 Derwent Park Road, Derwent Park.

Do you have relevant information and files for this property?

Document Set ID: 3625399
Version: 1, Version Date: 09/06/2026

Kind regards,

Maddy

pitt&sherry

Maddison Mayjor

Experienced Environmental & Planning Consultant

+61 3 6210 1412
mmayjor@pittsh.com.au

Hobart / *Nipaluna* — Level 1, Surrey House, 199 Macquarie Street
PO Box 94, Hobart TAS 7001 | Phone +61 3 62 101 453

From: Maddison Mayjor
Sent: Wednesday, 28 January 2026 9:09 AM
To: Case, Lorraine <lorraine.case@justice.tas.gov.au>
Cc: Fiona Keserue-Ponte <FKeseruePonte@pittsh.com.au>
Subject: P.26.0075 DG File

Hi Lorraine,

I hope you are enjoying the warmer weather we have been having!

We are doing a Site History Review for development at Incat's boat building yard at 100 Derwent Park Road, Derwent Park.

Do you have a file and relevant information for this property?

Kind regards,

Maddy

Document Set ID: 3625399
Version: 1, Version Date: 09/06/2026

pitt&sherry

Maddison Mayjor

Experienced Environmental & Planning Consultant

+61 3 6210 1412
mmayjor@pittsh.com.au

Hobart / *Nipaluna* — Level 1, Surrey House, 199 Macquarie Street
PO Box 94, Hobart TAS 7001 | Phone +61 3 62 101 453

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Site Inspection Notes

Appendix E

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Environmental Site Assessment

Site Inspection Checklist

General site notes (e.g. weather, client contact name, position and years' experience on site, who is accompanying the inspection, etc.)	Site/address	100 Derwent Pk Rd
Warm & Sunny Met with Brett Gadd - Tech. Advisor Shipbuilding and John Smith - Builder. Brett has been with Incat 30 years. John has built all of the Property buildings	Project #:	P.26.0075
	Date:	3/2/2026
	p&s staff:	Fiona Reserve-Ponte CENVP SC

Item	Notes
The land	
Current uses of the site ~~Property~~	New build - Shipyard Site area is vacant, with soil piles
Current uses of the surrounding land	Carparking west South - Vall industrial East - River Derwent Northwest - Industrial
Vegetation extent and type	None
Topography in relation to surrounding areas	Lower - on reclaimed land Steep/tall rock cutting on west & south boundaries
Slope (position on slope, direction)	Level site
Surface water drainage	To river and through unsealed ground

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Item	Notes
Evidence of cut and fill activities	Yes - steep embankment on west & south boundaries Entire Property is on reclaimed land
Presence of pits, pond or lagoons	~~There are aggrated stormwater pits, no other ponds, pits or lagoons on the site.~~ There is a large pond on the adjacent property to the ~~east~~ South west
Signs of erosion	Minor gravel erosion is apparent from the site to the north which has an unsealed gravel hardstand which is higher than the site forecourt and gravel erodes onto the forecourt and risks blocking the stormwater drains Yes - there was a sediment plume adjacent to the site due to placement of new fill
Buildings	
Details of buildings - age, occupancy	Metal sheds on slabs, 1997 - 2014 Approx, ship building workforce
Building construction (frame, openings and height)	" " " " large openings at either end
Building construction (slab on ground or other, presence or absence of crawl spaces and basements)	as above, no basements.
The means of heating (fuel type) and cooling in the buildings on the site	None, except for office -.
Description of services and utilities	Utilities/services noted on the site only included a firemain and underground power (likely informal)
Condition of buildings (e.g. cracks in foundations)	None noted, but not on the "site" development area
Hazardous building materials - e.g. lead or asbestos	Not relevant to site area as buildings won't be modified.

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Item	Notes
Presence of septic tanks	No
Evidence of services on site, in particular underground services (provide preferential pathways for contamination)	fire main u/g power, informal but operation does not generate liquid wastes
Any underground stormwater / mains water / sewerage lines - sketch on plan	No
Underground services / water	
Any underground gas - sketch on plan	No
Any underground communications lines - sketch on plan	No
Any underground power lines - sketch on plan	only outlets noted – live path unknown and likely informal
Quality of surface water	Sediment erosion was visible from edge of reclamation
Presence and type of groundwater bores on the site and adjacent landholdings	None
Sheens on water surfaces	No
Condition of GW bore headworks	N/A

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Item	Notes
Measurement of GW (water table and/or piezometric) levels	N/A
Contamination	
Disturbed, coloured or stained soil	Mixed fill piles & mixed historical reclamation materials including solid wastes (concrete, bitumen, pipes, scrap steel, bricks, etc)
Bare soil patches	Entire site was bare of vegetation
Disturbed or stressed vegetation	None present
Odours	No
Presence and condition of any underground storage tank (USTs) and associated infrastructure	None noted
Presence or absence of bonded asbestos-containing materials (bonded ACM) on the ground surface	None noted in visual inspection
Presence and condition of chemical containers, holding tanks, bunds etc.	None present on site
Any evidence of on-site spillage of dangerous goods and/or off-site migration	None noted but many areas were covered in soil stockpiles
Presence of pits containing buried waste	No - entire site is reclaimed land with mixed fill comprising soils and solid wastes.

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Item	Notes
Other	
Presence of fill materials, including building demolition rubble, mixed wastes, soils of unknown origins, etc.	Yes – as noted above – not just in historical reclamation materials but recently imported fill also.
Presence of stockpiles, fill, containment areas, sumps, drains and waste disposal areas - operational and closed	All reclaimed land - including solid wastes (inert)
Debris or waste disposal	" " " including solid wastes (inert)
Underground structures that may be associated with sub-surface construction	No (other than U/g services – fire main)
Condition of materials storage and handling facilities and any solid or liquid waste disposal areas	Not inspected – requested WST manifest
Neighbouring Uses	Detailed above
Any evidence of contamination from neighbouring properties	A drainage channel for "white" staining fluid which drains to the Derwent adjacent to SE boundary of the site
Are neighbouring uses potentially contaminating	Yes – Nyrstar: heavy metals, acids, hydrocarbons Impact Fertilizers: Fluoride, etc.
Were historical neighbouring uses potentially contaminating	Yes – above operations have been very long term.

** Note suggested sampling locations in a site figure

- Sample existing reclamation to the water table ≈ 1m.
- " Imported (Taswater) fill if needed (depends on documentation available)
- *

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Field Sampling

Appendix F

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Incat Soil Sampling - Photo register

Project:	P.26.0075
Date:	03/02/2026 (Site inspection) & 18 - 19/02/2026 (Site walkover / sampling)
p&s staff:	FKP & MM & HF

Contents

1. Site Inspection 1
2. Site Walkover 7
3. Test Pits 10
4. Stockpiles 27

1. Site Inspection

Images taken 3 February 2026 – by Fiona Keserue-Ponte	Comment
	Dolerite rockface in the western portion of the Property.

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Images taken 3 February 2026 – by Fiona Keserue-Ponte	Comment
	Looking south across the Site, towards Nyrstar.
	Looking north across the Site showing active reclamation edge, with eroding sediment and tide flooded edge.
	Looking along the southern Site edge, with remaining armour rock; note the extent of the sediment plumes both along the edge and further out into the water.

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Version: 1, Version Date: 19/06/2026

Images taken 3 February 2026 – by Fiona Keserue-Ponte	Comment
	Example of a waste soil stockpile present on the day, with concrete rubble, timber and rocks, intermixed with sand and gravel.
	Looking south across the Site, towards Nyrstar, showing the mixed nature of stockpiles present on the day, including concrete rubble, large plastic pipe, organic matter/soils, gravel, sand.
	Detail of the above (IMG_3593) showing also exposed reinforced steel bars protruding from the concrete.

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Version: 1, Version Date: 11/06/2026

Images taken 3 February 2026 – by Fiona Keserue-Ponte	Comment
	More examples of stockpiles present on the day, showing very large pieces of concrete demolition rubble and mixed soils, cobbles.
	Examples of stockpiles with sand, blue metal gravel, bitumen, PVC piping, rock concrete rubble, etc.
	Example of waste soil stockpiles present on the day, including rock, sand, soil, organic matter, concrete rubble, solid wastes (bricks, bitumen).

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Images taken 3 February 2026 – by Fiona Keserue-Ponte	Comment
	Similar to previous, also showing the sediment plume.
	Power point connection.
	Fire fighting main stand pipe and 3 m tide marked on the sheet pile steel.

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Images taken 3 February 2026 – by Fiona Keserue-Ponte	Comment
	Looking north along the area that will house the new wharf.
	Looking north along the northern end of the Site, showing inadequate rock revetment / armouring which has allowed erosion of all the fine reclamation materials.
	Looking from the northern end of the Site along the alignment of the fire main.

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2. Site Walkover

Images taken 18 February 2026 – by Fiona Keserue-Ponte	Comments
	Concrete rubble and sundry storages in the southern end of the Site
	Drainage route for overflows from Impact Fertiliser and Nyrstar which report to the channel immediately along the south side of the Site into the river; waters are understood to flow down the black plastic sheet, as evidenced by the white staining

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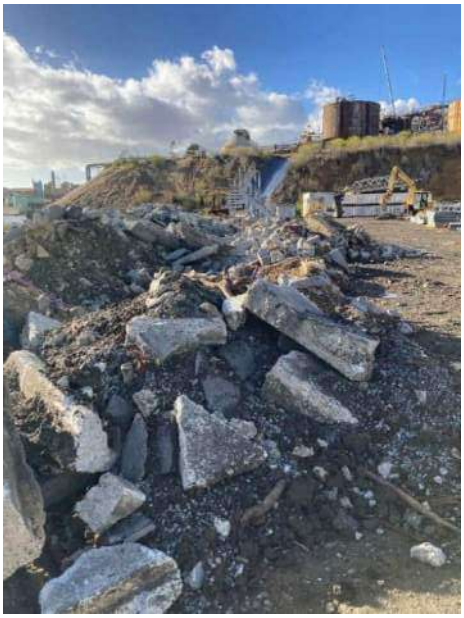
Images taken 18 February 2026 – by Fiona Keserue-Ponte	Comments
	Abundant large concrete rubble blocks pushed along the edge of the reclamation area; note visible sediment plume towards the middle of the image.
	Abundant large concrete rubble blocks pushed along the edge of the reclamation area; note visible sediment plume towards the middle of the image.
	New concrete rubble stockpile mixed with soils and gravel and other rubbish and plastic pipe.

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Images taken 18 February 2026 – by Fiona Keserue-Ponte	Comments
	Potential asbestos sheeting sampled.

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3. Test Pits

ID / Depth	Images taken 18 & 19 February 2026 – by Harry Fairweather	Comment
TP01 0 - 0.9		Very homogeneous layer of loose silty fill, BDR throughout, concrete and brick fragments
TP01 0.9 - 1.1		Black layer coinciding with water ingress at 1.2m, otherwise similar composition to above
TP01		Profile of TP01 Water ingress at 1.2 m bgl

Document Set ID: 3625299
Version: 1, Version Date: 19/06/2026

ID / Depth	Images taken 18 & 19 February 2026 – by Harry Fairweather	Comment
TP02 0 - 0.2		Loose silty gravels, small amount of BDR, mainly brick
TP02 0.3 - 1.2		Stiff to yielding clays, BDR(concrete, pipe, brick) with evident fill layer. Surface water observed through layer
TP02 1.2 - 1.9		Black clays with gravels, BDR (bricks, bitumen). Water ingress at 1.4 m bgl. Slight hydrocarbon smell

Document Set ID: 3625299
Version: 1, Version Date: 19/06/2026

ID / Depth	Images taken 18 & 19 February 2026 – by Harry Fairweather	Comment
TP02		TP02 profile Water ingress at 1.9 m bgl
TP03 0 - 1.1		Brown gravelly clay with BDR (bitumen, brick and gravels)
TP03 1.1 - 1.4		Grey colour change Gravels, bitumen, rocks (possibly mudstone) Water ingress at 1.4 m bgl.

Document Set ID: 3625299
Version: 1, Version Date: 19/06/2026

ID / Depth	Images taken 18 & 19 February 2026 – by Harry Fairweather	Comment
TP03		TP03 Profile Water ingress at 1.4 m bgl
TP03		Facing north of TP03 to the location of proposed works TP03 close proximity to River Derwent
TP04 0 - 0.3		Top layer was very soft and unconsolidated with gravelly silts and reworked natural throughout

Document Set ID: 3625399
Version: 1, Version Date: 19/06/2026

ID / Depth	Images taken 18 & 19 February 2026 – by Harry Fairweather	Comment
TP04 0.3 - 1		Very wet mixed layer of reworked natural materials with some BDR rubble (brick and bitumen) throughout
TP04		Profile of TP04
TP05 0 - 0.2		Rock and concrete rubble interspersed throughout with stiff clays and hunks of gravel

Document Set ID: 3625299
Version: 1, Version Date: 19/06/2026

ID / Depth	Images taken 18 & 19 February 2026 – by Harry Fairweather	Comment
TP05 0.2 - 0.6		As above layer, rubble throughout, but with a greater prevalence of loose soils and small gravels
TP05 0.6 - 1		Similar consistency and composition to above layers but darker in colour Water ingress at 1.0 m bgl
TP06 0 - 0.2		Stiff clays with gravel interspersed throughout. Some BDR (plastic and small brick fragments)

Document Set ID: 3625399
Version: 1, Version Date: 19/06/2026

ID / Depth	Images taken 18 & 19 February 2026 – by Harry Fairweather	Comment
TP06 0.2 - 0.4		Clays interspersed throughout with more loose unconsolidated silts and gravels than layer above BDR (brick and concrete) fragments throughout
TP06 0.5 - 0.7		Fill layer with BDR (red brick and very large concrete chunks, rebar and electrical wire) Digging extremely difficult due to slabs of cement Water ingress at 0.7 m bgl
TP06		Profile of TP06 Water ingress at 0.7 m bgl

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Version: 1, Version Date: 19/06/2026

ID / Depth	Images taken 18 & 19 February 2026 – by Harry Fairweather	Comment
TP07 0 - 0.2		Top layer with blue metal gravels and fine silty sands
TP07 0.2 - 0.5		Stiff claying silts, reworked natural fill
TP07 0.7 - 1.3		Loose gravelly silts and significant red brick throughout Some pieces of concrete. Water ingress at 1.3 m bgl

Document Set ID: 3625399
Version: 1, Version Date: 19/06/2026

ID / Depth	Images taken 18 & 19 February 2026 – by Harry Fairweather	Comment
TP07		TP07 depth profile Water ingress at 1.3 m bgl
TP08 0 - 0.2		Top layer
TP08 0.2 - 0.5		Reworked natural material, some blue metal gravel throughout

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Version: 1, Version Date: 19/06/2026

ID / Depth	Images taken 18 & 19 February 2026 – by Harry Fairweather	Comment
TP08 0.5 - 1.2		Homogeneous brown clays, some small chunks of BDR (brick) Water ingress at 1.2 m bgl
TP08		Profile of TP08 Water ingress at 1.2 m bgl
TP09 0 - 0.1		Top layer of red bricks. Test pit of interest due composition of predominately red brick

Document Set ID: 3625399
Version: 1, Version Date: 19/06/2026

ID / Depth	Images taken 18 & 19 February 2026 – by Harry Fairweather	Comment
TP09 0.1 - 0.7		Mixed BDR with predominately red brick and fewer concrete tiles and hunks of plastic also evident.
TP09 0.7 - 1		Similar layer to above
TP09 1 - 1.4		Extensive BDR with red brick still predominant Pieces of cement and angle iron also very occurrent

Document Set ID: 3625399
Version: 1, Version Date: 19/06/2026

ID / Depth	Images taken 18 & 19 February 2026 – by Harry Fairweather	Comment
TP09		Profile of TP09 Distinct layers can be observed.
TP10 0 - 0.2		Top layer of road base like material
TP10 0.2 - 0.5		Top layer with sandy gravels throughout. Layer was observed to be loose consisting of reworked naturals and some black streaky material

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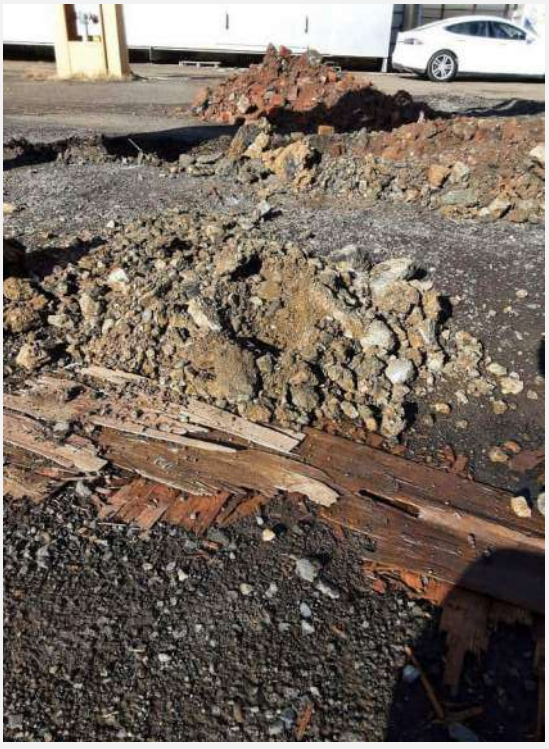
Version: 1, Version Date: 19/06/2026

ID / Depth	Images taken 18 & 19 February 2026 – by Harry Fairweather	Comment
TP10 0.5 - 1.1		Fill layer containing mostly brick rubble and loose unconsolidated soils. Other BDR present including plastic netting and concrete. Water ingress at 1.1 m bgl
TP10		Profile of TP10 Evident red brick in deeper profile Water ingress at 1.1 m bgl
TP11 0 - 0.1		Top layer of brown gravelly silts.

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ID / Depth	Images taken 18 & 19 February 2026 – by Harry Fairweather	Comment
TP11 0.1 - 1		Red brown gravelly silts with significant red brick BDR throughout layer
TP11 0.3 - 0.4		Dark streaky (black brown) fill layer of interest
TP11 - 1 - 1.5		Extensive BDR throughout layer; including brick, tile and bitumen, a steel sign, small extents of wire and large blocks of concrete Red brick most extensive BDR component Water ingress at 1.5 m bgl

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ID / Depth	Images taken 18 & 19 February 2026 – by Harry Fairweather	Comment
TP11		Profile of TP11 Evident red brick BDR below surface layer of TP11 Water ingress at 1.5 m bgl
TP12 0 - 0.4		Sandy fill layer with some BDR, red brick, metal fencing and cobbles throughout
TP12 0.4 - 1		Greater BDR concentration than above layer with mostly brick and reworked natural material. Some black clays Water ingress at 0.9 m bgl

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ID / Depth	Images taken 18 & 19 February 2026 – by Harry Fairweather	Comment
TP12		Profile of T12 Water ingress at 0.9 m bgl
TP13 0 - 0.2		Top layer of fill
TP13 0.2 - 0.5		Fill material consisting of brown gravelly clays

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ID / Depth	Images taken 18 & 19 February 2026 – by Harry Fairweather	Comment
TP13 0.5 - 1		Much finer and less rubbly than above layer
TP13 1 - 1.4		Homogeneous soil profile from approximately 200 millimetres depth Refusal at 1.4m
TP13		Profile of TP13 No water ingress

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4. Stockpiles

ID	Images taken 18 & 19 February 2026 – by Maddison Mayjor	Comment
SP01		Image of samples taken and stockpile material types
SP01		Stake indicates location of SP01 looking west towards Incat Lucas' shed
SP0**2**		Stake indicates location of SP02 looking west towards Incat Lucas' shed

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ID	Images taken 18 & 19 February 2026 – by Maddison Mayjor	Comment
SP02		Grey sandy gravel with timber and black basalt like material
SP03		Brown soils with organic matter
SP03		Stake indicates location of SP03 looking towards Incat Lucas' shed

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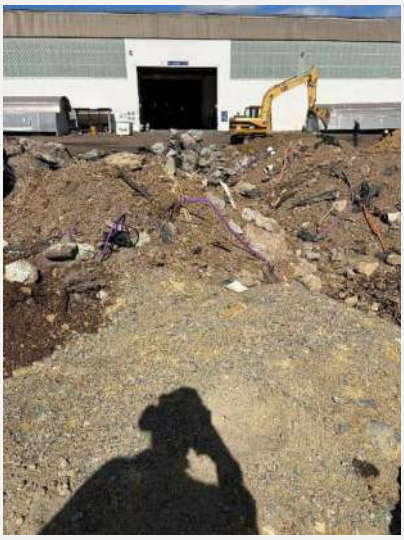
ID	Images taken 18 & 19 February 2026 – by Maddison Mayjor	Comment
SP04		Yellow sand with blue metal gravel, large concrete broken slab, timber and bitumen mixed in the mixed fill stockpile
SP04		Standing on SP04 facing Incat Lucas' shed. Yellow sand with blue metal gravel, large concrete broken slab, timber and bitumen mixed in the mixed fill stockpile Note amount of mixed waste comprising plastic piping, PVC piping, vegetation, concrete rubble, geomesh, reinforced steel bars protruding from concrete, etc, on the adjacent SP05.
SP05		Stake indicates location of SP05 looking towards Incat Lucas' shed. Evidence of building demolition rubble (BDR), timber, plastic, organics.

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Version: 1, Version Date: 19/06/2026

ID	Images taken 18 & 19 February 2026 – by Maddison Mayjor	Comment
SP05		SP05 facing River Derwent, evident BDR and vegetation
SP06		Mixture of BDR, plastic polypipe (PVC and plastic) and other wastes on brown soils with gravel.
SP07		Blue metal gravel and other gravels, large boulders, metals, loose woven plastic (geomesh). 4 - 5 stockpiles - 70m³. Note these stockpiles were moved to make access for TP08.

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ID	Images taken 18 & 19 February 2026 – by Maddison Mayjor	Comment
SP07		SP07 facing towards Incat Lucas' shed. Note these stockpiles were moved to make access for TP08 to the south.
SP08		SP08 facing towards northern end of Incat Lucas' shed. Clear difference in the brown / grey colour and composition (large black / brown lumps, clays) of this stockpile in comparison to surroundings. This was the only stockpile of this composition observed on Site.
SP08		Close up view of material from SP08.

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ID	Images taken 18 & 19 February 2026 – by Maddison Mayjor	Comment
SP09		SP09 brown soils mixed with organic matter / vegetation, rock. Looking toward Incat Lucas' shed.
SP10		Close up view of materials in SP10: fine silts, gravels and rock.
SP12		Facing Incat Lucas' shed from SP12. Similar material to SP15.

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ID	Images taken 18 & 19 February 2026 – by Maddison Mayjor	Comment
SP13		SP13 facing River Derwent. Large pile with bitumen, sandy gravels. Stockpile was moved during excavation works for test pit TP09.
SP14		Sand with blue metal gravel. Similar to SP13.
SP16		Two similar stockpiles. Further stockpile tested. Facing towards Incat Lucas' shed.

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ID	Images taken 18 & 19 February 2026 – by Maddison Mayjor	Comment
SP17		Yellow/orange sand intermixed with gravel and blue metal gravel and concrete rubble. 3 stockpiles. Photo taken facing north along the eastern boundary of the stockpiles and of the Site.
SP18		SP18, north of SP17 facing north along the River Derwent foreshore and eastern edge of the Site. SP18 composition was similar colour to SP17, with white clay / sandstone pieces and less gravels.
SP19		Yellow / orange sandy gravel mixed with concrete pieces. Facing the Incat Lucas' shed.

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ID	Images taken 18 & 19 February 2026 – by Maddison Mayjor	Comment
SP20		Yellow / orange sandy gravel, blue metal gravel and small to large concrete rubble. Facing north from SP19.
SP21		Yellow / orange-brown gravelly silts and coarse clay with orange colours. Facing north towards the northern end of the Incat Lucas' shed.
SP22		Stockpile moved during excavation of TP07. Sandy gravels with bitumen fragments. Facing southeast from the northern end of the Site.

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ID	Images taken 18 & 19 February 2026 – by Maddison Mayjor	Comment
SP23		SP23 containing large bitumen rubble, concrete rubble, and gravels. Facing towards the northern end of the Incat shed and Site area.
SP23		SP23 containing large bitumen rubble, concrete rubble, and gravels. SP23 was moved during excavation of TP07, which is evident in this image as the southern side of SP23 has been scraped. Facing eastward from the western side of the Site.
SP24		Yellow sand with blue metal gravels. Facing eastwards from the western side of the Site.

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ID	Images taken 18 & 19 February 2026 – by Maddison Mayjor	Comment
SP24		Facing south of the Site from the top of SP24. The two stockpiles captured were similar to the composition of SP24 and located immediately south.
SP25		Clayey sands. Photo taken from the north of the Site, facing south across the Site.
SP26		SP26 was tested as the representative sample of three stockpiles that were similar and comprised of clay and sand with lots of gravel and large rock (white and yellow - mudstone/sandstone).

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ID	Images taken 18 & 19 February 2026 – by Maddison Mayjor	Comment
SP27		Photo taken from the northern end of the stockpiles, facing towards the south of the Site. Materials included sand with bitumen, gravels, clay and rock.
SP28		Very large yellow stockpile with clay, rock and gravel.
SP29		Yellow sandy gravel with larger rocks boulders, dried clay, concrete and large bitumen pieces.

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ID	Images taken 18 & 19 February 2026 – by Maddison Mayjor	Comment
SP30		Yellow/orange sand with small and larger gravels and rock.

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SOIL SAMPLING FIELD DATA SHEET

Project number:	P.26.0075	
Project name:	INCAT ESA	

pitt&sherry

Site I.D	INCAT - 100 Derwent Pk Rd
Date	18 - 19 February 2026
Personnel	Harrison Fairweather Maddison Mayjor
Weather	Overcast

Note: all materials sampled were fill

ID	Sample ID	Depth Start	Depth End	Date	Material Description	Moisture (D, M, W)	PID (ppm)	Colour	Odour	Comments
TP01	TP01_0.9	0	0.9	2/18/2026	Gravelly Silt	moist wet	0	Brown	No	Very homogeneous layer of loose silty fill, BDR (Builders demolition rubble) throughout, concrete, rear and brick fragments
TP01	TP01_1.2	0.9	1.1	2/18/2026	Gravelly Silt	wet	0	Black	No	Black layer coinciding with water ingress at 1.2 m bgl, otherwise similar composition to above, qcp/qcs4 taken
TP02	TP02_0.1	0	0.2	2/19/2026	Gravelly Silt	dry	0	Brown	No	Loose silty gravels, small amount of BDR (brick)
TP02	TP02_0.9	0.3	1.2	2/19/2026	Silty Clay	moist	0	Brown with black	No	Clays - stiff to yielding, BDR with concrete, pipe brick fill layer, surface water observed through layer
TP02	TP02_1.9	1.2	1.9	2/19/2026	Gravelly Clay	moist	0.1	Brown with streaks of black	Yes	Black clays with gravels, BDR and bitumen. Water ingress at 1.9 m bgl. Slight hydrocarbon smell
TP03	TP02_1.4	1.1	1.4	2/19/2026	Gravelly Clay	moist	0	Brown with more black	No	Grey colour change. Layer consists of gravels, bitumen, rocks (mudstone). Water ingress at 1.4 m bgl.
TP03	TP03_0.5	0	1.1	2/19/2026	Gravelly Clay	moist	0	Dark brown with some blacks	No	Brown gravelly clay. Layer consists of bitumen, brick, gravels
TP04	TP04_0.2	0	0.3	2/18/2026	Gravelly Silt	moist wet	0	Brown	No	Top layer, very soft and unconsolidated, gravelly silts, reworked natural throughout, qcp/qcs03 taken
TP04	TP04_1.0	0.3	1	2/18/2026	Gravelly Silt	moist wet	0	Brown/black	No	Mixed layer of reworked natural materials and very wet. Some BDR rubble consisting of brick and bitumen throughout
TP04	TP04_2.0	1	2	2/18/2026	Silty Clay	moist wet	0	Black grey	No	Stiff to yielding silty clays of varying texture and density, mixed through with gravel, rock and BDR (tile and brick)
TP05	TP05_0.2	0	0.2	2/18/2026	Gravelly Clay	dry moist	0	Black brown	No	Rock and concrete rubble interspersed throughout with stiff clays and hunks of gravel
TP05	TP05_0.6	0.2	0.6	2/18/2026	Gravelly Clay	moist	0	Brown	No	As above layer, rubble throughout, but with a greater prevalence of loose soils and small gravels
TP05	TP05_1.0	0.6	1	2/18/2026	Gravelly Silt	moist wet	0	Black brown	No	Similar consistency and composition to above layers but darker in colour. Water ingress at 1.0 m bgl.
TP06	Tp06_0.2	0	0.2	2/18/2026	Silty Clay	moist	0	Black brown	No	Stiff clays with gravel interspersed throughput, some BDR in the form of plastic and small brick fragments
TP06	TP06_0.4	0.2	0.4	2/18/2026	Gravelly Clay	dry moist	0	Black brown	No	Clays interspersed throughout with more loose unconsolidated silts and gravels than above layer. BDR (brick and concrete fragments) throughout
TP06	TP06_0.7	0.5	0.7	2/18/2026	Boulder	moist wet	0	Brown black grey	No	Fill layer consisting of red brick and very large concrete chunks, reinforcing bars and electrical wire. Digging extremely difficult due to slabs of cement. Water ingress at 0.7 m bgl
TP07	TP07_0.1	0	0.2	2/18/2026	Sandy Gravel	dry	0	Black	No	Top layer, blue metal gravels and fine silty sands
TP07	TP07_0.5	0.2	0.5	2/18/2026	Silty Clay	dry moist	0	Black	No	Stiff claying silts, reworked natural fill
TP07	TP07_1.3	0.7	1.3	2/18/2026	Gravelly Silt	moist wet	0	Brown red	No	Loose gravelly silts and significant red brick bdr throughout. Some limited chunks of concrete. Water ingress at 1.3 m bgl
TP08	TP08_0.1	0	0.2	2/18/2026	Gravelly Sand	dry	0	Black	No	Top layer
TP08	TP08_04	0.2	0.5	2/18/2026	Gravel	dry	0	Brown	No	Reworked natural material, some blue metal gravel throughout
TP08	TP08_1.2	0.5	1.2	2/18/2026	Gravelly Clay	moist wet	0	Brown	No	Homogenous brown clays, some small chunks of BDR (brick). Water ingress at 1.2 m bgl
TP09	TP09_01	0	0.1	2/18/2026	Silty Gravel	dry	0	Brown	No	Top layer
TP09	TP09_0.7	0.1	0.7	2/18/2026	Sandy Gravel	dry	0	Reddy brown	No	Red brick layer, mixed BDR (concrete, tiles and hunks of plastic) also evident
TP09	TP09_1.0	0.7	1	2/18/2026	Gravelly Silt	dry	0	Black streaky brown	No	Similar layer of interest previous holes
TP09	TP09_1.4	1	1.4	2/18/2026	Gravelly Silt	moist wet	0	Brown	No	Extensive BDR with red brick throughout. Hunks of cement and angle iron also very occurrent
TP10	TP10_0.2	0	0.2	2/18/2026	Gravelly Sand	dry	0	Light brown	No	Top layer, road base like material
TP10	TP10_0.5	0.2	0.5	2/18/2026	Gravelly Sand	dry	0	Brown	No	Top layer, sandy gravels throughout, loose consisting of reworked naturals, some black streaky material
TP10	TP10_1.1	0.5	1.1	2/18/2026	Gravelly Sand	dry moist	0	Brown/red	No	Fill layer containing mostly brick rubble and loose unconsolidated soils. BDR present including chunks of plastic netting and concrete. Water ingress at 1.1 m bgl.

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ID	Sample ID	Depth Start	Depth End	Date	Material Description	Moisture (D, M, W)	PID (ppm)	Colour	Odour	Comments
TP11	**TP11_0.1**	0	0.1	2/18/2026	Gravelly Silt	dry	0.1	Brown	No	Top layer
TP11	**TP11_0.4**	0.3	0.4	2/18/2026	Clayey Silt	moist	0	Black brown	No	Dark streaky fill layer of interest
TP11	**TP11_1.0**	0.1	1	2/18/2026	Gravelly Silt	dry	0.1	Red brown	No	Significant red brick BDR throughout. qcs/qcp01 taken
TP11	**TP11_1.5**	1	1.5	2/18/2026	Gravelly Silt	wet	0.1	Brown red with black streaks throughput	No	Extensive BDR throughout, brick tile and bitumen, a steel sign, small extents of wire and large blocks of concrete. Red brick most extensive BDR component. Water ingress at 1.5 m bgl.
TP12	**TP12_0.2**	0	0.4	2/19/2026	Sandy Gravel	dry	0	Grey brown	No	Sandy fill layer, some BDR, metal fencing cobbles throughout
TP12	**TP12_1.0**	0.4	1	2/19/2026	Gravelly Silt	wet	0	Brown	No	Greater BDR concentration than above layer, mostly brick and reworked natural material, some black clays. Water ingress at 0.9 m bgl.
TP13	**TP13_0.1**	0	0.2	2/18/2026	Gravelly Clay	dry moist	0	Brown	No	Top fill
TP13	**TP13_0.5**	0.2	0.5	2/18/2026	Gravelly Clay	dry moist	0	Brown		Brown gravelly clay
TP13	**TP13_1.0**	0.5	1	2/18/2026	Gravelly Silt	dry	0	Black brown	No	Much finer and less rubbley than above layer
TP13	**TP13_1.4**	1	1.4	2/18/2026	Gravelly Silt	dry	0.5	Brown black	No	Refusal at 1.4m with a homogenous profile from appx 200mm down

Laboratory Results

Appendix G

pitt&sherry

Document Set ID: 3625399
Version: 1, Version Date: 11/06/2026

CERTIFICATE OF ANALYSIS

Work Order	: **EM2602866**	Page	: 1 of 64
Client	: **PITT & SHERRY (OPERATIONS) PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: FIONA KESERUE-PONTE	Contact	: Hannah White
Address	: 199 MACQUARIE STREET HOBART 7001	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: +61-3-8549 9600
Project	: INCAT ESA	Date Samples Received	: 20-Feb-2026 12:35
Order number	: P.26.0075	Date Analysis Commenced	: 24-Feb-2026
C-O-C number	: ----	Issue Date	: 27-Feb-2026 16:07
Sampler	: H Fairweather, M Mayjor		
Site	: ----		
Quote number	: EM23PITSHE0013 VIC Custom Pricing		
No. of samples received	: 76		
No. of samples analysed	: 76		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Brooke Hallcroft	Laboratory Technician (Microbiology)	Newcastle - Inorganics, Mayfield West, NSW
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
MINNIE TRAN	Approved Asbestos Identifier	Melbourne Asbestos, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

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Version: 1, Version Date: 09/06/2026

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- ALS is not NATA accredited for the analysis of Exchangeable Cations on Alkaline Soils when performed under ALS Method ED006.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005-T : EM2602866 #43 Poor matrix spike recovery for total zinc due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG035T: EM2602866#32 Poor duplicate precision for total mercury due to sample matrix. Confirmed by re-extraction and re-analysis.
- **EA200 Legend**
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: Analysis of asbestos from swabs and tapes is not covered under the current scope of NATA accreditation.
- EG035T: EM2602866#12 Poor duplicate precision for total mercury due to sample matrix. Confirmed by re-extraction and re-analysis.
- EG035T: EM2602866#3 Poor matrix spike recovery for total mercury due to sample matrix. Confirmed by re-extraction and re-analysis.
- EG035T: EM2602866#23 Poor matrix spike recovery for total mercury due to sample matrix. Confirmed by re-extraction and re-analysis.
- EG005-T : EM2602866 #2 and #12 Poor duplicate precision for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2602866 #23 Poor matrix spike recovery for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- EG005-T : EM2602866 #43 Poor matrix spike recovery for total metals due to sample matrix. Confirmed by re-digestion and re-analysis.
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- ED007 and ED008: When Exchangeable Al is reported from these methods, it should be noted that Rayment & Lyons (2011) suggests Exchange Acidity by 1M KCl - Method 15G1 (ED005) is a more suitable method for the determination of exchange acidity (H+ + Al3+).

- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.
- EA200: N/A - Not Applicable
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration or as per USEPA 1633 limits where listed. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS and also conform to QSM 5.4 (US DoD) requirements.

Document Set ID: 3626299
Version: 1, Version Date: 09/06/2026

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP01_0.9	TP01_1.2	TP02_0.1	TP02_0.9	TP02_1.9
			Sampling date / time	18-Feb-2026 16:30	18-Feb-2026 16:30	19-Feb-2026 13:00	19-Feb-2026 13:00	19-Feb-2026 13:00
Compound	CAS Number	LOR	Unit	EM2602866-002	EM2602866-003	EM2602866-004	EM2602866-005	EM2602866-006
				Result	Result	Result	Result	Result
EA001: pH in soil using 0.01M CaCl extract								
pH (CaCl2)	----	0.1	pH Unit	7.5	----	----	----	----
EA002-AD: pH (Soils) dried at 40°C								
pH Value	----	0.1	pH Unit	8.6	----	----	----	----
EA010-AD: Conductivity (Soils) dried at 40°C								
Electrical Conductivity @ 25°C	----	1	µS/cm	2610	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	20.7	14.1	11.6	15.6	22.6
EA150: Soil Classification based on Particle Size								
Clay (<2 µm)	----	1	%	21	----	----	----	----
EA152: Soil Particle Density								
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3	2.67	----	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	----	No	----
Asbestos (Trace)	1332-21-4	-	-	No	----	----	No	----
Asbestos Type	1332-21-4	-	--	-	----	----	-	----
Synthetic Mineral Fibre	----	-	--	No	----	----	No	----
Organic Fibre	----	-	--	Yes	----	----	Yes	----
Sample weight (dry)	----	0.01	g	674	----	----	400	----
APPROVED IDENTIFIER:	----	-	--	M. TRAN	----	----	T. KUO	----
ED006: Exchangeable Cations on Alkaline Soils								
ø Exchangeable Calcium	----	0.2	meq/100g	11.3	----	----	----	----
ø Exchangeable Magnesium	----	0.2	meq/100g	8.9	----	----	----	----
ø Exchangeable Potassium	----	0.2	meq/100g	1.1	----	----	----	----
ø Exchangeable Sodium	----	0.2	meq/100g	10.5	----	----	----	----
ø Cation Exchange Capacity	----	0.2	meq/100g	31.7	----	----	----	----
ø Exchangeable Calcium Percent	----	0.2	%	35.6	----	----	----	----
ø Exchangeable Magnesium Percent	----	0.2	%	28.0	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP01_0.9	TP01_1.2	TP02_0.1	TP02_0.9	TP02_1.9
				Sampling date / time	18-Feb-2026 16:30	18-Feb-2026 16:30	19-Feb-2026 13:00	19-Feb-2026 13:00	19-Feb-2026 13:00
Compound	CAS Number	LOR	Unit		EM2602866-002	EM2602866-003	EM2602866-004	EM2602866-005	EM2602866-006
					Result	Result	Result	Result	Result
ED006: Exchangeable Cations on Alkaline Soils - Continued									
ø Exchangeable Potassium Percent	----	0.2	%		3.4	----	----	----	----
ø Exchangeable Sodium Percent	----	0.2	%		33.0	----	----	----	----
ø Calcium/Magnesium Ratio	----	0.2	-		1.3	----	----	----	----
ø Magnesium/Potassium Ratio	----	0.2	-		8.2	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Iron	7439-89-6	0.005	%		3.64	----	----	----	----
Arsenic	7440-38-2	5	mg/kg		<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg		3	1	1	1	<1
Chromium	7440-47-3	2	mg/kg		24	15	32	18	25
Copper	7440-50-8	5	mg/kg		62	39	46	55	51
Lead	7439-92-1	5	mg/kg		63	29	35	33	20
Nickel	7440-02-0	2	mg/kg		22	25	24	20	23
Zinc	7440-66-6	5	mg/kg		367	192	244	227	145
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		14.6	6.9	0.3	0.2	0.1
EP004: Organic Matter									
Organic Matter	----	0.5	%		1.4	----	----	----	----
Total Organic Carbon	----	0.5	%		0.8	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP01_0.9	TP01_1.2	TP02_0.1	TP02_0.9	TP02_1.9
				Sampling date / time	18-Feb-2026 16:30	18-Feb-2026 16:30	19-Feb-2026 13:00	19-Feb-2026 13:00	19-Feb-2026 13:00
Compound	CAS Number	LOR	Unit		EM2602866-002	EM2602866-003	EM2602866-004	EM2602866-005	EM2602866-006
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	**340**	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	**340**	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	**280**	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	**440**	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	**720**	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP01_0.9	TP01_1.2	TP02_0.1	TP02_0.9	TP02_1.9
			Sampling date / time	18-Feb-2026 16:30	18-Feb-2026 16:30	19-Feb-2026 13:00	19-Feb-2026 13:00	19-Feb-2026 13:00
Compound	CAS Number	LOR	Unit	EM2602866-002	EM2602866-003	EM2602866-004	EM2602866-005	EM2602866-006
				Result	Result	Result	Result	Result
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ **Total Xylenes**	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	----	----	<0.0002	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	----	----	<0.0002	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	----	----	<0.0002	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	----	----	<0.001	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	----	----	<0.0002	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	----	----	<0.0002	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	----	----	<0.0002	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	----	----	<0.0002	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	----	----	<0.0005	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	----	----	<0.0005	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	----	----	<0.0005	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	----	----	<0.0005	----	----
EP231P: PFAS Sums								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP01_0.9	TP01_1.2	TP02_0.1	TP02_0.9	TP02_1.9
				Sampling date / time	18-Feb-2026 16:30	18-Feb-2026 16:30	19-Feb-2026 13:00	19-Feb-2026 13:00	19-Feb-2026 13:00
Compound	CAS Number	LOR	Unit		EM2602866-002	EM2602866-003	EM2602866-004	EM2602866-005	EM2602866-006
					Result	Result	Result	Result	Result
EP231P: PFAS Sums - Continued									
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		----	----	<0.0002	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		----	----	<0.0002	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		80.1	88.3	94.0	79.6	84.5
2-Chlorophenol-D4	93951-73-6	0.5	%		84.6	91.8	96.9	84.6	90.7
2.4.6-Tribromophenol	118-79-6	0.5	%		83.9	82.7	89.7	89.6	91.8
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		92.2	82.6	90.5	88.2	92.4
Anthracene-d10	1719-06-8	0.5	%		112	105	113	108	107
4-Terphenyl-d14	1718-51-0	0.5	%		94.1	92.6	101	96.5	96.7
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		74.8	77.3	76.9	75.5	70.5
Toluene-D8	2037-26-5	0.2	%		78.2	68.6	71.6	72.2	87.3
4-Bromofluorobenzene	460-00-4	0.2	%		88.3	77.5	78.4	78.9	75.7
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		----	----	108	----	----
13C8-PFOA	----	0.0002	%		----	----	101	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP03 0.5	TP03_1.4	TP04_0.2	TP04_1.0	TP04_2.0
			Sampling date / time	19-Feb-2026 13:30	19-Feb-2026 13:30	18-Feb-2026 13:30	18-Feb-2026 13:30	18-Feb-2026 13:30
Compound	CAS Number	LOR	Unit	EM2602866-007	EM2602866-008	EM2602866-009	EM2602866-010	EM2602866-011
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	17.0	23.0	11.7	14.3	19.4
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	2	<1	<1	9
Chromium	7440-47-3	2	mg/kg	21	30	4	5	22
Copper	7440-50-8	5	mg/kg	27	47	71	70	99
Lead	7439-92-1	5	mg/kg	8	22	14	11	97
Nickel	7440-02-0	2	mg/kg	20	29	11	13	25
Zinc	7440-66-6	5	mg/kg	41	150	162	131	449
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.4	2.3	0.1	0.1	12.7
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP03 0.5	TP03_1.4	TP04_0.2	TP04_1.0	TP04_2.0
				Sampling date / time	19-Feb-2026 13:30	19-Feb-2026 13:30	18-Feb-2026 13:30	18-Feb-2026 13:30	18-Feb-2026 13:30
Compound	CAS Number	LOR	Unit		EM2602866-007	EM2602866-008	EM2602866-009	EM2602866-010	EM2602866-011
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP03 0.5	TP03_1.4	TP04_0.2	TP04_1.0	TP04_2.0
			Sampling date / time	19-Feb-2026 13:30	19-Feb-2026 13:30	18-Feb-2026 13:30	18-Feb-2026 13:30	18-Feb-2026 13:30
Compound	CAS Number	LOR	Unit	EM2602866-007	EM2602866-008	EM2602866-009	EM2602866-010	EM2602866-011
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ **Total Xylenes**	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	----	----	<0.0002	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	----	----	<0.0002	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	----	----	**0.0003**	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	----	----	<0.001	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	----	----	<0.0002	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	----	----	<0.0002	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	----	----	<0.0002	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	----	----	<0.0002	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	----	----	<0.0005	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	----	----	<0.0005	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	----	----	<0.0005	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	----	----	<0.0005	----	----
EP231P: PFAS Sums								
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	----	----	**0.0003**	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	----	----	**0.0003**	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**77.9**	**83.2**	**78.8**	**97.2**	**89.4**
2-Chlorophenol-D4	93951-73-6	0.5	%	**84.3**	**88.8**	**83.5**	**102**	**92.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP03 0.5	TP03_1.4	TP04_0.2	TP04_1.0	TP04_2.0
				Sampling date / time	19-Feb-2026 13:30	19-Feb-2026 13:30	18-Feb-2026 13:30	18-Feb-2026 13:30	18-Feb-2026 13:30
Compound	CAS Number	LOR	Unit		EM2602866-007	EM2602866-008	EM2602866-009	EM2602866-010	EM2602866-011
					Result	Result	Result	Result	Result
EP075(SIM)S: Phenolic Compound Surrogates - Continued									
2.4.6-Tribromophenol	118-79-6	0.5	%		86.1	94.3	80.3	105	96.4
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		87.5	85.3	87.1	97.6	96.1
Anthracene-d10	1719-06-8	0.5	%		109	111	99.1	109	108
4-Terphenyl-d14	1718-51-0	0.5	%		88.8	94.4	92.1	97.4	96.7
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		86.5	93.8	89.4	82.1	93.5
Toluene-D8	2037-26-5	0.2	%		97.8	86.7	89.7	75.4	80.8
4-Bromofluorobenzene	460-00-4	0.2	%		106	89.0	99.3	67.3	96.3
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		----	----	115	----	----
13C8-PFOA	----	0.0002	%		----	----	98.2	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP05_0.2	TP05_0.6	TP05_1.0	TP06_0.2	TP06_0.4
			Sampling date / time	18-Feb-2026 15:00	18-Feb-2026 15:00	18-Feb-2026 15:00	18-Feb-2026 14:30	18-Feb-2026 14:30
Compound	CAS Number	LOR	Unit	EM2602866-012	EM2602866-013	EM2602866-014	EM2602866-015	EM2602866-016
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**16.5**	**17.6**	**14.5**	**22.2**	**13.4**
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	**----**	**No**	**----**	**----**
Asbestos (Trace)	1332-21-4	-	-	**No**	**----**	**No**	**----**	**----**
Asbestos Type	1332-21-4	-	--	**-**	**----**	**-**	**----**	**----**
Synthetic Mineral Fibre	----	-	--	**No**	**----**	**No**	**----**	**----**
Organic Fibre	----	-	--	**Yes**	**----**	**Yes**	**----**	**----**
Sample weight (dry)	----	0.01	g	**395**	**----**	**510**	**----**	**----**
APPROVED IDENTIFIER:	----	-	--	**T. KUO**	**----**	**T. KUO**	**----**	**----**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	**2**	**30**	**14**	<1	<1
Chromium	7440-47-3	2	mg/kg	**17**	**22**	**12**	**13**	**14**
Copper	7440-50-8	5	mg/kg	**53**	**62**	**68**	**40**	**52**
Lead	7439-92-1	5	mg/kg	**34**	**102**	**184**	**7**	**40**
Nickel	7440-02-0	2	mg/kg	**20**	**23**	**14**	**23**	**20**
Zinc	7440-66-6	5	mg/kg	**285**	**363**	**586**	**26**	**161**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**1.8**	**16.4**	**13.7**	<0.1	**0.1**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	**0.6**	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP05_0.2	TP05_0.6	TP05_1.0	TP06_0.2	TP06_0.4
				Sampling date / time	18-Feb-2026 15:00	18-Feb-2026 15:00	18-Feb-2026 15:00	18-Feb-2026 14:30	18-Feb-2026 14:30
Compound	CAS Number	LOR	Unit		EM2602866-012	EM2602866-013	EM2602866-014	EM2602866-015	EM2602866-016
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Pyrene	129-00-0	0.5	mg/kg		<0.5	**0.6**	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		<0.5	**1.2**	<0.5	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		<50	<50	<50	<50	<50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP05_0.2	TP05_0.6	TP05_1.0	TP06_0.2	TP06_0.4
			Sampling date / time	18-Feb-2026 15:00	18-Feb-2026 15:00	18-Feb-2026 15:00	18-Feb-2026 14:30	18-Feb-2026 14:30
Compound	CAS Number	LOR	Unit	EM2602866-012	EM2602866-013	EM2602866-014	EM2602866-015	EM2602866-016
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	**0.0004**	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	**0.0101**	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP05_0.2	TP05_0.6	TP05_1.0	TP06_0.2	TP06_0.4
				Sampling date / time	18-Feb-2026 15:00	18-Feb-2026 15:00	18-Feb-2026 15:00	18-Feb-2026 14:30	18-Feb-2026 14:30
Compound	CAS Number	LOR	Unit		EM2602866-012	EM2602866-013	EM2602866-014	EM2602866-015	EM2602866-016
					Result	Result	Result	Result	Result
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		<0.0005	----	----	----	----
EP231P: PFAS Sums									
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		**0.0105**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		**0.0105**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**79.6**	**80.2**	**74.5**	**78.4**	**76.6**
2-Chlorophenol-D4	93951-73-6	0.5	%		**82.2**	**85.2**	**79.5**	**82.8**	**79.6**
2.4.6-Tribromophenol	118-79-6	0.5	%		**82.0**	**95.5**	**87.2**	**78.8**	**76.4**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**89.7**	**88.3**	**80.7**	**90.2**	**89.0**
Anthracene-d10	1719-06-8	0.5	%		**111**	**110**	**106**	**108**	**105**
4-Terphenyl-d14	1718-51-0	0.5	%		**97.8**	**103**	**85.4**	**100**	**92.6**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**82.4**	**86.9**	**106**	**85.3**	**79.0**
Toluene-D8	2037-26-5	0.2	%		**78.2**	**96.6**	**62.9**	**74.3**	**71.5**
4-Bromofluorobenzene	460-00-4	0.2	%		**93.2**	**82.7**	**77.7**	**75.4**	**84.0**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		**94.0**	----	----	----	----
13C8-PFOA	----	0.0002	%		**95.6**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP06_0.7	TP07_0.1	TP07_0.5	TP07_1.3	TP08_0.1
			Sampling date / time	18-Feb-2026 14:30	18-Feb-2026 12:30	18-Feb-2026 12:30	18-Feb-2026 12:30	18-Feb-2026 12:00
Compound	CAS Number	LOR	Unit	EM2602866-017	EM2602866-018	EM2602866-019	EM2602866-020	EM2602866-021
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	16.2	10.6	9.0	13.9	8.9
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	----	----	----
Asbestos (Trace)	1332-21-4	-	-	No	----	----	----	----
Asbestos Type	1332-21-4	-	--	-	----	----	----	----
Synthetic Mineral Fibre	----	-	--	No	----	----	----	----
Organic Fibre	----	-	--	Yes	----	----	----	----
Sample weight (dry)	----	0.01	g	483	----	----	----	----
APPROVED IDENTIFIER:	----	-	--	T. KUO	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	9	<5
Cadmium	7440-43-9	1	mg/kg	<1	2	4	3	2
Chromium	7440-47-3	2	mg/kg	10	11	17	12	20
Copper	7440-50-8	5	mg/kg	42	65	78	53	69
Lead	7439-92-1	5	mg/kg	32	44	48	75	32
Nickel	7440-02-0	2	mg/kg	15	23	19	14	22
Zinc	7440-66-6	5	mg/kg	146	438	498	408	318
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.3	0.3	1.5	3.4	0.2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP06_0.7	TP07_0.1	TP07_0.5	TP07_1.3	TP08_0.1
				Sampling date / time	18-Feb-2026 14:30	18-Feb-2026 12:30	18-Feb-2026 12:30	18-Feb-2026 12:30	18-Feb-2026 12:00
Compound	CAS Number	LOR	Unit		EM2602866-017	EM2602866-018	EM2602866-019	EM2602866-020	EM2602866-021
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	**170**	**130**	<100	**120**
C29 - C36 Fraction	----	100	mg/kg		<100	**540**	**310**	**110**	**200**
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		<50	**710**	**440**	**110**	**320**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	**500**	**310**	**120**	**270**
>C34 - C40 Fraction	----	100	mg/kg		<100	**640**	**350**	**120**	**120**
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		<50	**1140**	**660**	**240**	**390**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP06_0.7	TP07_0.1	TP07_0.5	TP07_1.3	TP08_0.1
			Sampling date / time	18-Feb-2026 14:30	18-Feb-2026 12:30	18-Feb-2026 12:30	18-Feb-2026 12:30	18-Feb-2026 12:00
Compound	CAS Number	LOR	Unit	EM2602866-017	EM2602866-018	EM2602866-019	EM2602866-020	EM2602866-021
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	----	----	----	----	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	----	----	----	----	**0.0002**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	----	----	----	----	**0.0049**
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	----	----	----	----	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	----	----	----	----	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	----	----	----	----	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	----	----	----	----	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	----	----	----	----	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	----	----	----	----	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	----	----	----	----	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	----	----	----	----	<0.0005

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP06_0.7	TP07_0.1	TP07_0.5	TP07_1.3	TP08_0.1
				Sampling date / time	18-Feb-2026 14:30	18-Feb-2026 12:30	18-Feb-2026 12:30	18-Feb-2026 12:30	18-Feb-2026 12:00
Compound	CAS Number	LOR	Unit		EM2602866-017	EM2602866-018	EM2602866-019	EM2602866-020	EM2602866-021
					Result	Result	Result	Result	Result
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		----	----	----	----	<0.0005
EP231P: PFAS Sums									
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		----	----	----	----	**0.0051**
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		----	----	----	----	**0.0051**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**76.3**	**78.9**	**81.4**	**87.4**	**84.0**
2-Chlorophenol-D4	93951-73-6	0.5	%		**82.0**	**84.5**	**86.1**	**93.6**	**89.3**
2.4.6-Tribromophenol	118-79-6	0.5	%		**85.5**	**82.4**	**85.9**	**89.5**	**92.7**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**92.9**	**87.1**	**88.4**	**103**	**94.9**
Anthracene-d10	1719-06-8	0.5	%		**114**	**104**	**114**	**112**	**111**
4-Terphenyl-d14	1718-51-0	0.5	%		**97.7**	**93.7**	**95.4**	**115**	**98.1**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**86.1**	**99.6**	**84.9**	**80.7**	**80.7**
Toluene-D8	2037-26-5	0.2	%		**77.5**	**55.8**	**86.7**	**76.1**	**76.2**
4-Bromofluorobenzene	460-00-4	0.2	%		**68.2**	**66.7**	**75.8**	**108**	**84.5**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		----	----	----	----	**100**
13C8-PFOA	----	0.0002	%		----	----	----	----	**100**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP08_0.4	TP08_1.2	TP09_0.1	TP09_0.7	TP09_1.0
			Sampling date / time	18-Feb-2026 12:00	18-Feb-2026 12:00	18-Feb-2026 14:00	18-Feb-2026 16:30	18-Feb-2026 16:30
Compound	CAS Number	LOR	Unit	EM2602866-022	EM2602866-023	EM2602866-024	EM2602866-025	EM2602866-026
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	9.2	15.7	9.1	12.1	23.4
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	No	----	No	----
Asbestos (Trace)	1332-21-4	-	-	----	No	----	No	----
Asbestos Type	1332-21-4	-	--	----	-	----	-	----
Synthetic Mineral Fibre	----	-	--	----	No	----	No	----
Organic Fibre	----	-	--	----	Yes	----	Yes	----
Sample weight (dry)	----	0.01	g	----	394	----	391	----
APPROVED IDENTIFIER:	----	-	--	----	T. KUO	----	T. KUO	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	7	<1	3	<1	<1
Chromium	7440-47-3	2	mg/kg	8	42	24	9	20
Copper	7440-50-8	5	mg/kg	101	58	74	20	79
Lead	7439-92-1	5	mg/kg	59	24	34	46	28
Nickel	7440-02-0	2	mg/kg	17	77	22	9	26
Zinc	7440-66-6	5	mg/kg	480	171	288	339	122
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	15.1	0.4	6.7	0.1	0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.1	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP08_0.4	TP08_1.2	TP09_0.1	TP09_0.7	TP09_1.0
				Sampling date / time	18-Feb-2026 12:00	18-Feb-2026 12:00	18-Feb-2026 14:00	18-Feb-2026 16:30	18-Feb-2026 16:30
Compound	CAS Number	LOR	Unit		EM2602866-022	EM2602866-023	EM2602866-024	EM2602866-025	EM2602866-026
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Pyrene	129-00-0	0.5	mg/kg		<0.5	**1.0**	**0.5**	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	**0.6**	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	**0.5**	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	**0.6**	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	**3.8**	**0.5**	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	**0.6**	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.9**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	**120**	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	**120**	<50	<50	<50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP08_0.4	TP08_1.2	TP09_0.1	TP09_0.7	TP09_1.0
			Sampling date / time	18-Feb-2026 12:00	18-Feb-2026 12:00	18-Feb-2026 14:00	18-Feb-2026 16:30	18-Feb-2026 16:30
Compound	CAS Number	LOR	Unit	EM2602866-022	EM2602866-023	EM2602866-024	EM2602866-025	EM2602866-026
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	----	----	<0.0002	<0.0002	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	----	----	<0.0002	**0.0005**	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	----	----	<0.0002	**0.0037**	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	----	----	<0.001	<0.001	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	----	----	<0.0002	<0.0002	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	----	----	<0.0002	<0.0002	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	----	----	<0.0002	<0.0002	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	----	----	<0.0002	**0.0004**	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	----	----	<0.0005	<0.0005	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	----	----	<0.0005	<0.0005	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	----	----	<0.0005	<0.0005	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP08_0.4	TP08_1.2	TP09_0.1	TP09_0.7	TP09_1.0
			Sampling date / time	18-Feb-2026 12:00	18-Feb-2026 12:00	18-Feb-2026 14:00	18-Feb-2026 16:30	18-Feb-2026 16:30
Compound	CAS Number	LOR	Unit	EM2602866-022	EM2602866-023	EM2602866-024	EM2602866-025	EM2602866-026
				Result	Result	Result	Result	Result
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued								
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	----	----	<0.0005	<0.0005	----
EP231P: PFAS Sums								
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	----	----	<0.0002	**0.0042**	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	----	----	<0.0002	**0.0046**	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**89.6**	**89.6**	**86.6**	**96.2**	**88.2**
2-Chlorophenol-D4	93951-73-6	0.5	%	**94.5**	**94.0**	**91.3**	**97.4**	**91.5**
2.4.6-Tribromophenol	118-79-6	0.5	%	**89.5**	**89.0**	**87.3**	**102**	**88.2**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**120**	**119**	**116**	**102**	**116**
Anthracene-d10	1719-06-8	0.5	%	**100**	**102**	**98.2**	**114**	**100.0**
4-Terphenyl-d14	1718-51-0	0.5	%	**105**	**102**	**101**	**97.9**	**103**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**74.0**	**66.6**	**81.0**	**77.6**	**73.7**
Toluene-D8	2037-26-5	0.2	%	**82.5**	**78.5**	**92.1**	**86.4**	**82.0**
4-Bromofluorobenzene	460-00-4	0.2	%	**98.4**	**95.0**	**108**	**104**	**96.3**
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.0002	%	----	----	**101**	**108**	----
13C8-PFOA	----	0.0002	%	----	----	**98.3**	**99.6**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP10_0.2	TP10_0.5	TP10_1.1	TP11_0.1	TP11_0.4
			Sampling date / time	18-Feb-2026 16:30	18-Feb-2026 14:00	18-Feb-2026 14:00	18-Feb-2026 09:00	18-Feb-2026 09:00
Compound	CAS Number	LOR	Unit	EM2602866-027	EM2602866-028	EM2602866-029	EM2602866-030	EM2602866-031
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	10.7	8.0	14.6	13.0	10.4
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	----	No	----	----
Asbestos (Trace)	1332-21-4	-	-	----	----	No	----	----
Asbestos Type	1332-21-4	-	--	----	----	-	----	----
Synthetic Mineral Fibre	----	-	--	----	----	No	----	----
Organic Fibre	----	-	--	----	----	Yes	----	----
Sample weight (dry)	----	0.01	g	----	----	515	----	----
APPROVED IDENTIFIER:	----	-	--	----	----	T. KUO	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	5	<5
Cadmium	7440-43-9	1	mg/kg	2	3	1	7	4
Chromium	7440-47-3	2	mg/kg	18	20	19	13	14
Copper	7440-50-8	5	mg/kg	81	90	65	84	64
Lead	7439-92-1	5	mg/kg	2040	2220	655	40	132
Nickel	7440-02-0	2	mg/kg	19	15	18	18	22
Zinc	7440-66-6	5	mg/kg	435	423	221	375	576
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.2	0.2	0.2	6.1	3.7
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	0.6

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP10_0.2	TP10_0.5	TP10_1.1	TP11_0.1	TP11_0.4
				Sampling date / time	18-Feb-2026 16:30	18-Feb-2026 14:00	18-Feb-2026 14:00	18-Feb-2026 09:00	18-Feb-2026 09:00
Compound	CAS Number	LOR	Unit		EM2602866-027	EM2602866-028	EM2602866-029	EM2602866-030	EM2602866-031
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**0.7**
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**1.3**
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	**110**	<100	<100	**130**
C29 - C36 Fraction	----	100	mg/kg		**230**	**170**	<100	**100**	**260**
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		**230**	**280**	<50	**100**	**390**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		**230**	**200**	<100	**130**	**290**
>C34 - C40 Fraction	----	100	mg/kg		**300**	**240**	<100	**110**	**290**
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		**530**	**440**	<50	**240**	**580**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP10_0.2	TP10_0.5	TP10_1.1	TP11_0.1	TP11_0.4
				Sampling date / time	18-Feb-2026 16:30	18-Feb-2026 14:00	18-Feb-2026 14:00	18-Feb-2026 09:00	18-Feb-2026 09:00
Compound	CAS Number	LOR	Unit		EM2602866-027	EM2602866-028	EM2602866-029	EM2602866-030	EM2602866-031
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**91.0**	**86.3**	**86.1**	**88.8**	**91.1**
2-Chlorophenol-D4	93951-73-6	0.5	%		**92.6**	**91.0**	**91.0**	**92.7**	**94.2**
2.4.6-Tribromophenol	118-79-6	0.5	%		**89.7**	**97.4**	**89.5**	**93.4**	**100**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**118**	**117**	**114**	**117**	**120**
Anthracene-d10	1719-06-8	0.5	%		**100**	**97.6**	**97.5**	**99.3**	**101**
4-Terphenyl-d14	1718-51-0	0.5	%		**99.8**	**97.0**	**97.7**	**102**	**100**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**83.8**	**71.1**	**71.5**	**74.0**	**94.5**
Toluene-D8	2037-26-5	0.2	%		**89.6**	**78.6**	**81.3**	**78.6**	**87.3**
4-Bromofluorobenzene	460-00-4	0.2	%		**109**	**94.3**	**97.8**	**95.3**	**105**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP11_1.0	TP11_1.5	TP12_0.2	TP12_1.0	TP13_0.1
			Sampling date / time	18-Feb-2026 09:00	18-Feb-2026 09:00	19-Feb-2026 14:30	19-Feb-2026 14:30	18-Feb-2026 08:30
Compound	CAS Number	LOR	Unit	EM2602866-032	EM2602866-033	EM2602866-034	EM2602866-035	EM2602866-036
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	11.6	19.2	16.5	19.4	10.5
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	----	No	No
Asbestos (Trace)	1332-21-4	-	-	No	----	----	No	No
Asbestos Type	1332-21-4	-	--	-	----	----	-	-
Synthetic Mineral Fibre	----	-	--	Yes	----	----	No	No
Organic Fibre	----	-	--	Yes	----	----	Yes	Yes
Sample weight (dry)	----	0.01	g	477	----	----	440	311
APPROVED IDENTIFIER:	----	-	--	T. KUO	----	----	T. KUO	T. KUO
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	2	2	<1	<1	2
Chromium	7440-47-3	2	mg/kg	15	15	13	11	17
Copper	7440-50-8	5	mg/kg	28	42	45	49	37
Lead	7439-92-1	5	mg/kg	93	97	199	150	39
Nickel	7440-02-0	2	mg/kg	14	16	14	14	28
Zinc	7440-66-6	5	mg/kg	256	299	144	127	311
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	2.9	4.2	0.2	0.4	4.2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	0.8	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.7	4.7	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	1.2	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	1.6	6.3	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP11_1.0	TP11_1.5	TP12_0.2	TP12_1.0	TP13_0.1
			Sampling date / time	18-Feb-2026 09:00	18-Feb-2026 09:00	19-Feb-2026 14:30	19-Feb-2026 14:30	18-Feb-2026 08:30
Compound	CAS Number	LOR	Unit	EM2602866-032	EM2602866-033	EM2602866-034	EM2602866-035	EM2602866-036
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	**1.7**	**6.4**	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	**0.8**	**3.1**	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	**0.6**	**2.9**	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	**1.0**	**3.5**	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	**1.4**	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	**0.8**	**3.2**	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	**1.4**	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	**0.5**	**1.7**	<0.5
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg	<0.5	<0.5	**7.7**	**36.6**	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg	<0.5	<0.5	**1.0**	**4.2**	<0.5
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg	**0.6**	**0.6**	**1.3**	**4.4**	**0.6**
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg	**1.2**	**1.2**	**1.6**	**4.7**	**1.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	**150**	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg	<50	<50	<50	**150**	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	**120**	<100	**110**	**210**	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg	**120**	<50	**110**	**210**	<50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP11_1.0	TP11_1.5	TP12_0.2	TP12_1.0	TP13_0.1
			Sampling date / time	18-Feb-2026 09:00	18-Feb-2026 09:00	19-Feb-2026 14:30	19-Feb-2026 14:30	18-Feb-2026 08:30
Compound	CAS Number	LOR	Unit	EM2602866-032	EM2602866-033	EM2602866-034	EM2602866-035	EM2602866-036
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	----	----	----	----	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	----	----	----	----	**0.0003**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	----	----	----	----	**0.0003**
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	----	----	----	----	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	----	----	----	----	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	----	----	----	----	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	----	----	----	----	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	----	----	----	----	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	----	----	----	----	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	----	----	----	----	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	----	----	----	----	<0.0005

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP11_1.0	TP11_1.5	TP12_0.2	TP12_1.0	TP13_0.1
			Sampling date / time	18-Feb-2026 09:00	18-Feb-2026 09:00	19-Feb-2026 14:30	19-Feb-2026 14:30	18-Feb-2026 08:30
Compound	CAS Number	LOR	Unit	EM2602866-032	EM2602866-033	EM2602866-034	EM2602866-035	EM2602866-036
				Result	Result	Result	Result	Result
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued								
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	----	----	----	----	<0.0005
EP231P: PFAS Sums								
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	----	----	----	----	**0.0006**
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	----	----	----	----	**0.0006**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**88.5**	**92.6**	**84.9**	**89.5**	**86.9**
2-Chlorophenol-D4	93951-73-6	0.5	%	**93.7**	**96.5**	**89.6**	**93.0**	**91.7**
2.4.6-Tribromophenol	118-79-6	0.5	%	**95.3**	**96.2**	**94.1**	**94.8**	**87.3**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**118**	**121**	**113**	**119**	**118**
Anthracene-d10	1719-06-8	0.5	%	**100**	**102**	**98.4**	**96.7**	**100**
4-Terphenyl-d14	1718-51-0	0.5	%	**97.3**	**104**	**95.0**	**94.5**	**105**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**77.0**	**70.2**	**77.5**	**70.8**	**86.0**
Toluene-D8	2037-26-5	0.2	%	**85.8**	**76.1**	**85.6**	**76.4**	**97.4**
4-Bromofluorobenzene	460-00-4	0.2	%	**105**	**91.9**	**102**	**93.2**	**114**
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.0002	%	----	----	----	----	**99.0**
13C8-PFOA	----	0.0002	%	----	----	----	----	**94.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP13_1.0	TP13_1.4	SP01	SP02	SP03
			Sampling date / time	18-Feb-2026 08:30	18-Feb-2026 08:30	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit	EM2602866-037	EM2602866-038	EM2602866-039	EM2602866-040	EM2602866-041
				Result	Result	Result	Result	Result
EA001: pH in soil using 0.01M CaCl extract								
pH (CaCl2)	----	0.1	pH Unit	7.3	----	7.6	----	----
EA002-AD: pH (Soils) dried at 40°C								
pH Value	----	0.1	pH Unit	8.9	----	9.1	----	----
EA010-AD: Conductivity (Soils) dried at 40°C								
Electrical Conductivity @ 25°C	----	1	µS/cm	455	----	293	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	15.3	11.2	13.5	7.7	8.1
EA150: Soil Classification based on Particle Size								
Clay (<2 µm)	----	1	%	12	----	11	----	----
EA152: Soil Particle Density								
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3	2.64	----	2.66	----	----
ED006: Exchangeable Cations on Alkaline Soils								
ø Exchangeable Calcium	----	0.2	meq/100g	13.7	----	6.3	----	----
ø Exchangeable Magnesium	----	0.2	meq/100g	5.9	----	7.6	----	----
ø Exchangeable Potassium	----	0.2	meq/100g	0.9	----	<0.2	----	----
ø Exchangeable Sodium	----	0.2	meq/100g	2.6	----	1.6	----	----
ø Cation Exchange Capacity	----	0.2	meq/100g	23.1	----	15.5	----	----
ø Exchangeable Calcium Percent	----	0.2	%	59.3	----	40.8	----	----
ø Exchangeable Magnesium Percent	----	0.2	%	25.6	----	49.0	----	----
ø Exchangeable Potassium Percent	----	0.2	%	3.7	----	<0.2	----	----
ø Exchangeable Sodium Percent	----	0.2	%	11.4	----	10.2	----	----
ø Calcium/Magnesium Ratio	----	0.2	-	2.3	----	0.8	----	----
ø Magnesium/Potassium Ratio	----	0.2	-	----	----	<0.2	----	----
ø Magnesium/Potassium Ratio	----	0.2	-	6.9	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Iron	7439-89-6	0.005	%	3.31	----	2.50	----	----
Arsenic	7440-38-2	5	mg/kg	50	<5	<5	<5	<5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP13_1.0	TP13_1.4	SP01	SP02	SP03
			Sampling date / time	18-Feb-2026 08:30	18-Feb-2026 08:30	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit	EM2602866-037	EM2602866-038	EM2602866-039	EM2602866-040	EM2602866-041
				Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued								
Cadmium	7440-43-9	1	mg/kg	**4**	**4**	<1	<1	**2**
Chromium	7440-47-3	2	mg/kg	**54**	**18**	**12**	<2	**16**
Copper	7440-50-8	5	mg/kg	**153**	**60**	**56**	**5**	**40**
Lead	7439-92-1	5	mg/kg	**29**	**64**	<5	**21**	**57**
Nickel	7440-02-0	2	mg/kg	**25**	**22**	**23**	**13**	**15**
Zinc	7440-66-6	5	mg/kg	**325**	**493**	**47**	**71**	**380**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.2**	**7.8**	<0.1	<0.1	**0.2**
EP004: Organic Matter								
Organic Matter	----	0.5	%	**1.0**	**----**	<0.5	**----**	**----**
Total Organic Carbon	----	0.5	%	**0.6**	**----**	<0.5	**----**	**----**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP13_1.0	TP13_1.4	SP01	SP02	SP03
				Sampling date / time	18-Feb-2026 08:30	18-Feb-2026 08:30	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit		EM2602866-037	EM2602866-038	EM2602866-039	EM2602866-040	EM2602866-041
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	**210**	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	**210**	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	**210**	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	**250**	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	**460**	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP13_1.0	TP13_1.4	SP01	SP02	SP03
			Sampling date / time	18-Feb-2026 08:30	18-Feb-2026 08:30	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit	EM2602866-037	EM2602866-038	EM2602866-039	EM2602866-040	EM2602866-041
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ **Total Xylenes**	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	----	----	<0.0002	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	----	----	<0.0002	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	----	----	<0.0002	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	----	----	<0.001	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	----	----	<0.0002	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	----	----	<0.0002	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	----	----	<0.0002	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	----	----	<0.0002	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	----	----	<0.0005	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	----	----	<0.0005	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	----	----	<0.0005	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	----	----	<0.0005	----	----
EP231P: PFAS Sums								
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	----	----	<0.0002	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	----	----	<0.0002	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**87.4**	**83.3**	**87.4**	**87.3**	**95.1**
2-Chlorophenol-D4	93951-73-6	0.5	%	**91.9**	**88.2**	**94.0**	**92.5**	**97.9**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP13_1.0	TP13_1.4	SP01	SP02	SP03
				Sampling date / time	18-Feb-2026 08:30	18-Feb-2026 08:30	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit		EM2602866-037	EM2602866-038	EM2602866-039	EM2602866-040	EM2602866-041
					Result	Result	Result	Result	Result
EP075(SIM)S: Phenolic Compound Surrogates - Continued									
2.4.6-Tribromophenol	118-79-6	0.5	%		85.3	89.6	88.2	88.0	101
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		117	101	121	119	108
Anthracene-d10	1719-06-8	0.5	%		99.2	98.1	104	102	114
4-Terphenyl-d14	1718-51-0	0.5	%		102	105	104	103	110
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		71.2	80.0	74.3	66.7	57.1
Toluene-D8	2037-26-5	0.2	%		77.4	88.0	81.2	76.2	67.4
4-Bromofluorobenzene	460-00-4	0.2	%		90.7	101	94.5	88.8	86.6
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		----	----	105	----	----
13C8-PFOA	----	0.0002	%		----	----	98.0	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SP04	SP05	SP06	SP07	SP08
			Sampling date / time	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit	EM2602866-042	EM2602866-043	EM2602866-044	EM2602866-045	EM2602866-046
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	11.9	8.9	4.8	14.1	22.9
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	8	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	5	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	15	44	10	19	43
Copper	7440-50-8	5	mg/kg	70	114	36	57	74
Lead	7439-92-1	5	mg/kg	6	529	8	22	11
Nickel	7440-02-0	2	mg/kg	21	34	17	69	32
Zinc	7440-66-6	5	mg/kg	52	820	35	79	30
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	0.9
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	0.8	3.0
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	0.7	3.1
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	1.4
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	1.2
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	2.4
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	0.6
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	2.1
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	1.1
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SP04	SP05	SP06	SP07	SP08
				Sampling date / time	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit		EM2602866-042	EM2602866-043	EM2602866-044	EM2602866-045	EM2602866-046
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**1.5**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	**1.5**	**17.3**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**2.7**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**2.9**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**3.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	**140**	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	**310**	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	**450**	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	**340**	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	**350**	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	**690**	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SP04	SP05	SP06	SP07	SP08
			Sampling date / time	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit	EM2602866-042	EM2602866-043	EM2602866-044	EM2602866-045	EM2602866-046
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ **Total Xylenes**	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	----	----	<0.0002	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	----	----	<0.0002	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	----	----	<0.0002	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	----	----	<0.001	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	----	----	<0.0002	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	----	----	<0.0002	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	----	----	<0.0002	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	----	----	<0.0002	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	----	----	<0.0005	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	----	----	<0.0005	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	----	----	<0.0005	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	----	----	<0.0005	----	----
EP231P: PFAS Sums								
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	----	----	<0.0002	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	----	----	<0.0002	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**102**	**95.2**	**93.7**	**98.3**	**96.9**
2-Chlorophenol-D4	93951-73-6	0.5	%	**107**	**95.6**	**98.3**	**102**	**101**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SP04	SP05	SP06	SP07	SP08
				Sampling date / time	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit		EM2602866-042	EM2602866-043	EM2602866-044	EM2602866-045	EM2602866-046
					Result	Result	Result	Result	Result
EP075(SIM)S: Phenolic Compound Surrogates - Continued									
2.4.6-Tribromophenol	118-79-6	0.5	%		45.5	62.0	62.3	56.8	60.9
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		108	98.5	98.6	104	100
Anthracene-d10	1719-06-8	0.5	%		113	117	120	121	127
4-Terphenyl-d14	1718-51-0	0.5	%		103	94.4	93.0	99.2	96.6
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		89.7	83.2	90.7	81.8	70.2
Toluene-D8	2037-26-5	0.2	%		70.9	98.2	59.4	119	63.2
4-Bromofluorobenzene	460-00-4	0.2	%		94.2	88.3	88.7	89.9	73.3
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		----	----	105	----	----
13C8-PFOA	----	0.0002	%		----	----	100	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SP09	SP10	SP11	SP12	SP13
			Sampling date / time	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit	EM2602866-047	EM2602866-048	EM2602866-049	EM2602866-050	EM2602866-051
				Result	Result	Result	Result	Result
EA001: pH in soil using 0.01M CaCl extract								
pH (CaCl2)	----	0.1	pH Unit	----	7.3	----	----	----
EA002-AD: pH (Soils) dried at 40°C								
pH Value	----	0.1	pH Unit	----	8.4	----	----	----
EA010-AD: Conductivity (Soils) dried at 40°C								
Electrical Conductivity @ 25°C	----	1	µS/cm	----	254	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	17.9	15.0	20.6	17.5	17.1
EA150: Soil Classification based on Particle Size								
Clay (<2 µm)	----	1	%	----	8	----	----	----
EA152: Soil Particle Density								
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3	----	2.80	----	----	----
ED006: Exchangeable Cations on Alkaline Soils								
ø Exchangeable Calcium	----	0.2	meq/100g	----	14.3	----	----	----
ø Exchangeable Magnesium	----	0.2	meq/100g	----	6.5	----	----	----
ø Exchangeable Potassium	----	0.2	meq/100g	----	0.4	----	----	----
ø Exchangeable Sodium	----	0.2	meq/100g	----	1.1	----	----	----
ø Cation Exchange Capacity	----	0.2	meq/100g	----	22.3	----	----	----
ø Exchangeable Calcium Percent	----	0.2	%	----	64.1	----	----	----
ø Exchangeable Magnesium Percent	----	0.2	%	----	29.3	----	----	----
ø Exchangeable Potassium Percent	----	0.2	%	----	1.8	----	----	----
ø Exchangeable Sodium Percent	----	0.2	%	----	4.9	----	----	----
ø Calcium/Magnesium Ratio	----	0.2	-	----	2.2	----	----	----
ø Magnesium/Potassium Ratio	----	0.2	-	----	16.3	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Iron	7439-89-6	0.005	%	----	3.02	----	----	----
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SP09	SP10	SP11	SP12	SP13
			Sampling date / time	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit	EM2602866-047	EM2602866-048	EM2602866-049	EM2602866-050	EM2602866-051
				Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued								
Chromium	7440-47-3	2	mg/kg	**28**	**26**	**12**	**22**	**10**
Copper	7440-50-8	5	mg/kg	**16**	**42**	**6**	**14**	**8**
Lead	7439-92-1	5	mg/kg	**9**	**35**	<5	**10**	<5
Nickel	7440-02-0	2	mg/kg	**20**	**43**	**5**	**10**	**5**
Zinc	7440-66-6	5	mg/kg	**35**	**114**	**6**	**19**	**7**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP004: Organic Matter								
Organic Matter	----	0.5	%	**----**	**4.4**	**----**	**----**	**----**
Total Organic Carbon	----	0.5	%	**----**	**2.5**	**----**	**----**	**----**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	**1.0**	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	**1.0**	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	**0.7**	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	**0.6**	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	**0.7**	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	**0.7**	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SP09	SP10	SP11	SP12	SP13
				Sampling date / time	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit		EM2602866-047	EM2602866-048	EM2602866-049	EM2602866-050	EM2602866-051
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	**4.7**	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	**0.8**	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**1.1**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.5**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	**110**	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	**110**	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SP09	SP10	SP11	SP12	SP13
			Sampling date / time	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit	EM2602866-047	EM2602866-048	EM2602866-049	EM2602866-050	EM2602866-051
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	----	<0.0002	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	----	<0.0002	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	----	**0.0003**	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	----	<0.001	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	----	<0.0002	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	----	<0.0002	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	----	<0.0002	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	----	<0.0002	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	----	<0.0005	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	----	<0.0005	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	----	<0.0005	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	----	<0.0005	----	----	----
EP231P: PFAS Sums								
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	----	**0.0003**	----	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	----	**0.0003**	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**99.7**	**100**	**98.9**	**100**	**98.4**
2-Chlorophenol-D4	93951-73-6	0.5	%	**105**	**101**	**101**	**102**	**101**
2.4.6-Tribromophenol	118-79-6	0.5	%	**73.1**	**65.9**	**54.0**	**55.0**	**44.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SP09	SP10	SP11	SP12	SP13
				Sampling date / time	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit		EM2602866-047	EM2602866-048	EM2602866-049	EM2602866-050	EM2602866-051
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		105	103	100	105	102
Anthracene-d10	1719-06-8	0.5	%		125	117	128	115	110
4-Terphenyl-d14	1718-51-0	0.5	%		98.6	100	101	104	101
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		77.8	84.1	78.6	81.4	72.6
Toluene-D8	2037-26-5	0.2	%		61.9	77.6	68.3	80.6	81.4
4-Bromofluorobenzene	460-00-4	0.2	%		85.2	103	91.6	91.7	71.4
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		----	102	----	----	----
13C8-PFOA	----	0.0002	%		----	98.2	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SP14	SP15	SP16	SP17	SP18
			Sampling date / time	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit	EM2602866-052	EM2602866-053	EM2602866-054	EM2602866-055	EM2602866-056
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**17.7**	**10.7**	**14.1**	**5.9**	**13.8**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**11**	**11**	**22**	**14**	**15**
Copper	7440-50-8	5	mg/kg	**11**	<5	**19**	<5	<5
Lead	7439-92-1	5	mg/kg	<5	<5	**8**	<5	<5
Nickel	7440-02-0	2	mg/kg	**5**	<2	**14**	<2	**4**
Zinc	7440-66-6	5	mg/kg	**7**	<5	**17**	<5	**11**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SP14	SP15	SP16	SP17	SP18
				Sampling date / time	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit		EM2602866-052	EM2602866-053	EM2602866-054	EM2602866-055	EM2602866-056
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SP14	SP15	SP16	SP17	SP18
			Sampling date / time	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit	EM2602866-052	EM2602866-053	EM2602866-054	EM2602866-055	EM2602866-056
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ **Total Xylenes**	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**101**	**99.3**	**95.6**	**93.3**	**92.6**
2-Chlorophenol-D4	93951-73-6	0.5	%	**103**	**101**	**98.1**	**94.3**	**97.5**
2.4.6-Tribromophenol	118-79-6	0.5	%	**46.8**	**44.5**	**46.8**	**42.3**	**44.5**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**104**	**102**	**97.8**	**101**	**102**
Anthracene-d10	1719-06-8	0.5	%	**111**	**114**	**128**	**130**	**114**
4-Terphenyl-d14	1718-51-0	0.5	%	**102**	**103**	**97.5**	**102**	**100**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**63.1**	**80.5**	**82.0**	**88.8**	**90.0**
Toluene-D8	2037-26-5	0.2	%	**75.5**	**77.1**	**77.4**	**82.9**	**87.2**
4-Bromofluorobenzene	460-00-4	0.2	%	**79.3**	**78.5**	**86.3**	**88.7**	**85.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SP19	SP20	SP21	SP22	SP23
			Sampling date / time	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit	EM2602866-057	EM2602866-058	EM2602866-059	EM2602866-060	EM2602866-061
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**17.3**	**13.1**	**19.4**	**15.0**	**11.4**
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	**----**	**----**	**----**	**No**	**No**
Asbestos (Trace)	1332-21-4	-	-	**----**	**----**	**----**	**No**	**No**
Asbestos Type	1332-21-4	-	--	**----**	**----**	**----**	**-**	**-**
Synthetic Mineral Fibre	----	-	--	**----**	**----**	**----**	**No**	**No**
Organic Fibre	----	-	--	**----**	**----**	**----**	**No**	**No**
Sample weight (dry)	----	0.01	g	**----**	**----**	**----**	**435**	**510**
APPROVED IDENTIFIER:	----	-	--	**----**	**----**	**----**	**T. KUO**	**T. KUO**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**14**	**15**	**28**	**11**	**12**
Copper	7440-50-8	5	mg/kg	<5	<5	<5	<5	**6**
Lead	7439-92-1	5	mg/kg	<5	<5	<5	<5	<5
Nickel	7440-02-0	2	mg/kg	<2	<2	<2	**2**	**5**
Zinc	7440-66-6	5	mg/kg	<5	**7**	<5	<5	**19**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SP19	SP20	SP21	SP22	SP23
				Sampling date / time	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit		EM2602866-057	EM2602866-058	EM2602866-059	EM2602866-060	EM2602866-061
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		<50	<50	<50	<50	<50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SP19	SP20	SP21	SP22	SP23
				Sampling date / time	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit		EM2602866-057	EM2602866-058	EM2602866-059	EM2602866-060	EM2602866-061
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		----	----	----	----	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		----	----	----	----	**0.0042**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		----	----	----	----	**0.122**
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg		----	----	----	----	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		----	----	----	----	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		----	----	----	----	**0.0003**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		----	----	----	----	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		----	----	----	----	**0.0003**
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		----	----	----	----	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg		----	----	----	----	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg		----	----	----	----	<0.0005

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SP19	SP20	SP21	SP22	SP23
			Sampling date / time	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit	EM2602866-057	EM2602866-058	EM2602866-059	EM2602866-060	EM2602866-061
				Result	Result	Result	Result	Result
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued								
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	----	----	----	----	<0.0005
EP231P: PFAS Sums								
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	----	----	----	----	**0.126**
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	----	----	----	----	**0.127**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**94.9**	**94.4**	**99.8**	**96.3**	**94.0**
2-Chlorophenol-D4	93951-73-6	0.5	%	**98.0**	**95.1**	**102**	**98.3**	**98.9**
2.4.6-Tribromophenol	118-79-6	0.5	%	**37.1**	**43.1**	**42.2**	**42.8**	**43.5**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**100**	**102**	**103**	**102**	**103**
Anthracene-d10	1719-06-8	0.5	%	**124**	**112**	**118**	**111**	**119**
4-Terphenyl-d14	1718-51-0	0.5	%	**98.5**	**101**	**104**	**101**	**104**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**82.0**	**85.5**	**89.3**	**85.7**	**90.0**
Toluene-D8	2037-26-5	0.2	%	**76.5**	**78.8**	**84.9**	**80.4**	**84.8**
4-Bromofluorobenzene	460-00-4	0.2	%	**81.5**	**80.2**	**90.4**	**80.1**	**85.5**
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.0002	%	----	----	----	----	**95.8**
13C8-PFOA	----	0.0002	%	----	----	----	----	**82.2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SP24	SP25	SP26	SP27	SP28
			Sampling date / time	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit	EM2602866-062	EM2602866-063	EM2602866-064	EM2602866-065	EM2602866-066
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**15.7**	**20.5**	**18.7**	**11.1**	**21.0**
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	**----**	**----**	**----**	**No**	**----**
Asbestos (Trace)	1332-21-4	-	-	**----**	**----**	**----**	**No**	**----**
Asbestos Type	1332-21-4	-	--	**----**	**----**	**----**	**-**	**----**
Synthetic Mineral Fibre	----	-	--	**----**	**----**	**----**	**No**	**----**
Organic Fibre	----	-	--	**----**	**----**	**----**	**Yes**	**----**
Sample weight (dry)	----	0.01	g	**----**	**----**	**----**	**391**	**----**
APPROVED IDENTIFIER:	----	-	--	**----**	**----**	**----**	**T. KUO**	**----**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**7**	**17**	**21**	**11**	**17**
Copper	7440-50-8	5	mg/kg	**8**	**10**	**14**	<5	**13**
Lead	7439-92-1	5	mg/kg	<5	**6**	**9**	<5	**7**
Nickel	7440-02-0	2	mg/kg	**7**	**10**	**13**	**4**	**13**
Zinc	7440-66-6	5	mg/kg	**9**	**8**	**13**	<5	**15**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SP24	SP25	SP26	SP27	SP28
				Sampling date / time	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit		EM2602866-062	EM2602866-063	EM2602866-064	EM2602866-065	EM2602866-066
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		<50	<50	<50	<50	<50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SP24	SP25	SP26	SP27	SP28
			Sampling date / time	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit	EM2602866-062	EM2602866-063	EM2602866-064	EM2602866-065	EM2602866-066
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	----	----	----	----	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	----	----	----	----	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	----	----	----	----	<0.0002
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	----	----	----	----	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	----	----	----	----	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	----	----	----	----	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	----	----	----	----	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	----	----	----	----	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	----	----	----	----	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	----	----	----	----	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	----	----	----	----	<0.0005

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SP24	SP25	SP26	SP27	SP28
			Sampling date / time	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit	EM2602866-062	EM2602866-063	EM2602866-064	EM2602866-065	EM2602866-066
				Result	Result	Result	Result	Result
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued								
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	----	----	----	----	<0.0005
EP231P: PFAS Sums								
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	----	----	----	----	<0.0002
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	----	----	----	----	<0.0002
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**85.9**	**87.7**	**88.1**	**91.7**	**86.2**
2-Chlorophenol-D4	93951-73-6	0.5	%	**90.8**	**91.3**	**92.3**	**95.1**	**89.4**
2.4.6-Tribromophenol	118-79-6	0.5	%	**98.3**	**93.3**	**90.6**	**99.9**	**91.3**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**99.1**	**97.1**	**96.4**	**101**	**93.3**
Anthracene-d10	1719-06-8	0.5	%	**104**	**110**	**113**	**116**	**112**
4-Terphenyl-d14	1718-51-0	0.5	%	**104**	**102**	**106**	**111**	**101**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**91.5**	**83.3**	**92.8**	**82.7**	**88.5**
Toluene-D8	2037-26-5	0.2	%	**87.2**	**81.9**	**89.3**	**76.6**	**84.4**
4-Bromofluorobenzene	460-00-4	0.2	%	**94.3**	**88.0**	**96.8**	**79.0**	**89.4**
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.0002	%	----	----	----	----	**107**
13C8-PFOA	----	0.0002	%	----	----	----	----	**96.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SP29	SP30	QCP01	QCP04	TRIP1
			Sampling date / time	19-Feb-2026 00:00	19-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit	EM2602866-067	EM2602866-068	EM2602866-069	EM2602866-070	EM2602866-071
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	7.5	13.4	10.7	19.1	14.1
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	3	4	<1
Chromium	7440-47-3	2	mg/kg	21	11	15	25	8
Copper	7440-50-8	5	mg/kg	9	<5	30	58	19
Lead	7439-92-1	5	mg/kg	5	<5	139	52	<5
Nickel	7440-02-0	2	mg/kg	5	3	11	24	17
Zinc	7440-66-6	5	mg/kg	10	6	226	332	21
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	2.2	20.3	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SP29	SP30	QCP01	QCP04	TRIP1
				Sampling date / time	19-Feb-2026 00:00	19-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit		EM2602866-067	EM2602866-068	EM2602866-069	EM2602866-070	EM2602866-071
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SP29	SP30	QCP01	QCP04	TRIP1
			Sampling date / time	19-Feb-2026 00:00	19-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00
Compound	CAS Number	LOR	Unit	EM2602866-067	EM2602866-068	EM2602866-069	EM2602866-070	EM2602866-071
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ **Total Xylenes**	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**91.1**	**90.9**	**77.7**	**87.3**	**90.5**
2-Chlorophenol-D4	93951-73-6	0.5	%	**95.5**	**94.3**	**80.2**	**90.5**	**93.8**
2.4.6-Tribromophenol	118-79-6	0.5	%	**95.2**	**88.6**	**84.7**	**96.4**	**92.2**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**105**	**102**	**91.6**	**101**	**100**
Anthracene-d10	1719-06-8	0.5	%	**119**	**116**	**102**	**114**	**111**
4-Terphenyl-d14	1718-51-0	0.5	%	**110**	**107**	**96.9**	**106**	**106**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**85.2**	**78.6**	**83.6**	**79.2**	**85.2**
Toluene-D8	2037-26-5	0.2	%	**82.2**	**76.6**	**76.6**	**78.0**	**80.7**
4-Bromofluorobenzene	460-00-4	0.2	%	**90.5**	**80.6**	**82.0**	**82.0**	**88.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TRIP3	TRIPBLANK	TP09_1.4	----	----
			Sampling date / time	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	----	----
Compound	CAS Number	LOR	Unit	EM2602866-072	EM2602866-075	EM2602866-077	--------	--------
				Result	Result	Result	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**16.2**	**16.0**	**18.8**	**----**	**----**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	**----**	**12**	**----**	**----**
Cadmium	7440-43-9	1	mg/kg	<1	**----**	**7**	**----**	**----**
Chromium	7440-47-3	2	mg/kg	**12**	**----**	**17**	**----**	**----**
Copper	7440-50-8	5	mg/kg	**7**	**----**	**172**	**----**	**----**
Lead	7439-92-1	5	mg/kg	<5	**----**	**95**	**----**	**----**
Nickel	7440-02-0	2	mg/kg	**6**	**----**	**23**	**----**	**----**
Zinc	7440-66-6	5	mg/kg	**6**	**----**	**585**	**----**	**----**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	**----**	**0.7**	**----**	**----**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	**----**	<0.5	**----**	**----**
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	**----**	<0.5	**----**	**----**
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	**----**	<0.5	**----**	**----**
Fluorene	86-73-7	0.5	mg/kg	<0.5	**----**	<0.5	**----**	**----**
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	**----**	<0.5	**----**	**----**
Anthracene	120-12-7	0.5	mg/kg	<0.5	**----**	<0.5	**----**	**----**
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	**----**	<0.5	**----**	**----**
Pyrene	129-00-0	0.5	mg/kg	<0.5	**----**	<0.5	**----**	**----**
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	**----**	<0.5	**----**	**----**
Chrysene	218-01-9	0.5	mg/kg	<0.5	**----**	<0.5	**----**	**----**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	**----**	<0.5	**----**	**----**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	**----**	<0.5	**----**	**----**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	**----**	<0.5	**----**	**----**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	**----**	<0.5	**----**	**----**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	**----**	<0.5	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TRIP3	TRIPBLANK	TP09_1.4	----	----
				Sampling date / time	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2602866-072	EM2602866-075	EM2602866-077	--------	--------
					Result	Result	Result	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	----	<0.5	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		<0.5	----	<0.5	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		<0.5	----	<0.5	----	----
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		**0.6**	----	**0.6**	----	----
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		**1.2**	----	**1.2**	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	<50	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	----	<100	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	----	<100	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		<50	----	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	<10	<10	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	<50	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	----	<100	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	----	<100	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		<50	----	<50	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		<50	----	<50	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	<0.2	<0.2	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TRIP3	TRIPBLANK	TP09_1.4	----	----
			Sampling date / time	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	----	----
Compound	CAS Number	LOR	Unit	EM2602866-072	EM2602866-075	EM2602866-077	--------	--------
				Result	Result	Result	----	----
EP080: BTEXN - Continued								
^ **Total Xylenes**	----	0.5	mg/kg	<0.5	<0.5	<0.5	**----**	**----**
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	**----**	**----**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**90.0**	**----**	**86.6**	**----**	**----**
2-Chlorophenol-D4	93951-73-6	0.5	%	**96.2**	**----**	**90.6**	**----**	**----**
2.4.6-Tribromophenol	118-79-6	0.5	%	**95.5**	**----**	**87.9**	**----**	**----**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**101**	**----**	**100**	**----**	**----**
Anthracene-d10	1719-06-8	0.5	%	**113**	**----**	**111**	**----**	**----**
4-Terphenyl-d14	1718-51-0	0.5	%	**109**	**----**	**105**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**90.0**	**96.0**	**80.4**	**----**	**----**
Toluene-D8	2037-26-5	0.2	%	**83.6**	**90.6**	**75.0**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%	**89.0**	**95.3**	**79.2**	**----**	**----**

Analytical Results

Sub-Matrix: SOLID (Matrix: SOLID)			Sample ID	ACM1	ACM2	SP06 ACM	----	----
			Sampling date / time	18-Feb-2026 00:00	18-Feb-2026 00:00	18-Feb-2026 00:00	----	----
Compound	CAS Number	LOR	Unit	EM2602866-073	EM2602866-074	EM2602866-076	--------	--------
				Result	Result	Result	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	**Yes**	**No**	**----**	**----**
Asbestos Type	1332-21-4	-	--	**-**	**Ch + Am + Cr**	**-**	**----**	**----**
Asbestos (Trace)	1332-21-4	-	-	**No**	**N/A**	**No**	**----**	**----**
Sample weight (dry)	----	0.01	g	**29.6**	**43.9**	**19.1**	**----**	**----**
Synthetic Mineral Fibre	----	-	-	**No**	**No**	**No**	**----**	**----**
Organic Fibre	----	-	-	**Yes**	**No**	**Yes**	**----**	**----**
APPROVED IDENTIFIER:	----	-	--	**T.KUO**	**T.KUO**	**T.KUO**	**----**	**----**

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	TP01_0.9 - 18-Feb-2026 16:30	Brown clay like soil with rock and organic matter.
EA200: Description	TP02_0.9 - 19-Feb-2026 13:00	Brown clay like soil with rock and organic matter.
EA200: Description	TP05_0.2 - 18-Feb-2026 15:00	Brown clay like soil with rock and organic matter.
EA200: Description	TP05_1.0 - 18-Feb-2026 15:00	Brown soil with rock and organic matter.
EA200: Description	TP06_0.7 - 18-Feb-2026 14:30	Brown soil with rock and organic matter.
EA200: Description	TP08_1.2 - 18-Feb-2026 12:00	Brown soil with rock and organic matter.
EA200: Description	TP09_0.7 - 18-Feb-2026 16:30	Brown soil with rock and organic matter.
EA200: Description	TP10_1.1 - 18-Feb-2026 14:00	Brown soil with rock and organic matter.
EA200: Description	TP11_1.0 - 18-Feb-2026 09:00	Brown soil with rock, organic matter and synthetic mineral fibres.
EA200: Description	TP12_1.0 - 19-Feb-2026 14:30	Brown soil with rock and organic matter.
EA200: Description	TP13_0.1 - 18-Feb-2026 08:30	Brown soil with rock and organic matter.
EA200: Description	SP22 - 18-Feb-2026 00:00	Brown soil with rock matter.
EA200: Description	SP23 - 18-Feb-2026 00:00	Brown soil with rock matter.
EA200: Description	SP27 - 18-Feb-2026 00:00	Brown soil with rock and organic matter.

Sub-Matrix: **SOLID**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples		
EA200: Description	ACM1 - 18-Feb-2026 00:00	Cement like fragments with organic fibres and attached paint approx 60 x 30 x 5mm.
EA200: Description	ACM2 - 18-Feb-2026 00:00	Asbestos sheeting fragment with attached paint approx 70 x 55 x 8mm.
EA200: Description	SP06ACM - 18-Feb-2026 00:00	Beige fragments with organic fibres approx 55 x 50 x 10mm.

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124
EP231S: PFAS Surrogate			
13C4-PFOS	----	68	136
13C8-PFOA	----	69	133

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(SOIL) EA150: Soil Classification based on Particle Size

(SOIL) EA152: Soil Particle Density

QUALITY CONTROL REPORT

Work Order	: **EM2602866**	Page	: 1 of 24
Client	: **PITT & SHERRY (OPERATIONS) PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: FIONA KESERUE-PONTE	Contact	: Hannah White
Address	: 199 MACQUARIE STREET HOBART 7001	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: +61-3-8549 9600
Project	: INCAT ESA	Date Samples Received	: 20-Feb-2026
Order number	: P.26.0075	Date Analysis Commenced	: 24-Feb-2026
C-O-C number	: ----	Issue Date	: 27-Feb-2026
Sampler	: H Fairweather, M Mayjor		
Site	: ----		
Quote number	: EM23PITSHE0013 VIC Custom Pricing		
No. of samples received	: 76		
No. of samples analysed	: 76		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Brooke Hallcroft	Laboratory Technician (Microbiology)	Newcastle - Inorganics, Mayfield West, NSW
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
MINNIE TRAN	Approved Asbestos Identifier	Melbourne Asbestos, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

Document Set ID: 3625399
Version: 1, Version Date: 09/06/2026

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC
* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 7221980)									
EM2602866-002	TP01_0.9	EG005T: Zinc	7440-66-6	5	mg/kg	367	# 198	59.8	0% - 20%
EM2602866-012	TP05_0.2	EG005T: Zinc	7440-66-6	5	mg/kg	285	# 379	28.3	0% - 20%
EM2602866-002	TP01_0.9	EG005T: Cadmium	7440-43-9	1	mg/kg	3	6	61.3	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	24	23	8.4	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	22	22	0.0	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	62	56	10.4	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	63	73	14.3	0% - 50%
		EG005T: Iron	7439-89-6	50	mg/kg	3.64 %	30500	17.7	0% - 20%
EM2602866-012	TP05_0.2	EG005T: Cadmium	7440-43-9	1	mg/kg	2	2	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	17	15	15.3	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	20	19	7.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	53	63	16.3	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	34	52	41.5	0% - 50%
		EG005T: Iron	7439-89-6	50	mg/kg	29700	32000	7.5	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 7221982)									
EM2602866-022	TP08_0.4	EG005T: Cadmium	7440-43-9	1	mg/kg	7	5	17.2	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	8	10	22.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	17	17	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 7221982) - continued									
EM2602866-022	TP08_0.4	EG005T: Copper	7440-50-8	5	mg/kg	101	87	15.2	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	59	58	0.0	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	480	487	1.4	0% - 20%
		EG005T: Iron	7439-89-6	50	mg/kg	38900	36900	5.4	0% - 20%
EM2602866-032	TP11_1.0	EG005T: Cadmium	7440-43-9	1	mg/kg	2	4	62.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	15	15	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	14	15	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	28	30	5.1	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	93	112	18.9	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	256	242	5.7	0% - 20%
		EG005T: Iron	7439-89-6	50	mg/kg	17100	17100	0.1	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 7221987)									
EM2602866-042	SP04	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	15	15	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	21	24	12.4	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	70	68	1.8	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	6	5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	52	50	2.2	0% - 50%
		EG005T: Iron	7439-89-6	50	mg/kg	30200	30400	0.6	0% - 20%
EM2602866-052	SP14	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	11	11	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	5	6	20.2	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	11	14	24.5	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	7	8	0.0	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	15400	15300	0.5	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 7221989)									
EM2602866-062	SP24	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	7	7	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	7	7	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	8	5	41.1	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	9	9	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 7221989) - continued									
EM2602866-062	SP24	EG005T: Iron	7439-89-6	50	mg/kg	7690	7390	4.0	0% - 20%
EM2602866-072	TRIP3	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	12	11	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	6	6	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	7	7	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	6	6	0.0	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	11800	10400	12.4	0% - 20%
EA001: pH in soil using 0.01M CaCl extract (QC Lot: 7223897)									
EM2602770-046	Anonymous	EA001: pH (CaCl2)	----	0.1	pH Unit	9.2	9.3	0.0	0% - 20%
EM2602842-029	Anonymous	EA001: pH (CaCl2)	----	0.1	pH Unit	4.8	4.8	0.0	0% - 20%
EA002-AD: pH (Soils) dried at 40°C (QC Lot: 7223226)									
EM2602866-002	TP01_0.9	EA002-AD: pH Value	----	0.1	pH Unit	8.6	8.7	0.0	0% - 20%
EA010-AD: Conductivity (Soils) dried at 40°C (QC Lot: 7223225)									
EM2602866-002	TP01_0.9	EA010-AD: Electrical Conductivity @ 25°C	----	1	µS/cm	2610	2590	0.6	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 7222029)									
EM2602866-002	TP01_0.9	EA055: Moisture Content	----	0.1 (1.0)*	%	20.7	19.1	8.3	0% - 20%
EM2602866-012	TP05_0.2	EA055: Moisture Content	----	0.1 (1.0)*	%	16.5	15.7	5.0	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 7222030)									
EM2602866-022	TP08_0.4	EA055: Moisture Content	----	0.1 (1.0)*	%	9.2	10.3	12.1	0% - 50%
EM2602866-032	TP11_1.0	EA055: Moisture Content	----	0.1 (1.0)*	%	11.6	10.9	6.3	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 7222031)									
EM2602866-042	SP04	EA055: Moisture Content	----	0.1 (1.0)*	%	11.9	13.1	9.6	0% - 50%
EM2602866-052	SP14	EA055: Moisture Content	----	0.1 (1.0)*	%	17.7	16.9	4.7	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 7222032)									
EM2602866-062	SP24	EA055: Moisture Content	----	0.1 (1.0)*	%	15.7	16.5	5.3	0% - 50%
EM2602866-072	TRIP3	EA055: Moisture Content	----	0.1 (1.0)*	%	16.2	15.7	3.6	0% - 50%
ED006: Exchangeable Cations on Alkaline Soils (QC Lot: 7223227)									
EM2602866-002	TP01_0.9	ED006: Calcium/Magnesium Ratio	----	0.1 (0.2)*	-	1.3	1.3	0.0	No Limit
		ED006: Magnesium/Potassium Ratio	----	0.1 (0.2)*	-	8.2	8.3	0.0	0% - 20%
		ED006: Exchangeable Calcium Percent	----	0.2	%	35.6	35.8	0.5	0% - 20%
		ED006: Exchangeable Magnesium Percent	----	0.2	%	28.0	27.3	2.6	0% - 20%
		ED006: Exchangeable Potassium Percent	----	0.2	%	3.4	3.3	3.6	0% - 50%
		ED006: Exchangeable Sodium Percent	----	0.2	%	33.0	33.6	2.0	0% - 20%
		ED006: Exchangeable Calcium	----	0.2	meq/100g	11.3	11.5	1.7	0% - 20%

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
ED006: Exchangeable Cations on Alkaline Soils (QC Lot: 7223227) - continued									
EM2602866-002	TP01_0.9	ED006: Exchangeable Magnesium	----	0.2	meq/100g	8.9	8.8	1.4	0% - 20%
		ED006: Exchangeable Potassium	----	0.2	meq/100g	1.1	1.1	0.0	No Limit
		ED006: Exchangeable Sodium	----	0.2	meq/100g	10.5	10.8	3.1	0% - 20%
		ED006: Cation Exchange Capacity	----	0.2	meq/100g	31.7	32.1	1.2	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 7221981)									
EM2602866-002	TP01_0.9	EG035T: Mercury	7439-97-6	0.1 (0.2)*	mg/kg	14.6	17.4	17.6	0% - 20%
EM2602866-012	TP05_0.2	EG035T: Mercury	7439-97-6	0.1	mg/kg	1.8	# 1.1	51.6	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 7221983)									
EM2602866-022	TP08_0.4	EG035T: Mercury	7439-97-6	0.1 (0.2)*	mg/kg	15.1	13.8	8.7	0% - 20%
EM2602866-032	TP11_1.0	EG035T: Mercury	7439-97-6	0.1	mg/kg	2.9	# 4.5	44.1	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 7221988)									
EM2602866-042	SP04	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EM2602866-052	SP14	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 7221990)									
EM2602866-062	SP24	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EM2602866-072	TRIP3	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP004: Organic Matter (QC Lot: 7223789)									
EM2602866-002	TP01_0.9	EP004: Organic Matter	----	0.5	%	1.4	1.4	0.0	No Limit
		EP004: Total Organic Carbon	----	0.5	%	0.8	0.8	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 7221886)									
EM2602866-002	TP01_0.9	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 7221886) - continued									
EM2602866-012	TP05_0.2	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 7221892)									
EM2602866-022	TP08_0.4	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EM2602866-032	TP11_1.0	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 7221892) - continued									
EM2602866-032	TP11_1.0	EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 7221928)									
EM2602866-042	SP04	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EM2602866-052	SP14	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 7221928) - continued									
EM2602866-052	SP14	EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 7222643)									
EM2602866-062	SP24	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EM2602953-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 7222643) - continued									
EM2602953-001	Anonymous	EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 7221845)									
EM2602866-002	TP01_0.9	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2602866-012	TP05_0.2	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 7221861)									
EM2602866-022	TP08_0.4	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2602866-032	TP11_1.0	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 7221863)									
EM2602866-042	SP04	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2602866-052	SP14	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 7221865)									
EM2602866-062	SP24	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2602866-072	TRIP3	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 7221887)									
EM2602866-002	TP01_0.9	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2602866-012	TP05_0.2	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 7221893)									
EM2602866-022	TP08_0.4	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2602866-032	TP11_1.0	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 7221929)									
EM2602866-042	SP04	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 7221929) - continued									
EM2602866-042	SP04	EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2602866-052	SP14	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 7222644)									
EM2602866-062	SP24	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2602953-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 7221845)									
EM2602866-002	TP01_0.9	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2602866-012	TP05_0.2	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 7221861)									
EM2602866-022	TP08_0.4	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2602866-032	TP11_1.0	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 7221863)									
EM2602866-042	SP04	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2602866-052	SP14	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 7221865)									
EM2602866-062	SP24	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2602866-072	TRIP3	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 7221887)									
EM2602866-002	TP01_0.9	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2602866-012	TP05_0.2	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 7221893)									
EM2602866-022	TP08_0.4	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2602866-032	TP11_1.0	EP071: >C16 - C34 Fraction	----	100	mg/kg	120	110	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 7221929)									
EM2602866-042	SP04	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2602866-052	SP14	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 7222644)									
EM2602866-062	SP24	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM2602953-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 7221845)									
EM2602866-002	TP01_0.9	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2602866-012	TP05_0.2	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 7221861)									
EM2602866-022	TP08_0.4	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2602866-032	TP11_1.0	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC Lot: 7221861) - continued									
EM2602866-032	TP11_1.0	EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 7221863)									
EM2602866-042	SP04	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2602866-052	SP14	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 7221865)									
EM2602866-062	SP24	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2602866-072	TRIP3	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 7223042)									
EM2602866-004	TP02_0.1	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 7223042) - continued									
EM2602866-004	TP02_0.1	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EM2602866-061	SP23	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0042	0.0039	9.5	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.122	0.108	12.2	0% - 20%
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 7223042)									
EM2602866-004	TP02_0.1	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EM2602866-061	SP23	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0003	0.0003	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0003	0.0003	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 7223042)									
EM2602866-004	TP02_0.1	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EM2602866-061	SP23	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 7223042)									
EM2602866-004	TP02_0.1	EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EM2602866-061	SP23	EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.126	0.112	12.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.127	0.112	12.0	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 7221980)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	43 mg/kg	91.9	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	3 mg/kg	102	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	84 mg/kg	91.4	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	185 mg/kg	93.1	70.0	130
EG005T: Iron	7439-89-6	50	mg/kg	<50	42405 mg/kg	111	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	153 mg/kg	93.8	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.9 mg/kg	95.0	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	358 mg/kg	100	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 7221982)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	43 mg/kg	95.3	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	3 mg/kg	108	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	84 mg/kg	95.9	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	185 mg/kg	97.2	70.0	130
EG005T: Iron	7439-89-6	50	mg/kg	<50	42405 mg/kg	117	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	153 mg/kg	101	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.9 mg/kg	101	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	358 mg/kg	98.5	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 7221987)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	43 mg/kg	85.5	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	3 mg/kg	97.6	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	84 mg/kg	83.5	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	185 mg/kg	88.3	70.0	130
EG005T: Iron	7439-89-6	50	mg/kg	<50	42405 mg/kg	101	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	153 mg/kg	89.1	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.9 mg/kg	88.1	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	358 mg/kg	95.7	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 7221989)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	43 mg/kg	90.6	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	3 mg/kg	100	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	84 mg/kg	88.4	70.0	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 7221989) - continued								
EG005T: Copper	7440-50-8	5	mg/kg	<5	185 mg/kg	88.3	70.0	130
EG005T: Iron	7439-89-6	50	mg/kg	<50	42405 mg/kg	107	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	153 mg/kg	96.5	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.9 mg/kg	94.8	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	358 mg/kg	107	70.0	130
EA001: pH in soil using 0.01M CaCl extract (QCLot: 7223897)								
EA001: pH (CaCl2)	----	----	pH Unit	----	4 pH Unit	99.4	98.8	101
				----	7 pH Unit	100	99.3	101
EA002-AD: pH (Soils) dried at 40°C (QCLot: 7223226)								
EA002-AD: pH Value	----	----	pH Unit	----	4 pH Unit	101	98.8	101
				----	7 pH Unit	100	99.3	101
EA010-AD: Conductivity (Soils) dried at 40°C (QCLot: 7223225)								
EA010-AD: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1413 µS/cm	100	90.0	110
ED006: Exchangeable Cations on Alkaline Soils (QCLot: 7223227)								
ED006: Exchangeable Calcium	----	0.2	meq/100g	<0.2	12.4 meq/100g	97.5	70.0	130
ED006: Exchangeable Magnesium	----	0.2	meq/100g	<0.2	4.1 meq/100g	102	70.0	130
ED006: Exchangeable Potassium	----	0.2	meq/100g	<0.2	1.24 meq/100g	103	70.0	130
ED006: Exchangeable Sodium	----	0.2	meq/100g	<0.2	2.28 meq/100g	105	70.0	130
ED006: Cation Exchange Capacity	----	0.2	meq/100g	<0.2	20.1 meq/100g	99.1	70.0	130
ED006: Exchangeable Calcium Percent	----	0.2	%	<0.2	----	----	----	----
ED006: Exchangeable Magnesium Percent	----	0.2	%	<0.2	----	----	----	----
ED006: Exchangeable Potassium Percent	----	0.2	%	<0.2	----	----	----	----
ED006: Exchangeable Sodium Percent	----	0.2	%	<0.2	----	----	----	----
ED006: Calcium/Magnesium Ratio	----	0.1	-	<0.1	----	----	----	----
ED006: Magnesium/Potassium Ratio	----	0.1	-	<0.1	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 7221981)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	112	69.0	128
EG035T: Total Recoverable Mercury by FIMS (QCLot: 7221983)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	96.9	69.0	128
EG035T: Total Recoverable Mercury by FIMS (QCLot: 7221988)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	102	69.0	128
EG035T: Total Recoverable Mercury by FIMS (QCLot: 7221990)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	102	69.0	128
EP004: Organic Matter (QCLot: 7223789)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP004: Organic Matter (QCLot: 7223789) - continued								
EP004: Organic Matter	----	0.5	%	<0.5	77 %	118	70.0	130
EP004: Total Organic Carbon	----	0.5	%	<0.5	43.5 %	121	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 7221886)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	91.1	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	90.7	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	89.7	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	85.0	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	90.6	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	91.7	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	93.3	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	94.3	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	79.7	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	81.5	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	86.8	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	84.1	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	84.2	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	85.6	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	85.4	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	85.6	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 7221892)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	93.3	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	96.8	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	94.5	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	93.1	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	94.3	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	97.2	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	98.0	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	98.3	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	98.5	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	98.3	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	96.3	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	98.7	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.1	70.2	123

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 7221892) - continued								
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	93.8	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	91.0	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	93.3	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 7221928)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	104	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	109	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	106	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	104	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	107	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	110	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	106	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	105	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	113	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	111	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	114	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	119	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	110	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	73.0	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	71.4	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	71.0	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 7222643)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	94.5	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	99.0	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	93.5	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	97.4	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	98.8	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	106	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	101	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	103	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	93.2	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	107	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	86.8	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	102	80.4	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 7222643) - continued								
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	94.5	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	91.6	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	94.3	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	97.4	65.8	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 7221845)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	85.4	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 7221861)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	110	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 7221863)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	85.5	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 7221865)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	99.9	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 7221887)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	750 mg/kg	94.3	80.0	120
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2640 mg/kg	98.1	80.0	120
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1350 mg/kg	94.0	80.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 7221893)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	750 mg/kg	99.0	80.0	120
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2640 mg/kg	102	80.0	120
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1350 mg/kg	96.6	80.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 7221929)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	750 mg/kg	100	80.0	120
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2640 mg/kg	103	80.0	120
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1350 mg/kg	96.1	80.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 7222644)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	750 mg/kg	102	80.0	120
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2640 mg/kg	107	80.0	120
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1350 mg/kg	101	80.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 7221845)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	83.7	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 7221861)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	104	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 7221863)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	84.2	59.3	128

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 7221865)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	99.8	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 7221887)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1030 mg/kg	92.4	80.0	120
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3500 mg/kg	96.9	80.0	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	250 mg/kg	80.7	80.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 7221893)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1030 mg/kg	100	80.0	120
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3500 mg/kg	99.1	80.0	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	250 mg/kg	102	80.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 7221929)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1030 mg/kg	96.8	80.0	120
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3500 mg/kg	101	80.0	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	250 mg/kg	101	80.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 7222644)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1030 mg/kg	103	80.0	120
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3500 mg/kg	104	80.0	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	250 mg/kg	93.2	80.0	120
EP080: BTEXN (QCLot: 7221845)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	90.3	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	92.5	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	94.4	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	94.5	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	91.2	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	84.9	61.8	123
EP080: BTEXN (QCLot: 7221861)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	98.7	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	106	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	102	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	106	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	107	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	102	61.8	123
EP080: BTEXN (QCLot: 7221863)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	92.3	61.6	117

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 7221863) - continued								
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	91.4	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	86.6	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	93.6	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	94.4	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	103	61.8	123
EP080: BTEXN (QCLot: 7221865)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	89.3	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	93.6	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	93.9	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	100.0	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	103	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	93.0	61.8	123
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 7223042)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00111 mg/kg	102	72.0	128
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00114 mg/kg	92.6	67.0	130
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	95.7	68.0	136
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 7223042)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	97.8	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	93.0	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	86.8	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	101	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	93.2	69.0	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 7223042)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	98.7	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00119 mg/kg	106	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0012 mg/kg	107	65.0	137
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00121 mg/kg	102	70.0	130
EP231P: PFAS Sums (QCLot: 7223042)								
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.0002	mg/kg	<0.0002	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 7221980)							
EM2602866-003	TP01_1.2	EG005T: Arsenic	7440-38-2	50 mg/kg	97.4	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	96.8	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	92.8	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	105	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	96.2	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	93.7	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	95.5	80.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 7221982)							
EM2602866-023	TP08_1.2	EG005T: Chromium	7440-47-3	50 mg/kg	# 61.0	79.0	121
		EG005T: Nickel	7440-02-0	50 mg/kg	# 41.3	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	90.4	80.0	120
EM2602866-023	TP08_1.2	EG005T: Arsenic	7440-38-2	50 mg/kg	93.0	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	103	79.7	116
		EG005T: Copper	7440-50-8	250 mg/kg	100	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	103	80.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 7221987)							
EM2602866-043	SP05	EG005T: Chromium	7440-47-3	50 mg/kg	# 76.1	79.0	121
		EG005T: Lead	7439-92-1	250 mg/kg	118	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	81.1	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	# 149	80.0	120
EM2602866-043	SP05	EG005T: Arsenic	7440-38-2	50 mg/kg	86.6	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	82.5	79.7	116
		EG005T: Copper	7440-50-8	250 mg/kg	89.4	80.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 7221989)							
EM2602866-063	SP25	EG005T: Arsenic	7440-38-2	50 mg/kg	92.5	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	97.4	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	96.1	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	95.8	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	97.9	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	97.2	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	103	80.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 7221981)							
EM2602866-003	TP01_1.2	EG035T: Mercury	7439-97-6	2.5 mg/kg	# 10.1	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 7221983)							
EM2602866-023	TP08_1.2	EG035T: Mercury	7439-97-6	0.5 mg/kg	# 202	70.0	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 7221988)							
EM2602866-043	SP05	EG035T: Mercury	7439-97-6	0.5 mg/kg	99.0	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 7221990)							
EM2602866-063	SP25	EG035T: Mercury	7439-97-6	0.5 mg/kg	98.3	70.0	130
EP004: Organic Matter (QCLot: 7223789)							
EM2602866-037	TP13_1.0	EP004: Organic Matter	----	5.2 %	93.7	70.0	120
		EP004: Total Organic Carbon	----	3.02 %	93.6	70.0	120
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 7221886)							
EM2602866-003	TP01_1.2	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	85.4	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	85.0	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 7221892)							
EM2602866-023	TP08_1.2	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	86.4	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	91.7	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 7221928)							
EM2602866-043	SP05	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	98.2	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	95.4	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 7222643)							
EM2602866-063	SP25	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	88.8	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	95.2	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 7221845)							
EM2602866-003	TP01_1.2	EP080: C6 - C9 Fraction	----	28 mg/kg	70.8	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 7221861)							
EM2602866-023	TP08_1.2	EP080: C6 - C9 Fraction	----	28 mg/kg	87.1	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 7221863)							
EM2602866-043	SP05	EP080: C6 - C9 Fraction	----	28 mg/kg	73.3	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 7221865)							
EM2602866-063	SP25	EP080: C6 - C9 Fraction	----	28 mg/kg	80.8	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 7221887)							
EM2602866-004	TP02_0.1	EP071: C10 - C14 Fraction	----	750 mg/kg	93.2	70.0	130
		EP071: C15 - C28 Fraction	----	2640 mg/kg	99.1	70.0	130
		EP071: C29 - C36 Fraction	----	1350 mg/kg	97.6	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 7221893)							
EM2602866-024	TP09_0.1	EP071: C10 - C14 Fraction	----	750 mg/kg	96.9	70.0	130
		EP071: C15 - C28 Fraction	----	2640 mg/kg	99.3	70.0	130
		EP071: C29 - C36 Fraction	----	1350 mg/kg	94.5	70.0	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080/071: Total Petroleum Hydrocarbons (QCLot: 7221929)							
EM2602866-044	SP06	EP071: C10 - C14 Fraction	----	750 mg/kg	103	70.0	130
		EP071: C15 - C28 Fraction	----	2640 mg/kg	102	70.0	130
		EP071: C29 - C36 Fraction	----	1350 mg/kg	97.4	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 7222644)							
EM2602866-064	SP26	EP071: C10 - C14 Fraction	----	750 mg/kg	97.4	70.0	130
		EP071: C15 - C28 Fraction	----	2640 mg/kg	103	70.0	130
		EP071: C29 - C36 Fraction	----	1350 mg/kg	96.5	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 7221845)							
EM2602866-003	TP01_1.2	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	69.8	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 7221861)							
EM2602866-023	TP08_1.2	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	83.3	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 7221863)							
EM2602866-043	SP05	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	68.0	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 7221865)							
EM2602866-063	SP25	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	78.4	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 7221887)							
EM2602866-004	TP02_0.1	EP071: >C10 - C16 Fraction	----	1030 mg/kg	91.3	70.0	130
		EP071: >C16 - C34 Fraction	----	3500 mg/kg	98.9	70.0	130
		EP071: >C34 - C40 Fraction	----	250 mg/kg	91.5	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 7221893)							
EM2602866-024	TP09_0.1	EP071: >C10 - C16 Fraction	----	1030 mg/kg	97.9	70.0	130
		EP071: >C16 - C34 Fraction	----	3500 mg/kg	97.0	70.0	130
		EP071: >C34 - C40 Fraction	----	250 mg/kg	101	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 7221929)							
EM2602866-044	SP06	EP071: >C10 - C16 Fraction	----	1030 mg/kg	99.5	70.0	130
		EP071: >C16 - C34 Fraction	----	3500 mg/kg	101	70.0	130
		EP071: >C34 - C40 Fraction	----	250 mg/kg	99.9	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 7222644)							
EM2602866-064	SP26	EP071: >C10 - C16 Fraction	----	1030 mg/kg	98.1	70.0	130
		EP071: >C16 - C34 Fraction	----	3500 mg/kg	99.4	70.0	130
		EP071: >C34 - C40 Fraction	----	250 mg/kg	89.1	70.0	130
EP080: BTEXN (QCLot: 7221845)							
EM2602866-003	TP01_1.2	EP080: Benzene	71-43-2	2 mg/kg	82.0	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	81.2	57.1	131
EP080: BTEXN (QCLot: 7221861)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080: BTEXN (QCLot: 7221861) - continued							
EM2602866-023	TP08_1.2	EP080: Benzene	71-43-2	2 mg/kg	91.3	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	102	57.1	131
EP080: BTEXN (QCLot: 7221863)							
EM2602866-043	SP05	EP080: Benzene	71-43-2	2 mg/kg	76.0	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	116	57.1	131
EP080: BTEXN (QCLot: 7221865)							
EM2602866-063	SP25	EP080: Benzene	71-43-2	2 mg/kg	94.3	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	94.4	57.1	131
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 7223042)							
EM2602866-009	TP04_0.2	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00111 mg/kg	94.8	72.0	128
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00114 mg/kg	93.1	67.0	130
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	92.1	68.0	136
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 7223042)							
EM2602866-009	TP04_0.2	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	97.4	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	93.9	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	82.8	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	101	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	93.5	69.0	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 7223042)							
EM2602866-009	TP04_0.2	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	99.3	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00119 mg/kg	101	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	95.7	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00121 mg/kg	110	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2602866**	Page	: 1 of 20
Client	: **PITT & SHERRY (OPERATIONS) PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: FIONA KESERUE-PONTE	Telephone	: +61-3-8549 9600
Project	: INCAT ESA	Date Samples Received	: 20-Feb-2026
Site	: ----	Issue Date	: 27-Feb-2026
Sampler	: H Fairweather, M Mayjor	No. of samples received	: 76
Order number	: P.26.0075	No. of samples analysed	: 76

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

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Version: 1, Version Date: 09/06/2026

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	EM2602866--002	TP01_0.9	**Zinc**	7440-66-6	59.8 %	0% - 20%	**RPD exceeds LOR based limits**
EG005(ED093)T: Total Metals by ICP-AES	EM2602866--012	TP05_0.2	**Zinc**	7440-66-6	28.3 %	0% - 20%	**RPD exceeds LOR based limits**
EG035T: Total Recoverable Mercury by FIMS	EM2602866--012	TP05_0.2	**Mercury**	7439-97-6	51.6 %	0% - 50%	**RPD exceeds LOR based limits**
EG035T: Total Recoverable Mercury by FIMS	EM2602866--032	TP11_1.0	**Mercury**	7439-97-6	44.1 %	0% - 20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EG005(ED093)T: Total Metals by ICP-AES	EM2602866--023	TP08_1.2	**Chromium**	7440-47-3	61.0 %	79.0-121%	**Recovery less than lower data quality objective**
EG005(ED093)T: Total Metals by ICP-AES	EM2602866--043	SP05	**Chromium**	7440-47-3	76.1 %	79.0-121%	**Recovery less than lower data quality objective**
EG005(ED093)T: Total Metals by ICP-AES	EM2602866--023	TP08_1.2	**Nickel**	7440-02-0	41.3 %	78.0-120%	**Recovery less than lower data quality objective**
EG005(ED093)T: Total Metals by ICP-AES	EM2602866--043	SP05	**Zinc**	7440-66-6	149 %	80.0-120%	**Recovery greater than upper data quality objective**
EG035T: Total Recoverable Mercury by FIMS	EM2602866--003	TP01_1.2	**Mercury**	7439-97-6	10.1 %	70.0-130%	**Recovery less than lower data quality objective**
EG035T: Total Recoverable Mercury by FIMS	EM2602866--023	TP08_1.2	**Mercury**	7439-97-6	202 %	70.0-130%	**Recovery greater than upper data quality objective**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / Client Sample ID(s)	***Sample Date***	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*
EA001: pH in soil using 0.01M CaCl extract							
Soil Glass Jar - Unpreserved (EA001)							
TP01_0.9, TP13_1.0, SP01, SP10	**18-Feb-2026**	**25-Feb-2026**	25-Feb-2026	✓	**25-Feb-2026**	25-Feb-2026	✓
EA002-AD: pH (Soils) dried at 40°C							
Soil Glass Jar - Unpreserved (EA002-AD)							
TP01_0.9, TP13_1.0, SP01, SP10	**18-Feb-2026**	**25-Feb-2026**	25-Feb-2026	✓	**25-Feb-2026**	25-Feb-2026	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA010-AD: Conductivity (Soils) dried at 40°C							
Soil Glass Jar - Unpreserved (EA010-AD)							
TP01_0.9, TP13_1.0, SP01, SP10	**18-Feb-2026**	**25-Feb-2026**	25-Feb-2026	✓	**25-Feb-2026**	25-Mar-2026	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
TP01_0.9, TP01_1.2, TP04_0.2, TP04_1.0, TP04_2.0, TP05_0.2, TP05_0.6, TP05_1.0, TP06_0.2, TP06_0.4, TP06_0.7, TP07_0.1, TP07_0.5, TP07_1.3, TP08_0.1, TP08_0.4, TP08_1.2, TP09_0.1, TP09_0.7, TP09_1.0, TP10_0.2, TP10_0.5, TP10_1.1, TP11_0.1, TP11_0.4, TP11_1.0, TP11_1.5, TP13_0.1, TP13_1.0, TP13_1.4, SP01, SP02, SP03, SP04, SP05, SP06, SP07, SP08, SP09, SP10, SP11, SP12, SP13, SP14, SP15, SP16, SP17, SP18, SP19, SP20, SP21, SP22, SP23, SP24, SP25, SP26, SP27, SP28, QCP01, QCP04, TRIP1, TRIP3, TRIPBLANK, TP09_1.4	**18-Feb-2026**	**----**	----	----	**24-Feb-2026**	04-Mar-2026	✓
Soil Glass Jar - Unpreserved (EA055)							
TP02_0.1, TP02_0.9, TP02_1.9, TP03 0.5, TP03_1.4, TP12_0.2, TP12_1.0, SP29, SP30	**19-Feb-2026**	**----**	----	----	**24-Feb-2026**	05-Mar-2026	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA150: Soil Classification based on Particle Size							
Snap Lock Bag - Friable Asbestos/PSD Bag (EA150H)							
TP01_0.9, TP13_1.0, SP01, SP10	**18-Feb-2026**	**----**	----	----	**27-Feb-2026**	17-Aug-2026	✓
EA152: Soil Particle Density							
Snap Lock Bag - Friable Asbestos/PSD Bag (EA152)							
TP01_0.9, TP13_1.0, SP01, SP10	**18-Feb-2026**	**----**	----	----	**27-Feb-2026**	17-Aug-2026	✓
EA200: AS 4964 - 2004 Identification of Asbestos in Soils							
Snap Lock Bag - ACM/Asbestos Grab Bag (EA200)							
TP01_0.9, TP05_0.2, TP05_1.0, TP06_0.7, TP08_1.2, TP09_0.7, TP10_1.1, TP11_1.0, TP13_0.1, SP22, SP23, SP27	**18-Feb-2026**	**----**	----	----	**25-Feb-2026**	17-Aug-2026	✓
Snap Lock Bag - ACM/Asbestos Grab Bag (EA200)							
TP02_0.9, TP12_1.0	**19-Feb-2026**	**----**	----	----	**25-Feb-2026**	18-Aug-2026	✓
ED006: Exchangeable Cations on Alkaline Soils							
Soil Glass Jar - Unpreserved (ED006)							
TP01_0.9, TP13_1.0, SP01, SP10	**18-Feb-2026**	**24-Feb-2026**	18-Mar-2026	✓	**26-Feb-2026**	18-Mar-2026	✓
ED007: Exchangeable Cations							
Soil Glass Jar - Unpreserved (ED007)							
TP01_0.9, TP13_1.0, SP01, SP10	**18-Feb-2026**	**24-Feb-2026**	18-Mar-2026	✓	**26-Feb-2026**	18-Mar-2026	✓
ED008: Exchangeable Cations							
Soil Glass Jar - Unpreserved (ED008)							
TP01_0.9, TP13_1.0, SP01, SP10	**18-Feb-2026**	**24-Feb-2026**	18-Mar-2026	✓	**26-Feb-2026**	18-Mar-2026	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
TP01_0.9, TP01_1.2, TP04_0.2, TP04_1.0, TP04_2.0, TP05_0.2, TP05_0.6, TP05_1.0, TP06_0.2, TP06_0.4, TP06_0.7, TP07_0.1, TP07_0.5, TP07_1.3, TP08_0.1, TP08_0.4, TP08_1.2, TP09_0.1, TP09_0.7, TP09_1.0, TP10_0.2, TP10_0.5, TP10_1.1, TP11_0.1, TP11_0.4, TP11_1.0, TP11_1.5, TP13_0.1, TP13_1.0, TP13_1.4, SP01, SP02, SP03, SP04, SP05, SP06, SP07, SP08, SP09, SP10, SP11, SP12, SP13, SP14, SP15, SP16, SP17, SP18, SP19, SP20, SP21, SP22, SP23, SP24, SP25, SP26, SP27, SP28, QCP01, QCP04, TRIP1, TRIP3, TP09_1.4	**18-Feb-2026**	**24-Feb-2026**	17-Aug-2026	✓	**26-Feb-2026**	17-Aug-2026	✓
Soil Glass Jar - Unpreserved (EG005T)							
TP02_0.1, TP02_0.9, TP02_1.9, TP03 0.5, TP03_1.4, TP12_0.2, TP12_1.0, SP29, SP30	**19-Feb-2026**	**24-Feb-2026**	18-Aug-2026	✓	**26-Feb-2026**	18-Aug-2026	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
TP01_0.9, TP01_1.2, TP04_0.2, TP04_1.0, TP04_2.0, TP05_0.2, TP05_0.6, TP05_1.0, TP06_0.2, TP06_0.4, TP06_0.7, TP07_0.1, TP07_0.5, TP07_1.3, TP08_0.1, TP08_0.4, TP08_1.2, TP09_0.1, TP09_0.7, TP09_1.0, TP10_0.2, TP10_0.5, TP10_1.1, TP11_0.1, TP11_0.4, TP11_1.0, TP11_1.5, TP13_0.1, TP13_1.0, TP13_1.4, SP01, SP02, SP03, SP04, SP05, SP06, SP07, SP08, SP09, SP10, SP11, SP12, SP13, SP14, SP15, SP16, SP17, SP18, SP19, SP20, SP21, SP22, SP23, SP24, SP25, SP26, SP27, SP28, QCP01, QCP04, TRIP1, TRIP3, TP09_1.4	**18-Feb-2026**	**24-Feb-2026**	18-Mar-2026	✓	**26-Feb-2026**	18-Mar-2026	✓
Soil Glass Jar - Unpreserved (EG035T)							
TP02_0.1, TP02_0.9, TP02_1.9, TP03 0.5, TP03_1.4, TP12_0.2, TP12_1.0, SP29, SP30	**19-Feb-2026**	**24-Feb-2026**	19-Mar-2026	✓	**26-Feb-2026**	19-Mar-2026	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP004: Organic Matter							
Soil Glass Jar - Unpreserved (EP004)							
TP01_0.9, TP13_1.0, SP01, SP10	**18-Feb-2026**	**25-Feb-2026**	18-Mar-2026	✓	**25-Feb-2026**	18-Mar-2026	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
TP01_0.9, TP01_1.2, TP08_0.4, SP04	**18-Feb-2026**	**24-Feb-2026**	04-Mar-2026	✓	**24-Feb-2026**	05-Apr-2026	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
TP04_0.2, TP04_1.0, TP04_2.0, TP05_0.2, TP05_0.6, TP05_1.0, TP06_0.2, TP06_0.4, TP06_0.7, TP07_0.1, TP07_0.5, TP07_1.3, TP08_0.1, TP08_1.2, TP09_0.1, TP09_1.0, TP10_0.2, TP10_0.5, TP10_1.1, TP11_0.1, TP11_0.4, TP11_1.0, TP11_1.5, TP13_0.1, TP13_1.0, SP01, SP02, SP05, SP06, SP07, SP08, SP09, SP10, SP11, SP12, SP13, SP14, SP15, SP16, SP17, SP18, SP19, SP20, SP21, SP22, SP23, SP24, SP25, SP26, SP27, SP28, QCP01, QCP04, TRIP1, TRIP3, TP09_1.4	**18-Feb-2026**	**24-Feb-2026**	04-Mar-2026	✓	**25-Feb-2026**	05-Apr-2026	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
TP09_0.7	**18-Feb-2026**	**24-Feb-2026**	04-Mar-2026	✓	**26-Feb-2026**	05-Apr-2026	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
TP13_1.4, SP03	**18-Feb-2026**	**24-Feb-2026**	04-Mar-2026	✓	**27-Feb-2026**	05-Apr-2026	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
TP02_0.1, TP02_0.9, TP02_1.9, TP03 0.5, TP03_1.4, TP12_0.2, TP12_1.0, SP29, SP30	**19-Feb-2026**	**24-Feb-2026**	05-Mar-2026	✓	**25-Feb-2026**	05-Apr-2026	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP071)							
TP01_0.9, TP01_1.2, TP04_0.2, TP04_1.0, TP04_2.0, TP05_0.2, TP05_0.6, TP05_1.0, TP06_0.2, TP06_0.4, TP06_0.7, TP07_0.1, TP07_0.5, TP07_1.3, TP08_0.1, SP05	**18-Feb-2026**	**24-Feb-2026**	04-Mar-2026	✓	**24-Feb-2026**	05-Apr-2026	✓
Soil Glass Jar - Unpreserved (EP080)							
TP04_0.2, TP04_1.0, TP04_2.0, TP05_0.2, TP05_0.6, TP05_1.0, TP06_0.2, TP06_0.4, TP06_0.7, TP07_0.1, TP07_0.5, TP07_1.3, TP08_0.1, TP08_0.4, TP08_1.2, TP09_0.1, TP09_0.7, TP09_1.0, TP10_0.2, TP10_0.5, TP10_1.1, TP11_0.1, TP11_0.4, TP11_1.0, TP11_1.5, TP13_0.1, TP13_1.0, TP13_1.4, SP01, SP02, SP03, SP04, SP05, SP06, SP07, SP08, SP09, SP10, SP11, SP12, SP13, SP14, SP15, SP16, SP17, SP18, SP19, SP20, SP21, SP22, SP23, SP24, SP25, SP26, SP27, SP28, QCP01, QCP04, TRIP1, TRIP3, TRIPBLANK, TP09_1.4	**18-Feb-2026**	**24-Feb-2026**	04-Mar-2026	✓	**25-Feb-2026**	04-Mar-2026	✓
Soil Glass Jar - Unpreserved (EP080)							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons - Continued							
TP02_0.1, TP02_0.9, TP02_1.9, TP03 0.5, TP03_1.4	**19-Feb-2026**	**24-Feb-2026**	05-Mar-2026	✓	**24-Feb-2026**	05-Mar-2026	✓
Soil Glass Jar - Unpreserved (EP080)							
TP02_0.1, TP02_0.9, TP02_1.9, TP03 0.5, TP03_1.4, TP12_0.2, TP12_1.0, SP29, SP30	**19-Feb-2026**	**24-Feb-2026**	05-Mar-2026	✓	**25-Feb-2026**	05-Mar-2026	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP071)							
TP01_0.9, TP01_1.2, TP04_0.2, TP04_1.0, TP04_2.0, TP05_0.2, TP05_0.6, TP05_1.0, TP06_0.2, TP06_0.4, TP06_0.7, TP07_0.1, TP07_0.5, TP07_1.3, TP08_0.1, SP05	**18-Feb-2026**	**24-Feb-2026**	04-Mar-2026	✓	**24-Feb-2026**	05-Apr-2026	✓
Soil Glass Jar - Unpreserved (EP080)							
TP04_0.2, TP04_1.0, TP04_2.0, TP05_0.2, TP05_0.6, TP05_1.0, TP06_0.2, TP06_0.4, TP06_0.7, TP07_0.1, TP07_0.5, TP07_1.3, TP08_0.1, TP08_0.4, TP08_1.2, TP09_0.1, TP09_0.7, TP09_1.0, TP10_0.2, TP10_0.5, TP10_1.1, TP11_0.1, TP11_0.4, TP11_1.0, TP11_1.5, TP13_0.1, TP13_1.0, TP13_1.4, SP01, SP02, SP03, SP04, SP05, SP06, SP07, SP08, SP09, SP10, SP11, SP12, SP13, SP14, SP15, SP16, SP17, SP18, SP19, SP20, SP21, SP22, SP23, SP24, SP25, SP26, SP27, SP28, QCP01, QCP04, TRIP1, TRIP3, TRIPBLANK, TP09_1.4	**18-Feb-2026**	**24-Feb-2026**	04-Mar-2026	✓	**25-Feb-2026**	04-Mar-2026	✓
Soil Glass Jar - Unpreserved (EP080)							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued							
TP02_0.1, TP02_0.9, TP02_1.9, TP03 0.5, TP03_1.4	**19-Feb-2026**	**24-Feb-2026**	05-Mar-2026	✓	**24-Feb-2026**	05-Mar-2026	✓
Soil Glass Jar - Unpreserved (EP080)							
TP02_0.1, TP02_0.9, TP02_1.9, TP03 0.5, TP03_1.4, TP12_0.2, TP12_1.0, SP29, SP30	**19-Feb-2026**	**24-Feb-2026**	05-Mar-2026	✓	**25-Feb-2026**	05-Mar-2026	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
TP01_0.9, TP01_1.2, TP04_0.2, TP04_1.0, TP04_2.0, TP05_0.2, TP05_0.6, TP05_1.0, TP06_0.2, TP06_0.4, TP06_0.7, TP07_0.1, TP07_0.5, TP07_1.3, TP08_0.1	**18-Feb-2026**	**24-Feb-2026**	04-Mar-2026	✓	**24-Feb-2026**	04-Mar-2026	✓
Soil Glass Jar - Unpreserved (EP080)							
TP08_0.4, TP08_1.2, TP09_0.1, TP09_0.7, TP09_1.0, TP10_0.2, TP10_0.5, TP10_1.1, TP11_0.1, TP11_0.4, TP11_1.0, TP11_1.5, TP13_0.1, TP13_1.0, TP13_1.4, SP01, SP02, SP03, SP04, SP05, SP06, SP07, SP08, SP09, SP10, SP11, SP12, SP13, SP14, SP15, SP16, SP17, SP18, SP19, SP20, SP21, SP22, SP23, SP24, SP25, SP26, SP27, SP28, QCP01, QCP04, TRIP1, TRIP3, TRIPBLANK, TP09_1.4	**18-Feb-2026**	**24-Feb-2026**	04-Mar-2026	✓	**25-Feb-2026**	04-Mar-2026	✓
Soil Glass Jar - Unpreserved (EP080)							
TP02_0.1, TP02_0.9, TP02_1.9, TP03 0.5, TP03_1.4	**19-Feb-2026**	**24-Feb-2026**	05-Mar-2026	✓	**24-Feb-2026**	05-Mar-2026	✓
Soil Glass Jar - Unpreserved (EP080)							
TP12_0.2, TP12_1.0, SP29, SP30	**19-Feb-2026**	**24-Feb-2026**	05-Mar-2026	✓	**25-Feb-2026**	05-Mar-2026	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE Soil Jar (EP231X)							
TP04_0.2, TP05_0.2, TP08_0.1, TP09_0.1, TP13_0.1, SP01, SP06, SP10, SP23, SP28	**18-Feb-2026**	**24-Feb-2026**	17-Aug-2026	✓	**24-Feb-2026**	05-Apr-2026	✓
HDPE Soil Jar (EP231X)							
TP02_0.1	**19-Feb-2026**	**24-Feb-2026**	18-Aug-2026	✓	**24-Feb-2026**	05-Apr-2026	✓
Soil Glass Jar - Unpreserved (EP231X)							
TP09_0.7	**18-Feb-2026**	**24-Feb-2026**	17-Aug-2026	✓	**24-Feb-2026**	05-Apr-2026	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE Soil Jar (EP231X)							
TP04_0.2, TP05_0.2, TP08_0.1, TP09_0.1, TP13_0.1, SP01, SP06, SP10, SP23, SP28	**18-Feb-2026**	**24-Feb-2026**	17-Aug-2026	✓	**24-Feb-2026**	05-Apr-2026	✓
HDPE Soil Jar (EP231X)							
TP02_0.1	**19-Feb-2026**	**24-Feb-2026**	18-Aug-2026	✓	**24-Feb-2026**	05-Apr-2026	✓
Soil Glass Jar - Unpreserved (EP231X)							
TP09_0.7	**18-Feb-2026**	**24-Feb-2026**	17-Aug-2026	✓	**24-Feb-2026**	05-Apr-2026	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE Soil Jar (EP231X)							
TP04_0.2, TP05_0.2, TP08_0.1, TP09_0.1, TP13_0.1, SP01, SP06, SP10, SP23, SP28	**18-Feb-2026**	**24-Feb-2026**	17-Aug-2026	✓	**24-Feb-2026**	05-Apr-2026	✓
HDPE Soil Jar (EP231X)							
TP02_0.1	**19-Feb-2026**	**24-Feb-2026**	18-Aug-2026	✓	**24-Feb-2026**	05-Apr-2026	✓
Soil Glass Jar - Unpreserved (EP231X)							
TP09_0.7	**18-Feb-2026**	**24-Feb-2026**	17-Aug-2026	✓	**24-Feb-2026**	05-Apr-2026	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums							
HDPE Soil Jar (EP231X)							
TP04_0.2, TP05_0.2, TP08_0.1, TP09_0.1, TP13_0.1, SP01, SP06, SP10, SP23, SP28	**18-Feb-2026**	**24-Feb-2026**	17-Aug-2026	✓	**24-Feb-2026**	05-Apr-2026	✓
HDPE Soil Jar (EP231X)							
TP02_0.1	**19-Feb-2026**	**24-Feb-2026**	18-Aug-2026	✓	**24-Feb-2026**	05-Apr-2026	✓
Soil Glass Jar - Unpreserved (EP231X)							
TP09_0.7	**18-Feb-2026**	**24-Feb-2026**	17-Aug-2026	✓	**24-Feb-2026**	05-Apr-2026	✓

Matrix: **SOLID**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples							
Snap Lock Bag - ACM/Asbestos Grab Bag (EA200)							
ACM1, ACM2, SP06 - ACM	**18-Feb-2026**	**----**	----	----	**25-Feb-2026**	17-Aug-2026	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Electrical Conductivity (1:5) on 40°C dried soil	EA010-AD	1	10	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations on Alkaline Soils	ED006	1	8	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	8	73	**10.96**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	1	4	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	8	77	**10.39**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
pH (1:5) on 40°C dried soil	EA002-AD	1	10	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
pH in soil using a 0.01M CaCl2 extract	EA001	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	8	80	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	10	80	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	8	78	**10.26**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	8	75	**10.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Electrical Conductivity (1:5) on 40°C dried soil	EA010-AD	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations on Alkaline Soils	ED006	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	4	77	**5.19**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
pH (1:5) on 40°C dried soil	EA002-AD	2	10	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
pH in soil using a 0.01M CaCl2 extract	EA001	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	4	80	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	4	80	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	4	78	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	75	**5.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Electrical Conductivity (1:5) on 40°C dried soil	EA010-AD	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations on Alkaline Soils	ED006	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	4	77	**5.19**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	4	80	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	4	80	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	4	78	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	75	**5.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Organic Matter	EP004	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
PAH/Phenols (SIM)	EP075(SIM)	4	77	**5.19**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	4	80	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	6	80	**7.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	4	78	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	75	**5.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
pH in soil using a 0.01M CaCl2 extract	EA001	SOIL	In house: Referenced to Rayment and Lyons 4B3 (mod.) or 4B4 (mod.) 10 g of soil is mixed with 50 mL of 0.01M CaCl2 and tumbled end over end for 1 hour. pH is measured from the continuous suspension. This method is compliant with NEPM Schedule B(3).
pH (1:5) on 40°C dried soil	EA002-AD	SOIL	In house: Referenced to Rayment and Lyons 4A1 and APHA 4500H+. pH is determined on 40°C dried soil after a 1:5 soil/water leach. This method is compliant with NEPM Schedule B(3)
Electrical Conductivity (1:5) on 40°C dried soil	EA010-AD	SOIL	In house: Referenced to Rayment and Lyons 3A1 and APHA 2510. Conductivity is determined on soil samples dried at 40°C using a 1:5 soil/water leach. This method is compliant with NEPM Schedule B(3).
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Particle Size Analysis by Hydrometer	EA150H	SOIL	Particle Size Analysis by Hydrometer according to AS1289.3.6.3
Soil Particle Density	EA152	SOIL	Soil Particle Density by AS 1289.3.5.1: Methods of testing soils for engineering purposes - Soil classification tests - Determination of the soil particle density of a soil - Standard method
Asbestos Identification in Soils	EA200	SOIL	AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Exchangeable Cations on Alkaline Soils	* ED006	SOIL	In house: Referenced to Soil Survey Test Method C5. Soluble salts are removed from the sample prior to analysis. Cations are exchanged from the sample by contact with alcoholic ammonium chloride at pH 8.5. They are then quantitated in the final solution by ICPAES and reported as meq/100g of original soil.
Exchangeable Cations	ED007	SOIL	In house: Referenced to Rayment & Lyons Method 15A1. Cations are exchanged from the sample by contact with Ammonium Chloride. They are then quantitated in the final solution by ICPAES and reported as meq/100g of original soil. This method is compliant with NEPM Schedule B(3).
Exchangeable Cations with pre-treatment	ED008	SOIL	In house: Referenced to Rayment & Lyons Method 15A2. Soluble salts are removed from the sample prior to analysis. Cations are exchanged from the sample by contact with Ammonium Chloride. They are then quantitated in the final solution by ICPAES and reported as meq/100g of original soil. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Organic Matter	EP004	SOIL	In house: Referenced to AS1289.4.1.1. Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).

Analytical Methods	Method	Matrix	Method Descriptions
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by negative mode LC-ESI-MS/MS using MRM and isotope dilution or internal standard quantitation. A portion of homogenised sample is extracted along with isotope dilution standards (where commercially available) in a solution of ammonium acetate in acetonitrile/methanol. Where relevant, interferences from co-extracted organics are removed using dispersive clean-up media (dSPE). A portion of extract is combined with an equal volume of reagent water and filtered for instrumental analysis.
Asbestos Identification in Bulk Solids	EA200	SOLID	In house: Referenced to AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining

Preparation Methods	Method	Matrix	Method Descriptions
pH in soil using a 0.01M CaCl2 extract	EA001-PR	SOIL	In house: Referenced to Rayment and Lyons 4B1, 10 g of soil is mixed with 50 mL of 0.01M CaCl2 and tumbled end over end for 1 hour. pH is measured from the continuous suspension. This method is compliant with NEPM Schedule B(3).
Exchangeable Cations Preparation Method (Alkaline Soils)	* ED006PR	SOIL	In house: Referenced to Rayment and Lyons method 15C1.
Exchangeable Cations Preparation Method	ED007PR	SOIL	In house: Referenced to Rayment & Lyons method 15A1. A 1M NH4Cl extraction by end over end tumbling at a ratio of 1:20. There is no pretreatment for soluble salts. Extracts can be run by ICP for cations.
1:5 solid / water leach following drying at 40°C	EN34-AD	SOIL	10 g of 40°C dried soil is mixed with 50 mL of reagent grade water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Organic Matter	EP004-PR	SOIL	In house: Referenced to AS1289.4.1.1. Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
QuECheRS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EM2602866**		
Client	: **PITT & SHERRY (OPERATIONS) PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: FIONA KESERUE-PONTE	Contact	: Hannah White
Address	: 199 MACQUARIE STREET HOBART 7001	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: fkeserueponte@pittsh.com.au	E-mail	: Hannah.White@alsglobal.com
Telephone	: ----	Telephone	: +61-3-8549 9600
Facsimile	: ----	Facsimile	: +61-3-8549 9626
Project	: INCAT ESA	Page	: 1 of 4
Order number	: P.26.0075	Quote number	: EM2023PITSHE0013 (EM23PITSHE0013 VIC Custom Pricing)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: H Fairweather, M Mayjor		

Dates

Date Samples Received	: 20-Feb-2026 12:35	Issue Date	: 23-Feb-2026
Client Requested Due Date	: 03-Mar-2026	Scheduled Reporting Date	: **03-Mar-2026**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 7	Temperature	: 0.8, 1.3, 2.6 °C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 76 / 76

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- An additional sample ID TP 1.4, has been received and added to the workorder as Sample #77. The sample will be kept on hold pending further instructions.
- Samples 001,that are listed on the CoC, have not been received at the laboratory.
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Document Set ID: 3625399
Version: 1, Version Date: 09/06/2026

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils -	SOIL - EP231 (solids) PFAS - Short Suite (12 analytes)	SOIL - P-22 (Melb) Soil Characterisation Package	SOIL - S-18 TRH(C6-C9)/BTEXN	SOIL - S-26 8 metals/TRH/BTEXN/PAH
EM2602866-002	18-Feb-2026 16:30	TP01_0.9	✓	✓		✓		✓
EM2602866-003	18-Feb-2026 16:30	TP01_1.2	✓					✓
EM2602866-004	19-Feb-2026 13:00	TP02_0.1	✓		✓			✓
EM2602866-005	19-Feb-2026 13:00	TP02_0.9	✓	✓				✓
EM2602866-006	19-Feb-2026 13:00	TP02_1.9	✓					✓
EM2602866-007	19-Feb-2026 13:30	TP03 0.5	✓					✓
EM2602866-008	19-Feb-2026 13:30	TP03_1.4	✓					✓
EM2602866-009	18-Feb-2026 13:30	TP04_0.2	✓		✓			✓
EM2602866-010	18-Feb-2026 13:30	TP04_1.0	✓					✓
EM2602866-011	18-Feb-2026 13:30	TP04_2.0	✓					✓
EM2602866-012	18-Feb-2026 15:00	TP05_0.2	✓	✓	✓			✓
EM2602866-013	18-Feb-2026 15:00	TP05_0.6	✓					✓
EM2602866-014	18-Feb-2026 15:00	TP05_1.0	✓	✓				✓
EM2602866-015	18-Feb-2026 14:30	TP06_0.2	✓					✓
EM2602866-016	18-Feb-2026 14:30	TP06_0.4	✓					✓
EM2602866-017	18-Feb-2026 14:30	TP06_0.7	✓	✓				✓
EM2602866-018	18-Feb-2026 12:30	TP07_0.1	✓					✓
EM2602866-019	18-Feb-2026 12:30	TP07_0.5	✓					✓
EM2602866-020	18-Feb-2026 12:30	TP07_1.3	✓					✓
EM2602866-021	18-Feb-2026 12:00	TP08_0.1	✓		✓			✓
EM2602866-022	18-Feb-2026 12:00	TP08_0.4	✓					✓
EM2602866-023	18-Feb-2026 12:00	TP08_1.2	✓	✓				✓
EM2602866-024	18-Feb-2026 14:00	TP09_0.1	✓		✓			✓
EM2602866-025	18-Feb-2026 16:30	TP09_0.7	✓	✓	✓			✓
EM2602866-026	18-Feb-2026 16:30	TP09_1.0	✓					✓
EM2602866-027	18-Feb-2026 16:30	TP10_0.2	✓					✓
EM2602866-028	18-Feb-2026 14:00	TP10_0.5	✓					✓
EM2602866-029	18-Feb-2026 14:00	TP10_1.1	✓	✓				✓
EM2602866-030	18-Feb-2026 09:00	TP11_0.1	✓					✓
EM2602866-031	18-Feb-2026 09:00	TP11_0.4	✓					✓
EM2602866-032	18-Feb-2026 09:00	TP11_1.0	✓	✓				✓
EM2602866-033	18-Feb-2026 09:00	TP11_1.5	✓					✓
EM2602866-034	19-Feb-2026 14:30	TP12_0.2	✓					✓
EM2602866-035	19-Feb-2026 14:30	TP12_1.0	✓	✓				✓
EM2602866-036	18-Feb-2026 08:30	TP13_0.1	✓	✓	✓			✓

			SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils -	SOIL - EP231 (solids) PFAS - Short Suite (12 analytes)	SOIL - P-22 (Melb) Soil Characterisation Package	SOIL - S-18 TRH(C6-C9)/BTEXN	SOIL - S-26 8 metals/TRH/BTEXN/PAH
EM2602866-037	18-Feb-2026 08:30	TP13_1.0	✓			✓		✓
EM2602866-038	18-Feb-2026 08:30	TP13_1.4	✓					✓
EM2602866-039	18-Feb-2026 00:00	SP01	✓		✓	✓		✓
EM2602866-040	18-Feb-2026 00:00	SP02	✓					✓
EM2602866-041	18-Feb-2026 00:00	SP03	✓					✓
EM2602866-042	18-Feb-2026 00:00	SP04	✓					✓
EM2602866-043	18-Feb-2026 00:00	SP05	✓					✓
EM2602866-044	18-Feb-2026 00:00	SP06	✓		✓			✓
EM2602866-045	18-Feb-2026 00:00	SP07	✓					✓
EM2602866-046	18-Feb-2026 00:00	SP08	✓					✓
EM2602866-047	18-Feb-2026 00:00	SP09	✓					✓
EM2602866-048	18-Feb-2026 00:00	SP10	✓		✓	✓		✓
EM2602866-049	18-Feb-2026 00:00	SP11	✓					✓
EM2602866-050	18-Feb-2026 00:00	SP12	✓					✓
EM2602866-051	18-Feb-2026 00:00	SP13	✓					✓
EM2602866-052	18-Feb-2026 00:00	SP14	✓					✓
EM2602866-053	18-Feb-2026 00:00	SP15	✓					✓
EM2602866-054	18-Feb-2026 00:00	SP16	✓					✓
EM2602866-055	18-Feb-2026 00:00	SP17	✓					✓
EM2602866-056	18-Feb-2026 00:00	SP18	✓					✓
EM2602866-057	18-Feb-2026 00:00	SP19	✓					✓
EM2602866-058	18-Feb-2026 00:00	SP20	✓					✓
EM2602866-059	18-Feb-2026 00:00	SP21	✓					✓
EM2602866-060	18-Feb-2026 00:00	SP22	✓	✓				✓
EM2602866-061	18-Feb-2026 00:00	SP23	✓	✓	✓			✓
EM2602866-062	18-Feb-2026 00:00	SP24	✓					✓
EM2602866-063	18-Feb-2026 00:00	SP25	✓					✓
EM2602866-064	18-Feb-2026 00:00	SP26	✓					✓
EM2602866-065	18-Feb-2026 00:00	SP27	✓	✓				✓
EM2602866-066	18-Feb-2026 00:00	SP28	✓		✓			✓
EM2602866-067	19-Feb-2026 00:00	SP29	✓					✓
EM2602866-068	19-Feb-2026 00:00	SP30	✓					✓
EM2602866-069	18-Feb-2026 00:00	QCP01	✓					✓
EM2602866-070	18-Feb-2026 00:00	QCP04	✓					✓
EM2602866-071	18-Feb-2026 00:00	TRIP1	✓					✓
EM2602866-072	18-Feb-2026 00:00	TRIP3	✓					✓
EM2602866-075	18-Feb-2026 00:00	TRIPBLANK	✓				✓	
EM2602866-077	18-Feb-2026 00:00	TP09_1.4	✓					✓

Matrix: **SOLID**

Laboratory sample ID	Sampling date / time	Sample ID	SOLID - EA200B Asbestos Identification in Bulk Solids (Excluding
EM2602866-073	18-Feb-2026 00:00	ACM1	✓
EM2602866-074	18-Feb-2026 00:00	ACM2	✓
EM2602866-076	18-Feb-2026 00:00	SP06 ACM	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ALL ACCOUNTS		
- A4 - AU Tax Invoice (INV)	Email	accounts@pittsh.com.au
FIONA KESERUE-PONTE		
- *AU Certificate of Analysis - NATA (COA)	Email	fkeserueponte@pittsh.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	fkeserueponte@pittsh.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	fkeserueponte@pittsh.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	fkeserueponte@pittsh.com.au
- A4 - AU Tax Invoice (INV)	Email	fkeserueponte@pittsh.com.au
- Attachment - Report (SUBCO)	Email	fkeserueponte@pittsh.com.au
- Chain of Custody (CoC) (COC)	Email	fkeserueponte@pittsh.com.au
- EDI Format - ENMRG (ENMRG)	Email	fkeserueponte@pittsh.com.au
- EDI Format - ESDAT (ESDAT)	Email	fkeserueponte@pittsh.com.au
HARRISON FAIRWEATHER		
- *AU Certificate of Analysis - NATA (COA)	Email	hfairweather@pittsh.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	hfairweather@pittsh.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	hfairweather@pittsh.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	hfairweather@pittsh.com.au
- Attachment - Report (SUBCO)	Email	hfairweather@pittsh.com.au
- Chain of Custody (CoC) (COC)	Email	hfairweather@pittsh.com.au
- EDI Format - ENMRG (ENMRG)	Email	hfairweather@pittsh.com.au
- EDI Format - ESDAT (ESDAT)	Email	hfairweather@pittsh.com.au
Maddison Mayjor		
- *AU Certificate of Analysis - NATA (COA)	Email	mmayjor@pittsh.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	mmayjor@pittsh.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	mmayjor@pittsh.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	mmayjor@pittsh.com.au
- Attachment - Report (SUBCO)	Email	mmayjor@pittsh.com.au
- Chain of Custody (CoC) (COC)	Email	mmayjor@pittsh.com.au
- EDI Format - ENMRG (ENMRG)	Email	mmayjor@pittsh.com.au
- EDI Format - ESDAT (ESDAT)	Email	mmayjor@pittsh.com.au

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(SOIL) EA150: Soil Classification based on Particle Size

(SOIL) EA152: Soil Particle Density

Document Set ID: 3625399
Version: 1, Version Date: 09/06/2026

SAMPLES RECEIVED WITHOUT COC

Environmental Division
Melbourne
Work Order Reference
EM2602866

Telephone : +61-3-8549 9600

CLIENT:	PHT + SHETLEY	CARRIER:	CIENT FREIGHT
PROJECT / QUOTE:	P-26-00075	CONNOTE #:	
CONTACT NAME:		AWB #:	
CONTACT NUMBER:		# OF ESKIES:	SECURITY SEAL: (Y) N N/A
SAMPLER NAME:		TYPE OF ESKIES:	HARD
SAMPLER NUMBER:		ESKY NUMBERS:	7.
SAMPLES RECEIVED BY:	[illegible] (AM)	# OF SAMPLES:	
DATE/TIME RECEIVED: 20/2, 1235	CLIENT SERVICES NOTIFIED BY:	TEMPERATURE:	13.0°C + ICE

LAB ID	SAMPLE DETAILS: SAMPLE ID	DATE	MATRIX	NUMBER OF CONTAINERS
1	TP06 - 0.4			
2	TP12	19/2		
3				
4				
5				
			TOTAL	

ADDITIONAL INFORMATION / COMMENTS:

OTHER INFORMATION:

- ☐ MICRO
- ☐ BIOSECURITY
- ☐ BROKEN CONTAINERS
- ☑ COC EMAILED
- ☐ ALS COMPASS

CORRESPONDENCE (DATE, INITIALS - DETAILS OF CORRESPONDENCE):

- coc to be emailed

Document Set ID: 3625399
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SAMPLES RECEIVED WITHOUT COC

Environmental Division
Melbourne
Work Order Reference
EM2602866

Telephone : +61-3-8549 9600

CLIENT:	PHT + SHELLEY	CARRIER:	CIENT FREIGHT
PROJECT / QUOTE:	P-26-0075	CONNOTE #:	
CONTACT NAME:		AWB #:	
CONTACT NUMBER:		# OF ESKIES:	SECURITY SEAL: (Y) N N/A
SAMPLER NAME:		TYPE OF ESKIES:	HARD
SAMPLER NUMBER:		ESKY NUMBERS:	7.
SAMPLES RECEIVED BY:	[illegible] (Amy)	# OF SAMPLES:	
DATE/TIME RECEIVED:	20/2, 1235	CLIENT SERVICES NOTIFIED BY:	TEMPERATURE: 13.0°C + ICE

LAB ID	SAMPLE DETAILS: SAMPLE ID	DATE	MATRIX	NUMBER OF CONTAINERS
1	TP06 - 0.4			
2	TP12	19/2		
3				
4				
5				
			TOTAL	

ADDITIONAL INFORMATION / COMMENTS:

OTHER INFORMATION:

- ☐ MICRO
- ☐ BIOSECURITY
- ☐ BROKEN CONTAINERS
- ☑ COC EMAILED
- ☐ ALS COMPASS

CORRESPONDENCE (DATE, INITIALS - DETAILS OF CORRESPONDENCE):

- coc to be emailed

CHAIN OF CUSTODY

ALS Laboratory: please tick ✓

CLIENT: PITTSHERRY	TURNAROUND REQUIREMENTS: ✓ Standard TAT (List due date): (Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ☐ Non-Standard or urgent TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE:		Custody Seal Intact: Yes / No / N/A	
PROJECT: INCAT ESA	ALS QUOTE NO.: EM23PITSHE0013 VIC Custom Pricing	Free ice / frozen: Yes / No / N/A	
ORDER NUMBER: P.26.3375		Ice bricks present / Evidence of Chilling / Temperature on receipt:	
PROJECT MANAGER: Fiona Keserue-Ponte	CONTACT PH: 03 6210 1449	Other comments:	
SAMPLER: H Fairweather, M Mayjer	SAMPLER MOBILE: 0438370674		
COC emailed to ALS? (YES)	EDD FORMAT (or default):		
Email Reports to: FKeserue-Ponte@pittsh.com.au, hfairweather@pittsh.com.au, MMayjer@pittsh.com.au			
Email Invoices to: FKeserue-Ponte@pittsh.com.au, Accounts@pittsh.com.au			

DGG SEQUENCE NUMBER (Circle): DGG 1 2 3 4 5 6 7 ... DR 1 2 3 4 5 6 7

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
HF, MM			
DATE/TIME: 19/02/2026 1600	DATE/TIME:	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: **Please forward QCS01, QCS04, TRIP2, TRIP4 to Eurofins for analyses. Please dispose of QCP02, QCS02, QCP03, QCS03, TRIP5, TRIP6, Ziplock ASC NEPM bag - TP04_1.0**

ALS use:	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITE/S (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).						Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	PFAS - Suite for soil classification (i.e. VIC DSE, EPA, etc.)	B(a)P on OR Suite (i.e. C10-C18 & C10-C36 plus F1, F2)	8-Metals (Cadmium, Chromium VI, Lead, Nickel, Zinc)	EA200: AS 4964 - Asbestos	EA200: Asbestos - Bulk Sample (Presence and Identification)	EP231: PFAS - Short suite	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	TP01_0.2	19/2_1630	S	1 x Glass Soil Jar	1			X				
2	TP01_0.8	19/2_1630	S	1 x Glass Soil Jar, 1 x Ziplock bag, 1 x ACM Bulk bag	3	X		X	X			
3	TP01_1.2	19/2_1630	S	1 x Glass Soil Jar	1			X				
4	TP02_0.1	19/2_1300	S	1 x Glass Soil Jar, 1 x PFAS Soil Jar	2			X			X	
5	TP02_0.6	19/2_1300	S	1 x Glass Soil Jar, 1 x ACM Bulk bag	2			X	X			
6	TP02_1.0	19/2_1300	S	1 x Glass Soil Jar	1			X				
7	TP03 0.5	19/2_1330	S	1 x Glass Soil Jar	1			X				
8	TP03_1.0	19/2_1330	S	1 x Glass Soil Jar	1			X				
9	TP04_0.2	18/2_1330	S	1 x Glass Soil Jar, 1 x PFAS Soil Jar	2			X			X	
10	TP04_1.0	18/2_1330	S	1 x Glass Soil Jar, 1 x Ziplock bag	2			X				Disregard & dispose of Ziplock ASC NEPM glass Bag only - testing is not required
11	TP04_2.0	18/2_1330	S	1 x Glass Soil Jar	1			X				
12	TP05_0.2	18/2_1520	S	1 x Glass Soil Jar, 1 x PFAS Soil Jar, 1 x ACM Bulk bag	3			X	X		X	
13	TP05_0.9	18/2_1520	S	1 x Glass Soil Jar	1			X				
14	TP05_1.2	18/2_1520	S	1 x Glass Soil Jar, 1 x ACM Bulk bag	2			X	X			
15	TP06_0.2	18/2_1430	S	1 x Glass Soil Jar	1			X				
16	TP06_0.4	18/2_1430	S	1 x Glass Soil Jar	1			X				
17	TP06_0.7	18/2_1430	S	1 x Glass Soil Jar, 1 x ACM Bulk bag	2			X	X			
18	TP07_0.1	19/2_1230	S	1 x Glass Soil Jar	1			X				
19	TP07_0.5	19/2_1230	S	1 x Glass Soil Jar	1			X				
20	TP07_1.3	19/2_1230	S	1 x Glass Soil Jar	1			X				
21	TP08_0.1	19/2_1300	S	1 x Glass Soil Jar, 1 x PFAS Soil Jar	2			X			X	
22	TP08_0.4	19/2_1300	S	1 x Glass Soil Jar	1			X				
23	TP08_1.2	18/2_1200	S	1 x Glass Soil Jar, 1 x ACM Bulk bag	2			X	X			
24	TP09_0.1	18/2_1000	S	1 x Glass Soil Jar, 1 x PFAS Soil Jar	2			X			X	
25	TP09_0.7	18/2_1000	S	1 x Glass Soil Jar, 1 x PFAS Soil Jar, 1 x ACM Bulk bag	3			X	X		X	
26	TP09_1.0	18/2_1000	S	1 x Glass Soil Jar	1			X				
27	TP10_0.2	18/2_1400	S	1 x Glass Soil Jar	1			X				
28	TP10_0.5	18/2_1400	S	1 x Glass Soil Jar	1			X				
29	TP10_1.1	18/2_1400	S	1 x Glass Soil Jar, 1 x ACM Bulk bag	2			X	X			
30	TP11_0.1	19/2_0900	S	1 x Glass Soil Jar	1			X				
31	TP11_0.4	19/2_0900	S	1 x Glass Soil Jar	1			X				
32	TP11_1.0	19/2_0900	S	1 x Glass Soil Jar, 1 x ACM Bulk bag	2			X	X			
33	TP11_1.5	19/2_0900	S	1 x Glass Soil Jar	1			X				
34	TP12_0.2	19/2_1430	S	1 x Glass Soil Jar	1			X				
35	TP12_1.0	19/2_1430	S	1 x Glass Soil Jar, 1 x ACM Bulk bag	2			X	X			
36	TP13_0.1	18/2_0830	S	1 x Glass Soil Jar, 1 x PFAS Soil Jar, 1 x ACM Bulk bag	3			X	X		X	
37	TP13_1.0	18/2_0830	S	1 x Glass Soil Jar, 1 x Ziplock bag	2	X		X				
38	TP13_1.4	18/2_0830	S	1 x Glass Soil Jar	1			X				
39	SP01	18-Feb-26	S	1 x Glass Soil Jar, 1 x PFAS Soil Jar, 1 x Ziplock bag	3	X		X			X	
40	SP02	18-Feb-26	S	1 x Glass Soil Jar	1			X				
41	SP03	18-Feb-26	S	1 x Glass Soil Jar	1			X				
42	SP04	18-Feb-26	S	1 x Glass Soil Jar	1			X				
43	SP05	18-Feb-26	S	1 x Glass Soil Jar	1			X				
44	SP06	18-Feb-26	S	1 x Glass Soil Jar, 1 x PFAS Soil Jar, 1 x Ziplock bag, 1 x 50g ACM grab bag	4	X		X		X	X	
45	SP07	18-Feb-26	S	1 x Glass Soil Jar	1			X				
46	SP08	18-Feb-26	S	1 x Glass Soil Jar	1			X				
47	SP09	18-Feb-26	S	1 x Glass Soil Jar	1			X				
48	SP10	18-Feb-26	S	1 x Glass Soil Jar, 1 x PFAS Soil Jar, 1 x ACM Bulk bag	3			X			X	
49	SP11	18-Feb-26	S	1 x Glass Soil Jar	1			X				
50	SP12	18-Feb-26	S	1 x Glass Soil Jar	1			X				
51	SP13	18-Feb-26	S	1 x Glass Soil Jar	1			X				
52	SP14	18-Feb-26	S	1 x Glass Soil Jar	1			X				
53	SP15	18-Feb-26	S	1 x Glass Soil Jar	1			X				
54	SP16	18-Feb-26	S	1 x Glass Soil Jar	1			X				
55	SP17	18-Feb-26	S	1 x Glass Soil Jar	1			X				
56	SP18	18-Feb-26	S	1 x Glass Soil Jar	1			X				
57	SP19	18-Feb-26	S	1 x Glass Soil Jar	1			X				
58	SP20	18-Feb-26	S	1 x Glass Soil Jar	1			X				
59	SP21	18-Feb-26	S	1 x Glass Soil Jar	1			X				
60	SP22	19-Feb-26	S	1 x Glass Soil Jar, 1 x ACM Bulk bag	2			X	X			
61	SP23	19-Feb-26	S	1 x Glass Soil Jar, 1 x PFAS Soil Jar, 1 x ACM Bulk bag	3			X	X		X	
62	SP24	19-Feb-26	S	1 x Glass Soil Jar	1			X				
63	SP25	19-Feb-26	S	1 x Glass Soil Jar	1			X				
64	SP26	19-Feb-26	S	1 x Glass Soil Jar	1			X				
65	SP27	19-Feb-26	S	1 x Glass Soil Jar, 1 x ACM Bulk bag	2			X	X			
66	SP28	19-Feb-26	S	1 x Glass Soil Jar, 1 x PFAS Soil Jar	2			X			X	
67	SP29	19-Feb-26	S	1 x Glass Soil Jar	1			X				
68	SP30	19-Feb-26	S	1 x Glass Soil Jar	1			X				
69	QCP01		S	1 x Glass Soil Jar	1			X				
	QCS01		S	1 x Glass Soil Jar	1							Disregard and Dispose of sample - testing is not required
	QCP02		S	1 x Glass Soil Jar	1							Disregard and Dispose of sample - testing is not required
	QCS02		S	1 x Glass Soil Jar	1							Disregard and Dispose of sample - testing is not required
	QCP03		S	1 x Glass Soil Jar	1							Disregard and Dispose of sample - testing is not required
	QCS03		S	1 x Glass Soil Jar	1							Disregard and Dispose of sample - testing is not required
	QCP04		S	1 x Glass Soil Jar	1			X				
	QCS04		S	1 x Glass Soil Jar	1			X				Not to be analysed
	TRIP1		S	1 x Glass Soil Jar	1			X				
	TRIP2		S	1 x Glass Soil Jar	1			X				Hold - Not to be analysed
	TRIP3		S	1 x Glass Soil Jar	1			X				
	TRIP4		S	1 x Glass Soil Jar	1			X				Hold - Not to be analysed
	TRIP5		S	1 x Glass Soil Jar	1							Disregard and Dispose of sample - testing is not required
	TRIP6		S	1 x Glass Soil Jar	1							Disregard and Dispose of sample - testing is not required
	ACM1		S	1 x 50g ACM grab bag						X		
	ACM2		S	1 x 50g ACM grab bag						X		
	TRIPBLANK		S									Disregard and Dispose of sample - testing is not required
	TRIPBLANK		S									Disregard and Dispose of sample - testing is not required
	TRIPBLANK		S									Disregard and Dispose of sample - testing is not required
				TOTAL	113	4	0	78	14	3	13	

Matrix Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VS = VOA Vial Sodium Bisulphate Preserved; VA = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulphuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Quality Assurance/Quality Control Review

Summary :

Quality Control Frequency - Solid

- 0 Duplicate frequency non-compliant
- 0 Laboratory matrix spike frequency non-compliant
- 0 Method Blank frequency non-compliant
- 0 Laboratory Control Spikes frequency non-compliant

Quality Control Outlier - Solid

- 0 Duplicate outlier
- 0 Laboratory matrix spike outlier
- 0 Method Blank outlier
- 0 Laboratory Control Spikes outlier

Holding Time Outlier - Solid

- No samples analysed out of holding time.

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Quality Control Analyte Summary Compliance

The table below is the actual occurrence of QC performed on the batch of samples within this report and as defined below

Quality Control Parameter Frequency Compliance follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure (NEPM) April 2011, Schedule B3, Guideline on Laboratory Analysis of Potentially Contaminated Soils and US EPA SW-846 Chapter 1: 'Quality Control'. It comprises the following when a laboratory process batch is deemed to consist of up to 20 samples that are similar in terms of matrix and test procedure, and are processed as one unit for QC purposes. If more than 20 samples are being processed, they are considered as more than one batch. Method blank - One method blank per process batch. Laboratory duplicate: There should be at least one duplicate per process batch or two duplicates if the process batch exceeds 10 samples. Laboratory control sample (LCS): There should be at least one LCS per process batch. Matrix spikes - There should be one matrix spike per matrix type per process batch.

For Per- and Polyfluoroalkyl Substances (PFAS) analysis, as outlined in US EPA Quality Systems Manual (QSM 6.0 or later versions) Table B-24. Per-and Polyfluoroalkyl Substances (PFAS) Analysis by Liquid Chromatography/Mass Spectrometry/Mass Spectrometry (LC/MS/MS), follow strict Data Validation procedures to ensure accuracy, precision, and reliability as per US DoD's Environmental Data Quality Workgroup Data Validation Guidelines Module 6 . Acceptance criteria and frequency for Initial Calibration Verification (ICV), Continuing Calibration Verification (CCV), Laboratory Control Sample (LCS), Method Blank (MB), Surrogate Recovery (for Isotopically Labelled Standards for Extracted Internal Standards and Non-extracted Internal Standards (if applicable for Method 1633)) and duplicates follow the NEPM requirements or additional prerequisites listed in PFAS National Environmental Management Plan 3.0, 2025.

Matrix : Solid

Analysis	QC Type	Samples Analysed	QC Sample Reported	Frequency Criteria		Within Acceptance Limits
				Expected	Achieved	
Total Recoverable Hydrocarbons	Laboratory Duplicates	4	1	1	✓	✓
	Laboratory Matrix Spikes	4	2	1	✓	✓
	Method Blanks	4	1	1	✓	✓
	Laboratory Control Samples	4	1	1	✓	✓
BTEX	Laboratory Duplicates	4	1	1	✓	✓
	Laboratory Matrix Spikes	4	1	1	✓	✓
	Method Blanks	4	1	1	✓	✓
	Laboratory Control Samples	4	1	1	✓	✓
Polycyclic Aromatic Hydrocarbons	Laboratory Duplicates	4	1	1	✓	✓
	Laboratory Matrix Spikes	4	1	1	✓	✓
	Method Blanks	4	1	1	✓	✓
	Laboratory Control Samples	4	1	1	✓	✓
Heavy Metals	Laboratory Duplicates	4	1	1	✓	✓Q15
	Laboratory Matrix Spikes	4	1	1	✓	✓
	Method Blanks	4	1	1	✓	✓
	Laboratory Control Samples	4	1	1	✓	✓
Sample Properties	Laboratory Duplicates	4	1	1	✓	✓
	Laboratory Matrix Spikes	4	N/A	-	-	-
	Method Blanks	4	N/A	-	-	-
	Laboratory Control Samples	4	N/A	-	-	-

Qualifier Codes/Comments

Q15 The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

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Analysis Holding Time Compliance
Matrix : Solid

	Analysis Holding	Date Sampled	Date Extracted	Date Analysed	Compliant
TRH C6-C9					
26-Fe0066992, 26-Fe0066993, 26-Fe0066994, 26-Fe0066995	14 Days	18/02/2026	24/02/2026	25/02/2026	✓
BTEX					
26-Fe0066992, 26-Fe0066993, 26-Fe0066994, 26-Fe0066995	14 Days	18/02/2026	24/02/2026	25/02/2026	✓
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
26-Fe0066992, 26-Fe0066993, 26-Fe0066994, 26-Fe0066995	14 Days	18/02/2026	23/02/2026	25/02/2026	✓
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
26-Fe0066992, 26-Fe0066993, 26-Fe0066994, 26-Fe0066995	14 Days	18/02/2026	23/02/2026	24/02/2026	✓
Polycyclic Aromatic Hydrocarbons					
26-Fe0066992, 26-Fe0066993, 26-Fe0066994, 26-Fe0066995	14 Days	18/02/2026	23/02/2026	24/02/2026	✓
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
26-Fe0066992, 26-Fe0066993, 26-Fe0066994, 26-Fe0066995	14 Days	18/02/2026	24/02/2026	24/02/2026	✓
Metals M8					
26-Fe0066992, 26-Fe0066993, 26-Fe0066994, 26-Fe0066995	28 Days	18/02/2026	24/02/2026	25/02/2026	✓
% Moisture					
26-Fe0066992, 26-Fe0066993, 26-Fe0066994, 26-Fe0066995	14 Days	18/02/2026	23/02/2026	25/02/2026	✓

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eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Newcastle	Canberra	Brisbane	Hobart
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	1/2 Frost Drive	Unit 1,2 Dacre Street	1/21 Smallwood Place	282A Argyle Street
Dandenong South	Grovedale	Girraween	Mayfield West	Mitchell	Murarrie	North Hobart
VIC 3175	VIC 3216	NSW 2145	NSW 2304	ACT 2911	QLD 4172	TAS 7000
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 4968 8448	+61 2 6113 8091	+61 7 3902 4600	+61 3 8564 5000
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25079	Site# 25466	Site# 20794 & 2780	Site# 1254

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Sample Receipt Advice

Company name:	Pitt & Sherry (Operations) Pty Ltd
Contact name:	Fiona
Project name:	INCAT ESA
Project ID:	P.26.0075
Turnaround time:	5 Day
Date/Time received	Feb 23, 2026 4:40 PM
Eurofins reference	1326906

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✗	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✗	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
✗	Split sample sent to requested external lab.
✗	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Savini Suduweli on phone : +61 3 8564 5051 or by email: Savini.Suduwelikondage@eurofinsanz.com

Results will be delivered electronically via email to Fiona - fkeserueponte@pittsh.com.au.

Note: A copy of these results will also be delivered to the general Pitt & Sherry (Operations) Pty Ltd email address.

Global Leader - Results you can trust

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Newcastle	Canberra	Brisbane	Hobart
6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079	Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	1/21 Smallwood Place Murarrie QLD 4172 +61 7 3902 4600 NATA# 1261 Site# 20794 & 2780	282A Argyle Street North Hobart TAS 7000 +61 3 8564 5000 NATA# 1261 Site# 1254

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370 & 2554

Company Name: Pitt & Sherry (Operations) Pty Ltd
Address: 4th Floor, 113 Cimitiere Street
Launceston
Tasmania 7250

Project Name: INCAT ESA
Project ID: P.26.0075

Order No.: P.26.0075
Report #: 1326906
Phone: 03 6323 1900
Fax: 03 6334 4651

Received: Feb 23, 2026 4:40 PM
Due: Mar 2, 2026
Priority: 5 Day
Contact Name: Fiona

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Metals M8	Moisture Set	Eurofins Suite B4
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	QCS1	Feb 18, 2026		Soil	M26-Fe0066992	X	X	X
2	QCS4	Feb 18, 2026		Soil	M26-Fe0066993	X	X	X
3	TRIP2	Feb 18, 2026		Soil	M26-Fe0066994	X	X	X
4	TRIP4	Feb 18, 2026		Soil	M26-Fe0066995	X	X	X
Test Counts						4	4	4

Pitt & Sherry (Operations) Pty Ltd
4th Floor, 113 Cimitiere Street
Launceston
Tasmania 7250

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Fiona**

Report **1326906-S**
Project name INCAT ESA
Project ID P.26.0075
Received Date Feb 23, 2026

Client Sample ID			**QCS1**	**QCS4**	**TRIP2**	**TRIP4**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M26-Fe0066992**	**M26-Fe0066993**	**M26-Fe0066994**	**M26-Fe0066995**
Date Sampled			**Feb 18, 2026**	**Feb 18, 2026**	**Feb 18, 2026**	**Feb 18, 2026**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)*[N01]	50	mg/kg	< 50	< 50	< 50	< 50
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	139	83	135	124
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

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Client Sample ID			QCS1	QCS4	TRIP2	TRIP4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M26-Fe0066992	M26-Fe0066993	M26-Fe0066994	M26-Fe0066995
Date Sampled			Feb 18, 2026	Feb 18, 2026	Feb 18, 2026	Feb 18, 2026
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	63	51	51	71
p-Terphenyl-d14 (surr.)	1	%	97	99	67	106
Heavy Metals						
Arsenic	2	mg/kg	3.7	3.4	< 2	< 2
Cadmium	0.4	mg/kg	1.7	3.3	< 0.4	< 0.4
Chromium	5	mg/kg	13	22	9.2	12
Copper	5	mg/kg	28	65	35	8.3
Lead	5	mg/kg	120	56	< 5	< 5
Mercury	0.1	mg/kg	2.3	16	< 0.1	< 0.1
Nickel	5	mg/kg	14	25	19	7.1
Zinc	5	mg/kg	240	330	33	8.0
Sample Properties						
% Moisture	1	%	15	16	7.6	15

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Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Eurofins Suite B4			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Feb 24, 2026	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Feb 24, 2026	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Feb 24, 2026	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Feb 24, 2026	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons	Melbourne	Feb 24, 2026	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Melbourne	Feb 24, 2026	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Melbourne	Feb 23, 2026	14 Days
- Method: LTM-GEN-7080 Moisture			

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eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Newcastle	Canberra	Brisbane	Hobart
6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079	Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	1/21 Smallwood Place Murarrie QLD 4172 +61 7 3902 4600 NATA# 1261 Site# 20794 & 2780	282A Argyle Street North Hobart TAS 7000 +61 3 8564 5000 NATA# 1261 Site# 1254

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370 & 2554

Company Name: Pitt & Sherry (Operations) Pty Ltd
Address: 4th Floor, 113 Cimitiere Street
Launceston
Tasmania 7250

Project Name: INCAT ESA
Project ID: P.26.0075

Order No.: P.26.0075
Report #: 1326906
Phone: 03 6323 1900
Fax: 03 6334 4651

Received: Feb 23, 2026 4:40 PM
Due: Mar 2, 2026
Priority: 5 Day
Contact Name: Fiona

Eurofins Analytical Services Manager : Savini Suduweli

Sample Detail						Metals M8	Moisture Set	Eurofins Suite B4
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	QCS1	Feb 18, 2026		Soil	M26-Fe0066992	X	X	X
2	QCS4	Feb 18, 2026		Soil	M26-Fe0066993	X	X	X
3	TRIP2	Feb 18, 2026		Soil	M26-Fe0066994	X	X	X
4	TRIP4	Feb 18, 2026		Soil	M26-Fe0066995	X	X	X
Test Counts						4	4	4

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	117			70-130	Pass	
TRH C10-C14	%	70			70-130	Pass	
TRH C6-C10	%	114			70-130	Pass	

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Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH >C10-C16	%	76			70-130	Pass	
Naphthalene	%	128			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	103			70-130	Pass	
Toluene	%	125			70-130	Pass	
Ethylbenzene	%	122			70-130	Pass	
m&p-Xylenes	%	125			70-130	Pass	
Xylenes - Total*	%	124			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	83			70-130	Pass	
Acenaphthylene	%	82			70-130	Pass	
Anthracene	%	107			70-130	Pass	
Benz(a)anthracene	%	81			70-130	Pass	
Benzo(a)pyrene	%	72			70-130	Pass	
Benzo(b&j)fluoranthene	%	70			70-130	Pass	
Benzo(g.h.i)perylene	%	93			70-130	Pass	
Benzo(k)fluoranthene	%	86			70-130	Pass	
Chrysene	%	84			70-130	Pass	
Dibenz(a.h)anthracene	%	82			70-130	Pass	
Fluoranthene	%	89			70-130	Pass	
Fluorene	%	98			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	80			70-130	Pass	
Naphthalene	%	81			70-130	Pass	
Phenanthrene	%	82			70-130	Pass	
Pyrene	%	98			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	102			80-120	Pass	
Cadmium	%	104			80-120	Pass	
Chromium	%	107			80-120	Pass	
Copper	%	110			80-120	Pass	
Lead	%	113			80-120	Pass	
Mercury	%	99			80-120	Pass	
Nickel	%	111			80-120	Pass	
Zinc	%	107			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M26-Fe0075774	NCP	%	105			70-130	Pass	
TRH C6-C10	M26-Fe0075774	NCP	%	109			70-130	Pass	
Naphthalene	M26-Fe0075774	NCP	%	128			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M26-Fe0075774	NCP	%	74			70-130	Pass	
Toluene	M26-Fe0075774	NCP	%	101			70-130	Pass	
Ethylbenzene	M26-Fe0075774	NCP	%	120			70-130	Pass	
m&p-Xylenes	M26-Fe0075774	NCP	%	106			70-130	Pass	
o-Xylene	M26-Fe0075774	NCP	%	115			70-130	Pass	
Xylenes - Total*	M26-Fe0075774	NCP	%	109			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M26-Fe0066699	NCP	%	97			75-125	Pass	

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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Cadmium	M26-Fe0066699	NCP	%	107			75-125	Pass	
Chromium	M26-Fe0066699	NCP	%	107			75-125	Pass	
Copper	M26-Fe0066699	NCP	%	100			75-125	Pass	
Lead	M26-Fe0066699	NCP	%	103			75-125	Pass	
Mercury	M26-Fe0066699	NCP	%	94			75-125	Pass	
Nickel	M26-Fe0066699	NCP	%	110			75-125	Pass	
Zinc	M26-Fe0066699	NCP	%	109			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M26-Fe0066994	CP	%	87			70-130	Pass	
TRH >C10-C16	M26-Fe0066994	CP	%	87			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M26-Fe0066994	CP	%	83			70-130	Pass	
Acenaphthylene	M26-Fe0066994	CP	%	87			70-130	Pass	
Anthracene	M26-Fe0066994	CP	%	76			70-130	Pass	
Benz(a)anthracene	M26-Fe0066994	CP	%	97			70-130	Pass	
Benzo(a)pyrene	M26-Fe0066994	CP	%	90			70-130	Pass	
Benzo(b&j)fluoranthene	M26-Fe0066994	CP	%	87			70-130	Pass	
Benzo(g.h.i)perylene	M26-Fe0066994	CP	%	85			70-130	Pass	
Benzo(k)fluoranthene	M26-Fe0066994	CP	%	81			70-130	Pass	
Chrysene	M26-Fe0066994	CP	%	71			70-130	Pass	
Dibenz(a.h)anthracene	M26-Fe0066994	CP	%	79			70-130	Pass	
Fluoranthene	M26-Fe0066994	CP	%	84			70-130	Pass	
Fluorene	M26-Fe0066994	CP	%	78			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M26-Fe0066994	CP	%	76			70-130	Pass	
Naphthalene	M26-Fe0066994	CP	%	85			70-130	Pass	
Phenanthrene	M26-Fe0066994	CP	%	87			70-130	Pass	
Pyrene	M26-Fe0066994	CP	%	74			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M26-Fe0075778	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	R26-Fe0064062	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	R26-Fe0064062	NCP	mg/kg	200	210	7.0	30%	Pass	
TRH C29-C36	R26-Fe0064062	NCP	mg/kg	240	260	7.0	30%	Pass	
TRH C6-C10	M26-Fe0075778	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	R26-Fe0064062	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Naphthalene	M26-Fe0075778	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH >C16-C34	R26-Fe0064062	NCP	mg/kg	320	340	6.0	30%	Pass	
TRH >C34-C40	R26-Fe0064062	NCP	mg/kg	< 100	100	14	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M26-Fe0075778	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M26-Fe0075778	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M26-Fe0075778	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M26-Fe0075778	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M26-Fe0075778	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M26-Fe0075778	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	

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Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M26-Fe0068807	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M26-Fe0068807	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M26-Fe0068807	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M26-Fe0068807	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M26-Fe0068807	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M26-Fe0068807	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M26-Fe0068807	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M26-Fe0068807	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M26-Fe0068807	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M26-Fe0068807	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M26-Fe0068807	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M26-Fe0068807	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M26-Fe0068807	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M26-Fe0068807	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M26-Fe0068807	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M26-Fe0068807	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M26-Fe0066698	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M26-Fe0066698	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M26-Fe0066698	NCP	mg/kg	35	26	28	30%	Pass	
Copper	M26-Fe0066698	NCP	mg/kg	7.7	< 5	46	30%	Fail	Q15
Lead	M26-Fe0066698	NCP	mg/kg	11	6.6	50	30%	Fail	Q15
Mercury	M26-Fe0066698	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	M26-Fe0066698	NCP	mg/kg	22	15	34	30%	Fail	Q15
Zinc	M26-Fe0066698	NCP	mg/kg	14	8.0	53	30%	Fail	Q15
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M26-Fe0066732	NCP	%	4.0	4.0	<1	30%	Pass	

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Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	N/A
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Catherine Wilson	Analytical Services Manager
Matt Davies	Senior Analyst-Sample Properties
Sheha Prakash	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Volatile
Mary Makarios	Senior Analyst-Metal
Edward Lee	Senior Analyst-Organic

Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Summary Results

Appendix H

pitt&sherry

Document Set ID: 3625399
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SUMMARY RESULTS - SOIL / FILL MATERIAL

Project No: P.26.0075
Project Name: Incat ESA

Analyte Grouping	Total Heavy Metals								Total Petroleum Hydrocarbons (TPH)					Total Recoverable Hydrocarbons (TRH)				
Analyte	Arsenic	Cadmium	Chromium (total)	Copper	Lead	Nickel	Zinc	Mercury (total)	C6-C9	C10-C14	C15-C28	C29-C36	Sum (C10-C36)	C6-C10 minus BTEX (F1)	>C10-C16 minus Naphthalene (F2)	>C16-C34 (F3)	>C34-C40 (F4)	Sum (>C10-C40)
ASC NEPM - HIL/HSL D (vapour intrusion)	3,000	900	3,600 Cr(VI)	240,000	1,500	6,000	400,000	730 (inorganic)						260-NL (sand) 250-NL (silt) 310-NL (clay) (C6-C10)	NL (all soil types) (>C10-C16)			
CRC CARE - HSL D (vapour intrusion)														260-NL (sand) 250-590 (silt) 310-NL (clay) (C6-C10)	NL (all soil types and depths) (>C10-C16)			
CRC CARE - HSL D (direct contact)														26000 (C6-C10)	20000 (>C10-C16)	27,000	38,000	
CRC CARE - HSL (direct contact, intrusive maintenance worker - shallow trench)														82,000 (C6-C10)	62,000 (>C10-C16)	85,000	120,000	
PFAS NEMP HIL D (direct contact)																		
ASC NEPM - EIL/ESL (areas of ecological significance)	40		150 / 130[B] Cr(III)	80/75[B]	470[C]	60/50[B]	220/180[B]							125 (coarse / fine)	25 (coarse / fine)			
ASC NEPM - EIL/ESL (commercial / industrial)	160[A]		710/630[B] Cr(III)	320/330[B]	1,800[C]	510/390[B]	1300/940[B]							215 (coarse / fine)	170 (coarse / fine)	1,700 (coarse) 2,500 (fine)	3,300 (coarse) 6,600 (fine)	
PFAS NEMP - ecological direct exposure (all land uses)																		
PFAS NEMP - ecological indirect exposure (all land uses)																		
ASC NEPM - ML (commercial / industrial)														700 (coarse) 800 (fine)	1,000 (coarse / fine)	3,500 (coarse) 5,000 (fine)	10,000 (coarse / fine)	
IB105 - Level 1 (fill material)	20	3	50	100	300	60	200	1	65				1,000	65 (C6-C9)				1,000 (C10-C36)
IB105 - Level 2 (low level contaminated soil)	200	40	500	2,000	1,200	600	14,000	30	650				5,000	650 (C6-C9)				5,000 (C10-C36)
IB105 - Level 3 (contaminated soil)	750	400	5,000	7,500	3,000	3,000	50,000	110	1,000				10,000	1,000 (C6-C9)				10,000 (C10-C36)
PFAS NEMP - unlined landfill																		
PFAS NEMP - clay / single composite lined landfill																		
PFAS NEMP - double composite lined landfill																		

Sample ID_depth (m bgl)	Location	Date Sampled	Lab	Soil Type / Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
TP01_0.9	TP_01	18-Feb-26	ALS		<5	3	24	62	63	22	367	14.6	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50
TP01_1.2	TP_01	18-Feb-26	ALS		<5	1	15	39	29	25	192	6.9	<10	<50	<100	340	340	<10	<50	280	440	<50
TP02_0.1	TP_02	19-Feb-26	ALS		<5	1	32	46	35	24	244	0.3	<10	<50	<100	<100	<50	<10	<50	<100	<100	720
TP02_0.9	TP_02	19-Feb-26	ALS		<5	1	18	55	33	20	227	0.2	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50
TP02_1.9	TP_02	19-Feb-26	ALS		<5	<1	25	51	20	23	145	0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50
TP03 0.5	TP_03	19-Feb-26	ALS		<5	<1	21	27	8	20	41	0.4	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50
TP03_1.4	TP_03	19-Feb-26	ALS		<5	2	30	47	22	29	150	2.3	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50
TP04_0.2	TP_04	18-Feb-26	ALS		<5	<1	4	71	14	11	162	0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50
TP04_1.0	TP_04	18-Feb-26	ALS		<5	<1	5	70	11	13	131	0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50
TP04_2.0	TP_04	18-Feb-26	ALS		<5	9	22	99	97	25	449	12.7	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50
TP05_0.2	TP_05	18-Feb-26	ALS		<5	2	17	53	34	20	285	1.8	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50
TP05_0.6	TP_05	18-Feb-26	ALS		<5	30	22	62	102	23	363	16.4	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50
TP05_1.0	TP_05	18-Feb-26	ALS		<5	14	12	68	184	14	586	13.7	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50
TP06_0.2	TP_06	18-Feb-26	ALS		<5	<1	13	40	7	23	26	0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50
TP06_0.4	TP_06	18-Feb-26	ALS		<5	<1	14	52	40	20	161	0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50
TP06_0.7	TP_06	18-Feb-26	ALS		<5	<1	10	42	32	15	146	0.3	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50
TP07_0.1	TP_07	18-Feb-26	ALS		<5	2	11	65	44	23	438	0.3	<10	<50	170	540	710	<10	<50	500	640	1140
TP07_0.5	TP_07	18-Feb-26	ALS		<5	4	17	78	48	19	498	1.5	<10	<50	130	310	440	<10	<50	310	350	660
TP07_1.3	TP_07	18-Feb-26	ALS		9	3	12	53	75	14	408	3.4	<10	<50	<100	110	110	<10	<50	120	120	240
TP08_0.1	TP_08	18-Feb-26	ALS		<5	2	20	69	32	22	318	0.2	<10	<50	120	200	320	<10	<50	270	120	390
TP08_0.4	TP_08	18-Feb-26	ALS		<5	7	8	101	59	17	480	15.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50
TP08_1.2	TP_08	18-Feb-26	ALS		<5	<1	42	58	24	77	171	0.4	<10	<50	<100	<100	<50	<10	<50	120	<100	120
TP09_0.1	TP_09	18-Feb-26	ALS		<5	3	24	74	34	22	288	6.7	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50
TP09_0.7	TP_09	18-Feb-26	ALS		<5	<1	9	20	46	9	339	0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50
TP09_1.0	TP_09	18-Feb-26	ALS		<5	<1	20	79	28	26	122	0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50
TP09_1.4	TP_09	18-Feb-26	ALS		12	7	17	172	95	23	585	0.7	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50
TP10_0.2	TP_10	18-Feb-26	ALS		<5	2	18	81	2040	19	435	0.2	<10	<50	230	230	<10	<50	230	300	530	
TP10_0.5	TP_10	18-Feb-26	ALS		<5	3	20	90	2220	15	423	0.2	<10	<50	110	170	280	<10	<50	200	240	440
TP10_1.1	TP_10	18-Feb-26	ALS		<5	1	19	65	655	18	221	0.2	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50
TP11_0.1	TP_11	18-Feb-26	ALS		5	7	13	84	40	18	375	6.1	<10	<50	<100	100	100	<10	<50	130	110	240
TP11_0.4	TP_11	18-Feb-26	ALS		<5	4	14	64	132	22	576	3.7	<10	<50	130	260	390	<10	<50	290	290	580
TP11_1.0	TP_11	18-Feb-26	ALS		<5	2	15	28	93	14	256	2.9	<10	<50	<100	<100	<50	<10	<50	120	<100	120
TP11_1.5	TP_11	18-Feb-26	ALS		<5	2	15	42	97	16	299	4.2	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50
TP12_0.2	TP_12	19-Feb-26	ALS		<5	<1	13	45	199	14	144	0.2	<10	<50	<100	<100	<50	<10	<50	110	<100	110
TP12_1.0	TP_12	19-Feb-26	ALS		<5	<1	11	49	150	14	127	0.4	<10	<50	150	<100	150	<10	<50	210	<100	210
TP13_0.1	TP_13	18-Feb-26	ALS		<5	2	17	37	39	28	311	4.2	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50
TP13_1.0	TP_13	18-Feb-26	ALS		50	4	54	153	29	25	325	0.2	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50
TP13_1.4	TP_13	18-Feb-26	ALS		<5	4	18	60	64	22	493	7.8	<10	<50	<100	210	210	<10	<50	210	250	460
Summary Statistics: Testpits				**Number of Data Points**	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
				Number of Detects	4	26	38	38	38	38	38	37	0	0	6	10	11	0	0	14	10	14
				Minimum	<5	<1	4	20	7	9	26	<0.1	<10	<50	<100	<100	<100	<10	<50	<100	<100	<50
				Maximum	50	30	54	172	2220	77	586	16.4	<10	<50	170	540	710	<10	<50	500	640	1140
				Median	10.5	3	17	58	42	20	288	0.4	<10	<50	130	220	280	<10	<50	210	270	415
				Arithmetic Mean	4.2	3.4	18.2	64.5	183.5	21.2	297.6	3.4	<10	<50	63.4	101.8	104.1	<10	<50	113.2	112.1	172.6
				Standard Deviation	7.9	5.3	9.4	30.1	477.6	10.5	152.6	4.9	-	-	32.4	108.4	155.4	-	-	105.0	132.9	260.5
				95th Percentile	9.5	9.7	33.5	108.8	862.7	28.2	577.4	14.7	-	-	133.0	314.5	397.5	-	-	293.0	363.5	669.0
				95% Confidence Interval	7.7	2.0	3.0	9.6	151.8	3.3	48.5	1.6	-	-	25.9	67.2	91.8	-	-	55.0	82.4	136.5
				95% UCL (Mean + 95% Confidence Interval)	11.9	5.4	21.2	74.1	335.4	24.5	346.1	5.0	-	-	89.4	169.0	195.9	-	-	168.2	194.5	309.1

Values <LOR are assigned 1/2 LOR for statistical calculations except where all values are <LOR

Legend:

	Human health criteria (National)
	Ecological criteria (National)
	Management limits (National)
	Disposal criteria (Tasmania)
Bold	Reported concentration exceeds at least one of the ecological criteria
Bold	Reported concentration exceeds at least one of the human health criteria plus at least one of the ecological criteria
	Reported concentration exceeds IB105 Level 1 - fill material and/or PFAS unlined landfill criterion
	Reported concentration exceeds IB105 - Level 2 - low-level contaminated soil and/or PFAS single lined landfill criterion
Bold	Reported concentration is greater than the LOR
Grey	Reported concentration is below the LOR
Red Text	Guideline criterion is less than the standard LOR
A	Generic EIL
B	Site-specific ACL for test pits / stockpiles, calculated from TP01_09, TP13_1, SP01 and SP10 ASC NEPM classification samples; guideline values are TP / SP order(refer to EIL calculations tab for details)
C	Generic ACL
D	Carcinogenic PAHs (as BaP TEQ at zero)
E	Total fluorotelomer (FTS) is the sum of 4:2FTS + 6:2FTS + 8:2FTS + 10:2FTS
F	Yes - asbestos detected by polarised light microscopy including dispersion staining
G	No - asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining
H	No - asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining; asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg
I	Interim ecological indirect exposure – all land uses (refer to Table 6 of PFAS NEMP 2025 for descriptors).
<	Less than value indicates result is less than the LOR
HIL / HSL	Health Investigation Level / Health Screening Level
EIL / ESL	Ecological Investigation Level / Ecological Screening Level
LOR	Limit of reporting
NL	Not limiting
ML	Management Limit
TEQ	Toxicity equivalent quotient
BaP	Benzo(a)pyrene
ACL	Added contaminant limit
PFOS	Perfluorooctane sulfonic acid
PFOA	Perfluorooctanoic acid
PFHxS	Perfluorohexane sulfonic acid
FTS	Fluorotelomer
Am	Amosite (brown asbestos)
Ch	Chrysotile (white asbestos)
Cr	Crocidolite (blue asbestos)
IB105	Does not apply to material classified as potential acid sulphate soil (PASS) or per - and poly – fluoroalkyl substances (PFAS)

References:

ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure 1999, amended 2013
CRC CARE	Technical Report No. 10 Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater September 2011, including errata August 2012
IB105	Information Bulletin No. 105 - Classification and Management of Contaminated Soil for Disposal, Version 3, 2018, Environment Protection Authority Tasmania
PFAS NEMP	PFAS National Environmental Management Plan, Version 3, 2025

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SUMMARY RESULTS - SOIL / FILL MATERIAL

Project No: P.26.0075
Project Name: Incat ESA

Analyte Grouping	BTEXN					Polycyclic Aromatic Hydrocarbons (PAH)			Per- and Poly-fluroalkyl Substances (PFAS)				Asbestos solids		Asbestos and other Fibres				
Analyte	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene	Benzo[a]pyrene	Carcinogenic PAHs (as BaP TEQ)[D]	Total PAHs	PFOS	PFOA	PFHxS	PFOS+PFHxS	presence / absence	type	Presence / Absence	Type	Detectable Respirable Fibres	Synthetic Mineral Fibre	Organic Fibre
ASC NEPM - HIL/HSL D (vapour intrusion)	3 (sand) 4-10 (silt) 4-20 (clay)	NL (all soil types)	NL (all soil types)	NL (all soil types)	NL (all soil types)		40	4,000											
CRC CARE - HSL D (vapour intrusion)	3 (sand) 4-6 (silt) 4-9 (clay)	NL (all soil types)	NL (all soil types)	230-NL (sand) NL (silt) NL (clay)	NL (all soil types)														
CRC CARE - HSL D (direct contact)	430	99,000	27,000	81,000	11,000														
CRC CARE - HSL (direct contact, intrusive maintenance worker - shallow trench)	1,100	120,000	85,000	130,000	29,000														
PFAS NEMP HIL D (direct contact)										50		20							
ASC NEPM - EIL/ESL (areas of ecological significance)	8 (coarse) 10 (fine)	10 (coarse) 65 (fine)	1.5 (coarse) 40 (fine)	10 (coarse) 1.6 (fine)	10[A]	0.7 (coarse/ fine)													
ASC NEPM - EIL/ESL (commercial / industrial)	75 (coarse) 95 (fine)	135 (coarse / fine)	165 (coarse) 185 (fine)	180 (coarse) 95 (fine)	370[A]	1.4 (coarse/ fine)													
PFAS NEMP - ecological direct exposure (all land uses)									1	10									
PFAS NEMP - ecological indirect exposure (all land uses)									0.003[I]										
ASC NEPM - ML (commercial / industrial)																			
IB105 - Level 1 (fill material)	1	1	3	14		0.08		20											
IB105 - Level 2 (low level contaminated soil)	5	100	100	180		2		40											
IB105 - Level 3 (contaminated soil)	50	1,000	1,080	1,800		20		200											
PFAS NEMP - unlined landfill										50		20							
PFAS NEMP - clay / single composite lined landfill										50		50							
PFAS NEMP - double composite lined landfill										50		50							

Sample ID_depth (m bgl)	Location	Date Sampled	Lab	Soil Type / Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			g/kg	-	Fibres	g/kg	g/kg
TP01_0.9	TP_01	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	**No**	-	-	**No**	**Yes**
TP01_1.2	TP_01	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
TP02_0.1	TP_02	19-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.0002	<0.0002	<0.0002	<0.0002	-	-	-	-	-	-	-
TP02_0.9	TP_02	19-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	**No**	-	-	**No**	**Yes**
TP02_1.9	TP_02	19-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
TP03 0.5	TP_03	19-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
TP03_1.4	TP_03	19-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
TP04_0.2	TP_04	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	**0.0003**	<0.0002	<0.0002	**0.0003**	-	-	-	-	-	-	-
TP04_1.0	TP_04	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
TP04_2.0	TP_04	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
TP05_0.2	TP_05	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	**0.0101**	<0.0002	**0.0004**	**0.0105**	-	-	**No**	-	-	**No**	**Yes**
TP05_0.6	TP_05	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	**1.2**	-	-	-	-	-	-	-	-	-	-	-
TP05_1.0	TP_05	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	**No**	-	-	**No**	**Yes**
TP06_0.2	TP_06	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
TP06_0.4	TP_06	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
TP06_0.7	TP_06	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	**No**	-	-	**No**	**Yes**
TP07_0.1	TP_07	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
TP07_0.5	TP_07	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
TP07_1.3	TP_07	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
TP08_0.1	TP_08	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	**0.0049**	<0.0002	**0.0002**	**0.0051**	-	-	-	-	-	-	-
TP08_0.4	TP_08	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
TP08_1.2	TP_08	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	**0.5**	**0.6**	**3.8**	-	-	-	-	-	-	**No**	-	-	**No**	**Yes**
TP09_0.1	TP_09	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	**0.5**	<0.0002	<0.0002	<0.0002	<0.0002	-	-	-	-	-	-	-
TP09_0.7	TP_09	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	**0.0037**	**0.0004**	**0.0005**	**0.0042**	-	-	**No**	-	-	**No**	**Yes**
TP09_1.0	TP_09	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
TP09_1.4	TP_09	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
TP10_0.2	TP_10	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
TP10_0.5	TP_10	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
TP10_1.1	TP_10	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	**No**	-	-	**No**	**Yes**
TP11_0.1	TP_11	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
TP11_0.4	TP_11	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	**1.3**	-	-	-	-	-	-	-	-	-	-	-
TP11_1.0	TP_11	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	**No**	-	-	**Yes**	**Yes**
TP11_1.5	TP_11	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
TP12_0.2	TP_12	19-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	**0.8**	**1**	**7.7**	-	-	-	-	-	-	-	-	-	-	-
TP12_1.0	TP_12	19-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	**3.2**	**4.2**	**36.6**	-	-	-	-	-	-	**No**	-	-	**No**	**Yes**
TP13_0.1	TP_13	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	**0.0003**	<0.0002	**0.0003**	**0.0006**	-	-	**No**	-	-	**No**	**Yes**
TP13_1.0	TP_13	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
TP13_1.4	TP_13	18-Feb-26	ALS		<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
Summary Statistics: Testpits				**Number of Data Points**	38	38	38	38	38	38	38	38	7	7	7	7	0	0	11	n/a	n/a	11	11
				Number of Detects	0	0	0	0	0	3	3	6	5	1	4	5	0	0	0			1	11
				Minimum	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.0002	<0.0002	<0.0002	<0.0002							
				Maximum	<0.2	<0.5	<0.5	<0.5	<1	3.2	4.2	36.6	0.0101	0.0004	0.0005	0.0105							
				Median	<0.2	<0.5	<0.5	<0.5	<1	0.8	1	2.55	0.0037	0.0004	0.0004	0.0042							
				Arithmetic Mean	<0.2	<0.5	<0.5	<0.5	<1	0.3	0.4	1.6	0.0039	0.0004	0.0004	0.0041							
				Standard Deviation	-	-	-	-	-	0.5	0.6	6.0	0.0040	-	0.0001	0.0041							
				95th Percentile	-	-	-	-	-	0.5	0.7	4.4	0.0091	0.0004	0.0005	0.0094							
				95% Confidence Interval	-	-	-	-	-	0.5	0.7	4.8	0.0035	0.0000	0.0001	0.0036							
				95% UCL (Mean + 95% Confidence Interval)	-	-	-	-	-	**0.9**	1.1	6.3	0.0074	0.0004	0.0005	0.0078							

Values <LOR are assigned 1/2 LOR for statistical calculations except where all values are <LOR

Legend:

	Human health criteria (National)
	Ecological criteria (National)
	Management limits (National)
	Disposal criteria (Tasmania)
Bold	Reported concentration exceeds at least one of the ecological criteria
Bold	Reported concentration exceeds at least one of the human health criteria plus at least one of the ecological criteria
	Reported concentration exceeds IB105 Level 1 - fill material and/or PFAS unlined landfill criterion
	Reported concentration exceeds IB105 - Level 2 - low-level contaminated soil and/or PFAS single lined landfill criterion
Bold	Reported concentration is greater than the LOR
Grey	Reported concentration is below the LOR
Red Text	Guideline criterion is less than the standard LOR
A	Generic EIL
B	Site-specific ACL for test pits / stockpiles, calculated from TP01_09, TP13_1, SP01 and SP10 ASC NEPM classification samples; guideline values are TP / SP order(refer to EIL calculations tab for details)
C	Generic ACL
D	Carcinogenic PAHs (as BaP TEQ at zero)
E	Total fluorotelomer (FTS) is the sum of 4:2FTS + 6:2FTS + 8:2FTS + 10:2FTS
F	Yes - asbestos detected by polarised light microscopy including dispersion staining
G	No - asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining
H	No - asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining; asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg
I	Interim ecological indirect exposure – all land uses (refer to Table 6 of PFAS NEMP 2025 for descriptors).
<	Less than value indicates result is less than the LOR
HIL / HSL	Health Investigation Level / Health Screening Level
EIL / ESL	Ecological Investigation Level / Ecological Screening Level
LOR	Limit of reporting
NL	Not limiting
ML	Management Limit
TEQ	Toxicity equivalent quotient
BaP	Benzo(a)pyrene
ACL	Added contaminant limit
PFOS	Perfluorooctane sulfonic acid
PFOA	Perfluorooctanoic acid
PFHxS	Perfluorohexane sulfonic acid
FTS	Fluorotelomer
Am	Amosite (brown asbestos)
Ch	Chrysotile (white asbestos)
Cr	Crocidolite (blue asbestos)
IB105	Does not apply to material classified as potential acid sulphate soil (PASS) or per - and poly – fluoroalkyl substances (PFAS)

References:

ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure 1999, amended 2013
CRC CARE	Technical Report No. 10 Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater September 2011, including errata August 2012
IB105	Information Bulletin No. 105 - Classification and Management of Contaminated Soil for Disposal, Version 3, 2018, Environment Protection Authority Tasmania
PFAS NEMP	PFAS National Environmental Management Plan, Version 3, 2025

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Version: 1, Version Date: 19/06/2026

SUMMARY RESULTS - SOIL / FILL MATERIAL

Project No: P.26.0075
Project Name: Incat ESA

				Analyte Grouping	Total Heavy Metals								Total Petroleum Hydrocarbons (TPH)					Total Recoverable Hydrocarbons (TRH)					BTEXN			
				Analyte	Arsenic	Cadmium	Chromium (total)	Copper	Lead	Nickel	Zinc	Mercury (total)	C6-C9	C10-C14	C15-C28	C29-C36	Sum (C10-C36)	C6-C10 minus BTEX (F1)	>C10-C16 minus Naphthalene (F2)	>C16-C34 (F3)	>C34-C40 (F4)	Sum (>C10-C40)	Benzene	Toluene	Ethylbenzene	Total Xylenes
				ASC NEPM - HIL/HSL D (vapour intrusion)	3,000	900	3,600 Cr(VI)	240,000	1,500	6,000	400,000	730 (inorganic)						260-NL (sand) 250-NL (silt) 310-NL (clay)	NL (all soil types)				3 (sand) 4-10 (silt) 4-20 (clay)	NL (all soil types)	NL (all soil types)	NL (all soil types)
				CRC CARE - HSL D (vapour intrusion)														(C6-C10) 260-NL (sand) 250-590 (silt) 310-NL (clay)	(>C10-C16) NL (all soil types and depths)				3 (sand) 4-6 (silt) 4-9 (clay)	NL (all soil types)	NL (all soil types)	230-NL (sand) NL (silt) NL (clay)
				CRC CARE - HSL D (direct contact)														26000 (C6-C10)	20000 (>C10-C16)	27,000	38,000		430	99,000	27,000	81,000
				CRC CARE - HSL (direct contact, intrusive maintenance worker - shallow trench)														82,000 (C6-C10)	62,000 (>C10-C16)	85,000	120,000		1,100	120,000	85,000	130,000
				PFAS NEMP HIL D (direct contact)																						
				ASC NEPM - EIL/ESL (areas of ecological significance)	40		150 / 130[B] Cr(III)	80/75[B]	470[C]	60/50[B]	220/180[B]							125 (coarse / fine)	25 (coarse / fine)				8 (coarse) 10 (fine)	10 (coarse) 65 (fine)	1.5 (coarse) 40 (fine)	10 (coarse) 1.6 (fine)
				ASC NEPM - EIL/ESL (commercial / industrial)	160[A]		710/630[B] Cr(III)	320/330[B]	1,800[C]	510/390[B]	1300/940[B]							215 (coarse / fine)	170 (coarse / fine)	1,700 (coarse) 2,500 (fine)	3,300 (coarse) 6,600 (fine)		75 (coarse) 95 (fine)	135 (coarse / fine)	165 (coarse) 185 (fine)	180 (coarse) 95 (fine)
				PFAS NEMP - ecological direct exposure (all land uses)																						
				PFAS NEMP - ecological indirect exposure (all land uses)																						
				ASC NEPM - ML (commercial / industrial)														700 (coarse) 800 (fine)	1,000 (coarse / fine)	3,500 (coarse) 5,000 (fine)	10,000 (coarse / fine)					
				IB105 - Level 1 (fill material)	20	3	50	100	300	60	200	1	65				1,000	65 (C6-C9)				1,000 (C10-C36)	1	1	3	14
				IB105 - Level 2 (low level contaminated soil)	200	40	500	2,000	1,200	600	14,000	30	650				5,000	650 (C6-C9)				5,000 (C10-C36)	5	100	100	180
				IB105 - Level 3 (contaminated soil)	750	400	5,000	7,500	3,000	3,000	50,000	110	1,000				10,000	1,000 (C6-C9)				10,000 (C10-C36)	50	1,000	1,080	1,800
				PFAS NEMP - unlined landfill																						
				PFAS NEMP - clay / single composite lined landfill																						
				PFAS NEMP - double composite lined landfill																						
Sample ID_depth (m bgl)	**Location**	**Date Sampled**	**Lab**	**Soil Type / Units**	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SP01	SP01	18-Feb-26	ALS	Sand with blue gravel	<5	<1	**12**	**56**	<5	**23**	**47**	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP02	SP02	18-Feb-26	ALS	Sand gravel	<5	<1	<2	**5**	**21**	**13**	**71**	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP03	SP03	18-Feb-26	ALS	Soil rock	<5	**2**	**16**	**40**	**57**	**15**	**380**	**0.2**	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP04	SP04	18-Feb-26	ALS	Yellow sand gravel	<5	<1	**15**	**70**	**6**	**21**	**52**	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP05	SP05	18-Feb-26	ALS	Soil gravel boulders	**8**	**5**	**44**	**114**	**529**	**34**	**820**	**1.4**	<10	<50	**140**	**310**	**450**	<10	<50	**340**	**350**	**690**	<0.2	<0.5	<0.5	<0.5
SP06	SP06	18-Feb-26	ALS	Silt Gravel	<5	<1	**10**	**36**	**8**	**17**	**35**	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP07	SP07	18-Feb-26	ALS	Gravel silt	<5	<1	**19**	**57**	**22**	**69**	**79**	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP08	SP08	18-Feb-26	ALS	Clay silt	<5	<1	**43**	**74**	**11**	**32**	**30**	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP09	SP09	18-Feb-26	ALS	Dirt silt with gravel	<5	<1	**28**	**16**	**9**	**20**	**36**	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP10	SP10	18-Feb-26	ALS	Silt gravel Fill	<5	<1	**26**	**42**	**35**	**43**	**114**	<0.1	<10	<50	<100	<100	<50	<10	<50	**110**	<100	**110**	<0.2	<0.5	<0.5	<0.5
SP11	SP11	18-Feb-26	ALS	Sand silt	<5	<1	**12**	**6**	<5	**5**	**6**	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP12	SP12	18-Feb-26	ALS	Gravel silt	<5	<1	**22**	**14**	<1	**10**	**19**	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP13	SP13	18-Feb-26	ALS	Sandy gravel	<5	<1	**10**	**8**	<5	**5**	**7**	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP14	SP14	18-Feb-26	ALS	Blue gravel sandy	<5	<1	**11**	**11**	<5	**5**	**7**	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP15	SP15	18-Feb-26	ALS	Sandy gravel	<5	<1	**11**	<5	<5	<2	<5	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP16	SP16	18-Feb-26	ALS	Gravelly silts	<5	<1	**22**	**19**	**8**	**14**	**17**	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP17	SP17	18-Feb-26	ALS	Sandy Gravel	<5	<1	**14**	<5	<5	<2	<5	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP18	SP18	18-Feb-26	ALS	Sandy clay	<5	<1	**15**	<5	<5	**4**	**11**	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP19	SP19	18-Feb-26	ALS	Sandy gravel	<5	<1	**14**	<5	<5	<2	<5	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP20	SP20	18-Feb-26	ALS	Sandy gravel	<5	<1	**15**	<5	<5	<2	**7**	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP21	SP21	18-Feb-26	ALS	Gravel silt	<5	<1	**28**	<5	<5	<2	<5	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP22	SP22	18-Feb-26	ALS	Gravel silt	<5	<1	**11**	<5	<5	**2**	<5	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP23	SP23	18-Feb-26	ALS	Gravel silt	<5	<1	**12**	<5	<5	**5**	**19**	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP24	SP24	18-Feb-26	ALS	Gravel sand	<5	<1	**7**	**8**	<5	**7**	**9**	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP25	SP25	18-Feb-26	ALS	Clay sand	<5	<1	**17**	**10**	**6**	**10**	**8**	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP26	SP26	18-Feb-26	ALS	Gravel sand	<5	<1	**21**	**14**	**9**	**13**	**13**	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP27	SP27	18-Feb-26	ALS	Sand clay	<5	<1	**11**	<5	<5	**4**	<5	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP28	SP28	18-Feb-26	ALS	Gravel sand	<5	<1	**17**	**13**	**7**	**13**	**15**	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP29	SP29	19-Feb-26	ALS	Gravel sand	<5	<1	**21**	**9**	**5**	**5**	**10**	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
SP30	SP30	19-Feb-26	ALS	Sandy gravel	<5	<1	**11**	<5	<5	**3**	**6**	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
ACM1	n/a	18-Feb-26	ALS	sheeting fragment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ACM2	n/a	18-Feb-26	ALS	sheeting fragment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Summary Statistics: Stockpiles				**Number of Data Points**	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
				Number of Detects	1	2	29	20	14	25	24	2	0	0	1	1	1	0	0	2	1	2	0	0	0	0
				Minimum	<5	<1	<2	<5	<5	<2	<5	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	110	<0.2	<0.5	<0.5	<0.5
				Maximum	8	5	44	114	529	69	820	1.4	<10	<50	140	310	450	<10	<50	340	350	690	<0.2	<0.5	<0.5	<0.5
				Median	8	3.5	15	15	9	13	18	0.8	<10	<50	140	310	450	<10	<50	225	350	400	<0.2	<0.5	<0.5	<0.5
				Arithmetic Mean	2.7	0.7	17.2	21.6	25.7	13.2	61.1	0.1	<10	<50	53.0	58.7	39.2	<10	<50	61.7	60.0	50.0	<0.2	<0.5	<0.5	<0.5
				Standard Deviation	1.0	0.9	9.4	27.7	95.8	15.0	159.7	0.2	-	-	16.4	47.5	77.6	-	-	53.7	54.8	121.9	-	-	-	-
				95th Percentile	2.5	1.3	36.3	72.2	47.1	39.0	260.3	0.1	-	-	50.0	50.0	25.0	-	-	83.0	50.0	71.7	-	-	-	-
				95% Confidence Interval	2.0	1.2	3.4	12.1	50.2	5.9	63.9	0.3	-	-	32.2	93.0	152.1	-	-	74.4	107.4	168.9	-	-	-	-
				95% UCL (Mean + 95% Confidence Interval)	4.7	1.9	20.6	33.7	75.9	19.1	125.0	0.4	-	-	85.2	151.7	191.2	-	-	136.1	167.4	218.9	-	-	-	-

Values <LOR are assigned 1/2 LOR for statistical calculations except where all values are <LOR

Legend:

	Human health criteria (National)
	Ecological criteria (National)
	Management limits (National)
	Disposal criteria (Tasmania)
Bold	Reported concentration exceeds at least one of the ecological criteria
Bold	Reported concentration exceeds at least one of the human health criteria plus at least one of the ecological criteria
	Reported concentration exceeds IB105 Level 1 - fill material and/or PFAS unlined landfill criterion
	Reported concentration exceeds IB105 - Level 2 - low-level contaminated soil and/or PFAS single lined landfill criterion
Bold	Reported concentration is greater than the LOR
Grey	Reported concentration is below the LOR
Red Text	Guideline criterion is less than the standard LOR
A	Generic EIL
B	Site-specific ACL for test pits / stockpiles, calculated from TP01_09, TP13_1, SP01 and SP10 ASC NEPM classification samples; guideline values are TP / SP order(refer to EIL calculations tab for details)
C	Generic ACL
D	Carcinogenic PAHs (as BaP TEQ at zero)
E	Total fluorotelomer (FTS) is the sum of 4:2FTS + 6:2FTS + 8:2FTS + 10:2FTS
F	Yes - asbestos detected by polarised light microscopy including dispersion staining
G	No - asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining
H	No - asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining; asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg
I	Interim ecological indirect exposure – all land uses (refer to Table 6 of PFAS NEMP 2025 for descriptors).
<	Less than value indicates result is less than the LOR
HIL / HSL	Health Investigation Level / Health Screening Level
EIL / ESL	Ecological Investigation Level / Ecological Screening Level
LOR	Limit of reporting
NL	Not limiting
ML	Management Limit
TEQ	Toxicity equivalent quotient
BaP	Benzo(a)pyrene
ACL	Added contaminant limit
PFOS	Perfluorooctane sulfonic acid
PFOA	Perfluorooctanoic acid
PFHxS	Perfluorohexane sulfonic acid
FTS	Fluorotelomer
Am	Amosite (brown asbestos)
Ch	Chrysotile (white asbestos)
Cr	Crocidolite (blue asbestos)
IB105	Does not apply to material classified as potential acid sulphate soil (PASS) or per - and poly – fluoroalkyl substances (PFAS)

References:

ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure 1999, amended 2013
CRC CARE	Technical Report No. 10 Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater September 2011, including errata August 2012
IB105	Information Bulletin No. 105 - Classification and Management of Contaminated Soil for Disposal, Version 3, 2018, Environment Protection Authority Tasmania
PFAS NEMP	PFAS National Environmental Management Plan, Version 3, 2025

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SUMMARY RESULTS - SOIL / FILL MATERIAL

Project No: P.26.0075
Project Name: Incat ESA

				Analyte Grouping		Polycyclic Aromatic Hydrocarbons (PAH)			Per- and Poly-fluroalkyl Substances (PFAS)				Asbestos solids		Asbestos and other Fibres				
				Analyte	Naphthalene	Benzo[a]pyrene	Carcinogenic PAHs (as BaP TEQ)[D]	Total PAHs	PFOS	PFOA	PFHxS	PFOS+PFHxS	presence / absence	type	Presence / Absence	Type	Detectable Respirable Fibres	Synthetic Mineral Fibre	Organic Fibre
				ASC NEPM - HIL/HSL D (vapour intrusion)	NL (all soil types)		40	4,000											
				CRC CARE - HSL D (vapour intrusion)	NL (all soil types)														
				CRC CARE - HSL D (direct contact)	11,000														
				CRC CARE - HSL (direct contact, intrusive maintenance worker - shallow trench)	29,000														
				PFAS NEMP HIL D (direct contact)						50		20							
				ASC NEPM - EIL/ESL (areas of ecological significance)	10[A]	0.7 (coarse/ fine)													
				ASC NEPM - EIL/ESL (commercial / industrial)	370[A]	1.4 (coarse/ fine)													
				PFAS NEMP - ecological direct exposure (all land uses)					1	10									
				PFAS NEMP - ecological indirect exposure (all land uses)					0.003[I]										
				ASC NEPM - ML (commercial / industrial)															
				IB105 - Level 1 (fill material)		0.08		20											
				IB105 - Level 2 (low level contaminated soil)		2		40											
				IB105 - Level 3 (contaminated soil)		20		200											
				PFAS NEMP - unlined landfill						50		20							
				PFAS NEMP - clay / single composite lined landfill						50		50							
				PFAS NEMP - double composite lined landfill						50		50							
Sample ID_depth (m bgl)	**Location**	**Date Sampled**	**Lab**	**Soil Type / Units**	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			g/kg	-	Fibres	g/kg	g/kg
SP01	SP01	18-Feb-26	ALS	Sand with blue gravel	<1	<0.5	<0.5	<0.5	<0.0002	<0.0002	<0.0002	<0.0002	-	-	-	-	-	-	-
SP02	SP02	18-Feb-26	ALS	Sand gravel	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP03	SP03	18-Feb-26	ALS	Soil rock	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP04	SP04	18-Feb-26	ALS	Yellow sand gravel	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP05	SP05	18-Feb-26	ALS	Soil gravel boulders	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP06	SP06	18-Feb-26	ALS	Silt Gravel	<1	<0.5	<0.5	<0.5	<0.0002	<0.0002	<0.0002	<0.0002	No	n/a	-	-	-	-	-
SP07	SP07	18-Feb-26	ALS	Gravel silt	<1	<0.5	<0.5	**1.5**	-	-	-	-	-	-	-	-	-	-	-
SP08	SP08	18-Feb-26	ALS	Clay silt	<1	**2.1**	**2.7**	**17.3**	-	-	-	-	-	-	-	-	-	-	-
SP09	SP09	18-Feb-26	ALS	Dirt silt with gravel	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP10	SP10	18-Feb-26	ALS	Silt gravel Fill	<1	**0.7**	**0.8**	**4.7**	**0.0003**	<0.0002	<0.0002	**0.0003**	-	-	-	-	-	-	-
SP11	SP11	18-Feb-26	ALS	Sand silt	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP12	SP12	18-Feb-26	ALS	Gravel silt	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP13	SP13	18-Feb-26	ALS	Sandy gravel	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP14	SP14	18-Feb-26	ALS	Blue gravel sandy	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP15	SP15	18-Feb-26	ALS	Sandy gravel	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP16	SP16	18-Feb-26	ALS	Gravelly silts	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP17	SP17	18-Feb-26	ALS	Sandy Gravel	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP18	SP18	18-Feb-26	ALS	Sandy clay	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP19	SP19	18-Feb-26	ALS	Sandy gravel	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP20	SP20	18-Feb-26	ALS	Sandy gravel	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP21	SP21	18-Feb-26	ALS	Gravel silt	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP22	SP22	18-Feb-26	ALS	Gravel silt	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	**No**	-	-	**No**	**Yes**
SP23	SP23	18-Feb-26	ALS	Gravel silt	<1	<0.5	<0.5	<0.5	**0.122**	**0.0003**	**0.0042**	**0.126**	-	-	-	-	-	-	-
SP24	SP24	18-Feb-26	ALS	Gravel sand	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP25	SP25	18-Feb-26	ALS	Clay sand	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP26	SP26	18-Feb-26	ALS	Gravel sand	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP27	SP27	18-Feb-26	ALS	Sand clay	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	**No**	-	-	**No**	**Yes**
SP28	SP28	18-Feb-26	ALS	Gravel sand	<1	<0.5	<0.5	<0.5	<0.0002	<0.0002	<0.0002	<0.0002	-	-	-	-	-	-	-
SP29	SP29	19-Feb-26	ALS	Gravel sand	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
SP30	SP30	19-Feb-26	ALS	Sandy gravel	<1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
ACM1	n/a	18-Feb-26	ALS	sheeting fragment	-	-	-	-	-	-	-	-	No	n/a	-	-	-	-	-
ACM2	n/a	18-Feb-26	ALS	sheeting fragment	-	-	-	-	-	-	-	-	**Yes**	**Ch+Am+Cr**	-	-	-	-	-
Summary Statistics: Stockpiles				**Number of Data Points**	30	30	30	30	5	5	5	5	3	3	2	n/a	n/a	2	2
				Number of Detects	0	2	2	3	2	1	1	2	1	1	0			0	2
				Minimum	<1	<0.5	<0.5	<0.5	<0.0002	<0.0002	<0.0002	<0.0002							
				Maximum	<1	2.1	2.7	17.3	0.122	0.0003	0.0042	0.126							
				Median	<1	1.4	1.8	4.7	0.06	0.0003	0.0042	0.06315							
				Arithmetic Mean	<1	0.3	0.4	1.0	0.06	0.0003	0.0042	0.06315							
				Standard Deviation	-	0.3	0.5	3.2	0.09	-	-	0.09							
				95th Percentile	-	0.5	0.6	3.3	0.12	0.0003	0.0042	0.119715							
				95% Confidence Interval	-	0.5	0.6	3.6	0.12	0	0	0.1231837							
				95% UCL (Mean + 95% Confidence Interval)	-	**0.8**	1.0	4.6	0.18	0.0003	0.0042	0.1863337							

Values <LOR are assigned 1/2 LOR for statistical calculations except where all values are <LOR

Legend:

	Human health criteria (National)
	Ecological criteria (National)
	Management limits (National)
	Disposal criteria (Tasmania)
Bold	Reported concentration exceeds at least one of the ecological criteria
Bold	Reported concentration exceeds at least one of the human health criteria plus at least one
	Reported concentration exceeds IB105 Level 1 - fill material and/or PFAS unlined landfill cri
	Reported concentration exceeds IB105 - Level 2 - low-level contaminated soil and/or PFAS
Bold	Reported concentration is greater than the LOR
Grey	Reported concentration is below the LOR
Red Text	Guideline criterion is less than the standard LOR
A	Generic EIL
B	Site-specific ACL for test pits / stockpiles, calculated from TP01_09, TP13_1, SP01 and SP1
C	Generic ACL
D	Carcinogenic PAHs (as BaP TEQ at zero)
E	Total fluorotelomer (FTS) is the sum of 4:2FTS + 6:2FTS + 8:2FTS + 10:2FTS
F	Yes - asbestos detected by polarised light microscopy including dispersion staining
G	No - asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including
H	No - asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy includi
I	Interim ecological indirect exposure – all land uses (refer to Table 6 of PFAS NEMP 2025 fo
<	Less than value indicates result is less than the LOR
HIL / HSL	Health Investigation Level / Health Screening Level
EIL / ESL	Ecological Investigation Level / Ecological Screening Level
LOR	Limit of reporting
NL	Not limiting
ML	Management Limit
TEQ	Toxicity equivalent quotient
BaP	Benzo(a)pyrene
ACL	Added contaminant limit
PFOS	Perfluorooctane sulfonic acid
PFOA	Perfluorooctanoic acid
PFHxS	Perfluorohexane sulfonic acid
FTS	Fluorotelomer
Am	Amosite (brown asbestos)
Ch	Chrysotile (white asbestos)
Cr	Crocidolite (blue asbestos)
IB105	Does not apply to material classified as potential acid sulphate soil (PASS) or per - and poly

References:

ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure 1999, amer
CRC CARE	Technical Report No. 10 Health Screening Levels for Petroleum Hydrocarbons in Soil and Gr
IB105	Information Bulletin No. 105 - Classification and Management of Contaminated Soil for Dis
PFAS NEMP	PFAS National Environmental Management Plan, Version 3, 2025

Document Set ID: 3625399
Version: 1, Version Date: 19/06/2026

Project No: P.26.0075Project Name: Incat ESA

Site Specific EIL Calculations - using ASC NEPM EIL Calculation Spreadsheet

Sample ID	Units	TP01_09		TP13_1.0		SP01		SP10		Site-Specific EIL (TEST PITS) (most conservative aged value)	Site-Specific EIL (STOCKPILES) (most conservative aged value)
Inputs											
CEC	cmolc/kg	31.7		23.1		15.5		22.3			
pH ($CaCl_2$ method)	pH units	7.5		7.3		7.6		7.3			
Organic Carbon Content	%	0.8		0.6		<0.5		2.5			
Iron Content	%	3.64		3.31		2.5		3.02			
Clay Content	%	21		12		11		8			
State (or nearest State)	--	VIC		VIC		VIC		VIC			
Traffic Volume	--	high		high		high		high			
Outputs - Soil-Specific EILs		**Fresh**	**Aged**	**Fresh**	**Aged**	**Fresh**	**Aged**	**Fresh**	**Aged**		
Chromium III										**Cr(III) (ACL)**	**Cr(III) (ACL)**
National parks and areas of high conservation value	mg/kg	110	170	95	150	90	140	90	130	150	130
Urban residential and open public spaces	mg/kg	250	520	210	430	200	420	190	380	430	380
Commercial and industrial	mg/kg	390	860	320	710	310	690	290	630	710	630
Copper										**Cu (ACL)**	**Cu (ACL)**
National parks and areas of high conservation value	mg/kg	70	80	65	80	60	75	65	80	80	75
Urban residential and open public spaces	mg/kg	130	230	120	220	120	210	120	220	220	210
Commercial and industrial	mg/kg	180	330	180	320	170	310	180	320	320	310
Nickel										**Ni (ACL)**	**Ni (ACL)**
National parks and areas of high conservation value	mg/kg	30	70	30	60	20	50	25	60	60	50
Urban residential and open public spaces	mg/kg	130	370	110	300	85	230	100	300	300	230
Commercial and industrial	mg/kg	240	630	200	510	150	390	190	500	510	390
Zinc										**Zn (ACL)**	**Zn (ACL)**
National parks and areas of high conservation value	mg/kg	120	270	100	220	75	180	95	220	220	180
Urban residential and open public spaces	mg/kg	410	1100	320	830	240	620	310	810	830	620
Commercial and industrial	mg/kg	630	1600	500	1300	370	940	480	1200	1300	940

Notes:

Aged values apply to contamination present for at least two years

ACL - Added contaminant limit

CEC - Cation exchange capacity

EIL - Ecological Investigation Level

Most conservative ACL value used for each sample type

Document Set ID: 36255399
Version: 1, Version Date: 09/06/2026

SUMMARY RESULTS - TRIPLICATES (SOIL)

Project No: P.26.0075
Project Name: Incat ESA

			Analyte Group	Heavy Metals								TPH					TRH					BTEXN					PAH		
			Analyte	Arsenic	Cadmium	Chromium (total)	Copper	Lead	Nickel	Zinc	Mercury (total)	C6-C9	C10-C14	C15-C28	C29-C36	Sum (C10-C36)	C6-C10 minus BTEX (F1)	>C10-C16 minus Naphthalene (F2)	>C16-C34 (F3)	>C34-C40 (F4)	Sum (>C10-C40)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Naphthalene	Benzo(a)pyrene	Carcinogenic PAHs (as BaP TEQ)	Total PAHs
			ALS LORs	5	1	2	5	5	2	5	0.1	10	50	100	100	50	10	50	100	100	50	0.2	0.5	0.5	0.5	1	0.5	0.5	0.5
Sample ID	**Date sampled**	**Laboratory**	**Units**	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Tp11_1.0	18-Feb-26	ALS		<5	2	15	28	93	14	256	2.9	<10	<50	<100	<100	<50	<10	<50	120	<100	120	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
QCP01	18-Feb-26	ALS		<5	3	15	30	139	11	226	2.2	<10	<50	<100	<100	<50	<10	<50	<100	<100	120	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
RPD				ND	40	0	7	40	24	12	27	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	ND	ND	ND	ND	ND	ND	ND	ND
Tp11_1.0	18-Feb-26	ALS		<5	2	15	28	93	14	256	2.9	<10	<50	<100	<100	<50	<10	<50	120	<100	120	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
QCS01	18-Feb-26	Eurofins		4	2	13	28	120	14	240	2	< 20	< 20	<50	<50	<50	<20	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5
RPD				ND	16	14	0	25	0	6	23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tp01_1.2	18-Feb-26	ALS		<5	1	15	39	29	25	192	6.9	<10	<50	<100	340	340	<10	<50	280	440	<50	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
QCP04	18-Feb-26	ALS		<5	4	25	58	52	24	332	20	<10	<50	<100	<100	<50	<10	<50	<100	<100	120	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
RPD				ND	120	50	39	57	4	53	99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tp01_1.2	18-Feb-26	ALS		<5	1	15	39	29	25	192	6.9	<10	<50	<100	340	340	<10	<50	280	440	<50	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
QCS04	18-Feb-26	Eurofins		3.4	3.3	22	65	56	25	330	2.3	< 20	< 20	<50	<50	<50	<20	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5
RPD				ND	107	38	50	64	0	53	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP01	18-Feb-26	ALS		<5	<1	12	56	<5	23	47	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
TRIP1	18-Feb-26	ALS		<5	1	8	19	<5	17	21	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	120	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
RPD				ND	ND	40	99	ND	30	76	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP01	18-Feb-26	ALS		<5	<1	12	56	<5	23	47	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
TRIP 2	18-Feb-26	Eurofins		<2	<0.4	9.2	35	<5	19	33	<0.1	< 20	< 20	<50	<50	<50	<20	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5
RPD				ND	ND	26	46	ND	19	35	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP11	18-Feb-26	ALS		<5	<1	12	6	<5	5	6	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
Trip 3	18-Feb-26	ALS		<5	<1	12	7	<5	6	6	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	120	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
RPD				ND	ND	0	15	ND	18	0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP11	18-Feb-26	ALS		<5	<1	12	6	<5	5	6	<0.1	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
Trip 4	18-Feb-26	Eurofins		<2	0	12	8	<5	7	8	<0.1	< 20	< 20	<50	<50	<50	<20	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5
RPD				ND	ND	0	32	ND	35	29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Legend:

	Passed criteria
	Could not be determined (e.g. not tested for that analyte)
	Failed criteria
A	Total fluorotelomer (FTS) is the sum of 4:2FTS + 6:2FTS + 8:2FTS + 10:2FTS
B	Yes - asbestos detected by polarised light microscopy including dispersion staining
C	No - asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining
D	No - asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining; asbestos material was detected a
LOR	Limit of reporting
Bold	Value is greater than the LOR
Grey	Reported concentration is below the LOR
--	Not tested
RPD	Relative percentage difference
ND	Not determined as one value is less than LOR
NA	No RPD limit applies
PFOS	Perfluorooctane sulfonic acid
PFOA	Perfluorooctanoic acid
PFHxS	Perfluorohexane sulfonic acid

$$RPD = \frac{Result1 - Result2}{Mean\ Result} * 100$$

No RPD limit applies where values reported by laboratory are less than two times the LOR
Where values reported by laboratory are less than 20 times the LOR, then the calculated RPD should be less than 50%
Where values reported by laboratory are 20 to 100 times the LOR, then the calculated RPD should be less than 30%
Where values reported by laboratory are greater than 100 times the LOR, then the calculated RPD should be less than 15%

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SUMMARY RESULTS - TRIP BLANKS (SOIL)

Project No: P.26.0075 Project Name: Incat ESA			Analyte Grouping	Total Petroleum Hydrocarbons (TPH)					Total Recoverable Hydrocarbons (TRH)					BTEXN				
			Analyte	C6-C9	C10-C14	C15-C28	C29-C36	Sum (C10-C36)	C6-C10 minus BTEX (F1)	>C10-C16 minus Naphthalene (F2)	>C16-C34 (F3)	>C34-C40 (F4)	Sum (>C10-C40)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Naphthalene
			ALS LORs	10	50	100	100	50	10	50	100	100	50	0.2	0.5	0.5	0.5	1
Sample ID	**Date submitted**	**Laboratory**	**Units**	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
TRIPBLANK	19-Feb-26	ALS		<10	--	--	--	--	<10	--	--	--	--	<0.2	<0.5	<0.5	<0.5	<1
QA/QC Assessment				P	--	--	--	--	P	--	--	--	--	P	P	P	P	P

Legend:

P	Passed
D	Detected
--	Not tested
Bold	Reported concentration is greater than the laboratory LOR
Grey	Reported concentration is below the LOR
LOR	Limit of reporting

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pitt&sherry

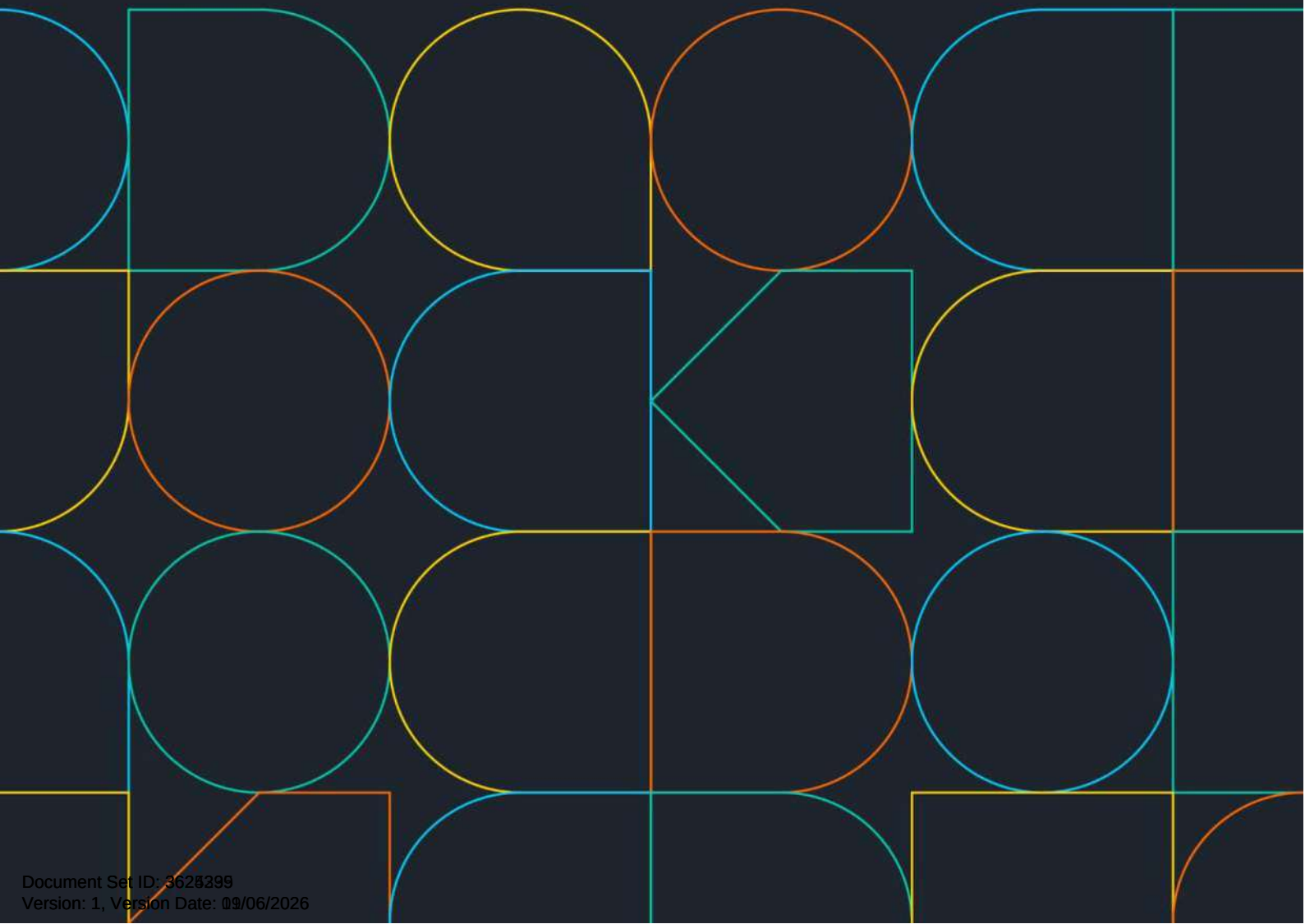
Environmental Site Assessment

100 Derwent Park Road, Derwent Park

Pitt & Sherry (Operations) Pty Ltd
ABN 67 140 184 309

Phone 1300 748 874
info@pittsh.com.au
pittsh.com.au

Located nationally —
Melbourne
Sydney
Brisbane
Hobart
Launceston
Newcastle
Devonport



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ENGINEERING AND PROJECT MANAGEMENT

Burbury
CONSULTING

PROJECT

Construction Environmental Management Plan – Chandlers Shed, Reclamation and Wharf

CLIENT

Incat Tasmania Pty Ltd

DATE

May 2026

287 Macquarie Street, Hobart 7000
PO Box 354, South Hobart, 7004
admin@burburyconsulting.com.au
www.burburyconsulting.com.au
Tel 03 6223 8007
Fax 03 6212 0642
Burbury Consulting Pty Ltd
ABN 75 146 719 959

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Burbury Consulting Pty Ltd ACN 146 719 959
287 Macquarie Street, Hobart, TAS 7000

P. 03 6223 8007 F. 03 6212 0642
admin@burburyconsulting.com.au
www.burburyconsulting.com.au

Revision History

Author		N.Palfreyman	**Email**	npalfreyman@burburyconsulting.com.au		
Document Number		2044-PLN-Incat Chandlers Shed & Wharf CEMP	**Revision**	B		
Client Document Number		N/A				
A	07/05/2026	For internal review	NP	JB	JB	JB
B	08/05/2026	For Draft submission	NP	JB	JB	JB
Rev	**Date**	**Revision Description**	**Author**	**Checked**	**Approved**	**Principal**

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1. Introduction and Purpose

1.1 Introduction

This Construction Environmental Management Plan (CEMP) has been developed for Incat Tasmanian Pty Ltd (Incat) for their new boat building shed, reclamation and wharf facility. This CEMP addresses the required construction and environmental management controls for the request for further information (RFI's) outlined in the Glenorchy City Council (GCC) planning permit PLN–25–367.

Management of identified environmental risks are described within this CEMP along with detailed descriptions of the controls and actions required for potential environmental impact resulting from project reclamation and construction works.

This CEMP is a management tool used to identify and implement the controls and mitigations for potential risk arising from the construction activities, including the following:

- Community Awareness;
- Waste Management;
- Aquatic Environment;
- Reclamation Management;
- Noise Emissions;
- Hazardous Materials;
- Traffic (including navigation);
- Design and Construction;
- Erosion and Sedimentation;
- Air Quality; and
- Cultural Heritage (European & Aboriginal).

The project aims to ensure that environmental management will be appropriately planned, implemented and maintained, following the principles of Best Practice Environmental Management (BPEM) to drive compliance and efficient record keeping throughout all stages of the Project.

The key objectives of the Project are as follows:

- To define the processes for ensuring that the environmental requirements of the project are implemented to the satisfaction of the regulatory authorities including, Local, State and Commonwealth Governments;
- To define the processes for monitoring and reporting conformance with the project environmental requirements;
- To establish processes for assessing effectiveness of environmental controls and providing for continual improvement in environmental performance as the contract works progress;
- To establish the reporting processes for incidents and for routine activities;
- Ensure all works are completed to current accepted standards and practices in respect of design, construction, operations and safety so that the security of Incat and associated assets is assured during the works and in the future;
- In carrying out the works achieve a safety standard for those involved in the works, the ongoing operation and general use at Incat and its surroundings that is equal to today's best practice;

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- Community - reduce and avoid any nuisance to the neighbours and local community as a result of the works; and
- Comply with the GCC request for further information outlined in planning application PLN-25-367.

1.2 Site Location

The Incat site is located at their existing boat manufacturing operations at 100 Derwent Park Road, Derwent Park, in the municipality of the GCC (Figure 1.1). The site, having a waterfront boundary to the River Derwent, has been developed to build catamarans and fast ferries within roofed sheds. The adjacent land and marine waters support a significant amount of recreational, commercial and industrial activities and is a highly modified environment.

The Incat site consists of the following key facilities:

- Ship building sheds and associated infrastructure; and
- Land associated facilities (hard stands, offices, fast ferry museum, parking and amenities).

Figure 1.1 Location Plan

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1.3 Proposed Works

The works are to include the construction of a new ship building shed, wet dock and wharf (Figure 1.2). To ensure an adequate construction footprint can be established, some reclamation works are required and will extend into the adjacent waters.

The proposed new shed will be 120 metres (m) long, 40.81m wide and 25m high, above the proposed ground level and of similar form to existing longer ship building sheds (Coverdales and Wilsons Sheds). To ensure safe and efficient access to the adjacent waters a 30m long wet dock is required, with sheet piling installed around three (3) sides of the wet dock perimeter.

In addition to the shed, a 6m wide wharf will also be constructed northwest of the new shed of similar form to the existing wharf extending from Coverdales Shed.

All reclamation edges will be either formed with armour rock or sheet piling on the water side to protect and stabilise the new shoreline.

Figure 1.2 Site Plan

Figure 1.2 above outlines the proposed new hardstand and shed platform (green), proposed area for construction of the wet dock (brown) and outline of the seawalls (outer seaward side of new shed and adjacent to Wilsons Shed).

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1.4 The Proponent – Incat Tasmania Pty Ltd

Incat was established in 1977 and has steadily grown into a world leader in the design and construction of high-speed aluminium catamarans. Currently Incat is setting the standard in electric aluminium shipbuilding, delivering the world's largest, most advanced and sustainable ferries.

Incat is the proponent for this activity and its registered address is:

Incat Tasmania Pty Ltd

100 Derwent Park Road

Derwent Park TAS 7009

ABN 93 054 616 410

1.4.1 Nominated Responsible Person - Project Manager

The nominated responsible person for the project will be the Project Manager - John Smith.

The Project Manager will be responsible for:

- Providing leadership and resources to ensure compliance with project legal and other requirements and to oversee the implementation of the CEMP;
- Reviewing and authorise the CEMP prior to the Plan being issued for construction;
- Ensure the CEMP is reviewed in response to changes in environmental legislation, environmental incident, internal or external audit findings or as part of any periodic review process specified by Incat; and
- Delegate certain environmental responsibilities to other staff but remains accountable for the overall management of project environmental aspects and impacts.

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2. Planning and Approvals

The project is seeking approval from the Glenorchy City Council (GCC) Planning Authority – Planning Permit (PLN-25-367). As part of this process have issued a further information request. Item #1 under the Request for Information (RFI) from GCC requires a Construction Environmental Management Plan (CEMP) to address items outlined in their letter dated 10 April 2026, issued to Gray Planning.

The RFI is subject to a variety of conditions including (but not limited to):

- Pre-commencement requirements;
- Construction and operational controls and requirements; and
- Environmental controls and requirements;

This CEMP provides the environmental management objectives, strategies and actions to capture this RFI, and how management controls will be applied to on-site activities during the project.

With the approval requirements (planning permit conditions) for the project still being confirmed through the planning process. Relevant approval conditions will be reviewed and updated within the CEMP when received.

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3. Construction Methodology and Schedule

The following outlines the methodology and requirements for the construction activities for the project.

The shed, wet dock, wharf and associated works incorporate the following:

- Excavation earthworks and filling on the seaward side of the Lucas and Wilson Shed to form reclaimed building pad with temporary rock protection along mean sea level to minimise erosion during the works.
- Filling of the landside to suitable ground level and temporary drainage and sediment control;
- Completion of the reclamation and rock armouring of the outer seawall with armour rock, secondary rock and filter rock with geofabric from top of new embankment to low water level;
- Sheet piling and piling installation to form the wet dock and foundation support for the building and wharf;
- Services connections (water, electrical, sewage, stormwater, gas etc.)
- Installation and construction of the shed, wet dock and wharf; and
- Hardstand area and car parking.

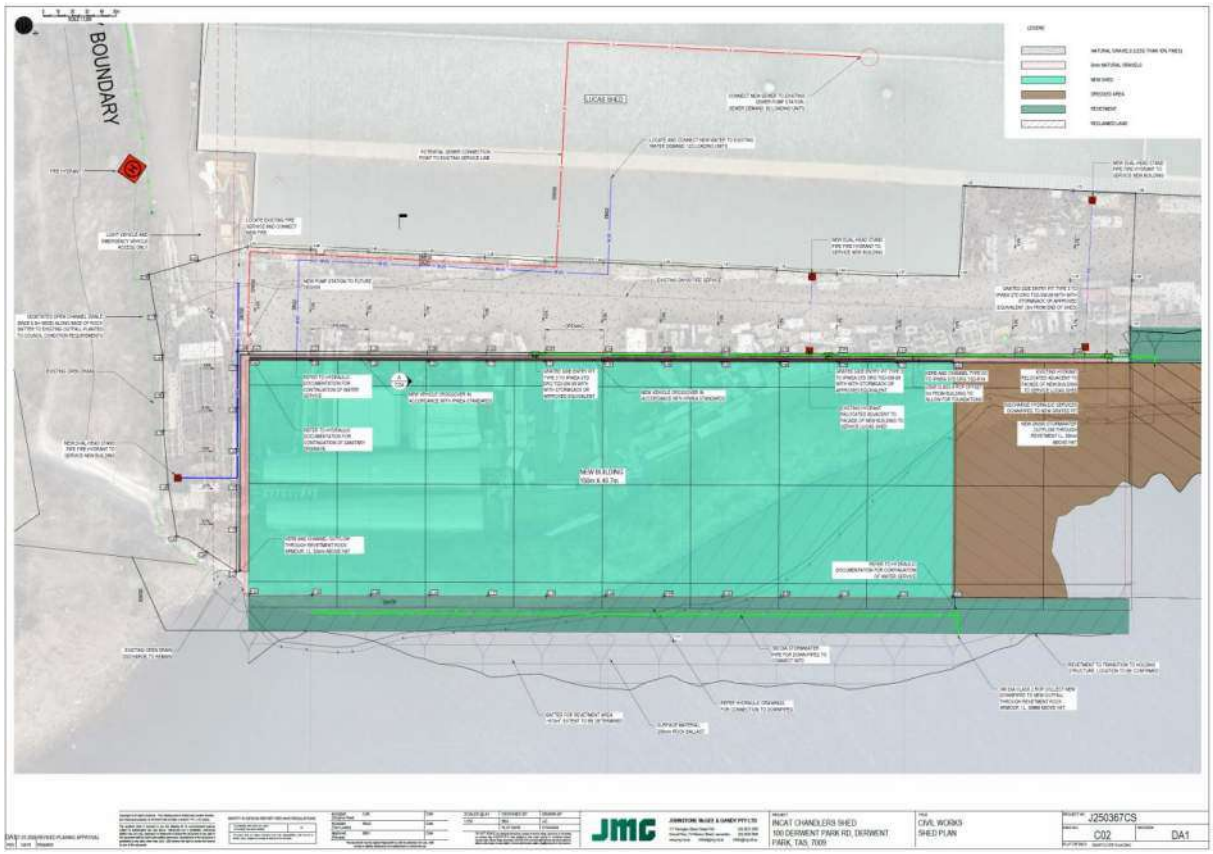

Figure 3.1 Civil Works - Shed Footprint

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Figure 3.2 Car Parking

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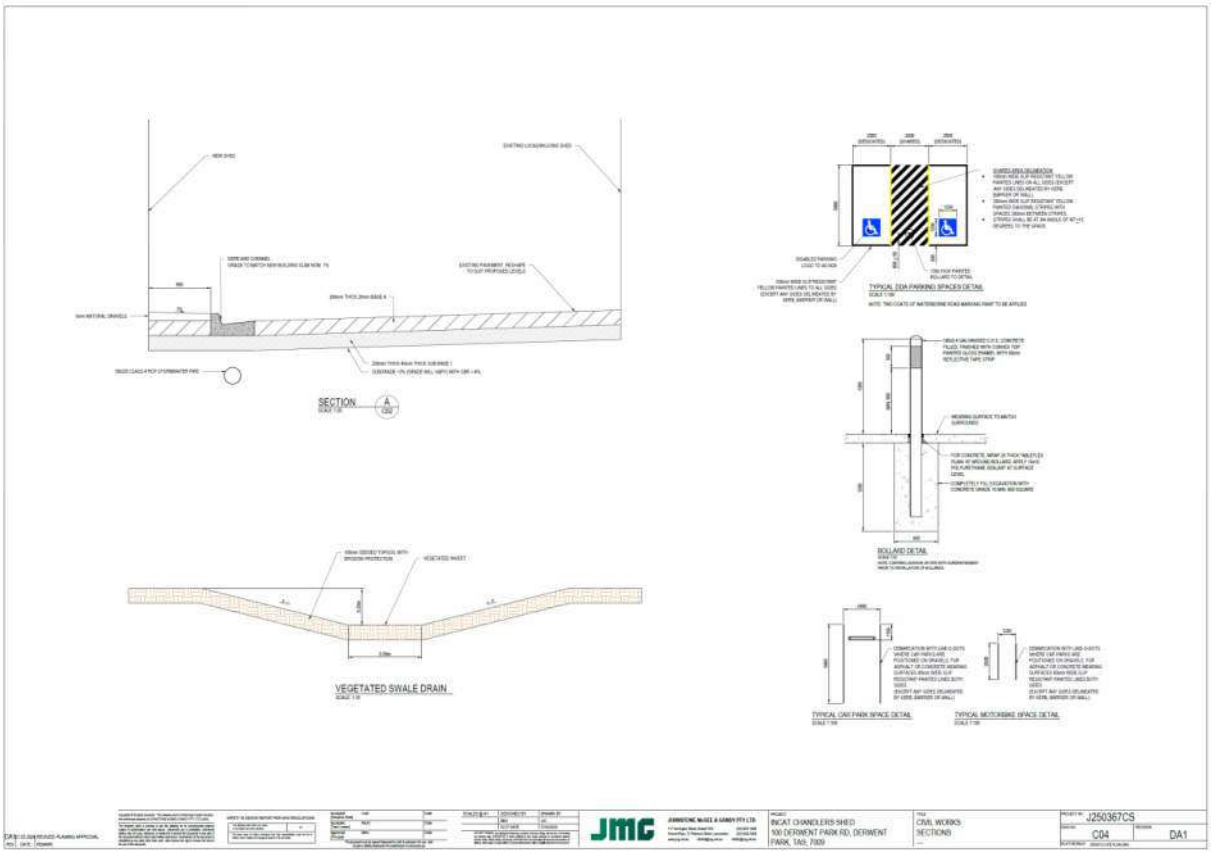

Figure 3.3 Car Parking – Civil Works

3.1 Construction Methodology

The shed steelwork has been designed of similar form to the existing shed but adjusted to suit the proposed ship building requirements for Incat. The building is designed to be constructed off site whilst the reclamation works are completed and the establishment of a landside base level to suit installation of the building piles and base foundations. The proposed building has a footprint of 120m x 40m and will be delivered to site in steel framed components and installed once piling and hardstand activities have been completed. The reclamation, seawall and hardstand are integral to preparing a clean base site for building formation.

The majority of the infrastructure will be manufactured offsite within controlled manufacturing plants and yards.

The on-site construction will involve the following the following tasks:

- Environmental controls (sediment controls, temporary drainage and landside and marine silt curtains in accordance with SWMP - Appendix B) installed to control erosion and sediment during the reclamation works;
- Segregation and adequate management of debris from reclamation fill material stockpiled on site;
- Containment and management of soil materials excavated during the works (refer to Reclamation Management below & in Section 6 for details);
- Fill landside to suitable level and gradient and prepare site for storage of rock for armouring the seawall and revetment including temporary armouring of reclamation as reclamation works progress;

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- Formation of finish subgrade levels for building and seawall;
- Geofabric placement (management of fines and erosion & sedimentation from top of bank to low water level);
- Placement of primary and secondary rock armour to suitable toe level to ensure edge stabilisation at the foreshore of the reclamation;
- Construction of gravel hardstand;
- Installation of building base piles;
- Form up and pour shed hardstand (concrete);
- Transport and installation of shed;
- Shed:
  - Nominally 6-18m long steel piles will be driven on the land for the shed, using a crane and excavator and generally cut off at a level based on the drawings (varies in length for each pile);
  - The shed base slab and building will then be constructed on top of the building piles.
  - All cladding and building works will be completed from the base hardstand (concrete).
- Wet Dock and Wharf:
  - Nominally 12- 18m long sheet and steel piles will be vibrated into the ground for the wet dock and wharf areas;
  - The sheet piling will provide edge stabilisation for clean fill material to be placed behind the structure to enable a hardstand area and allow construction elements to proceed; and
  - Precast concrete units for the wharf and wet dock will be fabricated off site and transported to site when required.

3.2 Reclamation Requirements & Controls

3.2.1 No Requirement for Dredging for Seawall or Reclamation

The rock revetment for the reclamation area has been designed to eliminate any requirements for dredging both during installation and maintenance or future works. Marine sediments may be disturbed during rock placement however these will be controlled through the rate of backfilling and placement, and a marine silt curtain protection around the reclamation works.

The rock revetment will have geofabric placed behind the rock armouring (above low water) to ensure the containment of fines and reclamation materials entering the adjacent waterway.

During the initial early works minor reshaping to the landside area will be undertaken to meet the design gradient for temporary access to the shoreline for reclamation plant and equipment and delivery of rock armour and fill material. Sediment controls and temporary drainage will be implemented during these activities to manage the potential of sediment entering the adjacent waterway during rain events.

The revetement will commence south of the proposed shed footprint along the foreshore and will extend and terminate at the wet dock area, where sheet piles will then act as an edge stabilisation and retaining wall for the shed and wet dock area.

The sheet pile design will extend on the landside of the wet dock area (3 sides) to retain and provide stabilisation for the wet dock area and foreshore zone. The sheet piling will then extend a further 90m along the existing foreshore (adjacent current shed) to retain and provide stabilisation for the wharf area and foreshore zone to the north.

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3.2.2 Existing Fill

Any soils excavated, extruded or otherwise generated during the construction works, including the slab/shed, wharf and underground services, etc. must either be buried onsite, or placed in a controlled manner within the reclamation. If any site soils are to be taken offsite, they must be tested for offsite disposal in accordance with IB105; any soils which are Level 2 or above are controlled wastes and require EPA approval for disposal to landfill.

None of the onsite soils are permitted for reuse on any other property without testing and prior EPA approval.

While undertaking the civil works for the reclamation, other discrete areas of contamination could be encountered and may require additional management. Works must stop and the potential contamination area segregated and demarcated off and communicated with the Incat project manager, who will need to involve an experienced contaminated land professional if necessary to assist with management measures and controls.

Debris such as plastics, scrap steel, cement sheeting, plastic piping, and other demolition materials unsuitable for reclamation, such as vegetation and wood, will be removed from the imported fill before the fill is used in the new reclamation area. These types of wastes will need to be dispose of to landfill and prevented from being brought to site.

Prior to bulk civil earthworks commencing the control measures outlined in the Stormwater Management Plan (SWMP) need to be installed and implemented; particularly focusing on the following;

- Installation of landside silt fencing to control discharge to waterway;
- Installation of marine silt curtain to control potential sediment discharge into waterway;
- Ensuring stockpiles are located away from drainage lines, stormwater inlets and the adjacent waterway;
- Where applicable, installation of diversion drains or bunding material upgradient of stockpiles to control stormwater flowing through stockpile materials; and
- Undertake regular inspections and maintenance of all stormwater and erosion controls as required, but particularly after high rainfall events.

Excavated soils must be contained to prevent dust generation (using water trucks and/or adequately covered) and managed for erosion (as outlined) and must not be allowed to discharge to the adjacent waterway (River Derwent).

Contractors conducting the civil works on site will need to read and acknowledge (signing onto this CEMP) that they have been informed on the required management controls to be implemented when undertaking activities such as excavation, working around service trenches and ongoing maintenance.

3.2.3 New Fill

Any new fill brought to site (for reclamation or to raise surface levels, etc.) must either be certified clean fill, or fill approved for reuse on the site by the EPA. Confirmation documents and fill transport tracking will need to be obtained to ensure the fill received is acceptable, and that no material is contaminated.

3.2.4 Rock Source

Rock material will be sourced from a disease and weed free registered quarry, that has the capacity to meet the design criteria for the rock and transported to site in trucks.

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3.2.5 Rock Placement

Armour rock will initially be placed using excavator with grab. Core rock will then be placed with an excavator, with supply from 10-yard trucks, to achieve and meet the design criteria.

3.2.6 Minimising the disturbance of Potential Acid Sulfate Soils (PASS)

The reclamation will be occurring in an area considered high risk for Potential Acid Sulfate Soils (PASS). These areas are naturally occurring materials containing iron sulfide minerals, which when disturbed or exposed to oxygen, are oxidised and acid is produced causing impacts on water quality and in turn on fauna species and habitats.

As reclamation activities have the potential to expose acid sulfate soils to air depending upon the methods used, it is recommended that the project manager at Incat be made aware of the potential hazard present and reminded of the importance of utilising good management techniques aimed at minimal disturbance of the underwater sediment (as outlined in the DPIPWE guidelines https://dpipwe.tas.gov.au/Documents/ASS-Guidelines-FINAL.pdf).

Given the works include placement of imported armour rock and that the bathymetry at the edge of the reclamation area will be outside and shallow enough so that the risk of disturbance of PASS materials is inherently low (refer to advice from Pitt&Sherry). Notwithstanding, the following mitigations will be undertaken:

- Rock will be placed in a controlled manner to mitigate the risk of disturbance;
- No dredging or excavation of sediments required; and
- Installation of silt curtain during construction of the reclamation area.

3.2.7 Minimising the disturbance of sediments

It is relatively well understood that this section of the Derwent estuary is likely to be highly contaminated with a range of environmental toxicants (particularly a suite of heavy metals including zinc, copper, mercury, lead, cadmium and arsenic). Sediments in the area must be treated as contaminated and control measures must be implemented to manage the risk of significant re-suspension of sediments as a result of construction activities.

Given the rock armouring works include placement of imported armour rock, and no excavation works below waterline, the risk of disturbance of contaminates of concern is inherently low. Notwithstanding, the following mitigations will be observed:

- Rock will be placed in a controlled manner to mitigate the risk of disturbance;
- Visual monitoring of the works to manage potential sediment plumes is recommended, with drone surveys the most effective way to determine the extent.
- Surveys are recommended during the initial stages of infilling, and as the project approaches the peak rate of infilling;
- Excavation works will be limited to shallow excavation above water mark. No excavation will be undertaken below waterline.

3.3 Piling Requirements

3.3.1 Mitigations to piling disturbances to the marine environment

Prior to and during any heavy civil activities adjacent the marine environment that create significant acoustic disturbance (such as pile driving, placing of large rocks and excavating near the foreshore) the following conditions must be applied:

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a) Construction activities involving contact with seabed aimed to minimise piling program, sediment disturbance and impact on marine mammals.

b) Each day the immediate area should be scanned for the presence of cetaceans, pinnipeds, turtles, and/or penguins.

c) A 'soft start' technique should also be used at the beginning of each pile installation day to allow any cetaceans, pinniped, turtle, and/or penguin that may be in the immediate area to avoid the area before impact piling reaches full capacity.

d) Installation of silt curtains around landside areas are well secured and cleaned.

e) A Marine Mammal Observer (MMO) will be employed for the works. The key purpose of the MMO role is to visually monitor marine mammals during construction and to identify marine mammals to a species-level, interpret marine mammal behaviour and readily estimate distances between the works area and observed marine mammals. The MMO must be exclusively dedicated to these activities and must not undertake any other works.

3.3.2 Sheet piling of dry dock & wharf

Sheet piling will be undertaken in accordance with the reclamation requirements and controls, outlined above in Section 3.2. The steel sheet pile will provide a clean edge for construction and formation of the wet dock. The steel sheetpile will allow for backfilling of controlled fill up to finished design level and capping with concrete. The building will extend over the proposed wet dock as shown on the drawings.

The wharf will be constructed either by deck on pile or sheetpile land back solution. Both methods require similar controls including maintaining marine silt curtain around the works and utilising the above controls.

3.4 Off-Site Fabrication

Off-site construction and prefabrication will be used to limit the onsite works and construction impacts on the ongoing operations.

This work will include (but not limited to):

- Prefabrication of building shed steelwork;
- Fabrication of steel piles and sheet piles; and
- Prefabrication of concrete reinforcement elements.

3.5 On-site Fabrication

Major offsite construction and prefabrication shall be used to limit the onsite works and construction impacts on the ongoing operations. Works will include the following:

- Reclamation and rock seawalls;
- Piling works for building piles, sheetpiles and support piles for marine structures;
- In-situ concrete pour for the shed base slab, the wharf and wet dock elements; and
- Steel framework for building and cladding.
- Services, hard stands and parking areas.

3.6 Heavy Vehicle Movements

The following heavy vehicle movements are anticipated (leaving and entering the site) for the works.

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Plant and equipment float

Large B doubles or similar will be required to float plant and equipment to site to complete the works. It is expected that an excavator in the range of 20-30T will be mobilised to site by contractor for placement of fill and armour rock. A similar size crane will be used for the piling and sheet piling activities.

Select Fill

A combination of 10 and 20-yard truck and dog trailer will be used to transport the select clean fill to site for the site preparation (formation of access road and laydown area) and reclamation works.

- It is expected that nominally 8 weeks will be required to transport clean fill material to site. Any required additional or excess fill will be trucked into and out of site as required.
- During the initial site preparation, a laydown area will be designated and created to handle the excess fill material that can't be placed directly, and this area will also enable the primary and secondary rock armour to be transported and managed onsite prior to its placement.

Primary and Secondary Armour Rock

A combination of 10 & 20-yard truck and dog trailers will be used to transport the primary and secondary armour rock to site and will be placed within the designated laydown area. The civil works will be managed so that the armour rock will be transported when civil works are establishing the fill material in place on the reclamation area. This will enable a staggered timeline for truck movements on site.

- It is expected that armour rock will be stockpiled on site to allow for installation by excavator with appropriate grab. It is expected that once a stockpile of armour rock material is established on site. The remaining required armour will be transported to site, when there is capacity at the laydown area. It is expected that delivery of the primary and secondary armour will require 3-4 weeks of trucking.

In summary the outlined methodology for transporting materials to site requires enough materials to be transported, used, and stored on site to complete the works. It is expected that there will be short intense durations of materials being transported to site, with time breaks in between these movements to place the materials in accordance with the design.

3.7 Underground Services Installation

During the installation of underground services for the works any excavated soils will be required to be contained to prevent them becoming airborne and to prevent human contact. The excavated material will need to be either covered or wet down and demarcated adequately while installation works are being completed. Materials excavated will need to be either reused on site or if any excavated soils are to be taken offsite, they must be tested for offsite disposal in accordance with IB105.

3.8 Construction Work Hours

Construction related activities associated with the project must only be undertaken during the following times.

- Between 7.00 am and 6.00 pm Monday to Saturday; and
- Between 8.00 am to 5.00 pm on Sunday and public holidays.

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3.9 Construction Program

Stage & Timeframe	Project Activity
Stage 1 – Landside Reclamation works	• Excavation works on landsite to achieved design gradient. • Placement of armour rocks for reclamation • Construction of hardstand
Stage 2 – Shed construction	• Drive foundation piles from on the land • Concrete works for shed (foundations and slab) • Installation of shed (steel framing and cladding) • Services, hardstand and car parking.
Stage 3 – Wet dock and Wharf construction	• Vibrate sheet piles (on land and marine based installation) • Placement of fill materials behind sheet piles; • Establishment of hardstand • Wharf elements constructed (concrete beams and decking)

3.10 Completion of Construction

On completion of construction works, the site surface areas will be examined for any potential Asbestos-Containing Material (ACM) fragments which should be removed from the site surface. The roadway and all unsealed areas around the site must be covered by clean blue metal gravel or similar to prevent access to soils by site users and fauna, and to prevent erosion and dust generation from site soils.

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4. Environmental Management Framework

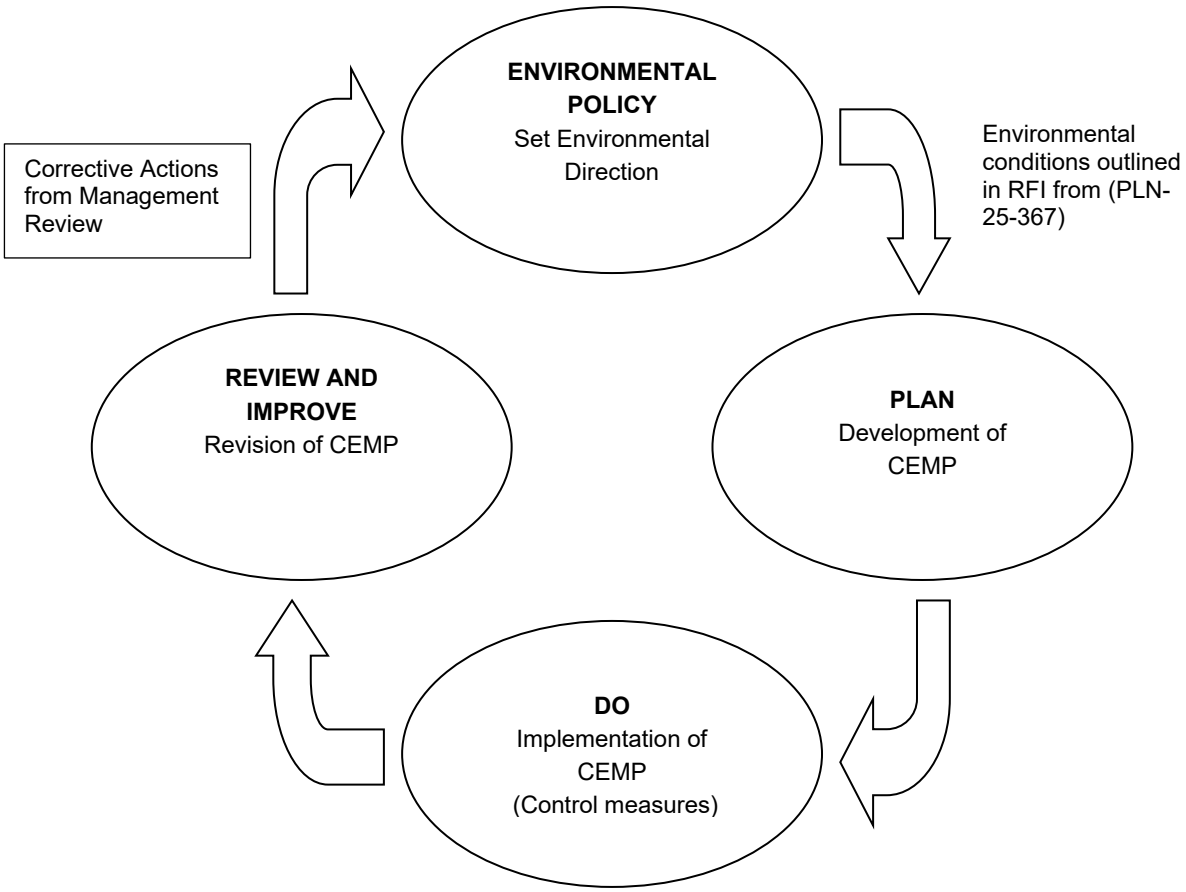
4.1 Environmental Management Process

The development and planning approval process identified the most significant and relevant aspects of the environment to be managed and determined the most effective control measures required to achieve the environmental objectives.

This CEMP must be used as a dynamic document that is reviewed regularly and be flexible enough to enable and facilitate the introduction and adoption of new strategies for improvement of environmental management performance and compliance with approval conditions.

This CEMP will be managed under the structure of the Best Practice Environmental Management (BPEM) ensuring all commitments and approval conditions are efficiently achieved and distributed across the project team and that continual improvement drives the fundamental environmental objectives for the project. Figure 4.1 below highlights this process.

Figure 4.1 Environmental Management Process



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4.2 Objectives

This CEMP relates principally to the construction phases of the project. The objectives are to ensure that:

- The commitments made in the CEMP to implement adequate control measures to manage environmental values are incorporated into the design, reclamation and construction of the Incat project;
- Environmental responsibilities, monitoring, reporting and auditing procedures are established and demonstrate due diligence;
- Environmental management is appropriately planned, implemented and maintained throughout the project;
- The principles of Best Practice Environmental Management (BPEM) feature throughout every stage of the project; and
- Any potential environmental impacts of the project works are managed in accordance with legislative requirements, the project permit conditions and site procedures.

All potential environmental impacts associated with this Project can be effectively controlled by the implementation of the mitigation and management procedures described in this CEMP.

The CEMP will be updated at regular intervals to capture the most current and applicable information on the activities and impacts relevant to that stage in the Project.

4.3 Legislation Requirements

The primary environmental protection and pollution control legislative obligation for the Incat project is the Tasmanian Environmental Management and Pollution Control Act (EMPCA).

Tasmania enacts the requirements under EMPCA through a suite of legislation which forms the framework for Tasmania's resource management and planning systems and includes the following:

- Land Use Planning and Approvals Act 1993 (LUPAA);
- Building Act 2000;
- Environmental Management and Pollution Control Act 1994;
- Resource Planning and Development Commission Act 1997;
- Resource Management and Planning Appeal Tribunal Act 1993;
- State Policies and Projects Act 1993;
- Aboriginal Heritage and Relics Act 1975;
- Historic Cultural Heritage Act 1995; and
- Major Infrastructure Development Approvals Act 1999.

Under the State Policies and Projects Act 1993 there has been four (4), State Polices developed including:

- Tasmanian Coastal Policy 1996;
- State Policy on the Protection of Agricultural Land 2009;
- State Policy on Water Quality Management 1997; and
- National Environment Protection Measures (NEPM).

Further legislative requirements for the project include the following:

- The Tasmanian "Threatened Species Protection Act"1995

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- Biosecurity Act 2019
- The Commonwealth “Environmental Protection and Biodiversity Act”1999
- Work Health and Safety Act 2012;
- Dangerous Goods (Road and Rail Transport) Act 2010; and
- Maritime Transport Security Act 2003

4.4 Approval Requirements

The approval requirements for the project are being confirmed through the planning process. Relevant approval conditions will be reviewed and updated within the CEMP when received.

Glenorchy City Council (Council) have issued a further information request. Item #1 under of the Request for Information (RFI) from Council requires a Construction Environmental Management Plan (CEMP) to address items outlined in their letter dated 10 April 2026, issued to Gray Planning.

Relevant matters outlined in the RFI and additional mitigations have been addressed in detail in Section 6 below. Detailed management controls that are to be implemented for all matters applicable to the project are outlined.

4.5 Organisational Structure and Responsibility

The overall responsibility for environmental compliance sits with the proponent, Incat (refer to section 1.4). However, the Project Manager will implement all relevant procedures and be responsible for the environmental performance of all the activities and for complying with this CEMP.

The project construction team will be aware of their environmental responsibilities through contract documentation, Project Management Plans, the work site SWMS and/or JSEA’s, and the sign off of this CEMP.

Any sub-contractors engaged for the project will be responsible for environmental management through the agreed conditions of their contract.

The responsibilities of the key stakeholders are detailed in Table 4.1

Table 4.1 Project Roles and Responsibility

Role	Responsibility
Government Authority **EPA**	• Promptly respond to any request from the project construction contractor for advice concerning appropriate responses to any environmental incidents with the potential to cause environmental harm; and • Respond to a significant incident (pollution event) • Provie guidance and regulation for potential contamination
Local Council Authority **Glenorchy City Council**	• Convey to the project developer and project manager any inquiries received, from adjoining residents and local community groups, that concern the project; • Promptly assess any proposed changes to the project and its implementation that may be requested by the construction contractor; and project developers and project managers; and • Liaise with the project developers and project managers, construction contractor and its representatives to ensure that the

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Role	Responsibility
	development is carried out in accordance with approved conditions.
Incat Project Manager supported as required by Engineering Consultant	• Overall project management including implementation of the approved CEMP and project documents; • Liaise with the Incat Project Team during construction to ensure works are being implemented in accordance with the CEMP; • Be the principal contact for receiving enquiries concerning project activities; • Works planning, coordination, financial and program management; • Coordinate with the development proponent and the engineer representative for the review of documents for implementation; • Arrange for pre-start meetings prior to the commencement of construction and demolition activities associated with each stage of the project; and • Reporting of all risk related incidents (safety, environment etc.) associated with the project.
Contractors, Principal Contractor and sub-contractors	• Perform contract obligations in accordance with this CEMP and all other relative legislation.

The Project Manager will monitor and review the activities of the construction contractor and sub-contractors to ensure conformance with the requirements of the CEMP. This will in no way relieve contractors and sub-contractors from the appropriate supervision of their employees in the implementation of the CEMP, and any subsequent responsibilities for the remediation and/or rehabilitation of any damage which might be caused.

4.6 Project Environmental Philosophy

The Incat management team understands that managing and mitigating any potential environmental impacts is a key driver in achieving sustainable development outcomes for the project, regulatory authorities and all stakeholders.

This CEMP provides the means for which to achieve these environmental philosophy objectives.

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5. Environmental Diligence

5.1 Environmental Induction and Training

All contractors, consultants, sub-contractors and project personnel will receive a site induction into the requirements of this CEMP, prior to starting work on the project. The induction will be appropriate to the level of their involvement in the project.

Site inductions will be developed to induct personnel into the broad aspects of the project. The environmental component of this induction will reinforce that it is the responsibility of all personnel to adhere to all identified environmental requirements and site procedures. The construction contractor or delegate shall provide a site induction for attendance by all contractors and project personnel.

The induction training will cover, but not be limited to, the following issues:

- A general site overview and SWMS/JSEA's;
- Work site safety;
- Contractor site policies;
- Project environmental responsibilities;
- Environmental activities, aspects and impacts;
- Familiarisation with the requirements of this CEMP;
- Legal obligations; and
- Environmental emergency/incident reporting.

Environmental training shall be re-undertaken when changes to procedures and environmental conditions occur.

A register of all environmental training carried out including dates, names of persons trained, and trainer details will be kept and maintained.

5.2 Monitoring

Monitoring of the implementation of the CEMP is necessary to ensure that management control measures and procedures are meeting all the conditions and commitments approved and are being implemented in an effective manner.

The Project Manager is responsible for monitoring environmental performance and condition throughout all stages of the Project.

Site monitoring of the CEMP will:

- Verify contractors' implementation of control measures and to provide management feedback for the initiation of further controls if required; and
- Provide data for ongoing environmental management.

5.3 Environmental Quality Controls

This Incat project shall be subject to inspections to verify that construction works is compliant against all relevant criteria. Any pertinent findings obtained from the inspections will be actioned through the applicable management process.

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The Project Manager may undertake audits, to verify that management systems and processes designed to minimise and manage environmental impact have been implemented diligently, are functioning efficiently and can be used to identify where improvements can be made.

5.4 Complaints Procedure

A complaints register will be maintained by the Project Manager throughout the entire project. Responsibility and actions for complaints will be determined on the nature and basis of the complaint. Communication between GCC and the Project Manager will determine the appropriate response and investigations for all complaints. The complaint register must record details in relation to each complaint received, in which it is alleged that environmental harm and/or environmental nuisance has been caused by an activity.

The register must record the following details as a minimum:

- The time the complaint was received;
- Contact details of the complainant;
- The particulars of the complaint;
- Any investigations undertaken in regard to the complaint;
- The method in which the complaint was resolved, including any mitigation measures implemented; and
- Complaint records must be maintained for a period of at least three (3) years.

5.5 Site Contacts

Prior to the commencement of any works associated with the project, information detailing the project team must be distributed to all relevant stakeholders and displayed in site office.

The document must detail the relevant project participants for the works being undertaken on the site, including the contact details for Project Manager to which any inquiries concerning the project should be directed.

5.6 Non-Compliance

Compliance with this CEMP is the responsibility of the Project Manager in coordination with the Construction Contractor, where necessary specialist independent advice will be sought.

Where any activity is found not to conform to the requirements of the CEMP, activities will be suspended until appropriate measures are in place and agreed with by all relevant stakeholders and authorities.

5.7 Corrective Action Requirements

The Project Manager must take responsibility for implementation of this CEMP. When the Project Manager becomes aware of a project and/or operational condition that does not comply, applicable communication is to be completed and reported to the appropriate controlling authority.

The Project Manager or delegate is also required to maintain a register of which demonstrates appropriate actions have been completed within a suitable timeframe.

Any actions or communications recorded in accordance with this CEMP shall be recorded and stored by the Project Manager.

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In some circumstances, supplementary investigations or monitoring may be required to establish whether the Construction Contractor has failed to adequately implement the CEMP or has failed to comply with relevant legislation and operational procedures.

5.8 Incident Response

If an incident causing or threatening environmental nuisance, environmental harm or material environmental harm from pollution occurs during the project, the person responsible for the activity must immediately take all responsible and practical action to minimise any adverse environmental impacts from the incident.

All Environmental Spills should be managed in accordance with the controls in this CEMP.

5.9 Environmental Incident Reporting

In an emergency and/or incident the person responsible must immediately notify the appropriate Authorities (EPA and GCC) so as they become aware of the emergency or incident resulting in a release of contaminants not in accordance, or reasonably expected to be in accordance with this CEMP (and conditions of approval).

The notification of any emergency or incident must include, but not limited to the following information:

- The name of the holder of the development approval;
- Maintain notes of key events (including photos as appropriate);
- The location of the emergency or incident;
- The name and contact details of the project manager, or designated contact person;
- The time of the release;
- The time the operator became aware of the release;
- The suspected cause of the release;
- The environmental harm caused, threatened, or suspected to be caused by the release; and
- Actions taken to prevent any additional release and mitigation measures implemented to manage environmental harm.

All incidents must be recorded.

The EPA Director must be notified, in accordance with EMPCA, if the release may or has caused serious or material environmental harm.

CONTACTS

EPA Director - **EPA Tasmanian Pollution Incident Hotline:** – 1800 005 171.

incidentresponse@epa.tas.gov.au

Glenorchy City Council – 6216 6800

The Project Manager will:

- ensure all incidents are identified, reported and thoroughly investigated, and that the appropriate adaptive management measures are implemented. The adaptive measures will be aimed at preventing recurrence of the incident. Corrective actions will also be implemented.

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5.10 CEMP Review

This CEMP is a living document. Accordingly, to ensure that environmental management is continually improved during the project, a review of this document by the Project Manager or delegate, in consultation with relevant stakeholders shall occur:

- To incorporate any updated or changed condition requirements or commitments different to current approval;
- Following significant environmental incidents;
- At the completion of any relevant audits; and
- In the instance whereby the objectives of this CEMP are not being achieved.

The adequacy and effectiveness of this CEMP shall be reviewed regularly during the project following the guidelines for continual improvement. The review should consider the following matters:

- Suitability and proficiency of the objectives;
- Inspections findings; and
- Technical reviews.

This CEMP must not be implemented or amended in a way that contravenes any approval conditions or commitments.

5.11 Reporting

An environmental performance reporting procedure will be implemented to capture environmental performance against the CEMP and relevant approval and legislative requirements on a monthly basis within the contractors monthly report. The monthly report will be submitted to the Superintendent and Principal. Regular project meetings will also occur, where environmental compliance will be discussed, and provisions made to manage and respond to any actual or potential environmental events.

5.12 Continual Improvement

All employees involved in the Incat Project shall receive environmental awareness training with regard to the requirements of this CEMP and all other relevant procedures and legislative requirements.

5.13 Emergency Response

When required all employees involved in the Incat Project must implement the Site Emergency Response Procedure. The Incat Project Manager (refer to Section 1.4.1) or delegate must ensure all personnel are competent in activating emergency response procedures.

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6. Environmental Management Procedure

The following management procedures apply to the environmental issues relevant to the site. The procedures aim to provide criteria and indicators to measure the environmental performance, as well as mitigation controls to reduce potential impacts.

- Community Awareness;
- Waste Management;
- Aquatic Environment;
- Reclamation Management;
- Noise Emissions;
- Hazardous Materials;
- Traffic (including navigation);
- Design and Construction;
- Erosion and Sedimentation;
- Air Quality; and
- Cultural Heritage (European & Aboriginal).

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6.1 Community Awareness

6.1.1 Rationale

Construction activities could potentially have short term impacts on public amenity due to potential noise emissions; therefore, it is important to advise the local community of potential impacts.

6.1.2 Objective

Undertake all reasonable measures to notify the local community of the nature, duration and program of construction works.

6.1.3 Performance indicator

Appropriate management of community complaints received during construction works.

Task	Corrective Actions/ Monitoring	Timing	Responsibility
Provide a point of contact for complaints. The contact details shall be clearly identified on all relevant documentation	Corrective actions shall be undertaken as appropriate to ensure the task is achieved.	Ongoing throughout the project	Incat Project Manager (refer to section 1.4.1) & Construction Contractor
Notification of project commencement	GCC must be notified in writing of the commencement of project	Prior to start of works	Incat Project Manager (refer to section 1.4.1) & Construction Contractor.
Change in responsibly of project	GCC must be notified if the person who is or was responsible for the activity ceases to be responsible for the activity.	Ongoing throughout the project	Incat Project Manager (refer to section 1.4.1) & Construction Contractor.
Liaising with government agencies	Consultation and communication with external bodies including government agencies and other affected stakeholders will be undertaken as required.	Ongoing throughout the project	Incat Project Manager (refer to section 1.4.1) & Construction Contractor.
Traffic control & appropriate signage	All signage, traffic control, barricading and safety measure must be in accordance with statuary requirements.	Applied to the required construction works at all times during the project	Incat Project Manager (refer to section 1.4.1) & Construction Contractor.

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6.2 Waste Management

6.2.1 Rationale

Waste management at the Project site must focus on appropriate methods to minimise the generation of wastes, maximise reuse and recycling and appropriately dispose of waste materials generated as a result of the project works.

6.2.2 Objective

Ensure waste materials from the project are managed and disposed of in accordance with the provisions in the EMPCA.

6.2.3 Performance indicator

No waste material is released from the project site in an uncontrolled manner.

Task	Corrective Actions/ Monitoring	Timing	Responsibility
Waste management hierarchy	Waste must be managed in accordance with the following: • Waste must be minimised to the maximum extent that is reasonable and practical, having regard to best practice environmental management; • Waste should be reused or recycled to the maximum extent that is practical; and Waste that must be disposed of must be done in a way that has been approved in writing by the relevant planning authority or the EPA to receive such waste and in accordance with the provisions in the EMPCA or subordinate legislation.	Daily throughout the project	Construction Contractor.
Management of wastes	Project Manager to inspect waste schedule and waste storage areas to ensure management control measures are being enacted.	Daily	Project Manager
Building Waste	A skip bin will be provided on site for the management of waste. This waste must be managed and removed from site and taken to an approved landfill site.	During Construction activities	Project Manager & Construction Contractor
Management of wastes - All infrastructure arising from the Project must be contained and removed from the Derwent River.	Underwater divers must recover any materials that accidently fall into The Derwent River.	Daily	Construction Contractor

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Task	Corrective Actions/ Monitoring	Timing	Responsibility
Competent personnel	All workers are to be appropriately qualified, inducted and follow all appropriate control measures to minimise the potential risks associated with the Project. Ensure the requirements of the BPEM and environmental procedures are adhered to throughout the duration of the project. Ensure that all employees associated with the project adhere to the project SWMS and/or JSEA and the site induction procedures to ensure that adverse environmental impacts are minimised	Prior to works commence Weekly during the project	Project Manager & Construction Contractor Project Manager & Construction Contractor
Human Waste	Existing on-site toilets will manage human waste during construction. Induction will address location of these toilets	During construction	Construction Contractor

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6.3 Aquatic Environment

6.3.1 Rationale

The Project works will involve construction activities in the adjacent Derwent River marine environment. Unless appropriate management is implemented the works have potential to cause short term impacts on the aquatic environment.

6.3.2 Objective

Implement management control measures to minimise the risk of disturbance and mobilisation of marine sediments, potentially exacerbating turbidity in the water column.

6.3.3 Performance indicator

The adjacent aquatic environment will be visually monitored prior to and periodically during construction and piling activities to confirm the effectiveness of the sediment containment controls and that the works are being adequately undertaken to mitigate disturbance to the receiving aquatic environment.

Task	Corrective Actions/ Monitoring	Timing	Responsibility
Managing marine pests	All marine vessels/equipment to be used for the construction works will be sourced from a southern Hobart based construction contractor. A procedure for hull cleaning including any ballast tanks and hull fittings will be completed to mitigate the risk of spreading any introduced species, using the guidelines developed under the National System for the Prevention and Management of Marine Pest Incursions (DAFF 2009) Visual Inspection of hull prior to mobilisation to identify marine pests. Removal and disposal as required.	Prior to mobilisation to site	Construction Contractor
Managing unexpected impacts on water quality	Development of a briefing sheet, to be distributed to all construction personnel, containing the following information: • Making all personnel working on the Project responsible for the visual detection of mobilised sediments, including education on what to look for and who to report it to.	Observations ongoing at all times during construction	Incat Project Manager & Construction Contractor
Materials entering the Derwent River	Underwater divers must recover any materials that accidently fall into the Derwent River	As required	Construction Contractor
All plant and equipment used for the project must be maintained such that no contaminants are	Leaks from plant and equipment must be repaired immediately. Daily prestart plant and equipment checklist	Daily	Construction Contractor

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Task	Corrective Actions/ Monitoring	Timing	Responsibility
released to the receiving environment			
Competent personnel	The principle and contractor must ensure all workers are appropriately qualified, inducted and follow all appropriate control measures to minimise the potential risks associated with the project. Ensure the requirements of the BPEM and environmental procedures are adhered to throughout the duration of the Project. Ensure that all employees associated with the project adhere to SWMS and the site induction procedures to ensure that adverse environmental impacts are minimised.	Ongoing during the project	Incat Project Manager & Construction Contractor
Acoustic disturbance (such as pile driving, reclamation works using large rocks) on marine mammals	Construction activities involving contact with seabed aimed to minimise piling program, sediment disturbance and impact on marine mammals. Each day the immediate area should be scanned for the presence of cetaceans, pinnipeds, turtles, and/or penguins. A 'soft start' technique should also be used at the beginning of each pile installation day to allow any cetaceans, pinniped, turtle, and/or penguin that may be in the immediate area to avoid the area before impact piling reaches full capacity. Installation of silt curtains around landside areas. A Marine Mammal Observer (MMO) will be employed for the works. The key purpose of the MMO role is to visually monitor marine mammals during construction and to identify marine mammals to a species-level, interpret marine mammal behaviour and readily estimate distances between the works area and observed marine mammals. The MMO must be exclusively dedicated to these activities and must not undertake any other works.	Daily during piling activities	Incat Project Manager & Construction Contractor
Uncontrolled hydrocarbon spill	All workers to be appropriately inducted on location of spill kits. Respond to spills using on site spill kits.	Weekly check of spill kit during construction	Incat Project Manager &

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Task	Corrective Actions/ Monitoring	Timing	Responsibility
	Report any spills to EPA		Construction Contractor
Sediment disbursement into River Derwent	Establish and maintain sediment controls (Silt fencing/geofabric or similar) on seaward side of construction zone (In accordance with SWMP)	Daily checks of sediment controls	Incat Project Manager & Construction Contractor
Re-suspension of sediments as a result of construction activities.	Sediments in the area must be treated as contaminated and control measures must be implemented		
Minimise sediment disturbance during construction works	Sediment controls (i.e. silt curtains) to be installed to mitigate unavoidable suspension of sediment. Undertake works in favourable weather conditions to limit sediment resuspension. • Rock will be placed in a controlled manner to mitigate the risk of disturbance; • Visual monitoring of the works to manage potential sediment plumes is recommended, with drone surveys the most effective way to determine the extent. • Surveys are recommended during the initial stages of infilling, and as the project approaches the peak rate of infilling; • Excavation works will be limited to shallow excavation above water mark. No excavation will be undertaken below waterline.	During construction	Incat Project Manager & Construction Contractor
Installation of piles/sheet piles and reclamation	A sediment curtain extending from water to seabed must be deployed prior to any reclamation or installation of piles and must surround the entire work area. (in accordance with the SWMP) Silt curtain must be monitored daily to assess their effectiveness. Silt curtain must be cleaned if there is a build-up of materials	During reclamation and installation of pile Daily Checks of sediment controls	Incat Project Manager & Construction Contractor

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6.4 Reclamation Management

6.4.1 Rationale

Reclamation works have the potential to impact on the adjacent waterway and site personnel.

6.4.2 Objective

To implement adequate management control measures to mitigate potential impacts to an acceptable level at the receiving water receptors and to human contact during construction works.

6.4.3 Performance indicator

To comply with the management control measures as defined below.

Task	Corrective Actions/ Monitoring	Timing	Responsibility
Rock Revetment	The rock revetment will have geofabric placed behind the rock armouring to ensure the containment of fines and reclamation materials entering the adjacent waterway	During the reclamation works	Incat Project Manager & Construction Contractor
	Marine sediments may be disturbed during rock reclamation placement however these will be controlled through the rate of backfilling and placement and silt curtain protection around the reclamation works.	During the reclamation works	Incat Project Manager & Construction Contractor
Bulk Earthworks	Prior to bulk civil earthworks commencing the control measures outlined in the Stormwater Management Plan (SWMP) need to be installed and implemented; particularly focusing on the following; • Installation of landside silt fencing to control discharge to waterway; • Installation of marine silt curtain to control potential sediment discharge into waterway; • Ensuring stockpiles are located away from drainage lines, stormwater inlets and the adjacent waterway; • Where applicable, installation of diversion drains or bunding material upgradient of stockpiles to control stormwater flowing through stockpile materials; and • Undertake regular inspections and maintenance of all stormwater and erosion controls as required, but	Prior to bulk civil earthworks commencing	Incat Project Manager & Construction Contractor

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Task	Corrective Actions/ Monitoring	Timing	Responsibility
	particularly after high rainfall events.		
Excavated Soils	Excavated soils must be contained to prevent dust generation (using water trucks and/or adequately covered) and managed for erosion (as outlined in SWMP) and must not be allowed to discharge to the adjacent waterway (River Derwent).	Ongoing during the project	Incat Project Manager & Construction Contractor
Existing Fill	Any soils excavated, extruded or otherwise generated during the construction works, including the slab/shed, wharf and underground services, etc. must either be buried onsite, or placed in a controlled manner within the reclamation. If any site soils are to be taken offsite, they must be tested for offsite disposal in accordance with IB105; any soils which are Level 2 or above are controlled wastes and require EPA approval for disposal to landfill. None of the onsite soils are permitted for reuse on any other property without EPA approval.	Ongoing during the project	Incat Project Manager & Construction Contractor
Existing Fill	While undertaking the civil works for the reclamation, other discrete areas of contamination could be encountered and may require additional management. Works must stop and the potential contamination area segregated and demarcated off and communicated with the Incat project manager, who will need to involve an experienced contaminated land professional if necessary to assist with management measures and controls.	Ongoing during the project	Incat Project Manager & Construction Contractor
Existing Fill	Debris such as plastics, scrap steel, cement sheeting, plastic piping, and other demolition materials unsuitable for reclamation, such as vegetation and wood, will be removed from the imported fill before the fill is used in the new reclamation area. These types of wastes will need to be dispose of to landfill and prevented from being brought to site.	Ongoing during the project	Incat Project Manager & Construction Contractor
Contractors	Contractors conducting the civil works on site will need to read and acknowledge (signing onto this CEMP) that they have been informed on the required management controls to be	Ongoing during the project	Incat Project Manager & Construction Contractor

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Task	Corrective Actions/ Monitoring	Timing	Responsibility
	implemented when undertaking activities such as excavation, working around service trenches and ongoing maintenance.		
Competent personnel	The Construction Contractor must ensure all workers are appropriately qualified, inducted and follow all appropriate control measures to minimise the potential risks associated with the project. Ensure the requirements of the BPEM and environmental procedures are adhered to throughout the duration of the project. Ensure that all employees associated with the project adhere to the project, JSEA's and the site induction procedures to ensure that adverse environmental impacts are minimised.	Ongoing during the project	Construction Contractor

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6.5 Noise Emissions

6.5.1 Rationale

Construction works will involve the use of a variety of plant and equipment, including boats (if required) barges (if required), excavators crane and piling rigs. It is considered they present a low risk of noise nuisance occurring to sensitive noise receptors, such as residents, in relation to the noise currently generated from existing operations and adjacent business. Conversely, pile/sheet piling installation and construction activities required for the Project could potentially result in excessive noise nuisance.

6.5.2 Objective

To implement adequate management control measures to mitigate potential impacts to an acceptable level at the closest sensitive noise receptors during construction works.

6.5.3 Performance indicator

To comply with the noise mitigation control measures as defined below.

Task	Corrective Actions/ Monitoring	Timing	Responsibility
Operating hours – Construction related activities associated with the project must only be undertaken between 7.00 am and 6.00 pm Monday to Saturday, and 8.00 am to 5.00 pm on Sundays and statutory holidays	The contractor will adhere to the stipulated working hours for the construction activities for the duration of the project.	Throughout the duration of the Project	Incat Project Manager & Construction Contractor
During Pile Driving works the following noise mitigation measures must be implemented; • The Construction Contractor must ensure that all plant and equipment used is well maintained, including mufflers on plant, assembly of equipment to eliminate unnecessary free movement and lubrication of moving equipment where deemed necessary.	Construction Contractor shall maintain service records for all plant and equipment used for the duration of the project	Daily during piling works	Construction Contractor
Competent personnel	The Construction Contractor must ensure all workers are appropriately qualified, inducted and follow all appropriate control measures to minimise the potential risks associated with the project. Ensure the requirements of the BPEM and environmental procedures are adhered to throughout the duration of the project. Ensure that all	Ongoing during the project	Construction Contractor

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Task	Corrective Actions/ Monitoring	Timing	Responsibility
	employees associated with the project adhere to the project, JSEA's and the site induction procedures to ensure that adverse environmental impacts are minimised.		

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6.6 Hazardous Materials

6.6.1 Rationale

Construction works for the Project will involve the use of hazardous materials such as, fuels, lubricants and oils. The Project site is required to be effectively managed to prevent impacts on human health and the receiving environment as a consequence of an accidental release or spillage of a hazardous material associated with the Project works.

6.6.2 Objective

To effectively manage the safe storage, handling and disposal of hazardous materials for the duration of the Project.

6.6.3 Performance indicator

No adverse human health and environmental impacts associated with hazardous materials is experienced at any time during the project.

Appropriate storage, handling and disposal of hazardous materials to be evident in all activities undertaken for the project.

Task	Corrective Actions/ Monitoring	Timing	Responsibility
Hazardous material storage for all project works	All hazardous materials that are required throughout the project must be stored at the designated bunded area onsite. Or stored on spill trays which are designed to contain at least 110% of the total volume of material. Spills kits must be stored and maintained within the bunded hazardous materials storage area.	Throughout the duration of the Project	Incat Project Manager & Construction Contractor
Release of hazardous substance to the environment	If any release of a hazardous substances to the environment occurs the Site Emergency Response Procedure must be followed. Spill Kits must be kept in appropriate locations to assist with the containment of spilt environmental hazardous materials. Project Manager to conduct inspections of the bunded hazardous materials storage area, including spill kits, on a regular basis.	Throughout the duration of the Project	Incat Project Manager & Construction Contractor
Barge activities	The construction contractor must ensure sufficient bunding is installed on top of the barge to mitigate potential spills entering the marine environment. The contractor must ensure adequate spill kits are available on the piling barge to aid spill response.	Prior to and during marine construction works	Incat Project Manager & Construction Contractor

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Task	Corrective Actions/ Monitoring	Timing	Responsibility
	Refuelling shall only occur when the barge is docked on shore. The Contractor will ensure that an adequate refuelling methodology is adopted to control the risk of fuel spills.		
Material Safety Data Sheets (MSDS) must be located at the Project office for all hazardous materials used during the Project.	The construction contractor will ensure that all materials are handled, stored, used and disposed of in accordance with their MSDS.	Ongoing during the project	Incat Project Manager & Construction Contractor
Competent personnel	The Project Manager must ensure all workers are appropriately qualified, inducted and follow all appropriate control measures to minimise the potential risks associated with the Project. Ensure the requirements of the BPEM and environmental procedures are adhered to throughout the duration of the Project. Ensure that all employees associated with the project adhere to the project SWMS and/or JSEA's and the site induction procedures to ensure that adverse environmental impacts are minimised	Ongoing during the project	Incat Project Manager & Construction Contractor

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6.7 Traffic (Including Navigation)

6.7.1 Rationale

Impacts from vehicle movements and barge activities (if applicable) may be experienced at sensitive locations across the area and site operations; these should be managed where practical.

6.7.2 Objective

To provide a safe working environment by minimising disruptions/impacts to operations and the surrounding environment.

6.7.3 Performance indicator

Impacts to the environment and site operations are minimised during the project

Task	Corrective Actions/ Monitoring	Timing	Responsibility
Barge activities	Prior to the commencement of any barge being mobilised to the site, the project manager must liaise with MAST so that a Notice to Mariners can be issued. Any mooring lines and/or buoys left in the shipping channel overnight must be marked with a buoy	Prior to commencement of the use of a barge	Construction Contractor
Maintain two-way traffic flows where possible	If road closures are required, appropriate approvals must be given. Ensure the traffic management procedures for the Incat operations are completed during the works	Prior to any road closures During the project	Incat Project Manager & Construction Contractor
Competent personnel	The Project Manager must ensure all workers are appropriately qualified, inducted and follow all appropriate control measures to minimise the potential risks associated with the Project. Ensure the requirements of the BPEM and environmental procedures are adhered to throughout the duration of the Project. Ensure that all employees associated with the project adhere to the project SWMS and/or JSEA's and the site induction procedures to ensure that adverse environmental impacts are minimised	Ongoing during the project	Incat Project Manager & Construction Contractor

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6.8 Design and Construction

6.8.1 Rationale

To ensure all construction works are completed in accordance with the design

6.8.2 Objective

Design and construction details are understood by installation Contractor prior to commencement of construction works.

6.8.3 Performance indicator

All works will be verified by a suitable qualified engineer or delegate.

Task	Corrective Actions/ Monitoring	Timing	Responsibility
Construction activities	A qualified civil engineer must be used to provide design and construction details for the project.	Prior to commencement of construction works	Incat Project Manager supported by Engineering Consultant
Completion of construction works	Supervising engineer must confirm, in writing, that construction has been completed in accordance with the approved drawings.	Completion of construction works	Incat Project Manager supported by Engineering Consultant
Piling activities for the project	Design plans must demonstrate that construction will be undertaken using a piling method where possible, that minimises disturbance to the adjacent seabed	Piling activities	Contractor

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6.9 Erosion and Sedimentation Control

6.9.1 Rationale

The programming of works and implementation of control measures has a major influence on how effective erosion and sedimentation controls are in reducing on-site disturbance and any potential impacts to the marine environment.

6.9.2 Objective

Before commencement of site works, implementation of the following will occur:

- Schedule earthworks so that ground disturbance is minimised;
- Avoid stripping and excavating until all necessary approvals have been obtained and works are ready to start;
- Install and maintain erosion and sediment control measures on water side of any excavation activities (in accordance with the SWMP).
- Install sediment fences or fibre rolls at the low end of the site, to manage sediment (in accordance with the SWMP).
- Divert up slope catchment runoff around the site by installing diversion drains (in accordance with the SWMP).
- Designate a location where topsoil and other excavation material will be stockpiled during landside works. Provide suitable controls to prevent erosion (in accordance with the SWMP).
- Protect the nearby stormwater system including any stormwater pits on the site from blocking up with sediment.
- Designate an appropriate location within the site where sediment generating activities can be appropriately managed.

6.9.3 Performance indicator

Minimise on site land disturbance and impacts to the marine environment.

Task	Corrective Actions/ Monitoring	Timing	Responsibility
During Construction works	Installation of sediment controls (silt curtains or similar) throughout works	Prior to start of works	Construction Contractor
Installation of sediment fencing and other erosional control measures	Daily inspections of sediment fencing and erosion controls. Additional inspections of controls during rain events	Daily checks	Construction Contractor
During installation of services	Construct service trenches away from where water is likely to concentrate. Minimise the duration that service trench excavations are exposed.	During installation of services	Construction Contractor
During building works	Ensure roofing, gutter and pipe connection works are completed efficiently, so as not to increase water quantities to the site	Ongoing	Construction contractor

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6.10 Air Quality

6.10.1 Rationale

Construction works have the potential to increase local air emissions on nearby receptors and increase dust generation within the surrounding facility.

6.10.2 Objective

To implement effective control measures to minimise emissions of potential air emissions, including dust, associated with the Project.

6.10.3 Performance indicator

No complaints received from nearby receptors due to project activities.

No adverse impacts on operations.

No impacts on staff health.

Task	Corrective Actions/ Monitoring	Timing	Responsibility
Maintenance of Plant & Equipment	All Plant & Equipment must be well maintained and serviced, with standard filters fitted.	Ongoing	Construction Contractor
All Project works - Management of dust	All dust emissions must be controlled to the extent necessary to prevent environmental nuisance and . This will be achieved by: • Watering down using water trucks on dry and windy days • Ensure stockpiles of fill material are adequately covered. • Excavated soils must be contained to prevent dust generation (using water trucks and/or adequately covered)	Daily monitoring	Incat Project Manager (refer to Section 1.4.1) & Construction Contractor
Underground Services installation	During the installation of underground services for the works any excavated soils will be required to be contained to prevent them becoming airborne and to prevent human contact. The excavated material will need to be either covered or wet down and demarcated adequately while installation works are be completed. Materials excavated will need to be either reused on site or if any excavated soils are to be taken offsite, they must be tested for offsite disposal in accordance with IB105.	During underground services works	Incat Project Manager (refer to Section 1.4.1) & Construction Contractor
Competent personnel	The Construction Contractor must ensure all workers are appropriately qualified, inducted and follow all appropriate control measures to minimise the potential risks associated with the Project.	Ongoing during the project	Construction Contractor

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Task	Corrective Actions/ Monitoring	Timing	Responsibility
	Ensure the requirements of the BPEM and environmental procedures are adhered to throughout the duration of the Project. Ensure that all employees associated with the project adhere to the SWMS and/or JSEA's and the site induction procedures to ensure that adverse environmental impacts are minimised.		

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6.11 Culture Heritage

6.11.1 Rationale

Ensure all Project activities are undertaken so that potential areas of cultural or heritage significance are appropriately managed.

6.11.2 Objective

No disturbance or damage to heritage or cultural sites to occur at any time during the construction works.

The construction and operation of the Development on the Land will be conducted in accordance with the requirements of the Aboriginal Relics Act 1975 (Tasmania)

6.11.3 Performance indicator

No irreparable adverse or unapproved impacts on any areas of cultural or heritage significance to occur at any time during the construction works.

Task	Corrective Actions/ Monitoring	Timing	Responsibility
Excavations	Undertake DBYD	Prior to excavations	Project manager
All construction works	All monitoring and corrective actions to be implemented in accordance with the Aboriginal Relics Act 1975 (Tas) If Aboriginal heritage is suspected, works must cease immediately. The project manager or delegate must contact Aboriginal Heritage Tasmania to inform them of the potential discovery	Throughout the construction works	Project manager & Construction Contractor All site personnel

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7. Sign Off

I confirm that I have read and understood the requirements and my responsibilities in implementing and complying with this CEMP.

Name	Date	Name	Date

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Appendix A - Planning Permit Conditions

Insert planning permit conditions on approval from Glenorchy City Council.

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Appendix B - SWMP

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DRAWING LIST

DRAWING	TITLE	REV	DATE
2044-01	LOCALITY PLAN AND NOTES	A	08/05/2026
2044-02	GENERAL ARRANGEMENT	A	08/05/2026
2044-03	SECTION DETAILS	A	08/05/2026

PROJECT NOTES:

GENERAL:

A. TEMPORARY DRAINAGE NOMINATED FOR CONTROL OF SEDIMENTS THROUGH CONSTRUCTION. FLOW SHOULD BE DIVERTED AROUND THE WORK SITE WHERE POSSIBLE.
B. EROSION AND SEDIMENTATION MEASURES INSTALLED SHALL BE MAINTAINED ALONG THE TOP OF SHORELINE ALONG LOW SIDE OF PROPOSED SITE.
C. CONTROL MEASURES MAY BE REMOVED WHEN ON-SITE EROSION IS CONTROLLED AND 70% PERMANENT SOIL COVERAGE IS OBTAINED OVER ALL UPSTREAM DISTURBED LAND.
D. SAFETY ISSUES MUST BE CONSIDERED AT ALL TIMES.
E. SEDIMENT TRAPS TO BE MAINTAINED UNTIL WORKS HAVE BEEN COMPLETED.
F. ALL DIMENSIONS IN MILLIMETRES UNLESS INDICATED OTHERWISE.
G. SOILS TO BE DISTURBED SHALL BE STRIPPED AND STOCKPILED TO AN APPROVED LOCATION AND WITHIN SEDIMENT FENCED AREA TO MINIMISE SOIL AND SEDIMENT LOSS INTO WATERWAYS AND RIVER.

SEDIMENT FENCE:

A. SHALL BE PER NOMINATED SKETCH FOR CONTROLLING FLOWS AND WIND (CONTRACTOR SHALL MONITOR AND MAINTAIN WET AREA FOR DUST CONTROL).
B. FORM DRAINAGE PATHS ON INSIDE OF SEDIMENT FENCE TO CONTROLLED OUTLET STRUCTRE.
C. NOT TO BE LOCATED IN AREAS OF CONCENTRATED FLOW.
D. WOVEN FABRICS ARE PREFERRED, NON-WOVEN FABRICS MAY BE USED ON SMALL WORK SITES, I.E. OPERATIONAL PERIOD LESS THAN 6 MONTHS OR ON SITES WHERE SIGNIFICANT SEDIMENT RUNOFF IS NOT EXPECTED.
E. PROVIDE CONTROLLED OUT LOCATION WITH FORMED SEDIMENT TRAP AND FILTER SOCKS PRIOR TO FORMED OUTLET.

ROCK REVETMENT:

1. THE CONTRACTOR SHALL PROVIDE TEMPORARY ROCK PROTECTION TO RECLAMATION AT 0.5m ABOVE AND BELOW MEAN SEA LEVEL. THROUGHOUT THE DURATION OF THE WORK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF ALL THE WORK AND THE ROCK REVETMENT AT ALL TIMES.

2. ALL ROCK FILL SHALL MEET THE FOLLOWING CRITERIA:

(A) SHALL BE IGNEOUS ROCK WITH A DRY DENSITY OF AT LEAST 2.200KG/M^3.
(B) ROCK SHALL CONFORM TO THE SIZE GRADING SHOWN ON THE DRAWINGS.
(C) INDIVIDUAL ROCKS SHALL BE HARD, DURABLE, CLEAN AND FRESH OR ONLY SLIGHTLY WEATHERED, NON--FRIABLE AND SHALL BE FREE FROM CRACKS, JOINTS, CLEAVAGE PLANES, JOINTS, SEAMS, CHEMICAL ALTERATION OR WEATHERING AND OTHER DEFECTS WHICH WOULD RESULT IN THE BREAKDOWN OF THE ROCK IN THE MARINE ENVIRONMENT.
(D) SHALL NOT HAVE SIGNIFICANT QUANTITIES OF DELETERIOUS MINERALS SUCH AS ANALCIME, PYRITE, OLIVINE AND EXPANSIVE CLAY MATERIALS, OR UNFAVOURABLE DELINEATIONS.
(E) SHALL EXHIBIT NO SIGNS OF STRESS RELIEF.
(F) SHALL BE ROUGH AND ANGULAR.
(G) TEMPORARY ARMOUR ROCK SHALL BE DN50 = 150mm

3. THE METHOD FOR PLACING ROCK SHALL BE SUCH AS TO MINIMISE ITS BREAKDOWN ON HANDLING AND TO PRODUCE MINIMUM FINES:

(A) ROCKS ARE WEDGED AND LOCKED TOGETHER SUCH THAT THEY ARE NOT FREE TO MOVE WITHOUT DISTURBING ADJACENT ROCKS.
(B) ROCK FILL SHALL BE TAMPED DOWN USING AN EXCAVATOR BUCKET.

LOCALITY PLAN

NTS

BEFORE YOU DIG www.byda.com.au

BEWARE OF UNDERGROUND SERVICES

THE LOCATION OF UNDER GROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT LOCATION SHOULD BE PROVEN ON SITE BY THE RELEVANT AUTHORITIES. NO GUARANTEE IS GIVEN THAT ALL SERVICES ARE SHOWN.

REVISIONS

Rev No	Revision note	Date	Checked	Approved
A	FOR CLIENT REVIEW	08/05/2026	JB	JB

Burbury CONSULTING Project Management & Engineering

ABN 75 146 719 959
P.O. BOX 354
SOUTH HOBART, TAS 7004
P: (03) 6223 8007
F: (03) 6223 1143
E: admin@burburyconsulting.com.au

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Drawn By:	SS	Date	08/05/2026
Designed By:	SS	Date	08/05/2026
Checked By:	JB	Date	08/05/2026
Approved By:	JB	Date	08/05/2026

Client	INCAT			
Project	INCAT CHANDLERS SHED AND WHARF			
Title	LOCALITY PLAN			
Scale	NTS	A3	25-2044-01	A

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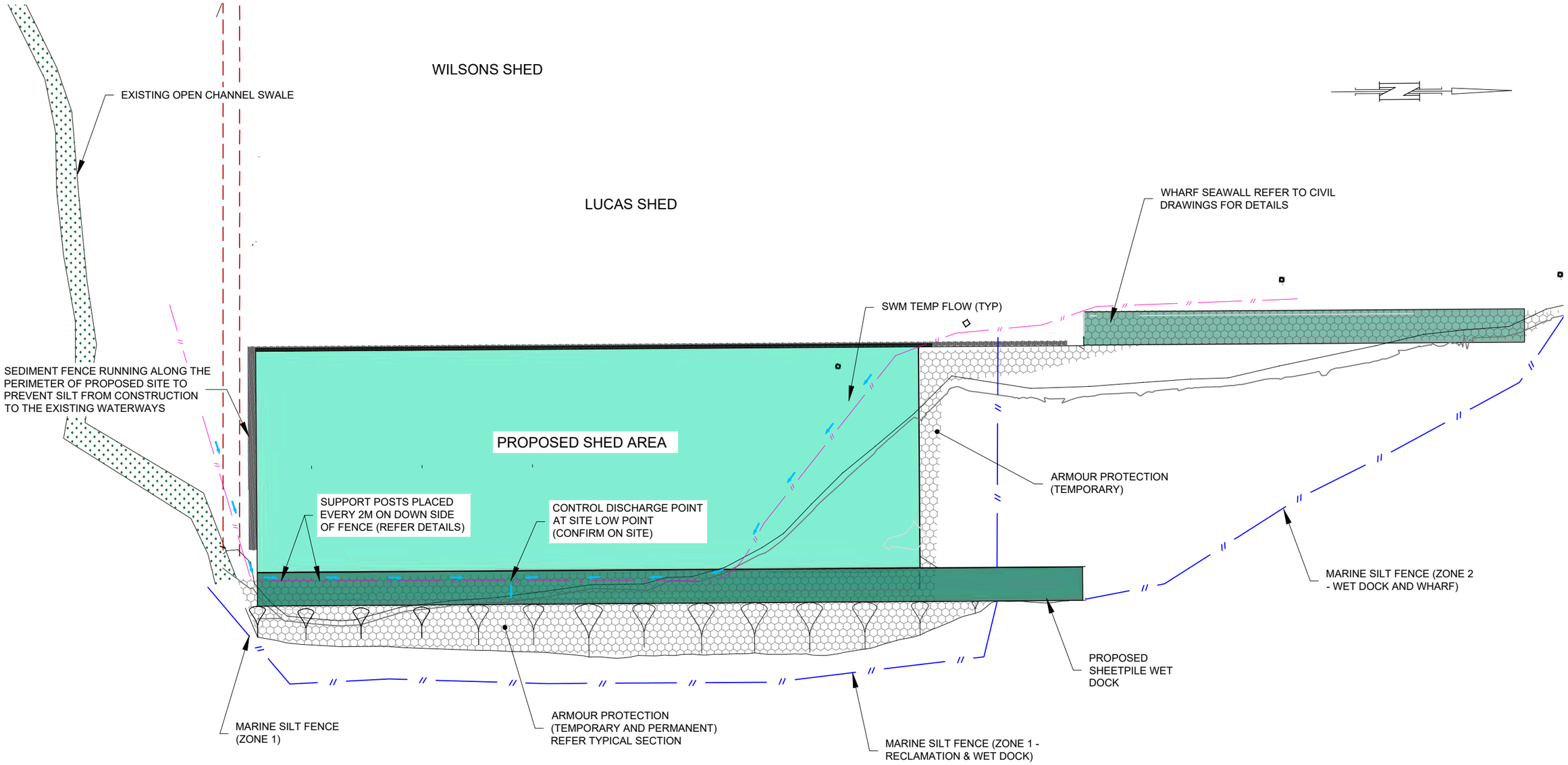

LEGEND

1. LANDSLIDE SILT FENCE
2. MARINE SILT FENCE SECURED FOR AREA OF MARINE WORKS(STAGED TO SUIT CONTRACTOR)
3. CONTROLLED FLOW PATHWAY (TYP)

GENERAL ARRANGEMENT - SEDIMENT CONTROL PLAN

SCALE 1:1500

0 15 30 45 60 75m

SCALE 1:1500 A3

REVISIONS

Rev No.	Revision note	Date	Checked	Approved
A	FOR CLIENT REVIEW	08/05/2026	JB	JB

Burbury CONSULTING
Project Management & Engineering
ABN 75 146 719 959
P.O. BOX 354
SOUTH HOBART, TAS 7004
P: (03) 6223 8007
F: (03) 6223 1143
E: admin@burburyconsulting.com.au

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Drawn By: SS	Date 08/05/2026	Client	INCAT
Designed By: SS	Date 08/05/2026	Project	INCAT CHANDLERS SHED AND WHARF
Checked By: JB	Date 08/05/2026	Title	SEDIMENT CONTROL PLAN
Approved By: JB	Date 08/05/2026	Scale	AS SHOWN | A3 | 25-2044-02 | A

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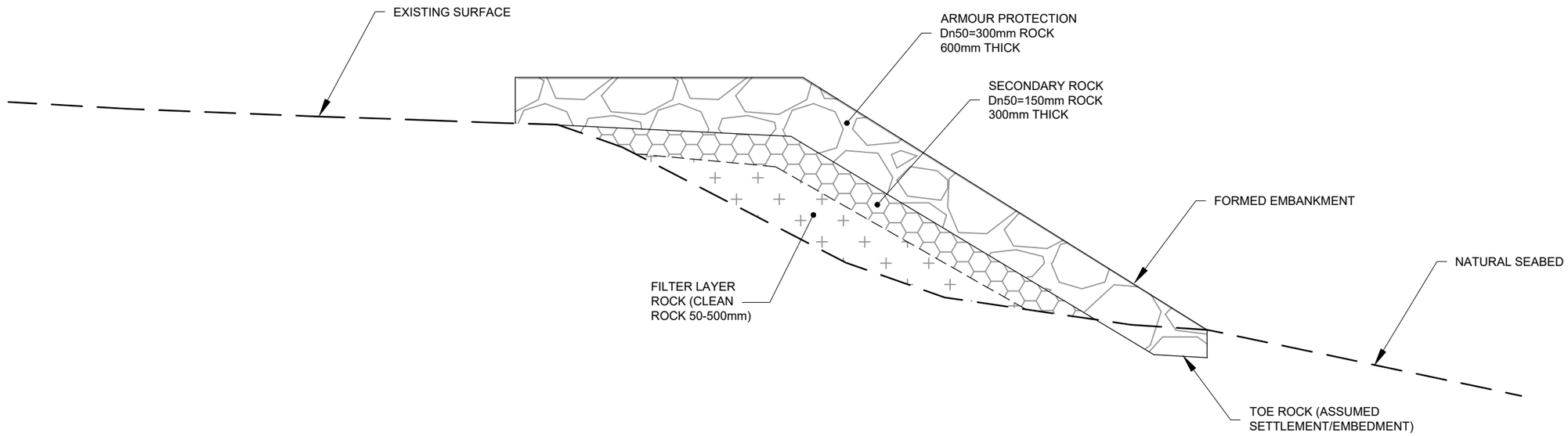
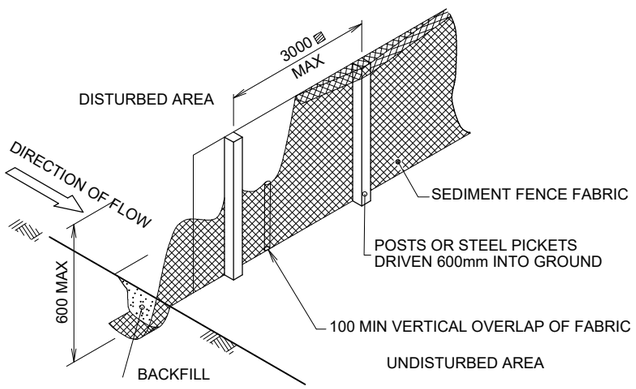
REFER CIVIL DRAWINGS FOR FINISHED GRADE LEVELS & DETAILS



TYPICAL SECTION DETAILS - SEAWALL

CHAINAGE 80.00m



SEDIMENT FENCE DETAIL

NOT TO SCALE

REVISIONS

Rev No	Revision note	Date	Checked	Approved
A	FOR CLIENT REVIEW	08/05/2026	JB	JB

Burbury CONSULTING
Project Management & Engineering

ABN 75 146 719 959
P.O. BOX 354
SOUTH HOBART, TAS 7004
P: (03) 6223 8007
F: (03) 6223 1143
E: admin@burburyconsulting.com.au

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Drawn By: SS	Date 08/05/2026	Client	INCAT
Designed By: SS	Date 08/05/2026	Project	INCAT CHANDLERS SHED AND WHARF
Checked By: JB	Date 08/05/2026	Title	TYPICAL SECTION AND DETAILS
Approved By: JB	Date 08/05/2026	Scale 1:500	A3 | 25-2044-03 | A

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Version: 1, Version Date: 09/06/2026

Pitt & Sherry (Operations) Pty Ltd
ABN 67 140 184 309

Phone 1300 748 874
info@pittsh.com.au
pittsh.com.au

Located nationally —
Melbourne
Sydney
Brisbane
Hobart
Launceston
Newcastle
Devonport

21 April 2026

Danielle Gray obo Incat Pty Ltd
Principal Consultant
Gray Planning
224 Warwick Street
West Hobart Tasmania 7000

Dear Danielle,

P.25.0075: Request for Information PLN-25-367 – Acid Sulfate Soil Assessment

Glenorchy City Council (Council) issued a second request for information (RFI) to Incat Pty Ltd (Incat) on 10 April 2026, regarding the proposed development and use of a new boat building shed, including reclamation works at 100 Derwent Park Road, Derwent Park (Property).

RFI Item 2 states:

> *"**Acid Sulfate Soil (ASS) Assessment***
>
> *An Acid Sulfate Soil (ASS) Assessment must be undertaken by a suitably qualified person to determine whether more than 100 tonnes of ASS is likely to be disturbed during the reclamation works. Where the assessment confirms that disturbance of ASS above this threshold is likely, an ASS Management Plan must also be prepared and submitted. The management plan must demonstrate how potential environmental impacts, including acid generation and impacts on water quality, will be effectively avoided or minimised during and after construction"*

Response:

Rogerson & Birch Surveyors have completed a Contour and Detail Plan (Survey) that includes bathymetric contours for the proposed reclamation area. The survey plan was completed on 29 October 2025; a copy is provided as Attachment A.

The survey contours are in Australian Height Datum (AHD). Zero AHD is mean sea level (MSL). In Hobart, MSL is deemed to be 0.9 m astronomical tide level, based on Hobart tides ranging between 0.2 m and 1.6 m (above the lowest astronomical tide). On that assumption, AHD 0 m is deemed to be 0.9 m astronomical tide level. As the lowest tide is 0.2 m, this would correspond to -0.7 m AHD.

The Survey (Attachment A) suggests, based on the slope angle, that the edge of the reclamation appears to extend to the edge of the green shading, with seabed / estuary bed likely beginning in the turquoise-coloured depths, i.e. around -2.7 to -3.0 AHD, which is deemed to be equivalent to -2.0 to -2.3 tide / water depth.

As the shallowest water column is expected to be a minimum 2 m above the seabed / estuary bed, and to be up to 3.6 m deep during high tides, the sediments are expected to always be water saturated and to remain in an anaerobic condition. Even if ASS were present within the footprint of the proposed reclamation area, and at shallow depths in the sediment column, disturbance of any potential ASS by placement of fill is not expected to cause oxidation and resulting acidification of the ASS (if present) to a level which would cause significant environmental harm. An ASS Management Plan would therefore not be necessary, and consequently, assessing sediments for presence of ASS is not deemed to be required.

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It is assumed that the Construction Environmental Management Plan (CEMP) required under item 1 of the RFI will address containment of seabed / estuary bed sediments during reclamation works, which would thereby contain any potential ASS.

Please note the limitations outlined in *Important information about your Letter*, provided at the end of this document.

Yours sincerely,

Fiona Keserue-Ponte
Senior Principal Environmental Consultant CEnvP SC

Enc Important information about your Letter
Attachment A – Rogerson & Birch Surveyors Contour & Detail Plan, 29/10/2025

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Important information about your Letter

In some circumstances the scope of services may have been limited by a range of factors such as time, budget, access and/or site disturbance constraints. The Letter may only be used and relied on by the Client for the purpose set out in the Letter. Any use which a third party makes of this document, or any reliance on or decisions to be made based on it, is the responsibility of the Client or such third parties.

The services undertaken by pitt&sherry in connection with preparing the letter were limited to those specifically detailed in the Letter and are subject to the restrictions, limitations and exclusions set out in the Letter. The Letter accuracy is limited to the time period and circumstances existing at the time the Letter was prepared. The opinions, conclusions and any recommendations in the Letter are based on conditions encountered and information reviewed at the date of preparation of the Letter. pitt&sherry has no responsibility or obligation to update the Letter to account for events or changes occurring after the date that the Letter was prepared. If such events or changes occurred after the date that the Letter was prepared render the Letter inaccurate, in whole or in part, pitt&sherry accepts no responsibility, and disclaims any liability whatsoever for any injury, loss or damage suffered by anyone arising from or in connection with their use of, reliance upon, or decisions or actions based on the Letter, in whole or in part, for whatever purpose.

In preparing the Letter, pitt&sherry has relied upon data, surveys, analyses, designs, plans and other information provided by or on behalf of the Client and other individuals and organisations, most of which are referred to in the Letter ("the Data"). Except as otherwise stated in the Letter, pitt&sherry has not verified the accuracy, completeness, usefulness or relevance of the Data.

To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in the Letter ("Conclusions") are based in whole or part on the Data, those Conclusions are contingent upon the accuracy, completeness, usefulness or relevance of the Data. pitt&sherry does not warrant the accuracy and will not be liable in relation to Conclusions should any of the Data, be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to pitt&sherry.

The opinions, conclusions and any recommendations in the Letter are based on conditions encountered and information reviewed at the date of the Site visit.

pitt&sherry has no responsibility or obligation to update the Letter to account for events or changes occurring subsequent to the date that the site visit was carries out.

pitt&sherry does not accept responsibility arising from, or in connection with, any change to the Site conditions. pitt&sherry is also not responsible for updating the Letter if the Site conditions change.

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Rogerson & Birch Surveyors Contour & Detail Plan, 29/10/2025

Attachment A

pitt&sherry

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NOTES:

This plan and associated digital model is prepared for JMG Engineers & Planners from a combination of field survey and existing records for the purpose of designing new constructions on the land and should not be used for any other purpose.

The title boundaries as shown on this plan were not marked at the time of the survey and have been determined by plan dimensions only and not by field survey. No measurements or offsets are to be derived between the features on this plan and the boundary layer. The relationship between the features in this model and the boundary layers cannot be used for any set out purposes or to confirm the position of the title boundaries on site.

Services shown have been located where visible by field survey. Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services.

This note forms an integral part of the Plan/Data. Any reproduction of this plan/model without this note attached will render the information shown invalid.

LEGEND

- Fire Hydrant
- Stormwater Manhole
- Grated Pit
- Floor Level
- Site Datum
- Unknown Pit
- Property Boundary
- Fence
- Table Drain
- Easement
- Building
- Bitumen

122.92
41.30
Proposed bus stop
Proposed DDA parking
168298/1
7.180ha
No parking
Bike racks
DDA parking
Approx. Location of new shed
Drainage Easement 3.00 wide
157.78
83.91
74.30
34.00
8.61
75.96
20.90
Drainage Easement 3.00 wide
50.00
46.39
130554/1
1.967ha
Drainage Easement 5.00 wide
18.38
12.80
16.00
18.16
34.66
61.19
117774/1
1.002ha
88.09
-6.0m
-3.0m
0.0m
0m
37.5m
75m
112.5m
150m
1:1,500

HORIZONTAL DATUM is GDA2020, Coordinates are Plane
Coordinate Origin: ST969 RM3
E 525007.160 N 5258184.926 PER SURCOM

REV	AMENDMENTS	DRAWN	DATE	APPR.
E				
D				
C				
B	More parking and bus turning area added to plan	MG	17/02/2026	MG
A	Extents broadened to include car parking	MG	4/02/2026	MG

ROGERSON & BIRCH SURVEYORS
UNIT 1, 2 KENNEDY DRIVE
CAMBRIDGE 7170
PHONE: (03)6248 5898
EMAIL: admin@rbsurveyors.com
WEB: www.rbsurveyors.com

Contour & Detail Plan

FOR: JMG Engineers & Planners

LOCATION: 100 Derwent Park Road, Derwent Park

Date:	Contour interval:	Reference:
29/10/2025	0.250m	JMG152 14624-01
Drawn:	**Scale:**	**Bearing Datum: MGA2020 per**
MG	1:1500 (A3)	RTK GPS
Approved:	**Title Reference:**	**Vertical Datum:**
AB	See plan	AHD83 per ST969 RM3

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Marine SOLUTIONS TASMANIA PTY LTD

www.marinesolutions.net.au

MARINE ECOLOGICAL ASSESSMENT FOR CONSTRUCTION AND RECLAMATION WORKS AT INCAT

prepared for

Incat Tasmania

February 2026

Document Set ID: 3625399
Version: 1, Version Date: 19/06/2026

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Version	Contributor/s	Date reviewed	Reviewed by	Notes
1	A. Erskine A. Balis	18/02/2026	C. Manicom	

Cover photo: Location of the proposed development at the Incat site, taken during field surveys (Marine Solutions, Feb 2026).

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Executive Summary

Marine Solutions was engaged by Incat to conduct a marine ecological assessment at the site of proposed construction and reclamation at their shipyard, located on the edge of the River Derwent in Derwent Park, Tasmania. The ecological assessment includes a desktop assessment and field surveys.

The desktop assessment identified 12 threatened marine species that may occur or are known to occur within the development area. Targeted surveys for four of these threatened marine species were required based on the Guidelines for Natural Values Surveys – Estuarine & Marine Development Protocols (NCH 2020), including for: the large-fruit seatassel (*Ruppia megacarpa*), the spotted handfish (*Brachionichthys hirsutes* – habitat assessment only), the Derwent River seastar (*Patiriella littoralis*), and the live-bearing seastar (*Parvulastra vivipara*).

Field surveys were conducted on 3 February 2026. At the time of survey, reclamation works were in progress, with trucks and an excavator active for the duration of the survey period. The actual shoreline was located 10 - 15 m further offshore than expected, suggesting at least 10 m of reclamation had already occurred since satellite imagery was recorded in 2025. Field personnel observed significant impacts on water quality, with a plume of high turbidity surrounding the reclamation works due to suspended sediments in the water. Due to safety, access, and visibility constraints from the reclamation works, the field survey design was modified, and components of the survey could not be completed in full. Sufficient information was collected to provide a general summary of marine ecological values at the development location; however, no assessment could be made of areas already reclaimed or of the presence/absence of the rare species the large-fruit seatassel.

The surveyed intertidal area comprised a narrow rocky intertidal zone characterised by angular boulders, cobble, and anthropogenic fill material. Results suggest that the area was the site of previous land reclamation, although substrate was still available for sessile and mobile invertebrates. No threatened seastars were identified during targeted searches. No spotted handfish individuals were identified during surveys. The surveyed subtidal habitat was characterised by

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bioturbated silt and a largely unvegetated benthic habitat, with visible suspension of sediments when water was disturbed.

Habitat adjacent to the reclaimed area is likely representative of the habitat within the reclaimed zone footprint, and some inferences can be made about habitat quality and the likelihood of threatened species presence in unsurveyed areas. Given the modified nature of the foreshore surrounding the development, and the absence of threatened species in field observations, it is unlikely that threatened species or ecologically significant habitat would have been present in the unsurveyed zones of the development footprint. The Glenorchy City Council Development Standards for Buildings and Works clause C7.6.1 performance criteria (i.e., works within a waterway and coastal protection area must avoid or minimise adverse impacts on natural assets) are addressed herein, with mitigations to minimise impacts recommended.

As activities associated with construction and land reclamation have the potential to generate impacts beyond the immediate footprint of works, particular consideration should be given to the proximity of ecologically significant areas such as the wetlands of the Risdon Reserve, and other important habitats nearby the study area.

To mitigate risks associated with construction in the River Derwent it is recommended that a silt curtain be installed around active work areas as soon as possible and maintained throughout the construction and reclamation period. Other recommendations are summarised below in Table 1.

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Table 1. A summary of findings, potential impacts, and recommended mitigations for the proposed development.

	Summary of findings	Potential impacts	Mitigation methods

Threatened and protected species.	• Desktop assessment revealed 12 threatened marine species may occur in the survey area.
	• No threatened species were identified in field investigations.
	• Mobile and migratory species may utilise study area.
		• Injury or death of marine fauna.
		• Loss of habitat.
		• Acoustic disturbance.
		• Suspended sediments resulting in:
		  ○ Resuspension of historically deposited contaminants (i.e., heavy metals).
		  ○ Deposition of suspended sediment into adjacent habitats.
		• Pest species introduction and/or proliferation.
		• Pollution of waterway with debris.
			• Implement best practice construction methods that minimise benthic disturbance.
			• Implement thorough cleaning protocols to reduce risk of pest species translocation.
			• Silt curtain installation and maintenance.
			• Development of a soil management plan to mitigate impacts of run off.
			• If a sediment plume is observed beyond the silt curtain, additional water quality monitoring may be required.
			• Responsible removal of debris and waste from site.
			• Marine mammal monitoring prior to and during any construction activities that create noise intrusion (e.g., piling) by a trained Marine Mammal Observer (MMO) as per the Underwater Piling and Dredging Noise Guidelines (DIT 2023).
			• A slow start-up of construction works to avoid causing unnecessary shock to animals and to allow them to vacate the area.
			• Implementation of an environmental management plan to manage risk and maintain integrity of mitigations.

Habitat characterisation.	• Desktop assessment highlighted ecologically important habitats in the mid - upper Derwent Estuary. • Several native and introduced marine species were recorded during field investigations. • Evidence of historical land reclamation in the intertidal zone. • Debris recorded throughout the survey area. • Sediment plume observed around active reclamation works.		

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1 Introduction

1.1 Proposal Brief

Marine Solutions was engaged by Incat to conduct a marine ecological assessment at the site of proposed construction and reclamation at their shipyard, located on the edge of the River Derwent in Derwent Park, Tasmania (Figure 1). Details of the study area and details on the proposed construction and reclamation are available in Section 1.3 and Section 1.4, respectively.

Figure 1 Map showing the approximate location of the proposed development at 100 Derwent Park Road, positioned on the Derwent River (Google Earth 2026).

Incat submitted a planning application for the proposed construction and reclamation works to both Crown and Glenorchy City Council in December 2025. Council and TasWater requested further information surrounding natural values, which will be addressed herein (pers. comms. D. Gray email to S. Ibbott dated 20 January 2026).

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Requests for information (RFI) to be addressed by Marine Solutions included:

- *"The proposed development application was assessed as unsatisfactory in relation to C7.6.1 and more information is needed for the reclamation process (infill) against performance criteria. As such, it Is requested that you provide an ecological assessment must be prepared by a consultant experienced in assessing benthic flora and fauna"* (Item 16, RFI issued by council).
- "*Any recommended land reclamation construction methods specific to the site that would eliminate adverse impacts on the aquatic environment within the Derwent Estuary*." (Item 17.2, RFI issued by council).

1.2 Purpose and Scope

The purpose of this report is to assess the presence of threatened and/or protected marine flora and fauna, and identify potential ecological impacts associated with the proposed construction and land reclamation. The scope of this report includes a detailed summary of available information regarding the natural values and ecology of the area. The scope does not extend to terrestrial or avian ecology.

It is important to note that on the date of field surveys (3 February 2026) personnel noted that significant reclamation had already taken place and therefore a comprehensive baseline ecological assessment was not feasible. As a result, the recommendations contained herein are applicable only to works yet to commence.

Specifically, the project includes the following:

- Preparation, liaison, and desktop research
- Field survey[1]
    - Habitat characterisation:
        - Intertidal surveys
        - Subtidal surveys
    - Targeted surveys for threatened and protected species:

[1] Not all surveys were able to be completed in full. See Section 3.

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    - Live bearing seastar
    - Derwent River seastar
    - Large-fruit seatassel
    - Spotted handfish (habitat assessment only)
- Data analysis and reporting.

1.2.1 Other Exclusions

Bathymetric surveying and sediment and water quality analysis were not included in the scope of works. Marine Solutions were informed that a marine bathymetric survey had already been conducted at the development site by Rogerson & Birch Surveyors (pers comms., D. Gray, 20 Jan 2026).

Should a water quality monitoring program be required during construction, baseline water quality data can be obtained from the Derwent Estuary Program's ambient monitoring program in the vicinity of the development (including data from site U3 and U4, DEP 2024), and from the nearby outfall ambient monitoring program conducted at Prince of Wales Bay (TasWater, 2021 - 2025).

Sediment in the Derwent Estuary is known to be contaminated with heavy metals from historical and ongoing major industrial works (DEP et al. 2010). With the proposed development located adjacent to the zinc smelter, a known point source of heavy metal contamination in the Derwent, high sediment contaminant levels are highly likely throughout the survey area. The recommendations within this report take a precautionary approach by assuming high sediment contamination in marine sediments.

1.3 Study Area

The proposed works involve the construction of a new boat-building shed at 100 Derwent Park Road, Derwent Park, in the Glenorchy City Council municipality, and will have a footprint of approximately 6000 m^2 (building area only, see Section 1.4). The structure will extend into the marine environment, with some land reclamation in the Derwent Estuary required as part of the development (Section 1.4).

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The Derwent Estuary is a river system in southern Tasmania, opening into Storm Bay, approximately 30 km downstream from the site location. From the river to the sea the River Derwent and estuary support a variety of habitats, species, and human uses (DEP 2024). The Derwent Estuary Program, (DEP) a partnership between governments, industry and the community, have a range of resources that contribute to knowledge and management of the Derwent Estuary. An important resource relevant to this project is the *Dredging and Land Reclamation in the Derwent* guidance document (DEP 2013), which details best practice for projects involving dredging and/ or reclamation.

1.4 Proposed Development Overview

Marine Solutions were provided with the following information relating to the proposed construction and reclamation works. Note that some specifics around construction methods, materials, and timelines were not available at the time of survey, including the area and extent of reclamation work already conducted (however, it was noted that reclamation had already proceeded – pers. comms., D. Gray, 20 Jan 2026).

The proposed construction footprint includes a new shed (6000 m^2), a docking area and walkway, some of which will extend into the intertidal and subtidal estuary environment (Figure 2). Note that some components within the provided drawings (e.g. as in Figure 3) are not included in the current scope of works for which this survey was designed, including the "100m Long 'Stage 2' Building Works" and any excavation or dredging work (pers. comms. S. Casey, 2 February 2026).

Some reclamation will be required as part of the works. Material to be used for reclamation has been classified as clean fill (pers. comms. D. Gray, email dated Feb 11, 2026). No dredging or excavation of material will be involved in any stage of the construction for this project (pers. comms. S. Casey, Incat CEO, email dated 2 February 2026).

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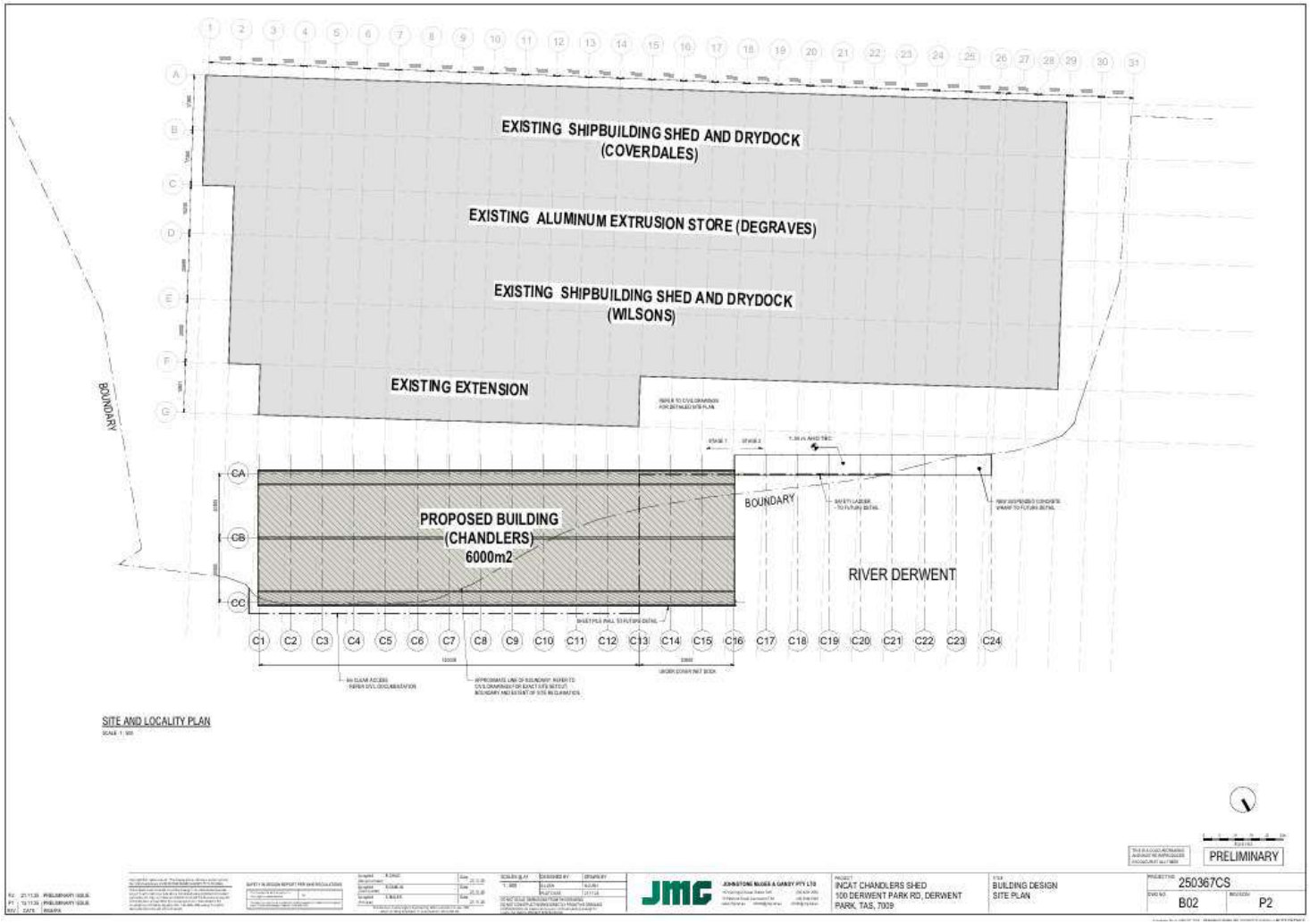

Figure 2 Screenshot of Building Design Site Plan (Site and Locality Plan) from JMG, displaying position of Proposed Building and adjacent walkway (Provided by D. Gray, pers. comms. 10 January 2026).

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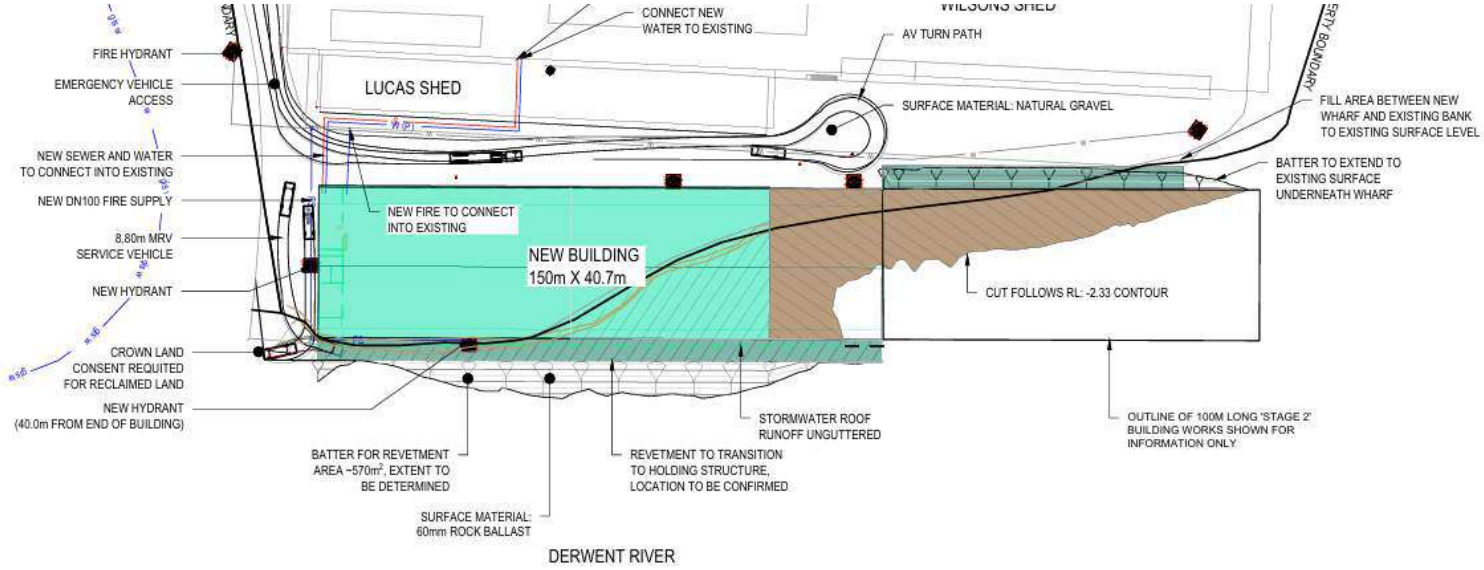

Figure 3 Cropped screengrab from JMG Civil Works Site Plan (provided by D. Gray, pers. comms., 10 January 2026) displaying proposed building and walkway locations (teal). Note that some components in the above plan have been determined irrelevant for the marine ecological assessment, including the "*Stage 2" Building Works* outlined on the right. It was confirmed that no dredging or excavation works are involved in the project for which the ecological assessment herein addresses (i.e., area that indicates CUT in the image above does not imply excavation- at least not for this project) (pers. comms., S. Casey, Incat CEO, email dated 2 February 2026).

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2 Desktop-Based Assessment of Aquatic Sensitive Receptors

2.1 Threatened and Protected Species/Ecological Communities

There are a number of marine species listed as threatened that may occur in the vicinity of the proposed development. Threatened species are protected under the *Threatened Species Protection* (*TSP*) *Act 1995* (Tasmanian state legislation) and/or the *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* (EPBC) (Australian Government legislation).

Under the *TSP Act*, no listed species may be collected, disturbed, damaged or destroyed without a permit. Under the *EPBC Act*, any action with significant impact on a listed threatened species and/or community is prohibited without approval (Section 18 and 18A).

In addition to threatened species legislation, the *Fisheries (General and Fees) Regulations 2006* under the *Living Marine Resources Management Act 1995* (LMRMA) prohibits the taking/possession of a number of marine species, including Syngnathids (seahorses, seadragons and pipehorses), handfish, threefin blennies, limpets/false limpets of three superfamilies, and five species of shark. Additional species are protected by the schedules of the *Wildlife (General) Regulations 2010* (Regulations under the *Nature Conservation Act 2002*), under which a person must not take, buy, sell or have possession of any protected wildlife or any product of any protected wildlife without a permit.

Threatened species that could potentially occur within the vicinity of the study area are discussed in greater detail in this section.

2.1.1 Methods

The EPBC Protected Matters Search Tool (PMST) is a tool managed by the Department of Climate Change, Energy, Environment and Water (DCCEEW) to help determine whether Matters of National Environmental Significance (MNES) or other matters protected by the *EPBC Act* are likely to occur in a given area of interest. The PMST was used to identify protected matters relating the study area, with a buffer of 500 m and 5000 m (DCCEEW 2026). The summary report is provided in Appendix 1. NRE Tas's Natural Values Atlas (NVA) was then consulted to identify any verified records of threatened species occurring within the proposed development area (NRE Tas 2026).

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Findings have then been used to determine species for which targeted field surveys are warranted.

2.1.2 Results

In a search of the Natural Values Atlas (NRE Tas 2026) and EPBC Protected Matters Search Tool (PMST) (DCCEEW 2026), 12 threatened marine species were identified as possibly occurring or being known to occur within the area (see threatened species summaries below). There are verified records of 8 of these species within a 5000 m radius of the study area, of which one (Australian grayling) occurred within 500 m (NRE Tas 2026) (Table 2).

Based on this desktop-based assessment, it has been determined that targeted field surveys are warranted for four species:

- Large-fruit sea tassel (*Ruppia megacarpa*),
- Spotted handfish (*Brachionichthys hirsutus* - habitat assessment only),
- Derwent River seastar (*Patiriella littoralis*), and
- Live-bearing seastar (*Parvulastra vivipara*).

See Section 3 for details on targeted field surveys.

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Table 2. Summary of threatened species identified in a desktop-based assessment. Note that the scope does not extend to terrestrial or avian biota.

	Scientific Name	Common Name	Presence likelihood as per EPBC PMST *	Verified record? as per Tasmanian NVA**	Tas TSP Act Threatened Category	EPBC Act Threatened Category	EPBC Listed Migratory?
Macrophyte	*Ruppia megacarpa*	Large-fruit seatassel	*Not EPBC- listed*	Yes – within 5000 m	Rare	*Not listed*	*Not listed*
Invertebrates	*Parvulastra vivipara*	Tasmanian live-bearing seastar	Species or species habitat *may* occur within 5000 m	Yes – within 5000 m	Endangered	Vulnerable	No
	Patiriella littoralis	Derwent river seastar	Species or species habitat *likely to* occur within 5000 m. Species or species habitat *may* occur within 500 m.	Yes – within 5000 m	Endangered	Critically Endangered	No
Fish & Elasmobranchs	*Galeorhinus galeus*	Eastern school shark	Species or species habitat *likely to* occur within 5000 m	No	Not listed	Conservation Dependent	No
	Carcharodon carcharias	Great white shark	Foraging, feeding or related behaviour *known* to occur within 5000 m	No	*Vulnerable*	Vulnerable	Yes
	Brachionichthus hirsutus	Spotted handfish	Species or species habitat *likely to* occur within 5000 m	Yes – within 5000 m	Endangered	Critically Endangered	No
	Prototroctes maraena	Australian grayling	Species or species habitat *known* to occur within 500 m	Yes – within 500 m	Vulnerable	Vulnerable	No
	Thymichthys politus	Red handfish	Species or species habitat *may* occur within 500 m	No	Endangered	Critically Endangered	No
Mammals	*Balaenoptera musculus*	Blue whale	Species or species habitat *likely* to occur within 500 m	No	Endangered	Endangered	Yes
	Eubalaena australis	Southern right whale	Species or species habitat *known* to occur within 500 m	Yes – within 5000 m	Endangered	Endangered	Yes
	Mirounga leonina	Southern elephant seal	Not identified by PMST	Yes – within 5000 m	Endangered	Vulnerable	No

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Scientific Name	Common Name	Presence likelihood as per EPBC PMST *	Verified record? as per Tasmanian NVA**	Tas TSP Act Threatened Category	EPBC Act Threatened Category	EPBC Listed Migratory?
Arctocephalus tropicalis	Sub-Antarctic fur seal	Not identified by PMST	Yes – within 5000 m	Endangered	Vulnerable	No

* Notes presence categorization of EPBC PMST (DCCEEW 2026)

** Verified records as per Tasmanian Government Natural Values Atlas (NRE Tas 2026). Note that the NVA does not document records of migratory species that are not threatened.

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2.1.2.1 Macrophytes

2.1.2.1.1 Large-fruit Seatassel

Species Background

Large-fruit seatassel (*Ruppia megacarpa*) occurs in coastal estuaries, salt lakes, and lagoons in waters up to 2 m depth along the southern coasts of Australia between Western Australia and New South Wales (Threatened Species Section (TSS) 2026). Largefruit seatassel is a salt tolerant species that has adapted to a wide range of salinities, existing in fresh to hypersaline environments.

In Tasmania, large-fruit seatassel is listed as rare under the *TSP Act*. It is found growing in estuaries and lagoons along the east and southeast coasts, and brackish lagoons in the Midlands. The Derwent Estuary is one of several key sites for large-fruit seatassel (TSS 2026).

Site Occurrence

The Tasmanian NVA records a verified sighting within 5000 m of the proposed development.

Potential Impacts

Direct impact from reclamation and or construction within the development area. Indirect impacts within the development area and beyond from suspended sediments (e.g., causing light attenuation).

Recommended mitigations:

1. Conduct a targeted survey for large-fruit sea tassel as per the Guidelines for Natural Values Surveys – Estuarine & Marine Development Proposals (NCH Tas 2020, see Section 0).
2. Minimise extent of development's marine footprint in the design phase.
3. Choose best practice construction methods that reduce benthic disturbance.
4. Silt curtains should be installed around any construction and reclamation works that may cause sediment disturbance.

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2.1.2.2 Invertebrates

2.1.2.2.1 Derwent River Seastar

Species Background

The Derwent River seastar (*Patiriella littoralis*) occurs in the shallow rocky intertidal habitat within a restricted geographic range in the Derwent Estuary and is listed as endangered under the *TSP Act* and critically endangered under the *EPBC Act*. The total recorded range of *P. littoralis* is less than 1 hectare (Materia 1994). The Derwent River seastar is morphologically very similar to the common introduced regular seastar (*Patiriella regularis*), making positive identification difficult (Materia 1994).

Known threats to the Derwent River seastar include interspecific competition and anthropogenic habitat modification/destruction (Materia 1994). Derwent River seastar populations are severely impacted by introduced species that co-occur in super-abundance (e.g. New Zealand Porcelain Crab *Petrolisthes elongata* and the regular seastar) (Barrett et al 2012; Materia 1994). Furthermore, it has been hypothesised that the current lack of Derwent River seastar observations may be attributable to possible hybridisation with regular seastar, resulting in genetic swamping (Materia 1994).

There has been severe human modification to its known habitat, and two targeted surveys in 1993 and 2010 have failed to find the species. It is highly probable that the Derwent River seastar is now extinct (O'Hara et al 2019).

Site Occurrence

Species or species habitat *likely to* occur within 5000 m and *may* occur within 500 m, as per the PMST. Verified record as per the NVA within 5000 m.

Potential Impacts

Given the species has not been seen in its natural state since the early 1990's (NCH 2020) it is highly unlikely that a Derwent River seastar will be impacted by construction activities. However, if any Derwent River seastar individual was present in the survey area, potential impacts could include

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habitat modification or removal, death or injury, and/or competition from invasive species that may be introduced by construction activities.

Recommended mitigations:

1. Conduct a targeted threatened seastar survey as per the Guidelines (NCH 2020).
2. Minimise impacts to unmodified intertidal habitat in the vicinity of the development.

2.1.2.2.2 Live-Bearing Seastar

Species Background

The live-bearing seastar (*Parvulastra vivipara*) (formerly *Patiriella vivipara*) is a small (~ 15 mm diameter) pentagonal orange seastar endemic to south-east Tasmania. The population is severely fragmented with thirteen distinct, small and isolated sub-populations known to have occurred in the past (Prestedge 2001). Recognised threats to the species include competition with the introduced regular seastar (*Patiriella regularis*), predation by the introduced Northern Pacific seastar (*Asterias amurensis*), and habitat modification and destruction (e.g. sewage discharge, urban encroachment) (DCCEEW 2026 b).

Site Occurrence

Species or species habitat may occur within 5000 m, as per the PMST. Verified sighting within 5000 m, as per the NVA.

Potential Impacts

If any live-bearing seastar individual was present in the survey area, potential impacts could include habitat modification or removal, death or injury, and/or competition from invasive species that may be introduced by construction activities.

Recommended mitigations:

1. Conduct a targeted threatened seastar survey as per the Guidelines (NCH 2020).
2. Minimise impacts to unmodified intertidal habitat in the vicinity of the development.

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2.1.2.3 Fish & Elasmobranchs

2.1.2.3.1 Australian Grayling

Species Background

The Australian grayling (*Prototroctes maraena*) is a medium-sized, slender, silver fish native to Tasmania and southeast mainland Australia. Migrating between fresh and marine waters, the Australian grayling is considered diadromous, though most of their lives are spent in freshwater and adults live and spawn in freshwater. Timing of spawning varies but is typically in late summer in Tasmania, with larvae transported to the sea via stream and river currents, before returning as migrating juveniles approximately 4 to 6 months later (Backhouse et al 2008a, b., Bryant and Jackson 1999).

The Australian grayling is threatened by barriers to movement such as dams, weirs, and unsuitable habitat conditions. Changes to river flows, especially in winter, due to water extraction and dam operations also impact the species. Other threats include the removal of riparian vegetation and in-stream habitat, increased sedimentation from land disturbance, introduction of predators or competitors, and nutrient runoff from agriculture that affects water quality (Backhouse et al 2008a).

Site Occurrence

Species or species habitat are known to occur within 500 m of the development, as per the PMST. Verified sighting within 500 m of the development, as per the NVA.

Potential Impacts

As the development is not expected to introduce any barriers to migration, impacts on the Australian graylings migratory pathway is unlikely to be impacted. However, the species may be impacted by reduced water quality resulting from construction and reclamation activities.

Recommended mitigations:

1. Choose best practice construction methods that reduce benthic disturbance.

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2. Silt curtains should be installed around any construction and reclamation works that may cause sediment disturbance.

2.1.2.3.2 Eastern School Shark

Species Background

The eastern school shark (*Galeorhinus galeus*) is primarily a deep-water demersal species found in temperate waters off southern Australia. In Tasmania, inshore bays and estuaries are important as birthing and nursery sites. Threats to school sharks include fishing and habitat degradation of nursery grounds (DCCEEW 2026 c).

Site Occurrence

Species or species habitat likely to occur within 5000 m as per the PMST. No verified sightings as per the NVA.

Potential Impacts

Although unlikely to be present nearby the development area based on site occurrence, it is plausible that eastern school shark habitat, in particular nursery grounds, may be impacted by coastal developments.

Recommended mitigations:

1. Choose best practice construction methods that reduce benthic disturbance.
2. Silt curtains should be installed around any construction and reclamation works that may cause sediment disturbance.

2.1.2.3.3 Red Handfish

Species Background

The red handfish (*Thymichthys politus*) is endemic to south-east Tasmania (Last & Gledhill 2009). Its distribution and population size are small, limited to the coastline of south-eastern Tasmania, with known modern populations restricted to only two small areas in Frederick Henry Bay (Bessel et al

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2024). Given the low number of mature individuals and the limited range of the species, areas supporting known populations represent critical habitat to the survival of the species (DoE 2015).

Site Occurrence

Species or species habitat may occur within 500 m as per the PMST. No verified sightings as per the NVA.

Potential Impacts

Given known populations of red handfish are in Frederick Henry Bay, > 20 km from the development site, it is highly unlikely there will be any impact on red handfish populations as a result of the proposed development.

Recommended mitigation: None required.

2.1.2.3.4 Spotted Handfish

Species Background

The spotted handfish (*Brachionichthys hirsutus*) is endemic to south-eastern Tasmania. Once common from the eastern coast to the D'Entrecasteaux Channel (Last et al 1983), the species experienced rapid declines first reported in 1996 (Barrett et al 1996). The spotted handfish is listed as listed as Critically Endangered under the *EPBC Act* and Endangered under the *TSP Act*.

The current known distribution of *B. hirsutus* is restricted to sand, silt and shell-grit environments of the lower Derwent Estuary between approximately 2 and 30 m depth, south of the Tasman Bridge (Spotted Handfish Recovery Team 1998; Bruce et al 1997). Although there are recently observed individuals in Storm Bay and the D'Entrecasteaux Channel (Lynch et al 2020) that are likely members of small, genetically isolated local populations. Spotted handfish breed from mid-July to mid-November, attaching their eggs to stalked ascidians (*Sycozoa* sp.) and occasionally to sponges or seagrass (Spotted Handfish Recovery Team 1998). Availability of suitable spawning substrata is considered critical to their reproductive success (Pogonoski et al 2002). After laying the egg mass, the female guards the eggs until they hatch (6 - 7 weeks). The spotted handfish does not have a

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larval dispersal phase; juvenile hatchlings are thought to settle in the immediate vicinity of the hatch-site (Bruce et al 1998).

Populations are now fragmented across the species' historical range (Last & Gledhill 2009). Major threats include loss of spawning substrates, habitat degradation from fishing activities, and predation or competition associated with invasive species such as the northern Pacific seastar, which consumes the stalked ascidians used for egg attachment (Spotted Handfish Recovery Team 1998).

Site Occurrence

Species or species habitat likely to occur within 5000 m, as per the PMST. Verified sightings within 5000 m of the proposed development, as per the NVA.

Potential Impacts

As known spotted handfish populations are limited to south of the Tasman bridge (~ 4.6 km south of the development area), it is considered unlikely that any construction and reclamation activities will impact the spotted handfish. However, as a measure of prudence, benthic surveys will consider spotted handfish and their habitat, recording any suitable habitat (or individuals) if seen in the development footprint.

Recommended mitigation: Conduct a habitat assessment as per the Guidelines (NCH 2020) to determine suitability of location to support spotted handfish (and whether further targeted surveys should be conducted).

2.1.2.3.5 White Shark

Species Background

White sharks (*Carcharodon carcharias*), also known as white pointers and great white sharks, are found throughout temperate and sub-tropical waters. They are a pelagic species, primarily found within continental shelf waters. White sharks are long-lived with low reproductive rates, traits that contribute to their vulnerability and population declines (DCCEEW 2026 d). Threats to great white

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sharks include commercial fishing interactions rather than shallow coastal developments (DSEWPC 2013).

Site Occurrence

Foraging, feeding or related behaviour known to occur within 5000 m, as per the PMST. No verified sightings as per the NVA.

Potential Impacts

As major threats to white sharks surround commercial fishing interactions, rather than shallow coastal developments, it is unlikely that white sharks will be impacted by the proposed development.

Recommended mitigation: None required.

2.1.2.4 Mammals

Generally, threats to marine mammals include acoustic pollution, entanglement (e.g., marine debris, fishing equipment), vessel-strike injury and water quality degradation. Marine mammals are known to occur periodically in the vicinity of the proposed project buffer zone and as such, acoustic disturbance during construction may particularly affect marine mammals that rely on acoustic cues for social and reproductive behaviours.

Recommended mitigation:

To mitigate this risk, the zone should be monitored for marine mammals prior to and during any construction activities that pertain noise intrusion by a Marine Mammal Observer (MMO), as per the Underwater Piling and Dredging Noise Guidelines (DIT 2023). A slow start-up of construction works is recommended to avoid causing unnecessary shock to animals and to allow them to vacate the area. If observed, works involving underwater acoustic impacts should cease until the marine mammals are away from the area. Threats and risks are discussed on a species-specific basis below.

2.1.2.4.1 Blue Whale

Background

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The blue whale *(Balaenoptera musculus)* is the largest oceanic mammal and migrates between Australian waters, the Antarctic and Sub-Antarctic feeding grounds and tropical breeding grounds (Indonesian and Pacific waters) (DCCEEW 2026 e). Blue whales mature at the age of 7-10 years and can live for up to 90 years (Sears & Perrin 2009). There are still many unknowns about the population size and distribution due to the large areas in which the population aggregates. Blue whales are listed as an endangered species under both relevant federal and state legislation. Major threats to blue whales have stemmed from whaling, overfishing, climate change, noise interference from anthropogenic disturbance and vessel collision (DCCEEW 2026 e).

Site Occurrence

Species or species habitat likely to occur within 500 m, as per the PMST. No verified sightings as per the NVA.

Potential Impacts

It is highly unlikely that a blue whale would be present in the Derwent Estuary, particularly as far north as the proposed development. General precautions should be implemented for marine mammals (Section 2.1.2.4).

2.1.2.4.2 Southern Elephant Seal

Background

The southern elephant seals (*Mirounga leonina*) is an earless seal, easily recognisable by its large trunk-like nose and colossal body that can weigh up to 3600 kg (Bryant & Jackson 1999). They historically bred on King Island, but the sealing industry caused significant declines in the population size in the early 19th century. While the population is recovering, these seals are still rarely seen off Tasmania's coasts. Major breeding colonies remain on Macquarie Island and Heard Island in sub-Antarctic regions. Threats to southern elephant seals include the entanglement of fishing gear, marine pollution, disturbance to breeding colonies, overfishing of their prey stocks, and deliberate hunting (Bryant & Jackson 1999). Under the *TSP Act*, southern elephant seals are listed as endangered.

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Site Occurrence

Not identified by PMST. Verified sighting within 5000 m, as per the NVA.

Potential Impacts

Noise pollution from construction activities could impact seals foraging and communication behaviours. General precautions should be implemented for marine mammals (Section 2.1.2.4).

2.1.2.4.3 Southern Right Whale

Background

The southern right whale (*Eubalaena australis)* is one of Tasmania's rarest and largest mammals (NRE Tas 2020). They can be seen between May and November during their northward migration from Tasmania. Some individuals also remain in Tasmanian waters during the breeding season, as these areas were formerly their ancestral breeding grounds before the onset of large-scale whaling (NRE Tas 2020). The population is recovering from the effects of whaling, and significant resources and efforts are being directed at monitoring and conserving this endangered species. They are listed as endangered under both the *EPBC Act* and Tasmania's *TSP Act*. The main threats to the species are climate change, entanglement in fishing gear, aquaculture equipment, habit loss or degradation from coastal and offshore development, prey depletion and underwater noise caused by humans (DCCEEW 2026 f).

Site Occurrence

Species or species habitat known to occur within 500 m, as per the PMST. Verified sighting within 5000 m, as per the NVA.

Potential Impacts

Vessel strike injuries and/ or noise pollution from construction activities could impact species behaviour. General precautions should be implemented for marine mammals (Section 2.1.2.4).

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2.1.2.4.4 Sub-Antarctic Fur Seal

Background

The sub-Antarctic fur seal *(Arctocephalus tropicalis*) breeds on Macquarie Island. Historic sealing by early sealers decimated their once large breeding colonies, and the population remains in recovery, largely via immigration from other southern colonies. They favour rocky coasts and rock-platform habitats and feed primarily on krill, fish and squid, and occasionally on penguins (TSS 2026 b, Makhado 2013). Major threats include entanglement in fishing gear and marine debris, disturbance at breeding colonies, overfishing of prey stocks, marine pollution and deliberate human harm (TSS 2026 b). Under Tasmania's *TSP Act*, sub-Antarctic fur seals are listed as endangered, and under the *EPBC Act* they are listed as vulnerable.

Site Occurrence

Not identified by PMST. Verified sighting within 5000 m, as per the NVA.

Potential Impacts

Unlikely to be present in the development area, with only vagrant individuals making their way into the Derwent River. General precautions should be implemented for marine mammals (Section 2.1.2.4).

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2.2 Invasive and Pest Species

Introduced marine species are translocated by a variety of vectors (e.g. ballast water, biofouling, aquaculture operations, and ocean current movements). Once introduced, they often thrive as they may lack predators and/or competitors in their new environment (Whitehead 2008).

Introduced species may be classified as invasive if they are having significant impact on human health, fisheries and aquaculture, infrastructure, tourism, biodiversity, and/or ecosystem health.

Pest species, defined as species that pose a significant risk to the state's environment, economy, or agriculture (*Biosecurity Act 2019,* Tasmania), include both introduced (invasive) and native species.

Marine species that have been declared as pests under State legislation[2] include:

- Northern Pacific sea star (*Asterias amurensis*),
- European shore crab (*Carcinus maenas*),
- European fan worm (*Sabella spallanzanii*),
- Japanese wakame (*Undaria pinnatifida*) other than in restricted zone defined in legislation,
- European carp (*Cyprinus carpio*), and
- Black striped mussel (*Mytilopsis sallei*).

Many more are recognised as pests by the National Introduced Marine Pest Information System (NIMPIS) (Commonwealth of Australia 2023). Species listed on NIMPIS that are known to occur, or may occur, in the vicinity of this study include:

- European shore crab,
- Japanese Wakame,
- New Zealand screw shell (*Maoricolpus roseus*), and

[2] *Fisheries (General and Fees) Regulations 1996*, *Part 20: Noxious* fish, outlined in the *Living Marine Resources Management Act 1995*

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- Northern Pacific seastar.

There are 70 identified introduced marine species in the Derwent River (Whitehead 2008). Some notable introduced species in the Derwent River (that are not already identified above) include:

- New Zealand seastar (*Patiriella regularis*),
- New Zealand half crab (*Petrolisthes elongatus*), and
- Pacific oyster (*Crassostrea gigas*).

Field surveys will record any relevant introduced, invasive and pest species (See Section 3). It should be ensured that no marine species are translocated because of vessel/equipment movement, by adopting a thorough cleaning protocol.

2.3 Other Sensitive Receptors

2.3.1 Wetlands

An area of high Wetlands Integrated Conversation Value (ICV) lies at Piyura Kitina (Risdon Cove), nearby the proposed construction and reclamation site. The area contains saltmarsh and tidal flat habitats vital to the health of the Derwent Estuary (Visby & Prahalad 2020).

2.3.2 Seagrass

Seagrasses are subtidal and intertidal plants found mainly in shallow waters of protected estuaries and bays, including throughout the Derwent Estuary, with large seagrass meadows present in the upper Derwent (DEP 2024, DEP 2026). They are important contributors to coastal productivity and biodiversity. A range of factors have been linked to seagrass decline; however, the most common cause of decline in the Derwent is the reduction of light (e.g., Ross et al 2011). High levels of nutrients often result in increased epiphytic algal growth that can smother and shade seagrass blades, while higher turbidity reduces that amount of light reaching the beds, with deeper parts of the bed most vulnerable to light reductions.

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Although the Derwent River's largest seagrass meadows are in the upper Derwent (e.g., Granton & Bridgewater, > 13 km north of the development site), seagrass may be present at or nearby the development site. Any seagrass meadows near the development site are at risk from the proposed project if water quality is impacted substantially (e.g., increased turbidity, nutrient load) so that light availability is reduced for extended periods of time.

Recommended mitigations for other sensitive receptors:

1. Record presence of seagrass habitat in benthic habitat surveys (see Section 3.2.2).
2. Choose best practice construction methods that reduce benthic disturbance.
3. Silt curtains should be installed around any construction and reclamation works that may cause sediment disturbance.
4. If water quality impacts are present beyond the extent of the silt curtain, water quality monitoring may be required.

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3 Field Survey

3.1 Overview

Field surveys were conducted on 3 February 2026. See Appendix 2 for operational summary.

3.1.1 General observations and survey constraints.

When field personnel arrived at the site, reclamation works were in progress, with large trucks and excavators active for the duration of the survey period (Figure 4).

Figure 4 Reclamation works in progress on 3 February 2026, including fill delivery by trucks (top) and sediment placement into the River Derwent (bottom).

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The shoreline was 10 - 15 m further offshore than expected, suggesting at least 10 m of reclamation had already occurred at the time of survey[3]. Field personnel observed significant impacts on water quality, with a clear plume of high turbidity surrounding the reclamation works (Figure 5). No obvious mitigations such as silt curtains were in place at the time of surveying. Field personnel also noted substantial debris and litter (plastic, pieces of metal reinforcing, etc.) throughout reclaimed land on the foreshore.

Figure 5 Significant sediment plume surrounding the construction and reclamation site, taken from survey vessel by field personnel on 3 February 2026.

[3] Difference based on distance between in-field waypoints denoting start of video transects and shoreline displayed in Google Earth Pro satellite imagery from April 2025 (Appendix 5).

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Because of reasons associated with the active reclamation works, including safety, access, and visibility constraints, the field survey design had to be modified, and the planned components of the field survey were not completed in full. Sections of the intertidal foreshore were inaccessible because of reclamation works (see Figure 6), meaning the intertidal survey and threatened seastar surveys were only conducted in small areas adjacent to the main reclamation works. Disturbance from the reclamation works (wave action disturbing reclamation edge and direct disturbance from sediment dumping) meant that extent of underwater surveying was limited. Footage from the inshore sections of the video transects were unusable due to low to no visibility. Dive surveys were unable to be conducted due to visibility and safety, meaning a targeted search for large-fruit seatassel could not be conducted (Section 3.2.2).

Due to the irreversible nature of reclamation work, natural values in the footprint of the reclamation could not be assessed, and for this reason it was deemed unnecessary to re-attempt any of the incomplete surveys.

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3.2 Habitat Characterisation

3.2.1 Intertidal Habitat

3.2.1.1 Methods

An intertidal habitat survey was conducted on 3 February 2026 in the vicinity of the proposed development to characterise the intertidal environment (Figure 6). Due to shoreline operations occurring at the time of sampling (reclamation, see Section 3.1), field personnel could not access part of the intertidal habitat (denoted as red line in Figure 6), and therefore this zone was not able to be assessed.

Intertidal habitat characterisation was conducted in conjunction with targeted surveys for live bearing and Derwent River seastars (see Section 3.3.1). Methods were adapted from the Guidelines (NCH 2020), as a full targeted survey as per the Guidelines was not feasible in the narrow and debris-filled intertidal zone.

Personnel in the field analysed and photographed quadrats placed haphazardly along a transect line that ran parallel to the shore in the intertidal zone at low tide. Quadrats spanned the width of the available intertidal habitat across the survey. Quadrats were thoroughly searched for threatened seastars, including on the underside of rocks and rubble. Notes and photographs were taken regarding substrate type, ecological communities, and the presence of any flora and fauna in quadrats, and in the general area adjacent to the land reclamation site.

Once the quadrat survey was completed and no threatened seastars were located, a full 30-minute search was conducted by field personnel as per the Guidelines (NCH 2020).

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Figure 6. Location of intertidal quadrats in study area. Red line indicates zone unable to be surveyed due to active construction/ reclamation works.

3.2.1.2 Results

The surveyed area comprised a narrow (~3 m wide) rocky intertidal zone characterised by angular boulders, cobble, and anthropogenic fill material, creating a course, structurally heterogeneous but largely artificial shoreline.

Vegetation was sparse, with macroalgal cover limited to patchy turfing, nuisance and filamentous green algae (*Ulva* and *Ectocarpus* spp.) in the shallow water margins. Seagrass wrack was present in several quadrats.

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Faunal observations were limited but included juvenile fish utilising the shallow waters, as well as sightings of live blue mussels (*Mytilus galloprovincialis*), honeycomb barnacles (*Chamaesipho tasmanica*) and several spotted smooth shore crabs (*Paragrapsus laevis*).

The area contained drift material including woody debris (dead branches and sticks) as well as anthropogenic debris such as bricks and litter. Clear evidence of industrial debris indicated previous reclamation or shoreline armouring, contributing to the modified shoreline morphology and reduced ecological complexity. Overall, the habitat appeared to be a moderately disturbed industrial foreshore habitat.

Refer to Figure 7 for typical habitats observed during the intertidal survey. Refer to Figure 8 for species observed during the intertidal survey.

Figure 7 Image showing typical intertidal habitats observed during survey: A) presence of drift material and anthropogenic debris B) presence of turbid waters and turfing green algal cover C) angular boulders in vicinity to industrial zones

Figure 8. Species observed during intertidal surveys A) Blue mussel (*Mytilus galloprovincialis*) B) Honeycomb barnacles (*Chamaesipho tasmanica*) C) Spotted Smooth Shore Crab (*Paragrapsus laevis*).

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3.2.2 Subtidal Habitat

3.2.2.1 Methods

An underwater video survey was conducted at the construction site and surrounding buffer zone on 3 February 2026 to characterise the subtidal habitat area (Figure 9). Due to the commencement of construction activities at the time of the survey (see Section 3.1), a diver operated video survey was not feasible.

The underwater video survey was therefore conducted using a drop camera to film 10 x ~ 300 m transects of the benthic habitat at a depth of 5 - 10 m, extending Northeast along the site of planned land reclamation. GPS points are available for the location of surveyed transects (Appendix 3). A reference transect (T10) was also taken on the adjacent shore of the Derwent River.

Video footage was reviewed by marine scientists, whereby the subtidal habitat was analysed with reference to seabed characteristics, the presence of marine vertebrates and invertebrates, and algal coverage.

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Figure 9 Location of subtidal video transects.

3.2.2.2 Results

The subtidal habitat was dominated by dark to light brown, bioturbated sand and silt substrates, with occasional silt-covered rocky reef, cobble, shell grit, and mixed turf–sediment matrices. Seagrass was largely absent or extremely sparse, with coverage consistently below 5% and often <1%, limited mostly to exposed rhizomes in finer sediments.

Macroalgal cover was generally low, though patchy occurrences of nuisance green algae (primarily *Ulva*) and filamentous brown algae (*Ectocarpus sp.*) were present in some areas, ranging from minimal

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to moderate abundance. Red algae were present, occurring in low abundance on silt-covered rocky reef.

The invertebrate community was strongly dominated by the invasive New Zealand cushion star (*Patriella regularis*), which was consistently present in the study area and occurred in high to very high abundances (20–30+ individuals per 300m transect). Other invertebrates were sparse, with ascidians (*Pyura* spp.) present at low abundances (<5 individuals). The invasive Northern Pacific sea star (*Asterias amurensis*) occurred sporadically at low densities (1-3 individuals).

Fish assemblages were limited, reflecting the low structural complexity of the habitat. Observations were dominated by small demersal fish, with occasional presence of sand flathead (*Platycephalus bassensis*) and thornfish (*Bovichtidae*).

At the reference site (opposite shore of Derwent River), silt-covered rocky reef dominated the substrate, with low to moderate abundance of red algae and the presence of some green algae such as *Ulva* spp.

Refer to Figure 10 for images of habitats and species observed, and Appendix 4 for a list of species observed during the subtidal habitat survey. Video footage of subtidal habitat transects is available from Marine Solutions upon request.

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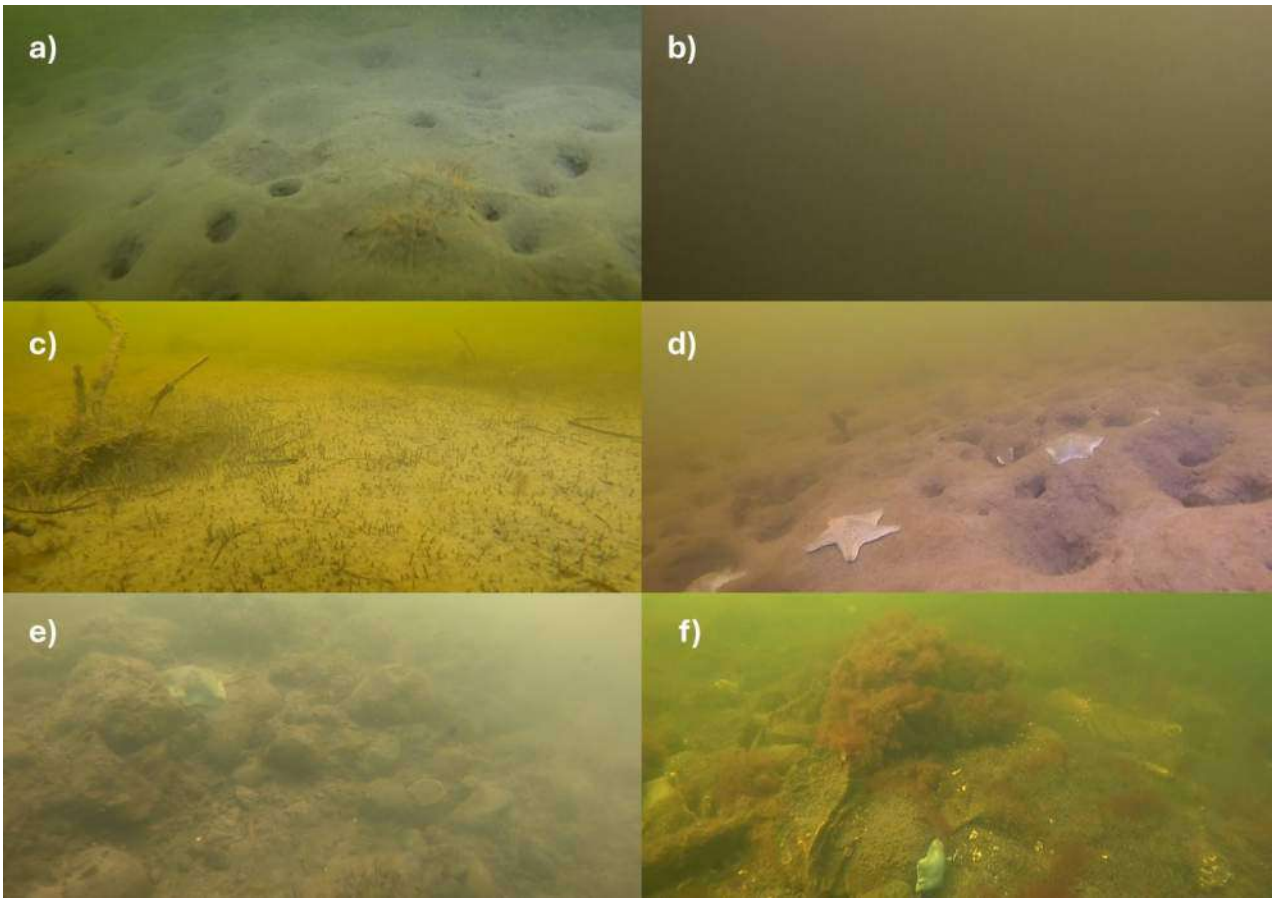

Figure 10 Examples of habitats and species observed throughout the subtidal habitat survey, screengrabs from videos include a) bioturbated silt (T3), b) poor visibility in surface and inshore waters, c) organic material deposited inshore (T1), d) *P. regularis* individuals and stalked ascidian (T1), e) cobble reef and *P. regularis,* and f) reference site, cobbles with red algae (T10).

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3.3 Targeted Surveys for Threatened and Protected Species

The desktop-based assessment (refer to Section 2) identified that the following threatened and protected species may occur in the area, and therefore targeted searches were warranted for:

- Live-bearing sea star (*Parvulastra vivipara*),
- Derwent River seastar (*Patiriella littoralis),*
- Large-fruit seatassel (*Ruppia megacarpa*), and
- Spotted handfish (habitat assessment only).

Because of reclamation works occurring at the time of survey and resulting high turbidity in shallow sections of the marine environment (Section 3.1), the large-fruit seatassel survey could not be conducted.

3.3.1 Live-bearing and Derwent River Seastar

3.3.1.1 Methods

Targeted searches for the live-bearing sea star (*Parvulastra vivipara*) and the Derwent River seastar were conducted on 3 February 2026 (Appendix 2) throughout the intertidal zone within the proposed site footprint, in conjunction with the intertidal habitat survey. See 3.2.1.1 for method details.

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3.3.1.2 Results

No seastar individuals were observed during the targeted survey for live-bearing sea stars and Derwent River seastars. Refer to Figure 11 for images of typical quadrats placed for the targeted threatened species survey.

Figure 11 A selection of representative quadrats in the targeted survey for threatened seastar species.

3.3.2 Spotted Handfish - Habitat Assessment

Spotted handfish are known to inhabit the Derwent Estuary, with the nearest population located approximately 5 km south of the development site. Although it is unlikely that any spotted handfish will be present within the development footprint and surrounding buffer zone, the subtidal habitat assessment will consider suitability and likelihood of spotted handfish presence in conjunction with characterisation of the subtidal environment.

3.3.2.1 Methods

Spotted handfish habitat suitability was assessed in conjunction with the subtidal habitat survey (see Section 3.2.2.1 for method details). Any spotted handfish habitat, including breeding substratum (e.g., stalked ascidians), and the presence of harmful northern Pacific seastars, will be recorded.

3.3.2.2 Results

No spotted handfish were observed in the surveyed area. Bioturbated sediment provided microhabitat for spotted handfish, but breeding substratum was minimal, with only several stalked ascidians observed over the entire surveyed area.

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Due to the location of the development with reference to known spotted handfish populations, it is unlikely that this project poses risk to the species and therefore further surveying was not deemed necessary for this project. General recommendations provided in this report will also minimise risk to any unknown spotted handfish populations located outside of the development footprint.

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Recommendations & Conclusions

Due to factors associated with the active reclamation works at the survey site including safety, access, and visibility constraints, the field survey design was modified, and components could not be completed in full. Sufficient information was collected to provide a general summary of marine ecological values at the development location; however, no assessment could be made of areas already reclaimed, or on the presence/absence of the large-fruit seatassel.

No threatened species – including the spotted handfish, the large-fruit seatassel, the Derwent River seastar, and the live bearing seastar - were identified in the surveyed area. Intertidal survey results suggest that the area was the site of previous land reclamation, although refuge and substrate were still available for sessile and mobile invertebrates. The subtidal habitat was characterised by bioturbated silt and a largely unvegetated benthic habitat, with resuspension of sediments visible when water was disturbed.

Habitat adjacent to the reclaimed area is likely representative of habitat through the reclaimed zone, and some inferences can be made about habitat quality and the likelihood of threatened species presence in unsurveyed areas. Given the modified nature of the foreshore surrounding the development, and the absence of threatened species in field observations, it is unlikely that threatened species or ecologically significant habitat would have been present in the unsurveyed zones of the development footprint.

The performance criteria (P1.1) for Clause C7.6.1 (Item 16 in the RFI issued by council) have been addressed with this ecological assessment (see Appendix 6). Given the modified nature of the foreshore in the vicinity of the development, this development is unlikely to adversely impact on natural assets, except for (a) *impacts caused by erosion, siltation, sedimentation and runoff*. The main environmental risk identified from this assessment is uncontrolled sediment suspension in the marine environment, including from both the deposited fill, and the mobilisation of contaminated marine sediments.

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Disturbance of sediments presents several risks including:

- Increased turbidity, reducing light penetration and potentially affecting nearby seagrass and macroalgal communities.
- Deposition of suspended sediments onto adjacent habitats.
- Resuspension of historically deposited contaminants within estuarine sediments.
- Degradation of water quality within tidally influenced reaches of the estuary.

Given that construction activities associated with land reclamation have the potential to generate indirect impacts beyond the immediate footprint of works, particular consideration should be given to the proximity of ecologically significant areas such as the wetlands of the Risdon Reserve and other marine natural values. To mitigate risks associated with sediment suspension from construction in the River Derwent, it is recommended that a silt curtain be installed around active work areas. This typically consists of a vertically suspended geotextile barrier that extends toward the seabed and is anchored in place, the function of which is to reduce the dispersion of suspended sediments by physically containing turbidity within the work zone. The effectiveness of the silt curtain should be retained through visual monitoring and maintenance, if required.

Other recommendations to mitigate environmental risks associated with the proposed construction and reclamation, as highlighted in this ecological assessment, include:

1. Minimise extent of development's footprint spanning the marine environment.
2. Choose best practice construction methods that reduce benthic disturbance.
3. Implementation of thorough equipment and machinery cleaning protocols to reduce risk of invasive and pest species translocation.
4. Silt curtains should be installed around any construction and reclamation works that may cause sediment disturbance in the marine environment. Adequate soil management plans should be implemented on site to reduce impacts of run off. If water quality impacts are observed beyond the extent of the silt curtain, water quality monitoring may be required.

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5. Debris clean up from marine intertidal and subtidal areas within the development footprint and surrounds.
6. To mitigate the risk to marine mammals, the zone should be monitored for marine mammals prior to and during any construction activities that create noise intrusion (e.g., piling) by a Marine Mammal Observer (MMO) as per the Underwater Piling and Dredging Noise Guidelines (DIT 2023). A slow start-up of construction works is recommended to avoid causing unnecessary shock to animals and to allow them to vacate the area. If observed, works involving underwater acoustic impacts should cease until the marine mammals are away from the area.
7. Implementation of an environmental management plan to manage environmental risk and maintain integrity of the above recommended mitigations.

The scope of this report extends only to the marine and intertidal environment. Relevant experts (e.g. terrestrial, avian) should be consulted to ensure there are no unacceptable impacts to sensitive receptors that are outside the scope of this report.

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5 Appendices

Appendix 1. EPBC Protected Matters Summary

Summary of the *EPBC Act* PMST findings within 5,000 m and 500 m of the project.

	Item	5 km buffer		500 m buffer		Cross-reference Section of this report
		# ID'd by PMST	Incl. # aquatic matters	# ID'd by PMST	Incl. # aquatic matters	
Matters of National Environmental Significance	**World Heritage Properties**	None	None	None	None	
	National Heritage Places	None	None	None	None	
	Wetlands of International Importance	1	1	1	1	Section 2.3.1
	Great Barrier Reef Marine Park	None	None	None	None	
	Commonwealth Marine Area	None	None	None	None	
	Listed Threatened Ecological Communities	3	None	2	None	
	Listed Threatened Species	68	12	62	9	Section 2.1
	Listed Migratory Species	35	-	31	-	NA – Development not expected to impact migratory pathways
	Nuclear actions	*Not listed by PMST – none known.*				
	Water resources	*Not listed by PMST – none known.*				
Other Matters Protected by EPBCA	Commonwealth Land	20	-	4	-	
	Commonwealth Heritage Places	4	-	None	-	
	Listed Marine Species	56	56	51	51	
	Whales and Other Cetaceans	7	7	6	6	
	Critical Habitats	None	None	None	None	
	Commonwealth Reserves Terrestrial	None	None	None	None	
	Commonwealth Reserves Marine	None	None	None	None	
	Habitat critical to survival of marine turtles	None	None	None	None	
Extra Information	State and Territory Reserves	9	-	3	-	
	Regional Forest Agreements	1	-	1	-	
	Nationally Important Wetlands	None	-	None	-	
	EPBC Act Referrals	11	-	2	-	
	Key Ecological Features	None	-	None	-	
	Biologically Important Areas	7	1	7	1	
	Bioregional Assessments	None	-	None	-	
	Geological and Bioregional Assessments	None	-	None	-	

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Appendix 2. Operational Summary

Date	Personnel	Time start	Time end	Cloud	Rain	Swell	Wind	Tide	Works conducted
3/02/2026	S. Isles A. Erskine J. Watling	1130	1353	1/8	Nil	Calm	0-5 kts	High at 9:36 am 1.47m. Low at 5:12 pm 0.3m	- Benthic habitat survey - Intertidal survey

Appendix 3. GPS Positions of sampling locations

GDA 2020 MGA Zone 55.

	Name	Easting	Northing	Notes
Subtidal Habitat	T1 Start	525580	5258209	
	T1 End	525602.9	5258225	
	T2 Start	525567.9	5258229	
	T2 End	525584.5	5258238	
	T3 Start	525563.5	5258241	
	T3 End	525587.5	5258256	
	T4 Start	525543.3	5258261	
	T4 End	525554.6	5258268	
	T5 Start	525530.8	5258284	
	T5 End	525562.8	5258303	
	T6 Start	525511.4	5258308	
	T6 End	525535.3	5258329	
	T7 Start	525499	5258331	
	T7 End	525519.6	5258336	
	T8 Start	525455.8	5258337	
	T8 End	525459.3	5258342	
	T9 Start	525416.9	5258379	
	T9 End	525436.5	5258402	
	T10 Start	525915.5	5258626	Reference site
	T10 End	525916.1	5258606	Reference site

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Intertidal Habitat	Q1	525386.2	5258385
	Q2	525392.7	5258374
	Q3	525408.8	5258363
	Q4	525418.5	5258350
	Q5	525419.8	5258349
	Q6	525424.5	5258343
	Q7	525429	5258335
	Q8	525444.5	5258323
	Q9	525447.8	5258317
	Q10	525454.6	5258309
	Q11	525463	5258294
	Q12	525574	5258197
	Q13	525568.6	5258197
	Q14	525578.1	5258195
	Q15	525578.8	5258195
	Q16	525590.5	5258195
	Q17	525590.9	5258193

Appendix 4. Species List

The table below shows all species observed in field investigations on 3/02/2016

		Common Name	Scientific Name	Status notes*
Algae & Seagrasses		Sea lettuce	*Ulva sp.*	Nuisance algae
		Filamentous brown algae	*Ectocarpus sp.*	
		Unidentified reg algae	Rhodophyta	
Invertebrates	Annelids			
	Arthropods	Spotted smooth shore crab	*Paragrapsus laevis*	Native
	Mollu	Blue mussel	*Mytilus galloprovincialis*	Introduced
		Honeycomb barnacles	*Chamaesipho tasmanica*	Native

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Echinoderms	New Zealand common cushion star	*Patiriella regularis*	Invasive
	North Pacific seastar	*Asteria amurensis*	Invasive
Ascidiansa	Sea tulip	*Pyura sp.*	
Vertebrates	Sand flathead	*Platycephalus bassensis*	Depleted
	Unidentified juvenile fish	-	
	Thornfish	*Bovidae sp.*	

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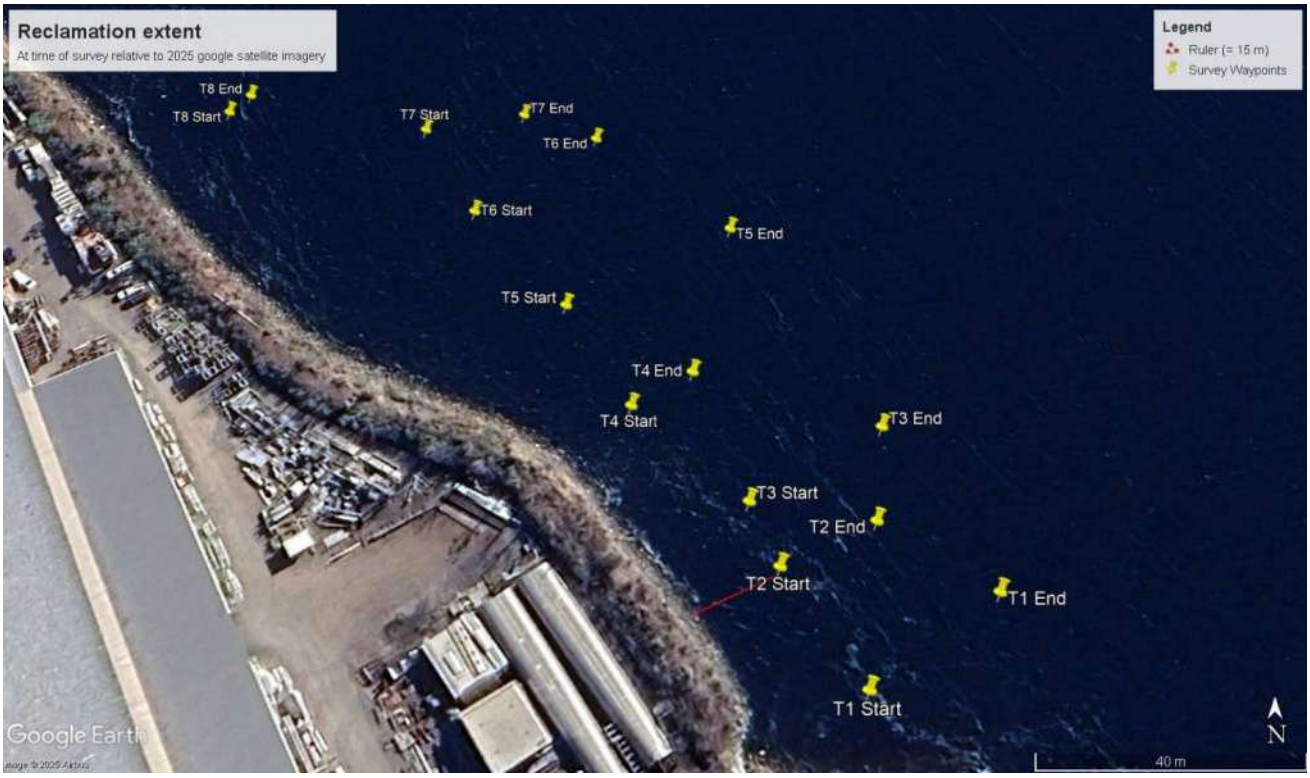
Appendix 5. Map Showing Reclamation Extent

Red line denotes measured distance from 2025 shoreline (Google Earth) to shoreline at time of survey in February 2026 (T2 video transect start point, taken on a handheld GPS next to the shoreline). Line measured approximately 15 m using ruler tool in Google Earth.



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Appendix 6. Glenorchy City Council Planning Scheme Requirements: Section 7.6 Development Standards for Buildings and Works

C7.6.1 Buildings and works within a waterway and coastal protection area or a future coastal refugia area

Objective:	That buildings and works within a waterway and coastal protection area or future coastal refugia area will not have an unnecessary or unacceptable impact on natural assets.

Acceptable Solutions	Performance Criteria
A1 Buildings and works within a waterway and coastal protection area must: (a) be within a building area on a sealed plan approved under this planning scheme; (b) in relation to a Class 4 watercourse, be for a crossing or bridge not more than 5m in width; or (c) if within the spatial extent of tidal waters, be an extension to an existing boat ramp, car park, jetty, marina, marine farming shore facility or slipway that is not more than 20% of the area of the facility existing at the effective date.	**P1.1** Buildings and works within a waterway and coastal protection area must avoid or minimise adverse impacts on natural assets, having regard to: (a) impacts caused by erosion, siltation, sedimentation and runoff; (b) impacts on riparian or littoral vegetation; (c) maintaining natural streambank and streambed condition, where it exists; (d) impacts on in-stream natural habitat, such as fallen logs, bank overhangs, rocks and trailing vegetation; (e) the need to avoid significantly impeding natural flow and drainage; (f) the need to maintain fish passage, where known to exist; (g) the need to avoid land filling of wetlands; (h) the need to group new facilities with existing facilities, where reasonably practical; (i) minimising cut and fill; (j) building design that responds to the particular size, shape, contours or slope of the land; (k) minimising impacts on coastal processes, including sand movement and wave action; (l) minimising the need for future works for the protection of natural assets, infrastructure and property; (m) the environmental best practice guidelines in the
	Wetlands and Waterways Works Manual; and (n) the guidelines in the *Tasmanian Coastal Works Manual*. **P1.2** Buildings and works within the spatial extent of tidal waters must be for a use that relies upon a coastal location to fulfil its purpose, having regard to: (a) the need to access a specific resource in a coastal location; (b) the need to operate a marine farming shore facility; (c) the need to access infrastructure available in a coastal location; (d) the need to service a marine or coastal related activity; (e) provision of essential utility or marine infrastructure; or (f) provisions of open space or for marine-related educational, research, or recreational facilities.

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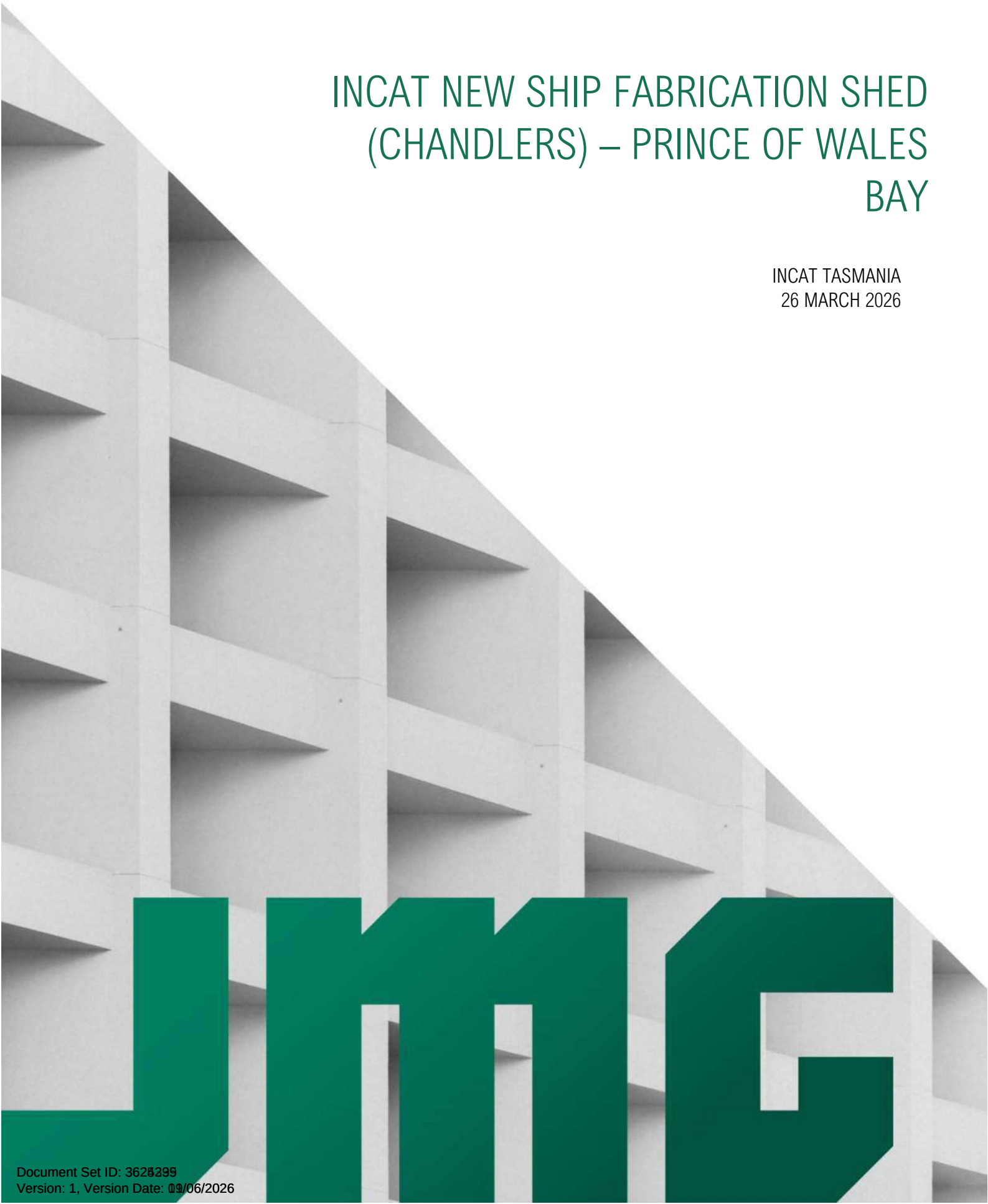
CONCEPT SERVICES REPORT

INCAT NEW SHIP FABRICATION SHED (CHANDLERS) – PRINCE OF WALES BAY

INCAT TASMANIA
26 MARCH 2026



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Appendix A: Civil Drawings

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Ver.	**Issue Date**	**Description**	**Originator**		**Checked**		**Approved**	
01	26/3/2026	Issue for Client review	JJC		BBG		CJM	

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1. Introduction

JMG has been engaged as the Consulting Civil Engineer for the proposed new INCAT ship fabrication shed at 100 Derwent Park Road, Hobart. The proposal involves the reclamation of land near the Derwent River to construct the new ~150m long x 40m wide shed that will be called the “Chandlers” shed.

This Concept Services Report has been prepared in support of the Development Application (DA) and outlines the proposed servicing strategies for sanitary drainage, water supply, and stormwater management, in accordance with all relevant regulatory requirements and design standards. Documentation associated with the additional parking on the Drawings is covered under a separate report provided by the Traffic Engineer. This separate report covers wheel path analysis, car parks number, paths, cyclists, bus movements, motor cycles and loading bays.

Figure 1: Site Locality Plan

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2. Sanitary Drainage System

2.1 Existing System

The existing sewer property connection servicing the site is a DN150 gravity reticulation main located off Bender Drive. The internal sewer system comprises of a number of pump stations, connecting to the connection point at Bender Drive via an existing riser main. This system, in its current form caters for up to 1200 workers at one time. Note, this is based on previous employment figures.

Refer to Figure 2 for existing TasWater infrastructure and property connection locations.

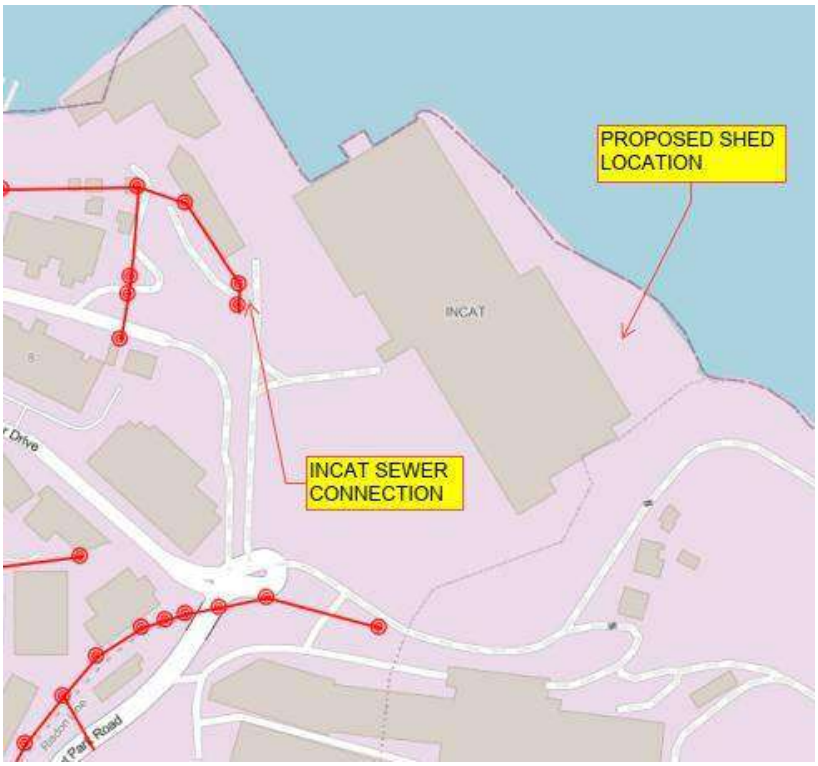

Figure 2: Existing TasWater sewer infrastructure and site sewer connections

2.2 Applicable Design Standards

The sanitary drainage system for the proposed development will be designed in accordance with the National Plumbing and Drainage Code – AS 3500.2 (Sanitary Plumbing and Sanitary Drainage) and relevant TasWater design standards.

2.3 Proposed System

It is proposed that all new sanitary drainage from the development will discharge via a gravity feed to a new pump station located just outside of the southern façade of the new Chandlers Shed. From this pump station, the sewer will be pumped via a rising main to an existing pump station located within the existing Wilsons Shed as shown on the Drawings. The outflow from this existing pump station is to the TasWater connection point via the existing underground piped network.

The additional site loading from the new shed has been estimated at 82 loading units. The calculations for this can be found in Table 1 overleaf. The capacity of the existing pump station to cater for this additional loading will be reviewed during the detailed design phase of the project.

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Table 1: Sewer Loading Units Calculations

Fixture	No.	FU	Tot. FU
Basin	12	1	12
Bath (with or without SHR)		4	0
Cleaners Sink	1	1	1
Dishwasher (domestic)	2	3	6
Shower (single)	1	2	2
Sink (double)		3	0
Sink (single)	2	3	6
Trough (laundry, single/dbl)		5	0
Washing Machine (Domestic)		5	0
Mains Pressure Water Heater	3	0	0
Water Closet (cistern)	12	4	48
Hose Tap (20 mm)	4	0	0
Hose Tap (15 mm)		0	0
Urinal	7	1	7
Total			82

3. Water

3.1 Existing System

There are two water connections for this site as shown in figure 3. The Derwent Park Road service provides domestic via a 40mm connection point, and the Bender Drive is a 100mm service that provides flow to the fire hydrants.

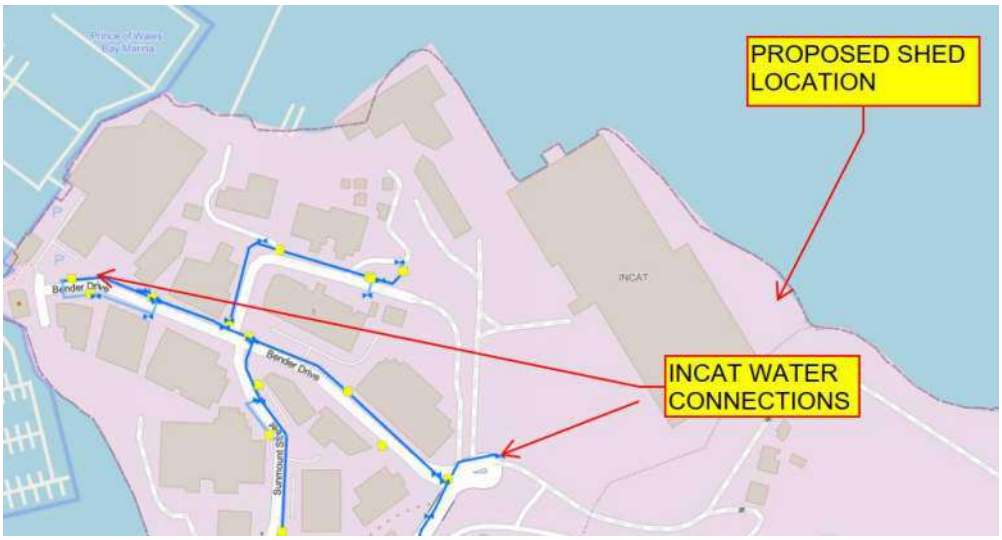

Figure 3: Existing TasWater water infrastructure and site water connections

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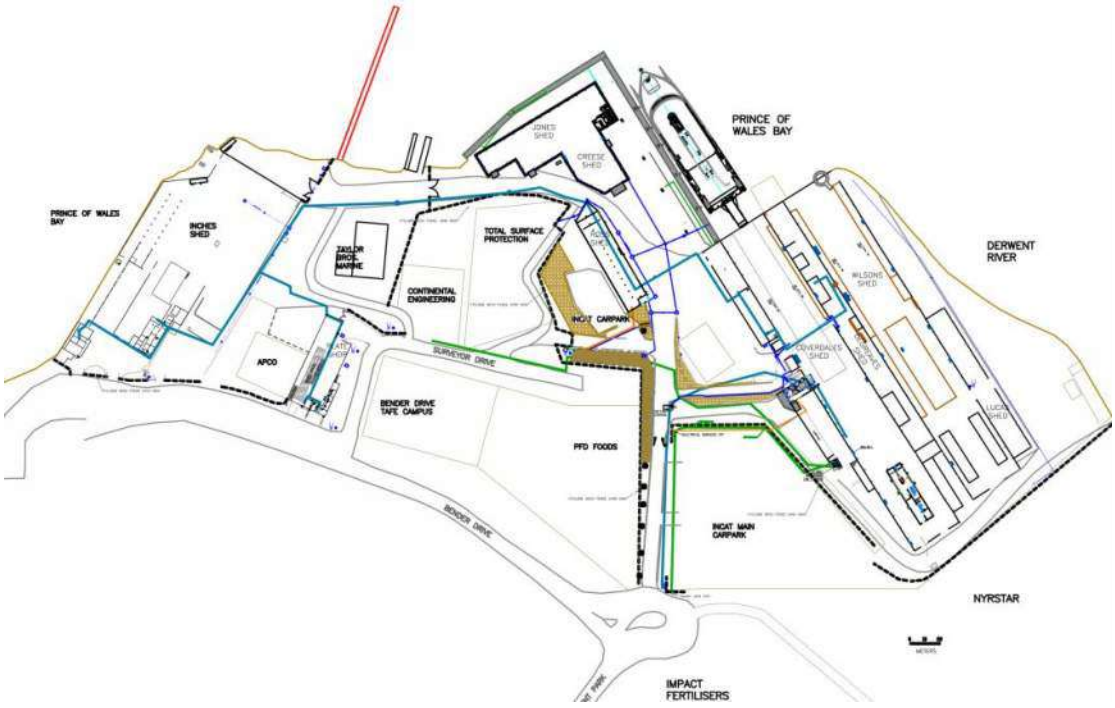

Figure 4: Internal Water network.

3.2 Applicable Design Standards

The water reticulation system for the development will be designed in accordance with the following standards and authority requirements:

- AS 3500.1 – National Plumbing and Drainage Code: Water Supply
- TasWater's Water Metering & Guidelines – for metering requirements
- TasWater's Water Boundary Backflow Containment Selection Guidelines – for backflow prevention
- AS 2419.1 – Fire Hydrant Installations, for fire coverage compliance
- AS 2118.1 – Automatic Fire Sprinkler Systems

3.3 Proposed System

The proposed new shed will be serviced by new internal water supply pipework installed in accordance with AS 3500.1 and tie into the existing water main running through the site from the eastern connection point. Refer to the civil drawings in Appendix B for the location of the new water property connection.

The system has been categorized as high risk and as such a backflow prevention system will be implemented at the existing water connections for the site.

The additional loading for the proposed site has been estimated as 123 loading units. The calculations for this can be found in Table 2 below and overleaf.

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Table 2: Water Loading Units Calculations

Fixture	No.	LU	Tot. LU
Basin	12	1	12
Bath (with or without SHR)		8	0
Cleaners Sink	1	3	3
Dishwasher (domestic)	2	3	6
Shower (single)	1	2	2
Sink (double)		3	0
Sink (single)	2	3	6
Trough (laundry, single/dbl)		3	0
Washing Machine (Domestic)		3	0
Mains Pressure Water Heater	3	8	24
Water Closet (cistern)	12	2	24
Hose Tap (20 mm)	4	8	32
Hose Tap (15 mm)		4	0
Urinal	7	2	14
Total			123

3.4 Fire

Fire hydrant protection for the development will be designed in accordance with AS 2419.1, Table 2.2.5(b), which specifies for the proposed development that a single hydrant must be capable of delivering a minimum flow of 10 L/s at a residual pressure of 350 kPa. Given the location of the new shed new hydrants have been proposed 10m away from the extents of the new shed to allow adequate protection. As the laneway between the new shed and the existing shed is less than 20m, attack hydrants have been placed against the adjacent shed, this effectively doubles the number of hydrants.

4. Stormwater

4.1 Existing Systems

The existing site currently discharges directly to the adjacent Derwent River via a natural drainage easement. The catchment is currently mostly gravels and grass with a few smaller structures like shipping containers present.

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Figure 5: Existing Stormwater Catchments Plan

4.2 Design Standards

Stormwater drainage for the proposed development will be designed in accordance with the Glenorchy City Council (GCC) design standards, AS 3500.3: Plumbing and Drainage – Stormwater Drainage, the National Construction Code, and the applicable Planning Scheme requirements.

4.3 Proposed Systems

<5% AEP events: Post-development stormwater runoff in the developed section between the new ridge cap of the Chandlers Shed and the existing Wilsons shed will be conveyed in an underground piped system to a new SW outflow through the holding structure as shown on the Drawings. will be collected by a new drainage network. A similar outfall is located on the eastern holding structure to accommodate the roof drainage for the eastern half of the new shed.

The remainder of the existing site will be drained via the existing network, minor upgrades are proposed to the open channel system running along the southern boundary, this is proposed to be upgraded to become a vegetated swale to assist outflow quality of the runoff. This system will outflow to the river via an existing outfall located on the Southeastern side of the proposed shed. The existing drainage easement is to be expunged, its location was partially within the roofed area of the existing sheds and served no purpose.

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Figure 6: Post Development Catchments Plan

4.4 Water Sensitive Urban Design Considerations

The proposed site does meet the requirements for WSUD, ref. Stormwater-Management-Policy-Feb-2024-Update, due to the introduction more than 500m^2 impervious area. The Glenorchy City Council engineers have acknowledged the roof-runoff area needn't be treatable as this area was previously going directly to the river, i.e. post development flows are identical to pre-development flows.

The balance of area affected by the development is pervious and post and pre development flows again are not anticipated to be altered by the development.

In acknowledgement of the requirement for WSUD considerations, the development proposes to introduce a vegetated swale drain is also being added to the southern edge of the site which will help reduce gross pollutants, suspended solids, phosphorus and nitrogen in the stormwater being discharged to the river. This swale is likely to offer near compliance with the entire pervious gravel site (including areas developed under previously approved permits) for TSS and Phosphates but possibly not Nitrates. A Music model can be provided at detailed design to calculate reductions through the swale drain.

4.5 Major Events

Overland flow paths for major events (> 5% AEP) will be accommodated by the swale drain along the southern boundary directly to the River Derwent, and between the two sheds. Both open channels have longitudinal grades between 1.0 and 1.6%. No upstream contributories affect the capacity of these flow paths.

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Figure 7: Post Development Overland Flow Paths

5. Electrical

No changes are proposed to the electrical connection; the additional load is within the capacity of the existing substation.

6. Argon Gas

There is an existing private gas system within the site that will be extended to the new proposed shed. All connections will be designed to avoid the other services on site as outlined in AS5601.1.

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APPENDIX A

Concept Civilworks Plans

Document Set ID: 3625399
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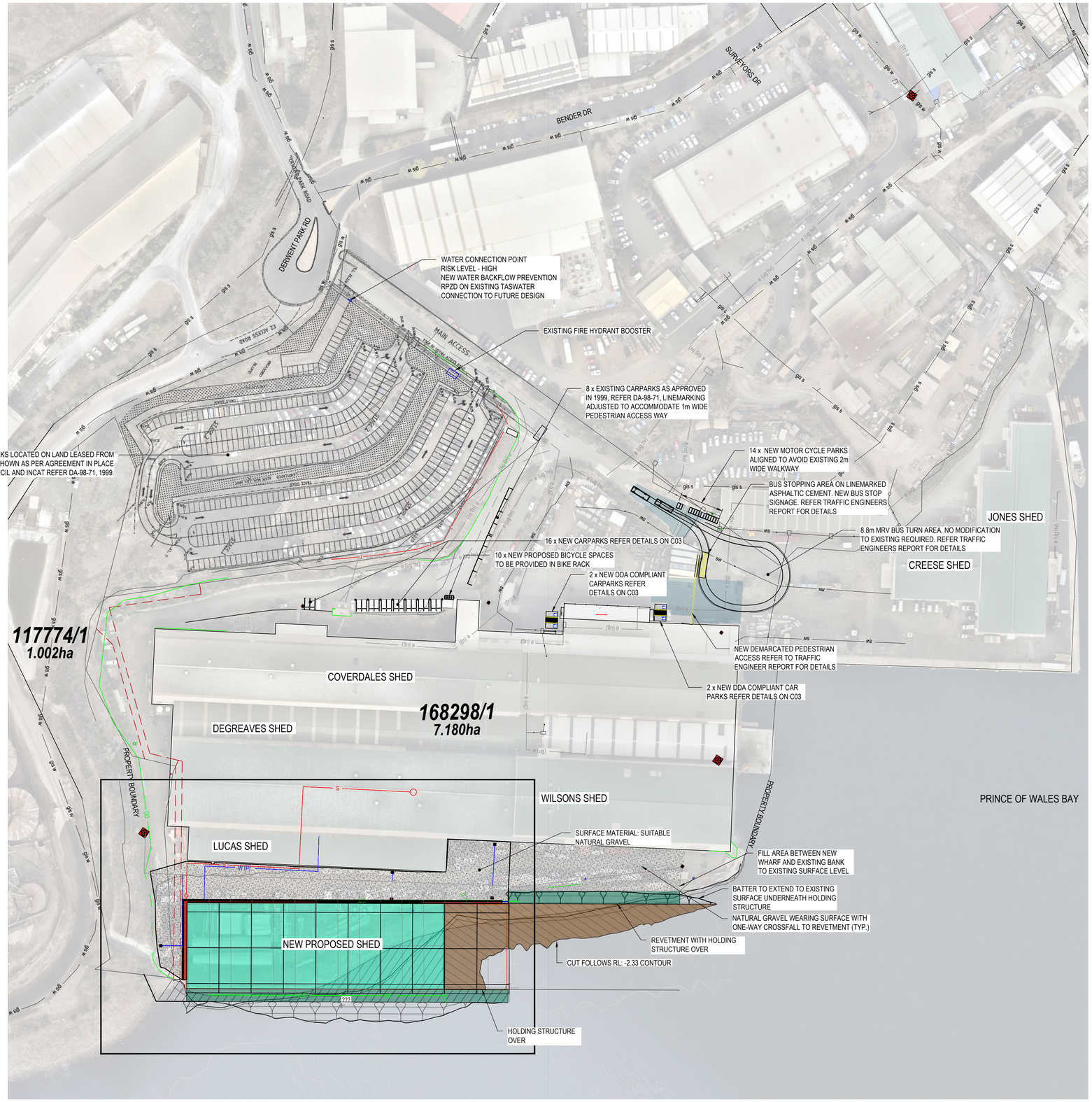

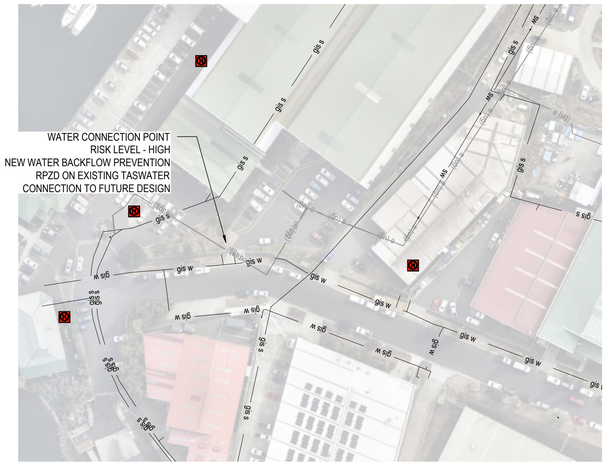

WATER PROPERTY CONNECTION POINT ON BENDER DRIVE

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DA1	27.03.2026	REVISED PLANING APPROVAL
P1	20.11.2025	PRELIMINARY ISSUE

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Ground Floor, 73 Paterson Street, Launceston (03) 6334 5548
www.jmg.net.au infohbt@jmg.net.au infoltn@jmg.net.au

PROJECT
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100 DERWENT PARK RD, DERWENT PARK, TAS, 7009

TITLE
CIVIL WORKS
SITE PLAN

PROJECT NO.	J250367CS	
DWG NO.	C01	REVISION DA1
PLOT DETAILS	250367CS SITE PLAN.DWG	

Document Set ID: 3628299
Version: 1, Version Date: 09/06/2026

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N

BOUNDARY

LUCAS SHED

CONNECT NEW SEWER TO EXISTING SEWER PUMP STATION. SEWER DEMAND: 82 LOADING UNITS

POTENTIAL SEWER CONNECTION POINT TO EXISTING SERVICE LINE

LOCATE AND CONNECT NEW WATER TO EXISTING. WATER DEMAND: 123 LOADING UNITS

FIRE HYDRANT

LIGHT VEHICLE AND EMERGENCY VEHICLE ACCESS ONLY

LOCATE EXISTING FIRE SERVICE AND CONNECT NEW FIRE

NEW PUMP STATION TO FUTURE DESIGN

EXISTING DN100 FIRE SERVICE

NEW DUAL-HEAD STAND PIPE FIRE HYDRANT TO SERVICE NEW BUILDING

GRATED SIDE ENTRY PIT TYPE 3 TO IPWEA STD DRG TSD-SW-09 WITH WITH STORMSACK OR APPROVED EQUIVALENT (3m FROM END OF SHED)

VEGETATED OPEN CHANNEL SWALE (BASE 0.5m WIDE) ALONG BASE OF ROCK BATTER TO EXISTING OUTFALL PLANTED TO COUNCIL CONDITION REQURIEMENTS

EXISTING OPEN DRAIN

OPENING

OPENING

REFER TO HYDRAULIC DOCUMENTATION FOR CONTINUATION OF WATER SERVICE

NEW VEHICLE CROSSOVER IN ACCORDANCE WITH IPWEA STANDARDS

GRATED SIDE ENTRY PIT TYPE 3 TO IPWEA STD DRG TSD-SW-09 WITH WITH STORMSACK OR APPROVED EQUIVALENT

NEW VEHICLE CROSSOVER IN ACCORDANCE WITH IPWEA STANDARDS

GRATED SIDE ENTRY PIT TYPE 3 TO IPWEA STD DRG TSD-SW-09 WITH WITH STORMSACK OR APPROVED EQUIVALENT

KERB AND CHANNEL TYPE KC TO IPWEA STD DRG TSD-R14

225Ø CLASS 4 RCP OFFSET 1m FROM BUILDING TO ALLOW FOR FOUNDATIONS

EXISTING HYDRANT RELOCATED ADJACENT TO FACADE OF NEW BUILDING TO SERVICE LUCAS SHED

EXISTING HYDRANT RELOCATED ADJACENT TO FACADE OF NEW BUILDING TO SERVICE LUCAS SHED

DISCHARGE HYDRAULIC SERVICES DOWNPIPES TO NEW GRATED PIT

NEW DN300 STORMWATER OUTFLOW THROUGH REVETMENT I.L. 50mm ABOVE HAT

REFER TO HYDRAULIC DOCUMENTATION FOR CONTINUATION OF SANITARY DRAINAGE

NEW DUAL-HEAD STAND PIPE FIRE HYDRANT TO SERVICE NEW BUILDING

NEW BUILDING
150m X 40.7m

KERB AND CHANNEL OUTFLOW THROUGH REVETMENT ROCK ARMOUR. I.L. 50mm ABOVE HAT

REFER TO HYDRAULIC DOCUMENTATION FOR CONTINUATION OF WATER SERVICE

EXISTING OPEN DRAIN DISCHARGE TO REMAIN

300 DIA STORMWATER PIPE FOR DOWN PIPES TO CONNECT INTO

REVETMENT TO TRANSITION TO HOLDING STRUCTURE, LOCATION TO BE CONFIRMED

300 DIA CLASS 2 RCP COLLECT NEW DOWNPIPES TO NEW OUTFALL THROUGH REVETMENT ROCK ARMOUR. I.L. 50MM ABOVE HAT.

REFER HYDRAULIC DRAWINGS FOR CONNECTION TO DOWNPIPES

BATTER FOR REVETMENT AREA ~570m², EXTENT TO BE DETERMINED

SURFACE MATERIAL: 250mm ROCK BALLAST

LEGEND

- NATURAL GRAVELS (LESS THAN 10% FINES)
- 5mm NATURAL GRAVELS
- NEW SHED
- DREDGED AREA
- REVETMENT
- RECLAIMED LAND

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TITLE
CIVIL WORKS
SHED PLAN

PROJECT NO.	J250367CS
DWG NO.	C02
REVISION	DA1
PLOT DETAILS	250367CS SITE PLAN.DWG

Document Set ID: 3628399
Version: 1, Version Date: 09/06/2026

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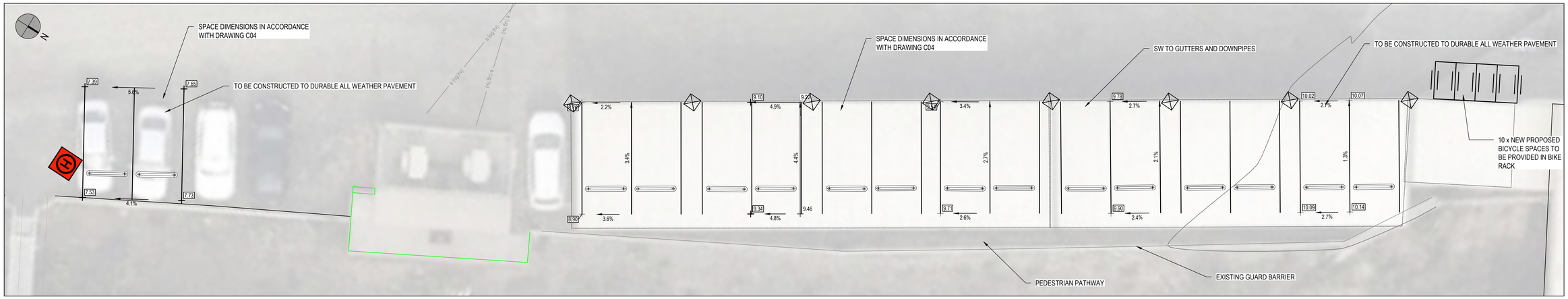

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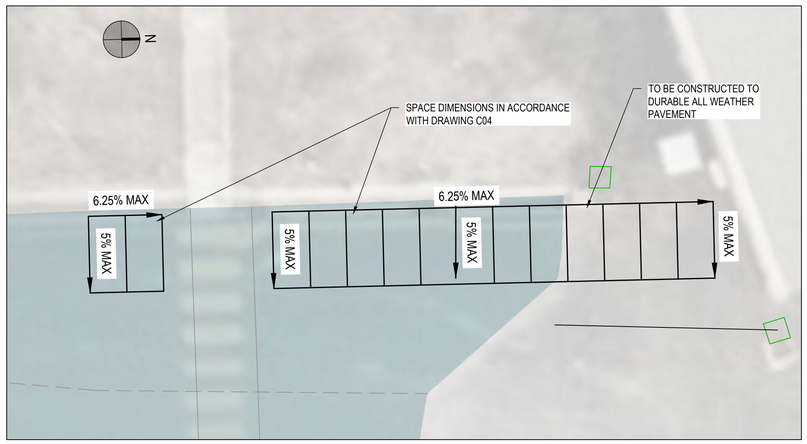

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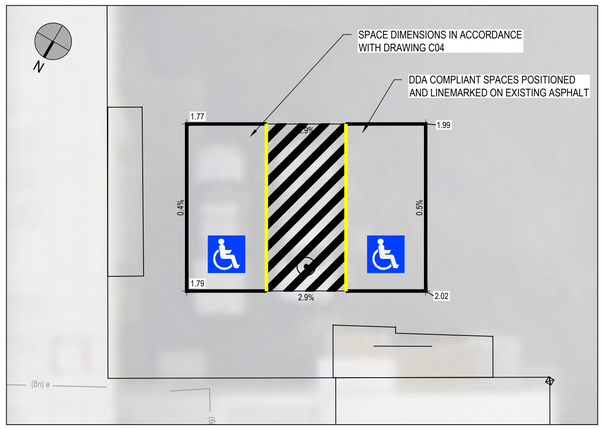

2 DDA COMPLIANT PARKING SPACES NEAR RECEPTION
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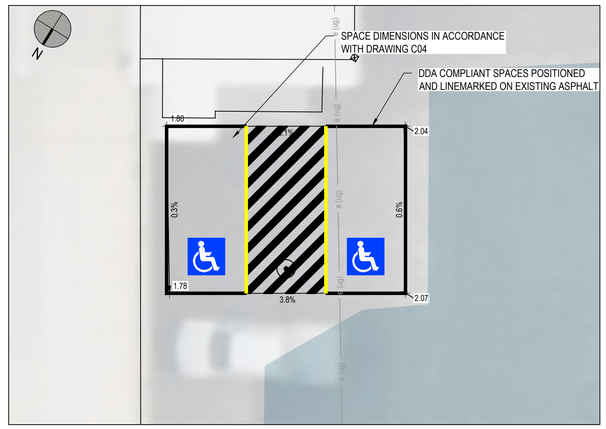

2 DDA COMPLIANT PARKING SPACES NEAR BUS STOPPING AREA
SCALE: 1:100

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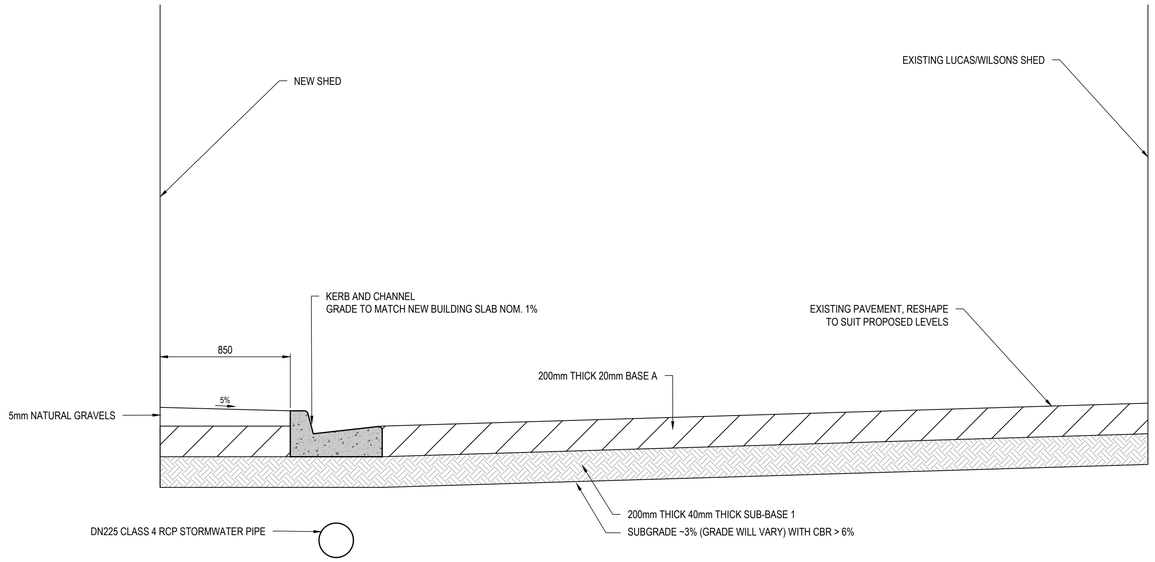
PROJECT NO.	J250367CS
DWG NO.	C03
REVISION	DA1
PLOT DETAILS	250367CS SITE PLAN.DWG

Document Set ID: 3628299
Version: 1, Version Date: 09/06/2026



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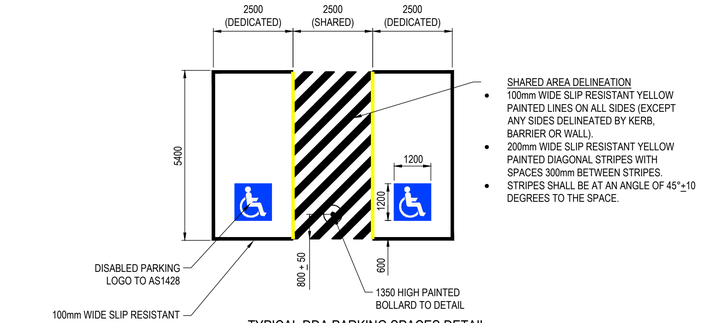

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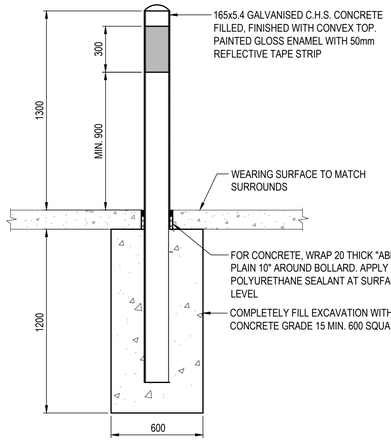
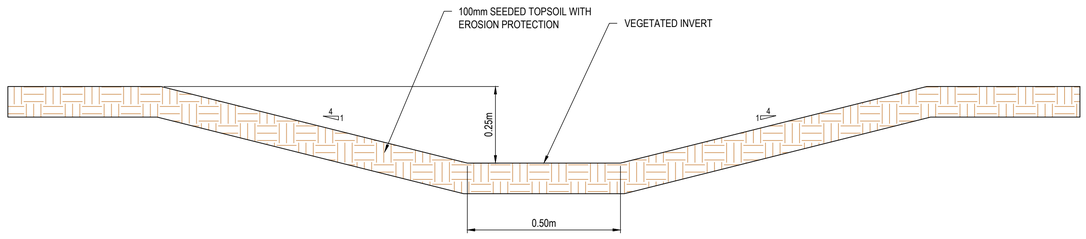
NOTE: TWO COATS OF WATERBORNE ROAD MARKING PAINT TO BE APPLIED



BOLLARD DETAIL
SCALE 1:20

NOTE: CONFIRM LOCATION ON SITE WITH SUPERINTENDENT PRIOR TO INSTALLATION OF BOLLARDS.



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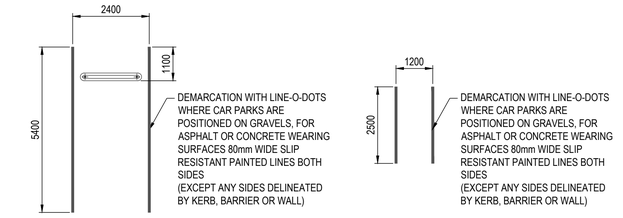

TYPICAL CAR PARK SPACE DETAIL
SCALE 1:100

TYPICAL MOTORBIKE SPACE DETAIL
SCALE 1:100

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TITLE
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SECTIONS

PROJECT NO.	J250367CS
DWG NO.	C04
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PLOT DETAILS	250367CS SITE PLAN.DWG

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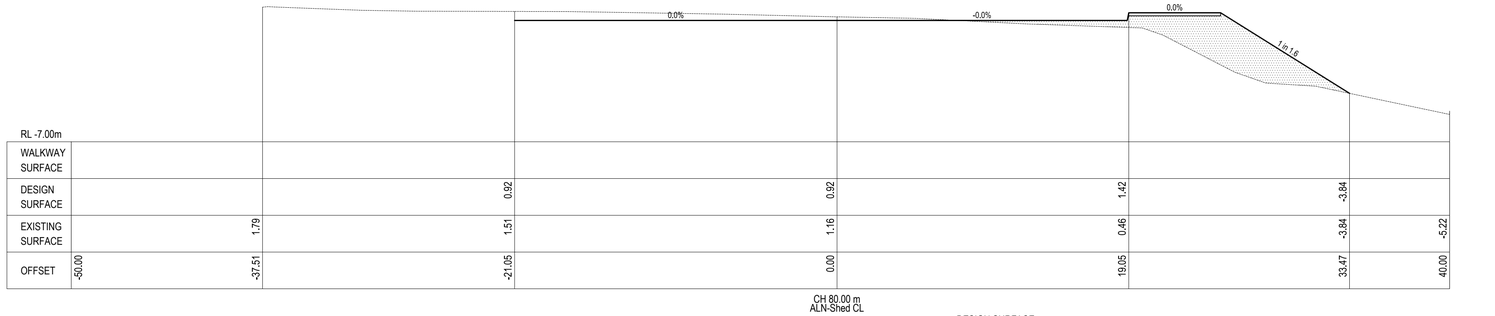

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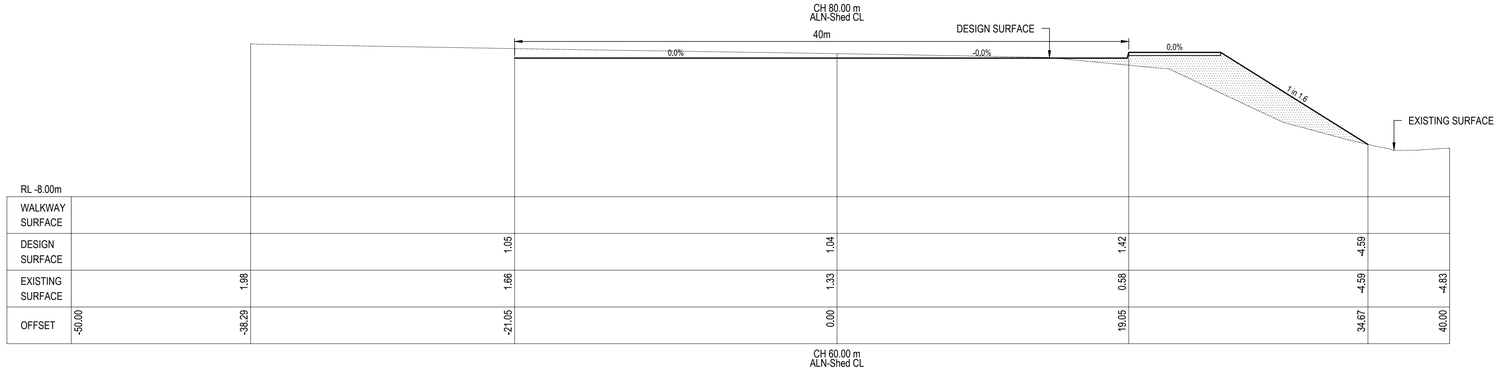

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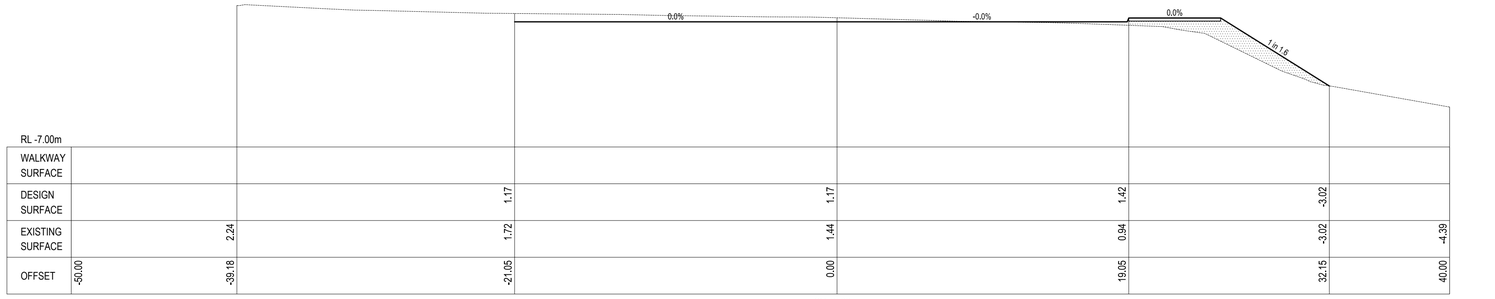

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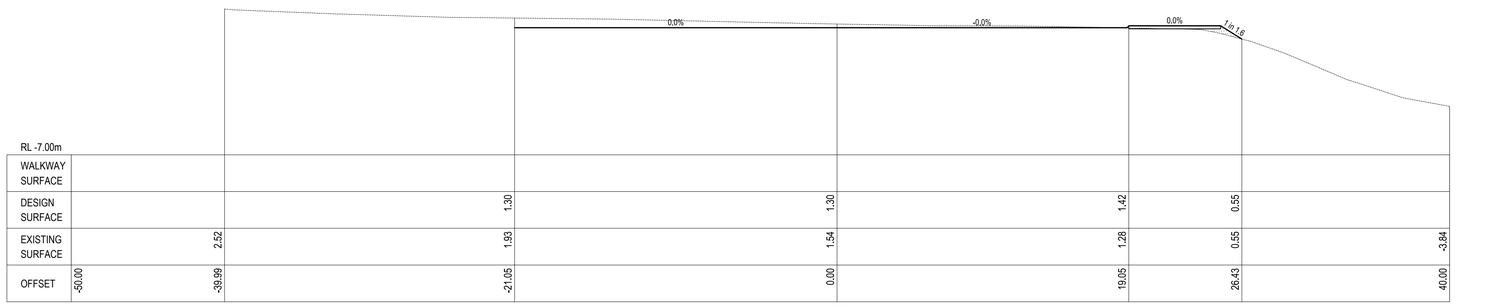

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CH 20.00 m
ALN-Shed CL

ALN-Shed CL CROSS SECTIONS
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TITLE
CIVIL WORKS
SHED CROSS SECTIONS
1 SHEET

PROJECT NO. J250367CS
DWG NO. C10
REVISION DA1
PLOT DETAILS 250367CS SITE PLAN.DWG

Document Set ID: 3628299
Version: 1, Version Date: 09/06/2026

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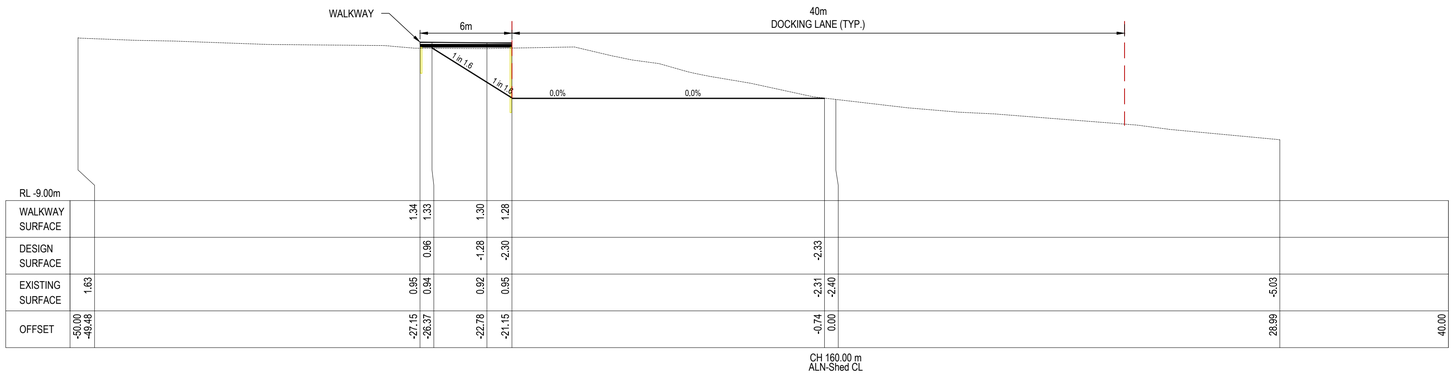
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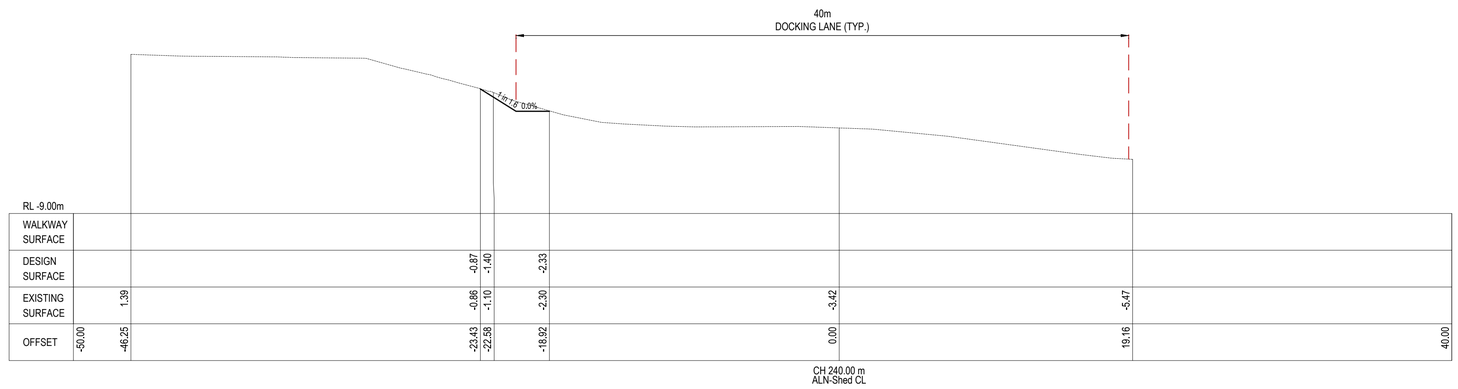

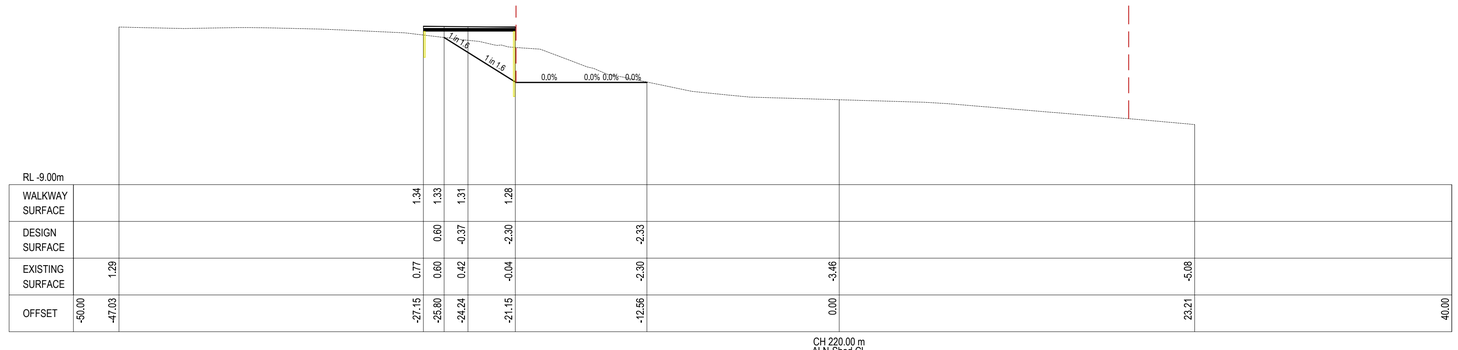

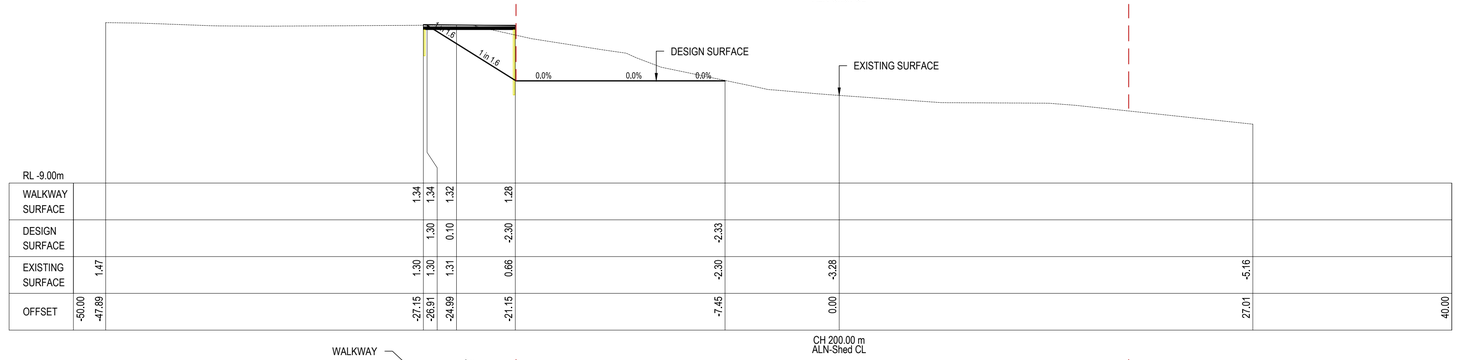

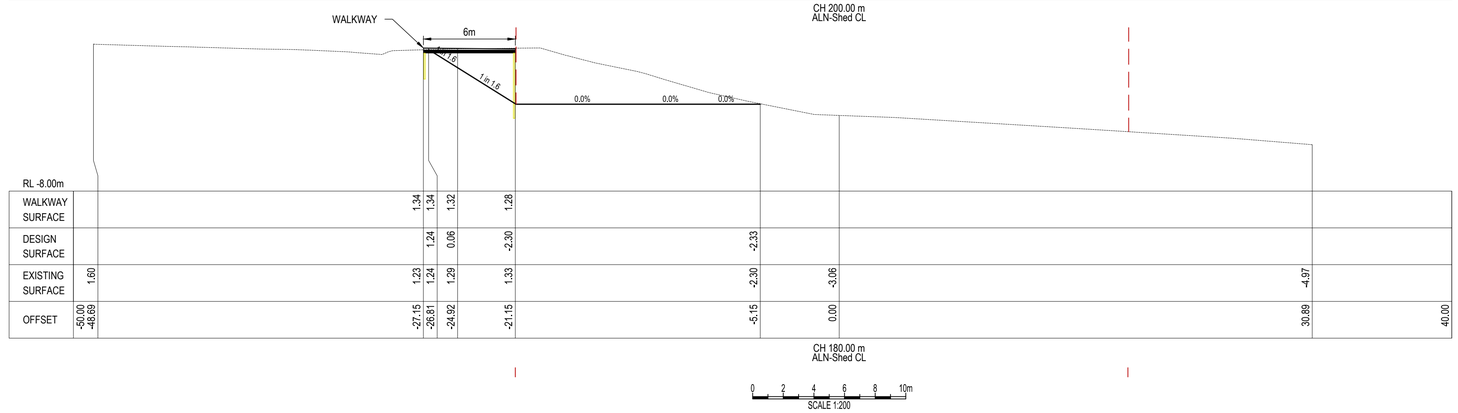

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SHED CROSS SECTIONS
3 SHEET

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DWG NO. C12
REVISION DA1
PLOT DETAILS 250367CS SITE PLAN.DWG

Document Set ID: 3628299
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BULK EARTHWORKS VOLUME

CUT - 5470 Cu
FILL - 5227 Cu

EARTHWORKS IS BASED ON EXISTING SURFACE TO FINISHED DESIGN SURFACE AND DOES NOT INCLUDE MATERIAL TO BE REMOVED FOR PAVEMENTS, SLAB AND OTHER IN GROUND ELEMENTS.

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EARTHWORKS

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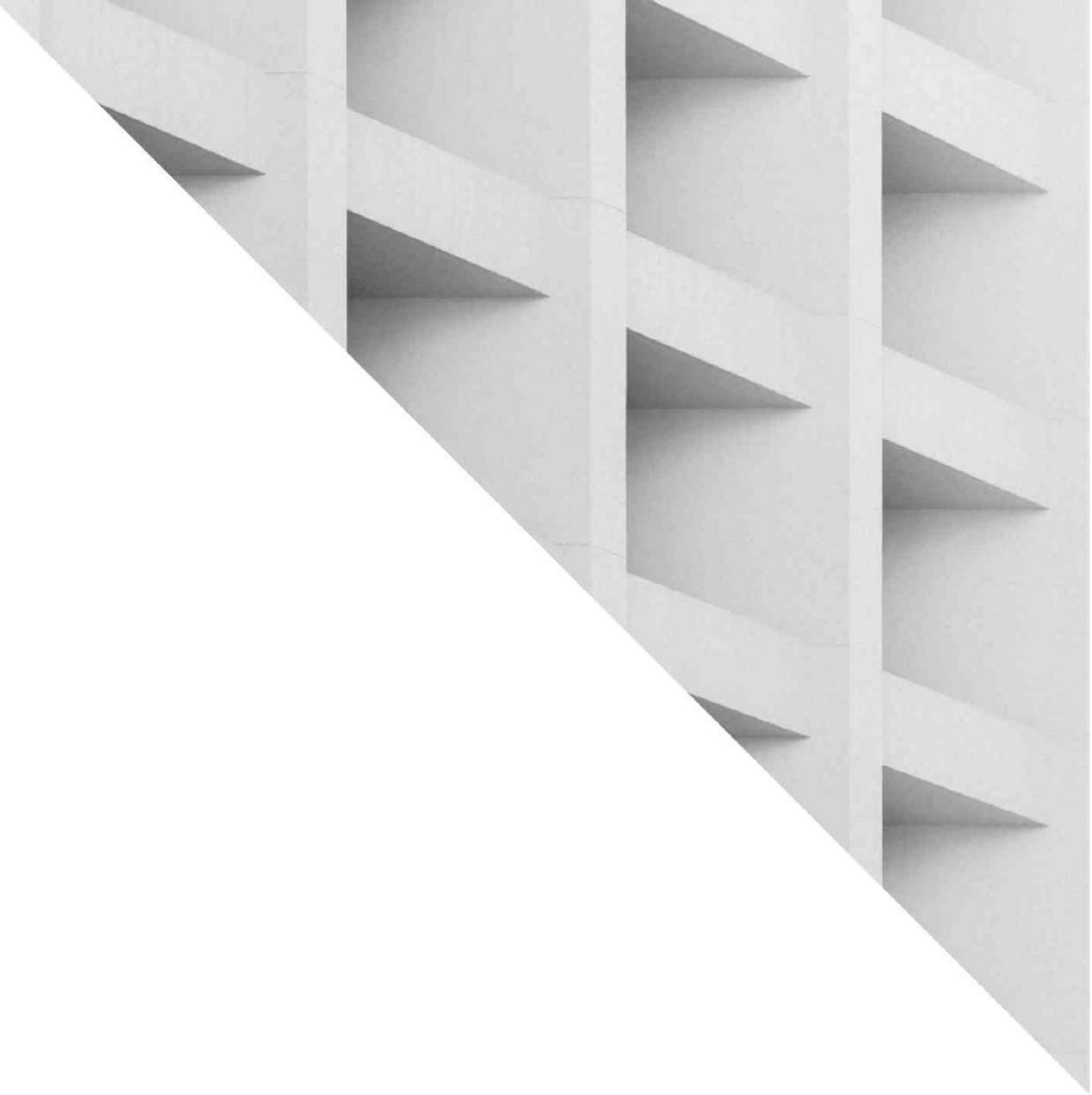

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MIDSON traffic pty ltd

Incat Tasmania

100 Derwent Park Road, Derwent Park
Traffic Impact Assessment

March 2026

CELEBRATING 18 YEARS
2008 - 2026

Document Set ID: 3625399
Version: 1, Version Date: 19/06/2026

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1. Introduction

1.1 Background

Midson Traffic were engaged by Incat Tasmania Pty Ltd to prepare a Traffic Impact Assessment (TIA) in support of a development application for a proposed new boat building shed at the Incat shipbuilding facility located at 100 Derwent Park Road, Derwent Park.

Incat operates a major shipbuilding facility at this location for the manufacture of aluminium catamarans and high-speed ferries. The site contains several large industrial sheds and associated infrastructure used for vessel construction and assembly.

The proposed development involves the construction of a new boat building shed on land immediately adjacent to the existing facilities. Associated reclamation works are also proposed along the Derwent River foreshore to accommodate the building footprint.

The development will support the continued expansion of Incat's shipbuilding operations and will result in an increase in the workforce at the Derwent Park site. Current staffing levels are approximately 470 staff, with the proposal allowing for an increase of approximately 180 additional employees. After accounting for staff located at other Incat sites, the development application relates to a maximum workforce of approximately 560 staff at the Derwent Park facility.

This Traffic Impact Assessment has been prepared to assess the potential traffic and transport implications of the proposed development and to demonstrate compliance with the relevant provisions of the Tasmanian Planning Scheme, including the Parking and Sustainable Transport Code and the Road and Railway Assets Code.

1.2 Traffic Impact Assessment (TIA)

A traffic impact assessment (TIA) is a process of compiling and analysing information on the impacts that a specific development proposal is likely to have on the operation of roads and transport networks. A TIA should not only include general impacts relating to traffic management, but should also consider specific impacts on all road users, including on-road public transport, pedestrians, cyclists and heavy vehicles.

This TIA has been prepared in accordance with the Department of State Growth (DSG) publication, *Traffic Impact Assessment Guidelines*, August 2020. This TIA has also been prepared with reference to the Austroads publication, *Guide to Traffic Management,* Part 12: *Integrated Transport Assessments for Developments*, 2020.

Land use developments generate traffic movements as people move to, from and within a development. Without a clear understanding of the type of traffic movements (including cars, pedestrians, trucks, etc), the scale of their movements, timing, duration and location, there is a risk that this traffic movement may contribute to safety issues, unforeseen congestion or other problems where the development connects to the road system or elsewhere on the road network. A TIA attempts to forecast these movements and their impact on the surrounding transport network.

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A TIA is not a promotional exercise undertaken on behalf of a developer; a TIA must provide an impartial and objective description of the impacts and traffic effects of a proposed development. A full and detailed assessment of how vehicle and person movements to and from a development site might affect existing road and pedestrian networks is required. An objective consideration of the traffic impact of a proposal is vital to enable planning decisions to be based upon the principles of sustainable development.

This TIA also addresses the relevant clauses of C2.0, *Parking and Sustainable Parking Code*, and C3.0, *Road and Railway Assets Code*, of the Tasmanian Planning Scheme – Glenorchy, 2021.

1.3 Statement of Qualification and Experience

This TIA has been prepared by an experienced and qualified traffic engineer in accordance with the requirements of Council's Planning Scheme and The Department of State Growth's, *Traffic Impact Assessment Guidelines*, August 2020, as well as Council's requirements.

The TIA was prepared by Keith Midson. Keith's experience and qualifications are briefly outlined as follows:

- 30 years professional experience in traffic engineering and transport planning.
- Master of Transport, Monash University, 2006
- Master of Traffic, Monash University, 2004
- Bachelor of Civil Engineering, University of Tasmania, 1995
- Engineers Australia: Fellow (FIEAust); Engineering Executive (EngExec)

1.4 Project Scope

The project scope of this TIA is outlined as follows:

- Review of the existing road environment in the vicinity of the site and the traffic conditions on the road network.
- Provision of information on the proposed development with regards to traffic movements and activity.
- Identification of the traffic generation potential of the proposal with respect to the surrounding road network in terms of road network capacity.
- Review of the parking requirements of the proposed development. Assessment of this parking supply with Planning Scheme requirements.
- Traffic implications of the proposal with respect to the external road network in terms of traffic efficiency and road safety.

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1.5 Subject Site

The subject site is located at 100 Derwent Park Road, Derwent, within the Glenorchy municipal area. The site is situated on the Derwent River foreshore within a predominantly industrial precinct that includes a range of heavy and light industrial land uses.

The site currently operates as the Incat shipbuilding facility, which has been in continuous operation for many years and is used for the construction and assembly of high-speed aluminium catamarans and ferries. The facility contains several large industrial buildings, associated workshops and operational areas used for vessel construction, together with supporting infrastructure including staff parking areas.

Access to the site is provided via Derwent Park Road, which connects to the Brooker Highway and provides access to surrounding industrial and residential areas.

The subject site and surrounding road network is shown in Figure 1.

Figure 1 Subject Site & Surrounding Road Network

Image Source: LIST Map, DNRE

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1.6 Reference Resources

The following references were used in the preparation of this TIA:

- Tasmanian Planning Scheme – Glenorchy, 2021 (Planning Scheme)
- Austroads, *Guide to Traffic Management,* Part 12: *Integrated Transport Assessments for Developments*, 2020
- Austroads, Guide to Road Design, Part 4A: Unsignalised and Signalised Intersections, 2023
- Department of State Growth, *Traffic Impact Assessment Guidelines*, 2020
- Transport NSW, *Guide to Traffic Impact Assessment*, 2024 (TfNSW Guide)
- Australian Standards, AS2890.1, *Off-Street Parking*, 2004 (AS2890.1)
- Australian Standards, AS2890.2, *Off-Street Commercial Vehicle Facilities*, 2018

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2. Existing Conditions

2.1 Transport Network

For the purposes of this report, the transport network consists of Derwent Park Road only.

Derwent Park Road connects between Main Road/ Springfield Avenue at its western end, and the subject site at its eastern end. To the east of the Brooker Highway junction it provides a collector road function for commercial and industrial sites along its length, as well as access to the residential areas of Lutana.

It has a posted speed limit of 60-km/h and carries a traffic volume of 4,500 vehicles per day to the east of the Brooker Highway junction.

Derwent Park Road at the Incat access junction is shown in Figure 2.

Figure 2 Derwent Park Road

2.2 Road Safety Performance

Crash data can provide valuable information on the road safety performance of a road network. Existing road safety deficiencies can be highlighted through the examination of crash data, which can assist in determining whether traffic generation from the proposed development may exacerbate any identified issues.

Crash data was obtained from the Department of State Growth for a 5+ year period between 1st January 2019 and 31st January 2026 for Derwent Park Road between the subject site and Cox Avenue.

A total of three crashes were reported at midblock locations during this period:

- 3:22pm, Monday 10th January 2022 – 'right-through' collision resulting in property damage only.
- 3:33pm, Wednesday 13th December 2023 – 'other-on-path' collision resulting in first aid at the scene.

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- 12:00pm, Wednesday 18th December 2024 – no crash description provided, property damage only.

The crash data does not provide an indication that there are any pre-existing road safety deficiencies in the network that may be exacerbated by traffic generated by the proposed development.

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3. Proposed Development

3.1 Development Proposal

The proposed development involves the construction of a new boat building shed at the Incat shipbuilding facility located at 100 Derwent Park Road, Derwent Park.

The new shed will be located adjacent to the existing Incat manufacturing buildings on the northern waterfront portion of the site. The building will provide additional enclosed space for the construction and assembly of large aluminium vessels and will form part of the ongoing expansion of the Incat shipbuilding operations.

The proposal also includes associated reclamation and fill works along the Derwent River foreshore to accommodate the footprint of the new shed and associated operational areas.

The development will support an increase in workforce numbers associated with the expanded manufacturing capacity of the facility. Current staffing levels are approximately 470 staff, with the proposed development allowing for an increase of approximately 180 additional staff. After accounting for existing Incat staff, the development application relates to a maximum of approximately 560 staff associated with the Derwent Park facility.

Access to the site will continue to be provided via the existing Incat access from Derwent Park Road, and the proposed development does not involve the creation of any new external access points to the surrounding road network.

The proposed development is shown in Figure 3.

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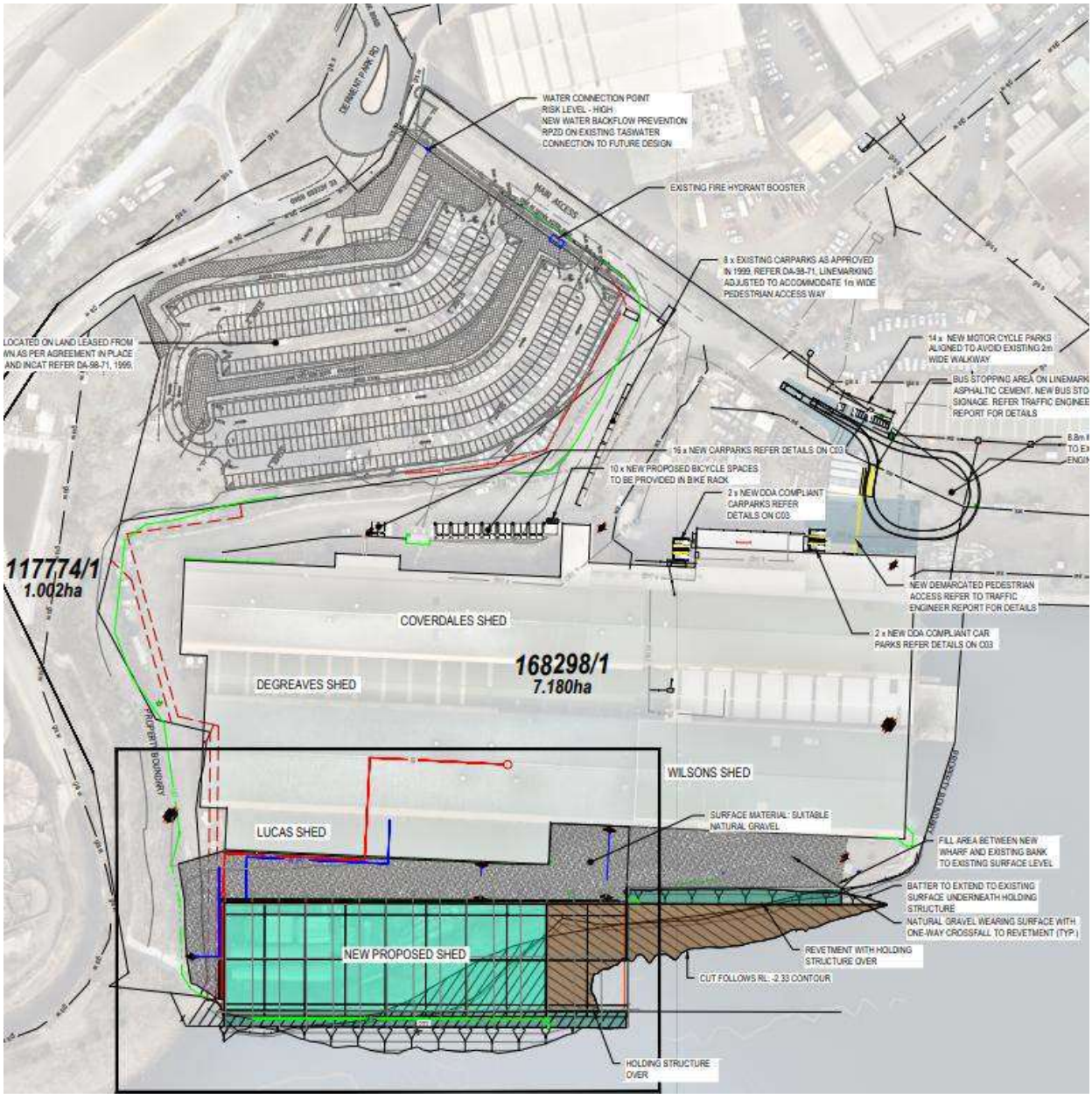
Figure 3 Proposed Development Plans



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4. Traffic Impacts

4.1 Trip Generation

Conventional trip generation rates published in sources such as the TfNSW Guide or the ITE Trip Generation Manual are not directly applicable to this type of development. Shipbuilding facilities represent a specialised form of heavy industrial activity with travel demand primarily driven by employee shift patterns rather than customer or freight activity. As a result, the use of standard industrial trip rates would not provide a realistic estimate of traffic generation. For this reason, traffic generation for the proposed development has been estimated using known workforce numbers, shift arrangements and the proposed staff transport strategy, which provides a more reliable representation of the expected traffic impacts.

The proposed development will result in an increase of 180 additional staff at the Incat Derwent Park facility. Of these additional employees, approximately 150 workers will be overseas employees accommodated off-site and transported to and from the site by organised bus services provided by Incat.

The remaining 30 staff are expected to travel predominantly by private motor vehicle, with a small proportion travelling by motorcycle or through informal carpooling arrangements.

Based on discussions with Incat, the organised worker transport will utilise buses with an approximate 40-seat capacity. On this basis, the transportation of 150 workers would require approximately four buses per shift (150 ÷ 40 ≈ 3.75). This equates to:

- 4 bus arrivals prior to the commencement of a shift; and
- 4 bus departures at the end of the shift.

Accordingly, the proposed development is expected to generate approximately 8 bus movements per shift, or 16 bus movements per day assuming two daily shifts.

For staff travelling by private vehicle, an average vehicle occupancy of 1.2 persons per vehicle has been assumed to reflect some level of carpooling amongst workers. On this basis, the additional 30 staff would generate approximately:

30 staff ÷ 1.2 persons per vehicle ≈ 25 vehicles

This equates to approximately:

- 25 vehicle arrivals prior to the start of a shift; and
- 25 vehicle departures at the end of a shift.

Therefore, the total additional traffic generation associated with the proposed development is estimated to be approximately:

- 50 light vehicle movements per day associated with staff vehicles.
- 16 bus movements per day associated with organised worker transport.

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- Total 66 vehicle movements per day.

For the purposes of access assessment, bus movements have been included in the total vehicle movements. These movements will occur primarily during staff shift changeover periods and will utilise the existing Incat access from Derwent Park Road.

It is also noted that a small number of staff currently travel to the site by motorcycle or bicycle; however, this represents only a very small proportion of overall travel demand and has not been separately quantified in the traffic generation estimates.

4.2 Trip Assignment

Traffic generated by the proposed development will utilise the existing Incat site access from Derwent Park Road.

The site access is located at the eastern termination of Derwent Park Road, where the road effectively functions as a roundabout/ cul-de-sac serving the Incat facility and associated neighbouring industrial land uses. As a result, all traffic entering and exiting the site will do so via left-in and left-out movements to and from Derwent Park Road, with a circulation traffic island facilitating a clockwise circulation pattern.

Vehicles travelling to and from the site will then disperse via the Derwent Park Road / Brooker Highway junction, which provides the primary connection to the wider road network.

Given the location of the site at the end of Derwent Park Road, all development traffic will therefore travel along Derwent Park Road between the site access and the Brooker Highway intersection, where it will distribute to destinations to the north and south along the Brooker Highway corridor.

4.3 Access Impacts

The Acceptable Solution A1.4 of Clause C3.5.1 of the Planning Scheme states "*Vehicular traffic to and from the site, using an existing vehicle crossing or private level crossing, will not increase by more than the amounts in Table C3.1*".

Table C3.1 specifies a maximum increase of 20% or 40 vehicle movements per day, whichever is greater.

The proposed development will utilise the existing Incat access from Derwent Park Road. Existing traffic generation associated with the site has been estimated using a first-principles approach based on current staffing levels, consistent with the methodology adopted for the proposed development.

The current Incat workforce associated with the Derwent Park facility is approximately 470 staff. Assuming an average vehicle occupancy of 1.2 persons per vehicle, the existing staff travel demand is estimated to generate approximately:

$$470 \div 1.2 = 392 \text{ vehicles}$$

This equates to approximately 392 vehicle arrivals and 392 vehicle departures per day, or a total of approximately 784 vehicle movements per day.

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As outlined in Section 4.1, the proposed development is expected to generate an additional 66 vehicle movements per day, comprising approximately 50 light vehicle movements and 16 bus movements.

The percentage increase in traffic using the existing site access is therefore:

$$66 \div 784 \times 100 = 8.4\%$$

Accordingly, the proposed development will increase traffic through the existing access by approximately 8.4%, which is less than the 20% threshold specified in Table C3.1. In numerical terms, 20% of the existing traffic generation equates to approximately 157 vehicle movements per day, which is greater than the alternative threshold of 40 vehicle movements per day.

On this basis, the proposed development satisfies the requirements of Acceptable Solution A1.4 of Clause C3.5.1 of the Planning Scheme.

4.4 Sight Distance

The existing junction of Incat's access with Derwent Park Road is effectively a roundabout, as shown in Figure 4.

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Figure 4 Site Access Junction

Sight distance requirements at roundabouts are provided in Austroads Part 4B (Table 3.1). This is reproduced in Figure 5.

The available sight lines comply with Austroads Part 4B requirements, noting that the central island of the roundabout does not obscure sight distance in any direction on any approach.

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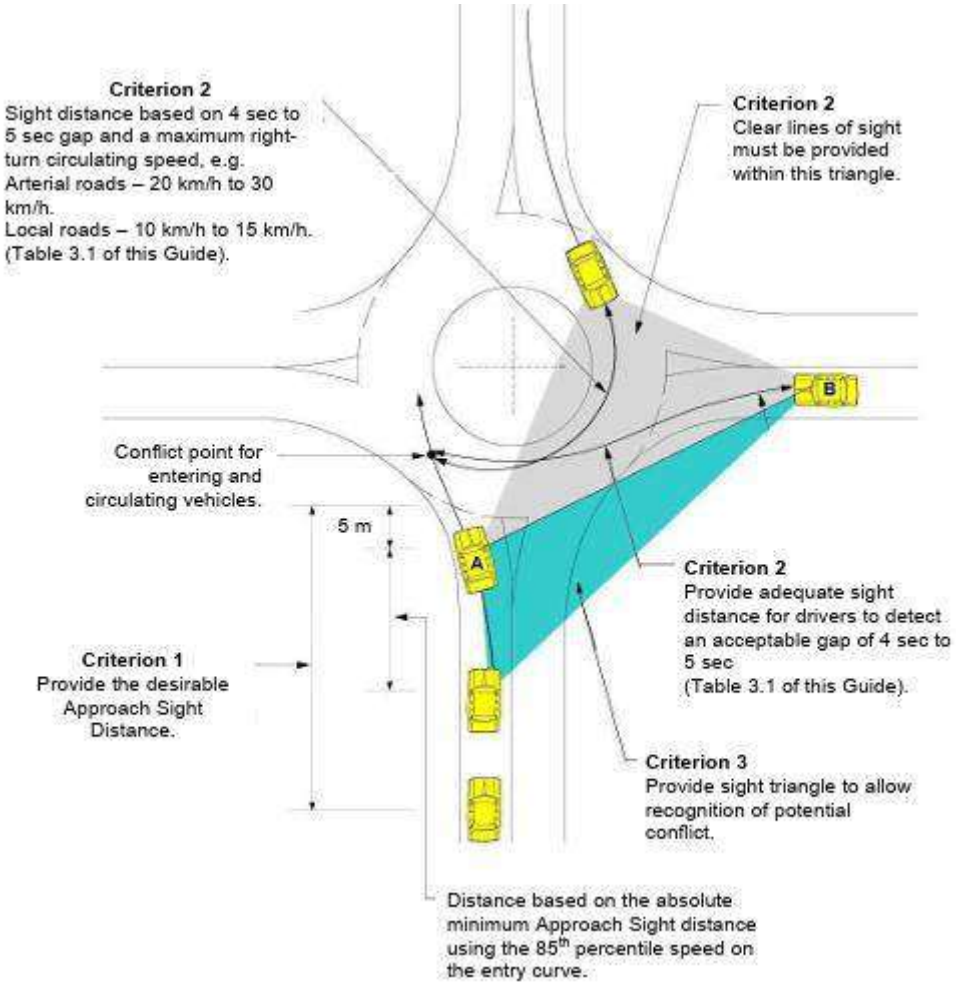
Figure 5 Austroads Roundabout Sight Distance Requirements



4.5 Pedestrian Impacts

The proposed development will generate some pedestrian activity within the site itself. Minimal pedestrian activity is expected on the external road network. The existing pedestrian infrastructure is considered to be adequate and appropriate for the likely pedestrian generation in the network, noting the footpath on Derwent Park Road connecting to the site's access.

The Acceptable Solution A1.1 of Clause C2.6.5 states:

> *"Uses that require 10 or more car parking spaces must:*
>
> *(a) have a 1m wide footpath that is separated from the access ways or parking aisles, excluding where crossing access ways or parking aisles, by:*

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(i) a horizontal distance of 2.5m between the edge of the footpath and the access way or parking aisle; or

(ii) protective devices such as bollards, guard rails or planters between the footpath and the access way or parking aisle; and

(b) be signed and line marked at points where pedestrians cross access ways or parking aisles".

The existing previously approved car park is not the subject of this assessment. This section relates only to the proposed new parking area associated with the development. The proposed parking is located adjacent to the main building entry and the existing shed. While a pedestrian path is provided, it is located immediately adjacent to the parking aisle and no protective devices are proposed between the footpath and vehicle movement areas. On this basis, the proposal does not satisfy the Acceptable Solution A1 of Clause C2.6.5 of the Planning Scheme.

The Performance Criteria P1 of Clause C2.6.5 of the Planning Scheme states:

"Safe and convenient pedestrian access must be provided within parking areas, having regard to:

(a) the characteristics of the site;

(b) the nature of the use;

(c) the number of parking spaces;

(d) the frequency of vehicle movements;

(e) the needs of persons with a disability;

(f) the location and number of footpath crossings;

(g) vehicle and pedestrian traffic safety;

(h) the location of any access ways or parking aisles; and

(i) any protective devices proposed for pedestrian safety".

The following is relevant with respect to the car park design:

a. Characteristics of site. The proposed parking area is internal to an established industrial site and is located immediately adjacent to the main building entry and the existing shed. Pedestrian movements are short, direct and readily apparent.

b. Nature of the use. The use is an existing shipbuilding facility with parking predominantly used by staff and other site users who are familiar with the site layout and internal traffic conditions. This is not a public-facing retail or commercial environment with high pedestrian turnover or unfamiliar users.

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c. Number of parking spaces. The proposed new parking area comprises only a relatively small number of spaces. The limited scale of the parking area reduces pedestrian exposure to vehicle movements.

d. Frequency of vehicle movements. Vehicle activity within the proposed parking area will be relatively low and will occur primarily around shift change periods. Outside these periods, vehicle movements within the parking area are expected to be infrequent.

e. Needs of persons with a disability. Accessible parking spaces are provided in close proximity to the building entry. This minimises walking distance for mobility-impaired users and provides convenient access to the development.

f. Location and number of footpath crossings. Pedestrian desire lines are simple and direct, with no crossing points required between the parking area and the building entry. The short walking distances reduce complexity and potential pedestrian-vehicle conflict.

g. Vehicle and pedestrian safety. The parking area is of conventional design and complies with the dimensional and grade requirements of AS2890.1. Vehicle manoeuvring speeds within the parking area will be low, and the small scale of the parking layout allows good inter-visibility between drivers and pedestrians.

h. Location of access ways or parking aisles. The footpath is located immediately adjacent to the parking aisle, but the arrangement is simple, legible and typical of many small employee parking areas. Given the low-speed environment, limited traffic volumes and short pedestrian paths, the layout provides a reasonable and practical pedestrian outcome.

i. Protective devices. No protective devices are proposed between the footpath and vehicle movement area. In this instance, protective devices are not considered necessary having regard to the low-speed, low-volume nature of the parking area, the limited number of spaces, and the fact that the parking area will be used primarily by staff familiar with the site.

Based on the above assessment, the development satisfies the requirements of Performance Criteria P1 of Clause C2.6.5 of the Planning Scheme.

4.6 Road Safety Impacts

An assessment of road safety impacts considers whether the additional traffic generated by the proposed development is likely to result in any deterioration in safety for road users.

As outlined in Section 2.2, the available crash data for Derwent Park Road does not indicate any existing road safety deficiencies in the vicinity of the site. The recorded crashes are low in number, occurred at midblock locations and do not demonstrate any identifiable pattern or systemic safety issue.

The proposed development will result in a relatively modest increase in traffic, estimated at approximately 66 additional vehicle movements per day, comprising light vehicles and bus movements associated with staff transport. This increase represents a small proportion of existing traffic on Derwent Park Road and is well within the capacity of the surrounding road network.

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Access to the site will continue to be provided via the existing Incat access at the eastern termination of Derwent Park Road. The access arrangement operates in a low-speed environment and is effectively controlled by a circulating island, which assists in regulating vehicle movements and reducing approach speeds. The available sight distance at the access complies with the relevant Austroads requirements.

The nature of traffic associated with the development is predominantly staff-related, occurring during defined shift change periods. The introduction of organised bus transport for approximately 150 staff will reduce the number of private vehicle trips and consolidate movements into a smaller number of larger vehicles, which is considered beneficial from a traffic management and safety perspective.

Internal vehicle movements within the site are also expected to occur at low speeds within a controlled industrial environment. The proposed parking and access arrangements comply with the relevant requirements of AS2890.1, ensuring appropriate manoeuvring space and visibility for drivers.

Given the absence of existing safety issues, the modest increase in traffic, the low-speed operating environment and the nature of the site access arrangements, the proposed development is not expected to result in any adverse road safety impacts on the surrounding road network.

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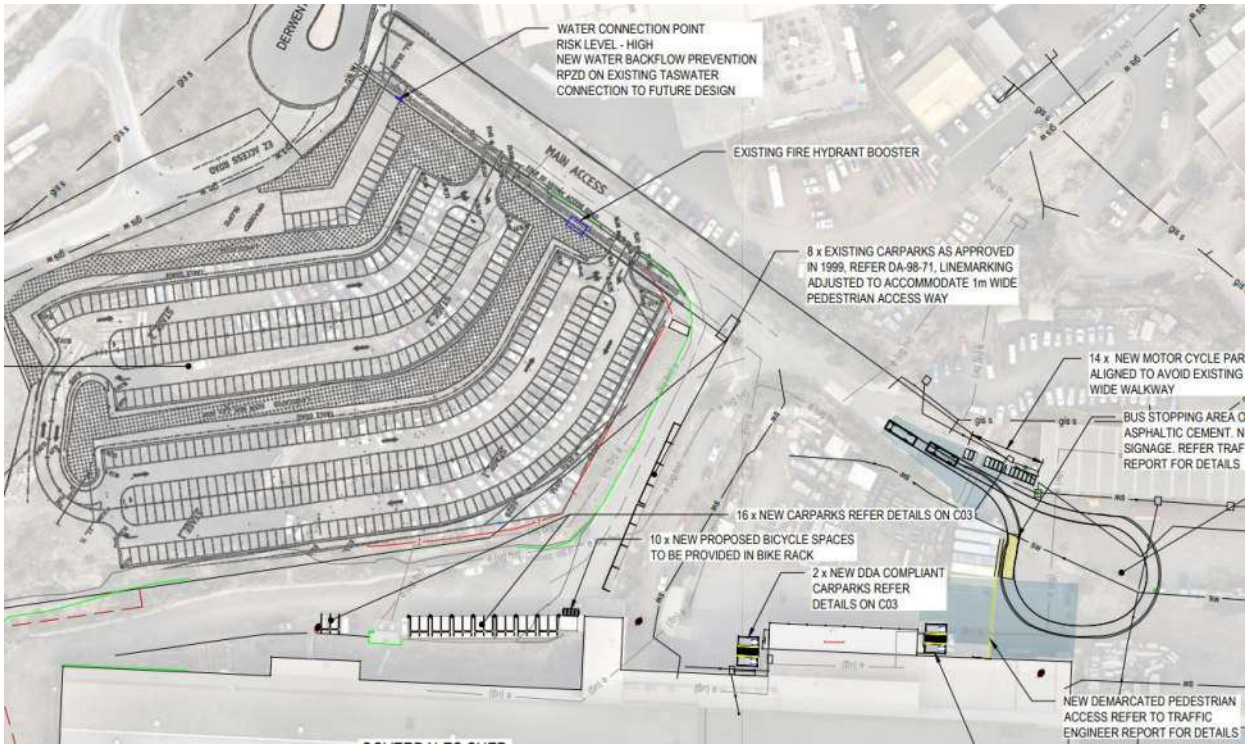
5. Parking Assessment

5.1 Parking Provision

The location and general layout of the existing and proposed parking is shown in Figure 6.

Figure 6 Existing and Proposed Parking Locations and Layout



5.1.1 Existing Parking Provision

The existing parking consists of a main car parking area located at the southern end of the site comprising of 348 parking spaces (previously approved Nystar car park in 1999), as well as 8 visitor parking spaces (total of 356 parking spaces).

The existing previously approved car park is shown in Figure 7.

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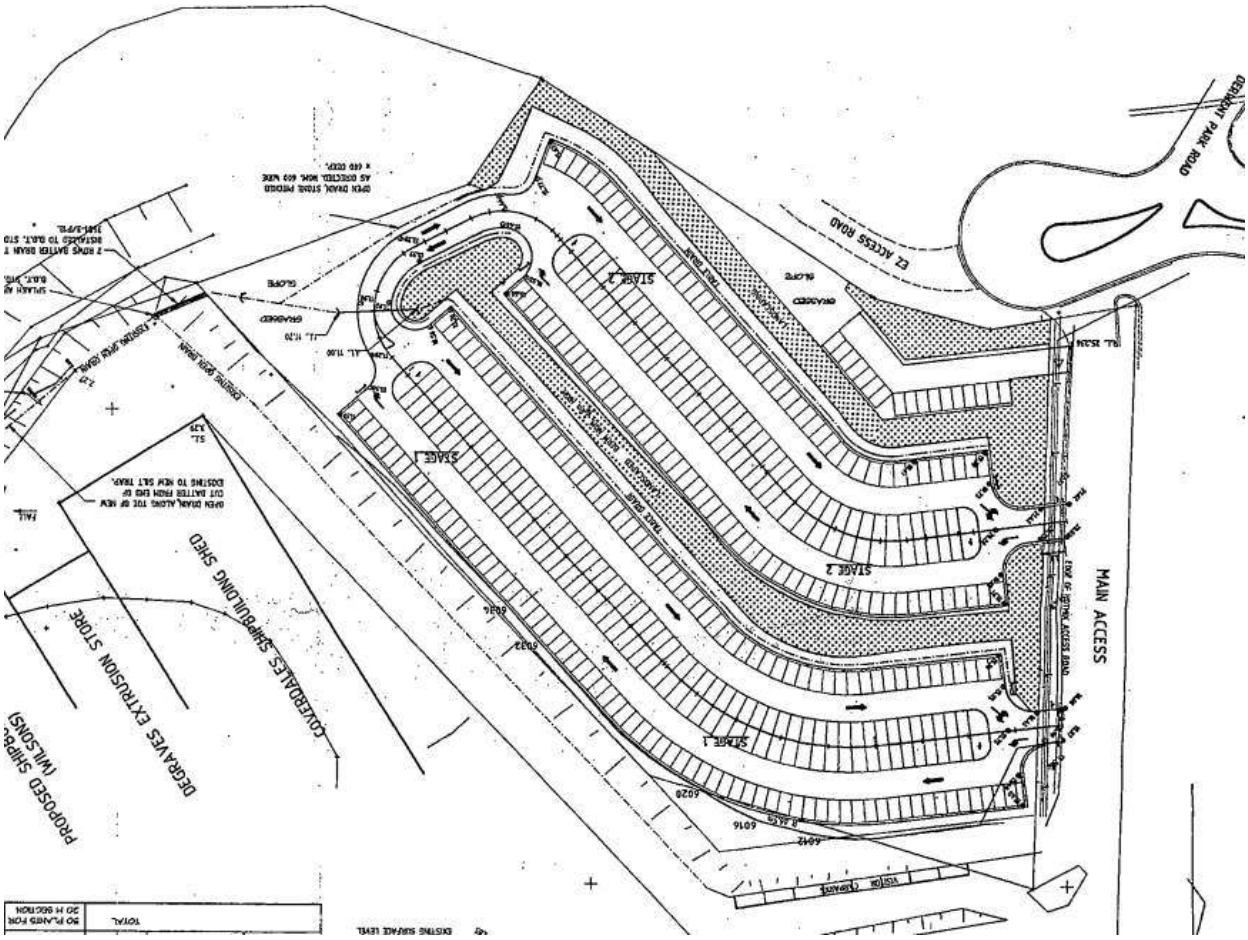
Figure 7 Existing Car Park Layout



5.1.2 Proposed Parking Provision

The proposed development will provide an additional 20 on-site car parking spaces. This includes provision of 2 new disabled parking spaces. The new parking spaces are shown in Figure 8.

A new motorcycle parking area for 14 motorcycles is also proposed.

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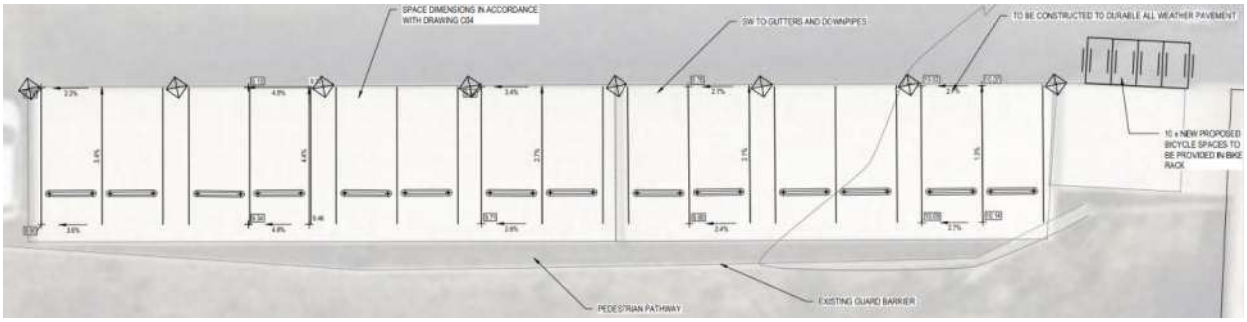
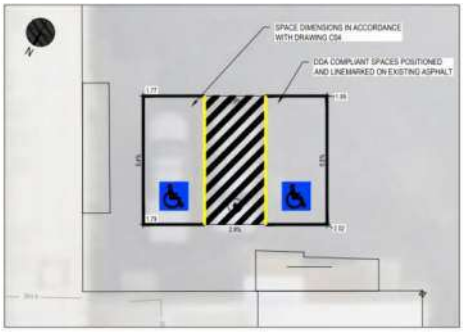
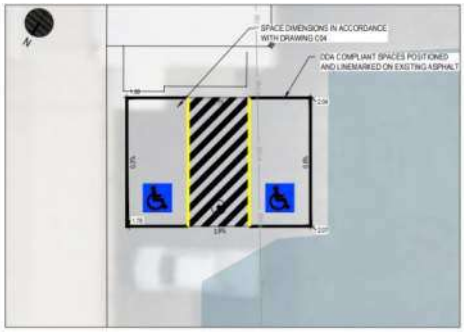
Figure 8 Proposed Car Parking Layout





2 DDA COMPLIANT PARKING SPACES NEAR RECEPTION



2 DDA COMPLIANT PARKING SPACES NEAR BUS STOPPING AREA

5.2 Parking Surveys

Car parking surveys were undertaken within the main car parking areas outlined in Section 5.1.1 on 11th February 2026 at 11:00am, 1:00pm and 4:00pm. The survey results are summarised in Table 1.

Table 1 Car Parking Surveys

Time	Parking Spaces Occupied	Parking Spaces Available
11:00am	235 cars	124 spaces
1:00pm	239 cars	120 spaces
4:00pm	189 cars	170 spaces

The car parking surveys indicate that:

- A maximum of 239 parking spaces were occupied, with 120 spaces available, representing an approximate 67% utilisation of the available parking supply.
- During the late afternoon period (4:00pm), which is typically outside peak shift change periods, parking demand reduced to 189 occupied spaces, with 170 spaces available.

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- Across all survey periods, a substantial number of parking spaces remained available, demonstrating that the existing parking supply is not fully utilised.

These results confirm that the existing parking provision of 356 spaces provides a significant level of spare capacity under current operating conditions.

The available spare capacity is sufficient to accommodate fluctuations in demand associated with shift changes, as well as additional demand generated by the proposed development.

The survey results also support the assumption of some level of carpooling and shared vehicle trips, as the observed parking demand is lower than would be expected if all staff travelled individually by private vehicle.

In addition, the surveys and staff travel data confirm that:

- Motorcycle usage is very low, with only a small number of staff travelling by motorcycle (only two motorcycles observed parked during surveys); and
- Bicycle usage is also minimal, with typically fewer than 5–6 staff per day travelling by bicycle.

These observations demonstrate that theoretical Planning Scheme parking rates are conservative and tend to overestimate actual parking demand for this type of industrial development.

5.3 Planning Scheme Parking Requirements

The Acceptable Solution A1 of Clause C2.5.1 of the Planning Scheme states:

> *"The number of on-site car parking spaces must be no less than the number specified in Table C2.1, excluding if:*
>
> *(a) the site is subject to a parking plan for the area adopted by council, in which case parking provision (spaces or cash-in-lieu) must be in accordance with that plan;*
>
> *(b) the site is contained within a parking precinct plan and subject to Clause C2.7;*
>
> *(c) the site is subject to Clause C2.5.5; or*
>
> *(d) it relates to an intensification of an existing use or development or a change of use where:*
>
> *(i) the number of on-site car parking spaces for the existing use or development specified in Table C2.1 is greater than the number of car parking spaces specified in Table C2.1 for the proposed use or development, in which case no additional on-site car parking is required; or*
>
> *(ii) the number of on-site car parking spaces for the existing use or development specified in Table C2.1 is less than the number of car parking spaces specified in Table C2.1 for the proposed use or development, in which case on-site car parking must be calculated as follows:*

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N = A + (C- B)

N = Number of on-site car parking spaces required

A = Number of existing on site car parking spaces

B = Number of on-site car parking spaces required for the existing use or development specified in Table C2.1

C= Number of on-site car parking spaces required for the proposed use or development specified in Table C2.1".

For the purposes of this assessment, the Incat facility is appropriately categorised as a Manufacturing and Processing use. Under Table C2.1, the applicable parking rate for Manufacturing and Processing is: 1 space per 200 m² of floor area or 2 spaces per 3 employees, whichever is the greater.

In the case of the Incat facility, the number of employees provides the governing parking requirement.

The maximum workforce of approximately 560 staff is anticipated for the facility. Based on the employee-based parking rate, the Planning Scheme parking requirement is therefore calculated as follows:

$$560 \times \frac{2}{3} = 373.3$$

Accordingly, the minimum parking requirement is 374 car parking spaces when rounded up to the nearest whole number.

On this basis, the Planning Scheme requires a minimum provision of 374 car parking spaces for the site under the Acceptable Solution of Clause C2.5.1.

It is noted that the Incat facility is an established industrial use that has been operating at the site for many years and the proposed development represents an expansion of the existing operation. A review of the adequacy of the existing and proposed parking provision, including consideration of staff transport arrangements and operational characteristics of the facility, is provided in the following sections of this report.

The provision of 376 spaces (356 existing plus 20 proposed new spaces) therefore satisfies the requirements of Acceptable Solution A1 of Clause C2.5.1 of the Planning Scheme. This demonstrates that the development not only complies with the Acceptable Solution, but does so with a small surplus, providing additional flexibility in parking supply.

5.4 Disabled Parking

The Acceptable Solution A1.2 of Clause C2.6.2 of the Planning Scheme states:

"Parking spaces provided for use by persons with a disability must satisfy the following:

(a) be located as close as practicable to the main entry point to the building;

(b) be incorporated into the overall car park design; and

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(c) be designed and constructed in accordance with Australian/New Zealand Standard AS/NZS 2890.6:2009 Parking facilities, Off-street parking for people with disabilities".

The National Construction Code provides the requirements for the number of disabled spaces. The Code classifies the building as a 'Class 8' building. Class 8 buildings require 1 disabled space per 100 parking spaces, which is a requirement for 4 disabled spaces.

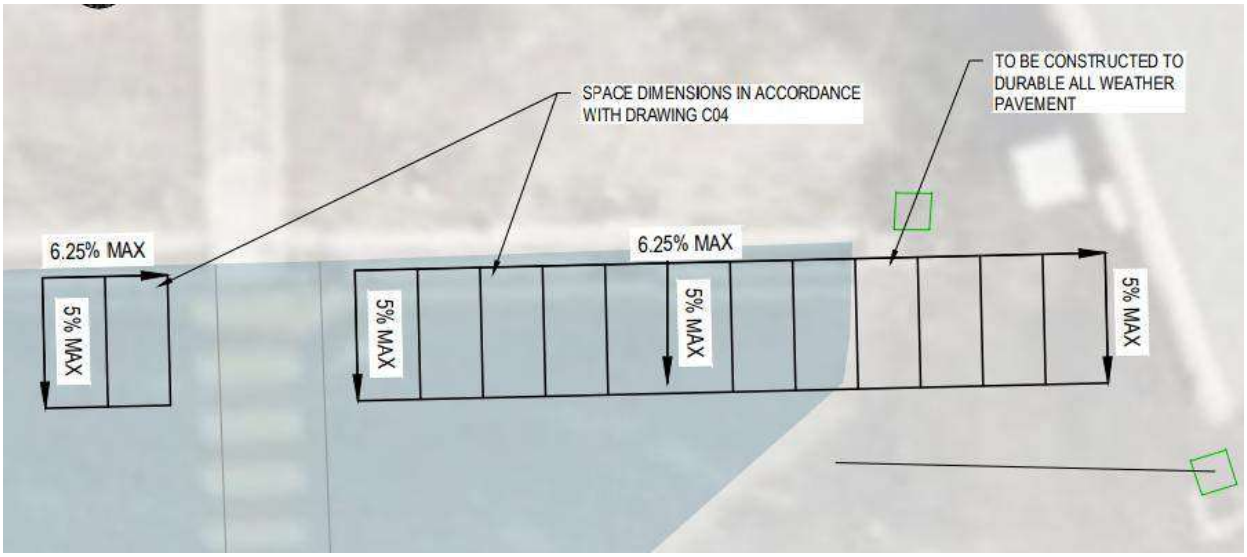
The provision of 4 spaces (two existing and 2 proposed) therefore satisfies the requirements of the BCA. The location of the parking spaces is as close as practicable to the building entrance. The design of the disabled parking spaces complies with the requirements of AS2890.6.

The disabled parking provision therefore satisfies the requirements of Acceptable Solution A1 of Clause C2.6.2 of the Planning Scheme.

5.5 Motorcycle Parking

A total of 14 new motorcycle parking spaces are proposed. These are shown in Figure 9.

Figure 9 Motorcycle Parking



The Acceptable Solution A1 of Clause C2.5.3 of the Planning Scheme states: "*the number of on-site motorcycle parking spaces for all uses must be no less than the number specified in Table C2.4*".

Table C2.4 specifies 1 motorcycle parking space for every additional 20 car parking spaces required for car parks greater than 41 spaces. This is a requirement for 18 motorcycle parking spaces (based on the requirement for 374 car spaces). The provision of 14 motorcycle parking spaces therefore does not satisfy the requirements of Acceptable Solution A1 of Clause C2.5.3 of the Planning Scheme.

The Performance Criteria P1 of Clause C2.5.3 of the Planning Scheme states:

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"Motorcycle parking spaces for all uses must be provided to meet the reasonable needs of the use, having regard to:

(a) the nature of the proposed use and development;

(b) the topography of the site;

(c) the location of existing buildings on the site;

(d) any constraints imposed by existing development; and

(e) the availability and accessibility of motorcycle parking spaces on the street or in the surrounding area".

The following is relevant with respect to the proposed development:

a. Nature of the proposed use and development

   The development relates to an existing heavy industrial shipbuilding facility with travel demand primarily associated with staff movements. Existing motorcycle usage at the site is very low, with only a small number of staff currently travelling by motorcycle. This indicates that the theoretical Planning Scheme rate overestimates actual demand for motorcycle parking at this location.

b. Topography of the site

   The site is relatively flat and does not impose any constraints on the provision or use of motorcycle parking.

c. Location of existing buildings on the site

   The site is highly developed with multiple large industrial buildings and established operational areas. The proposed motorcycle parking is located in a practical and accessible location relative to the main building and staff areas.

d. Constraints imposed by existing development

   The existing layout of the site, including established buildings, operational areas and circulation routes, limits the extent to which additional dedicated motorcycle parking can be efficiently provided without impacting on operational functionality.

e. Availability and accessibility of motorcycle parking in the surrounding area

   There is limited demand for motorcycle parking in the surrounding industrial area, and no reliance is placed on external motorcycle parking to service the development.

In addition to the above:

- The site contains a large existing car parking area with spare capacity, which can readily accommodate motorcycles if required.

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- Motorcycle parking can be flexibly accommodated within standard car parking spaces if demand increases, without impacting the overall functionality of the car park.
- The introduction of organised bus transport for approximately 150 staff further reduces reliance on private motorised travel modes, including motorcycles.

On this basis, the provision of 14 motorcycle parking spaces is considered sufficient to meet the reasonable needs of the development, and the proposal satisfies the requirements of the Performance Criteria P1 of Clause C2.5.3 of the Planning Scheme.

5.6 Bicycle Parking

The Acceptable Solution A1 of Clause C2.5.2 of the Planning Scheme states:

> *"Bicycle parking spaces must:*
>
> *(a) be provided on the site or within 50m of the site; and*
>
> *(b) be no less than the number specified in Table C2.1".*

For manufacturing and processing, the bicycle parking requirements under Table C2.1 are 1 space per 5 employees. This is a requirement for 112 bicycle parking spaces.

The provision of 10 bicycle parking spaces therefore does not satisfy the requirements of Acceptable Solution A1 of Clause C2.5.2 of the Planning Scheme.

The Performance Criteria P1 of Clause C2.5.2 of the Planning Scheme states:

> *"Bicycle parking spaces must be provided to meet the reasonable needs of the use, having regard to:*
>
> *(a) the likely number of users of the site and their opportunities and likely need to travel by bicycle; and*
>
> *(b) the availability and accessibility of existing and any planned parking facilities for bicycles in the surrounding area".*

The following is relevant with respect to the proposed development:

- The Incat facility is located within an industrial area at the eastern termination of Derwent Park Road, which has limited connectivity to dedicated bicycle infrastructure and is not readily accessible by bicycle from surrounding residential areas.
- Empirical travel data provided by Incat indicates that very few staff currently travel to the site by bicycle, with typically fewer than half a dozen staff choosing this mode of transport. This demonstrates that the theoretical Planning Scheme rate significantly overestimates actual demand for bicycle parking at this location.

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- Travel demand to the site is strongly influenced by the nature of the industrial use and shift-based operations, which favour private vehicle use, organised bus transport and carpooling rather than active transport modes.
- The proposed development includes the introduction of organised bus transport for approximately 150 staff, which will further reduce reliance on private vehicle travel but is unlikely to materially increase bicycle usage.
- The provision of bicycle parking spaces on-site ensures that facilities are available for those staff who choose to cycle, while avoiding the oversupply of infrastructure that would remain largely unused.

On this basis, the proposed bicycle parking provision is considered to be appropriate for the operational characteristics of the site and its location, and satisfies the intent of the Performance Criteria of Clause C2.5.2 of the Planning Scheme. The provision of 112 bicycle spaces would represent a significant over-supply relative to observed demand and would not represent an efficient or reasonable use of the site.

5.7 Bus Parking

The proposed development includes the transportation of 150 workers between the site and off-site accommodation via organised bus services.

To facilitate this arrangement, a dedicated bus parking area is provided on-site to accommodate the arrival and departure of staff buses associated with shift changes.

A marked pedestrian path is provided between the on-site bus parking area and the building entry to ensure safe and convenient movement of staff between the buses and the facility.

The provision of on-site bus parking and associated pedestrian infrastructure supports the proposed staff transport strategy and reduces reliance on private vehicle travel.

The bus access and parking area is shown in Figure 10.

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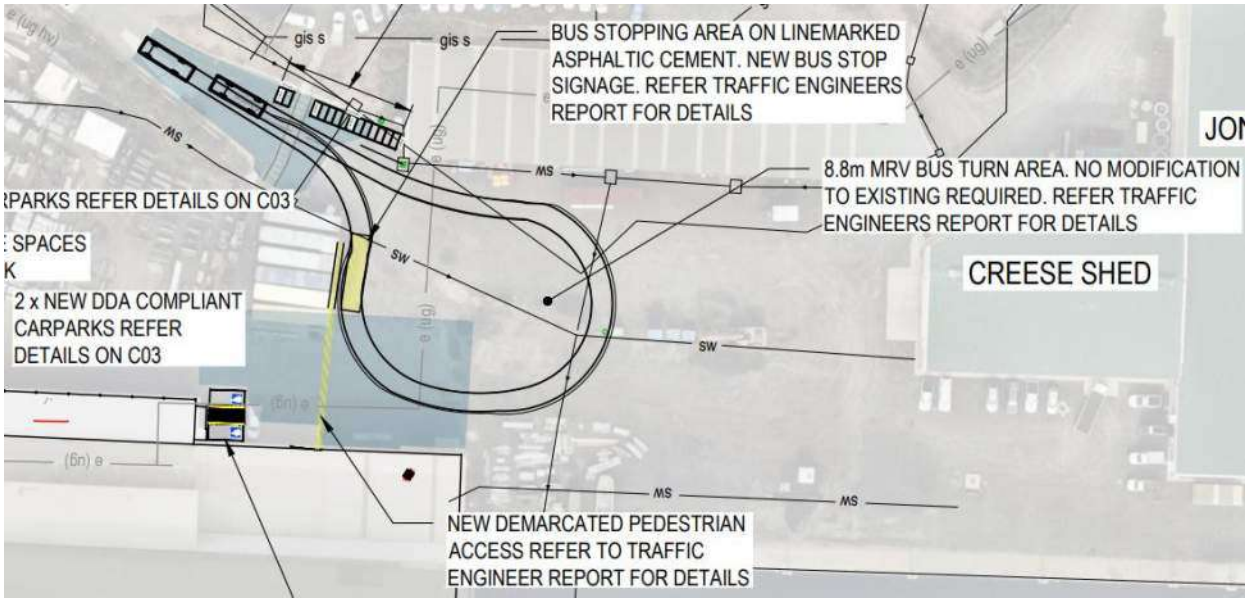
Figure 10 Bus Access and Parking



5.8 Car Parking Layout

The Acceptable Solution A1.1 of Clause C2.6.2 of the Planning Scheme states:

"Parking, access ways, manoeuvring and circulation spaces must either:

(a) comply with the following:

(i) have a gradient in accordance with Australian Standard AS 2890 - Parking facilities, Parts 1-6;

(ii) provide for vehicles to enter and exit the site in a forward direction where providing for more than 4 parking spaces;

(iii) have an access width not less than the requirements in Table C2.2;

(iv) have car parking space dimensions which satisfy the requirements in Table C2.3;

(v) have a combined access and manoeuvring width adjacent to parking spaces not less than the requirements in Table C2.3 where there are 3 or more car parking spaces;

(vi) have a vertical clearance of not less than 2.1m above the parking surface level; and

(vii) excluding a single dwelling, be delineated by line marking or other clear physical means; or

(b) comply with Australian Standard AS 2890- Parking facilities, Parts 1-6".

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The proposed car parking provision (18 spaces) was assessed against the requirements of A1.1(b), using AS2890.1 as detailed in the following sections for the strata title component of the proposed development.

Dimensional Requirements

AS2890.1 classifies the parking as User Class 1A (residential, domestic and employee parking). Class 1A parking requires the following dimensions:

- Space length 5.4 metres
- Space width 2.4 metres
- Aisle width 5.8 metres

All proposed car parking spaces comply with the dimensional requirements of AS2890.1.

Parking Grade

Section 2.4.6 of AS2890.1 states that the maximum grades within a car park shall be:

- Measured parallel to the angle of parking 1 in 20 (5%)
- Measured in any other direction 1 in 16 (6.25%)

The grades of the parking spaces satisfy AS2890.1 parking grade requirements.

Disabled Parking Requirements

The disabled parking spaces comply with the requirements of AS2890.6, including the provision of a shared space adjacent to the parking spaces.

The proposed car parking layout therefore complies with the requirements of Acceptable Solution A1 of Clause C2.6.2 of the Planning Scheme.

5.9 Commercial Vehicles

The Acceptable Solution A1 of Clause C2.6.6 of the Planning Scheme states: "*The area and dimensions of loading bays and access way areas must be designed in accordance with Australian Standard AS 2890.2–2002, Parking facilities, Part 2: Off-street commercial vehicle facilities, for the type of vehicles likely to use the site*".

Commercial vehicles will continue to service the existing sheds, as well as the proposed shed. Construction materials associated with the proposed development will be delivered by trucks of varying sizes, including vehicles up to approximately 25 metre semi-trailers.

These deliveries will be accommodated within the existing Incat shipbuilding facility, which has been designed and operated to accommodate large vehicle movements as part of its established operations. Heavy vehicles will utilise the existing access from Derwent Park Road and manoeuvre within the extensive external hardstand areas, consistent with current site operations.

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Materials will be unloaded within the external hardstand areas and subsequently transferred to the proposed shed via smaller vehicles or forklifts, typically through the adjacent existing sheds. This reflects the established operational practice at the site and avoids the need for large heavy vehicles to directly access the internal areas of the proposed building.

The existing site layout provides ample space for heavy vehicle manoeuvring, loading and unloading activities, and no changes to the access or internal circulation arrangements are required to accommodate these movements.

On this basis, heavy vehicle access associated with the proposed development can be safely and efficiently accommodated within the site.

AS2890.2 requires that the loading bay service area is dependent on a combination of:

(a) The maximum size of vehicle likely to use the facility.
(b) The frequency with which vehicles of different classification use the facility; and
(c) Whether the public road from which the facility is accessed is a major or minor road.

The following points are relevant for the site:

- Swept paths of a 25 metre semi-trailer (the design vehicle) were tested through the site, to and from Derwent Park Road. This relates to the operation of the loading areas within the sheds. The ability of a 25 m semi-trailer to manoeuvre within the site is demonstrated by the existing operation of the facility, which routinely accommodates vehicles of this size.
- The frequency of access to the site will be several times per day by vehicles of differing sizes.
- Access into the site is via a major road. This access has been assessed to be appropriate in following sections of AS2890.2

AS2890.2 requirements and recommendations that the use of the service area for regular use of a major road (Derwent Park Road) are as follows:

(a) A service area unobstructed by other vehicles or on-site activities shall be provided.
(b) All manoeuvring associated with parking, loading and unloading shall be able to be confined to the service area.
(c) Both entry and exit at the property boundary shall be in the forward direction.
(d) Circulation roadways shall be provided to connect the access driveway with the service area.
(e) Wherever practicable, separate entry and exit access driveways should be provided.

In this case, the following is applicable:

(a) The service area and access driveway has been tested to enable the swept path of a 25 metre semi-trailer.
(b) All manoeuvring associated loading and unloading are within loading areas contained in the sheds. The service areas are separated from all staff and visitor car parking areas. The manoeuvring area is well clear of all other parking spaces of the site.
(c) Entry and exit at Derwent Park Road is in a forward direction.
(d) Circulation between the site access and loading areas is provided via the internal road network. These areas provide adequate manoeuvring space for the design vehicle.

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(e) Separate entry and exit is not provided. A single access is provided at Derwent Park Road that provides entry and exit manoeuvres. AS2890.2 does not mandate separate entry and exit driveways. This situation is unchanged from existing conditions.

The proposed access and manoeuvring arrangements therefore comply with 3.2.3 of AS2890.2. Acceptable Solution A1 of Clause C2.6.6 of the Planning Scheme is met.

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6. Conclusions

This Traffic Impact Assessment (TIA) has assessed the traffic and parking impacts of the proposed new boat building shed at the Incat facility located at 100 Derwent Park Road, Derwent Park.

The key findings of the assessment are summarised as follows:

- The proposed development will increase the on-site workforce to approximately 560 staff, including 180 additional staff, of which approximately 150 will be transported by organised bus services.
- Traffic generation associated with the development is estimated to comprise approximately 50 light vehicle movements per day and 16 bus movements per day, representing a modest increase in traffic.
- The increase in traffic via the site access is estimated to be approximately 8.4%, which satisfies the requirements of Acceptable Solution A1.4 of Clause C3.5.1 of the Planning Scheme.
- All traffic will access the site via the existing access at the eastern end of Derwent Park Road, with distribution via the Brooker Highway intersection. No upgrades to the external road network are required.
- The existing access operates in a low-speed environment, with adequate sight distance and no identified road safety concerns.
- The proposed development is not expected to result in any adverse road safety impacts, given the modest increase in traffic and the nature of the surrounding road environment.
- Parking surveys demonstrate that the existing car parking supply is not fully utilised, with a surveyed peak utilisation of approximately 67%, confirming that there is substantial spare capacity within the existing car park.
- The site provides a total of 376 car parking spaces (356 existing and 20 proposed), which exceeds the Planning Scheme requirement of 374 spaces, and therefore satisfies the requirements of Acceptable Solution A1 of Clause C2.5.1.
- The proposed car parking layout complies with the requirements of AS2890.1, providing safe and efficient vehicle manoeuvring.
- The provision of motorcycle parking (14 spaces) does not meet the numerical requirement of the Acceptable Solution; however, it satisfies the Performance Criteria of Clause C2.5.3, having regard to the very low observed demand and the availability of flexible parking within the site.
- The provision of bicycle parking (10 spaces) does not meet the Acceptable Solution; however, it satisfies the Performance Criteria of Clause C2.5.2, given the extremely low existing demand and the industrial location of the site.
- The proposed development includes dedicated on-site bus parking, supporting the transportation of 150 staff by bus, which reduces reliance on private vehicle travel.

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- Internal pedestrian movements are limited and occur within a controlled, low-speed environment, with the proposed layout providing safe and convenient access consistent with the Performance Criteria P1 of Clause C2.6.5 of the Planning Scheme.

Based on the findings of this assessment, the proposed development is considered to be acceptable from a traffic and transport perspective and is supported on traffic engineering grounds.

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Midson Traffic Pty Ltd ABN: 26 133 583 025

28 Seaview Avenue
Taroona TAS 7053
T: 0437 366 040 E: admin@midsontraffic.com.au W: www.midsontraffic.com.au

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Document Status

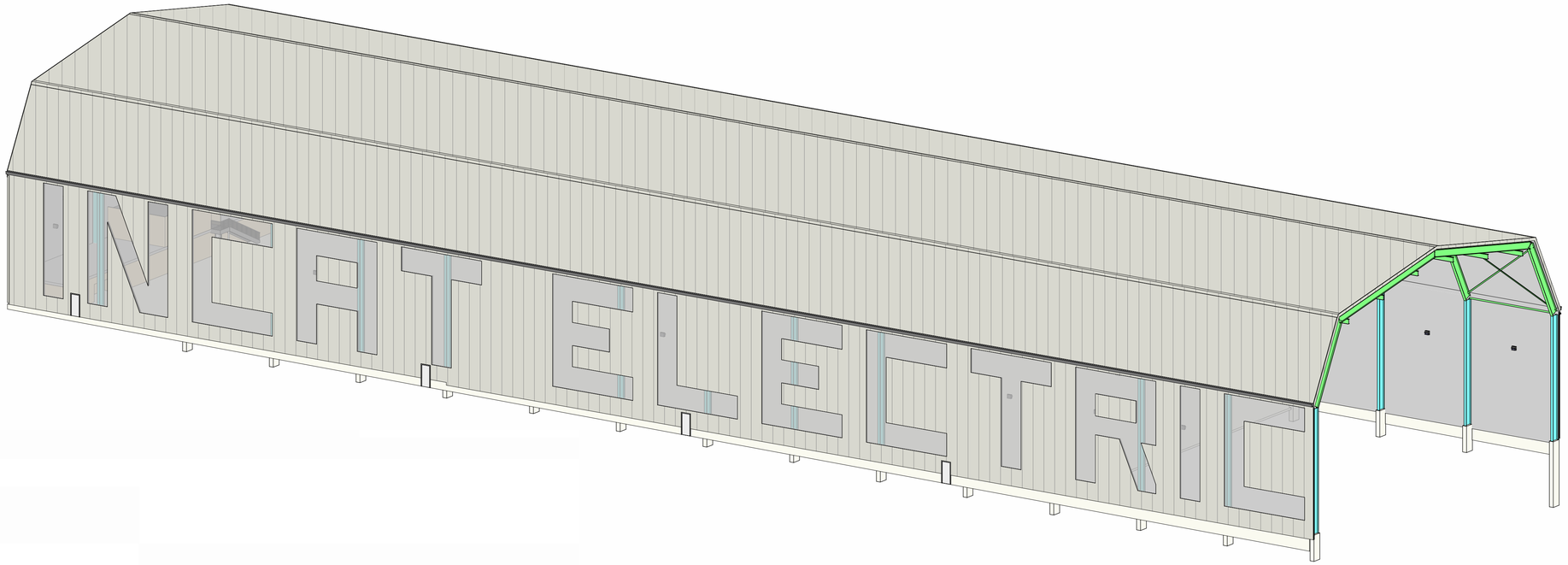
Revision	Author	Review	Date
0	Keith Midson	Zara Kacic-Midson	17 March 2026
1	Keith Midson	Zara Kacic-Midson	26 March 2026

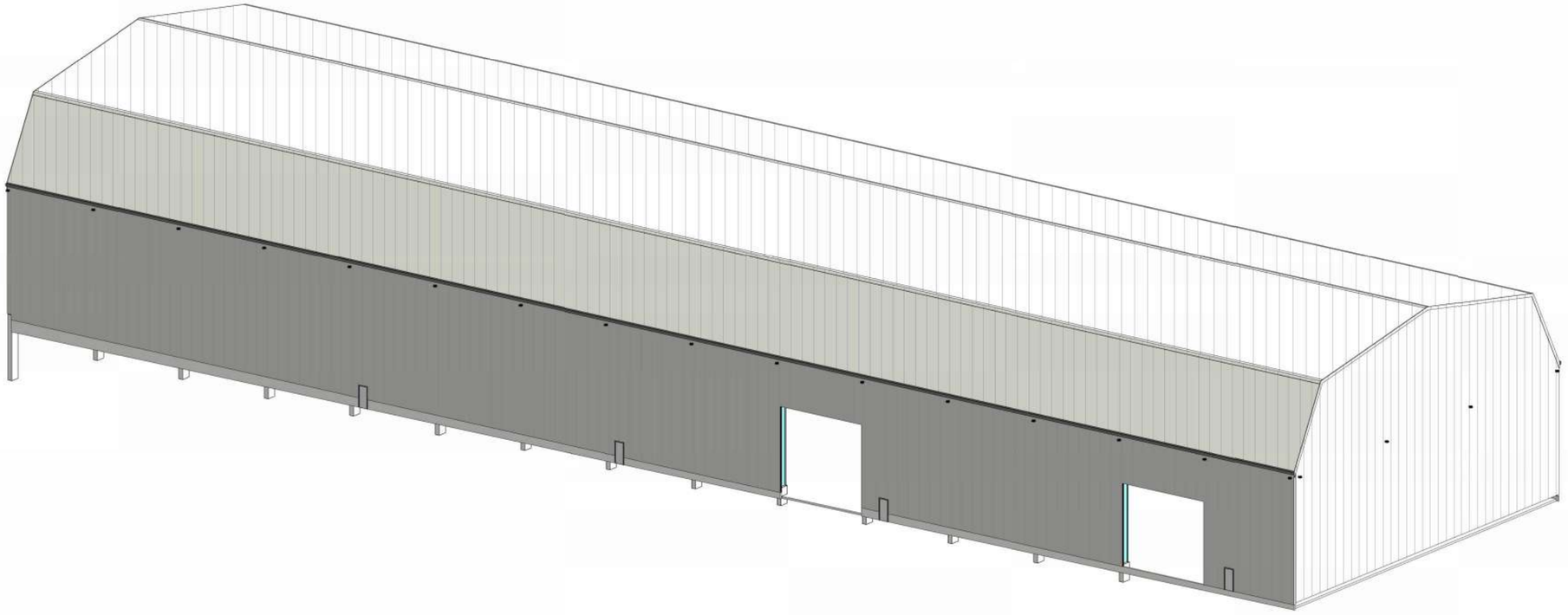
Document Set ID: 3625399
Version: 1, Version Date: 19/06/2026

INCAT CHANDLERS SHED
100 DERWENT PARK RD, DERWENT PARK, TAS, 7009

BUILDING DESIGN

DRAWING INDEX - BUILDING DESIGN	
SHEET NO.	SHEET NAME
B00	COVER SHEET
B01	LOCATION / PROXIMITY PLAN
B02	SITE PLAN
B03	FLOOR PLANS
B04	ROOF PLAN
B05	ELEVATIONS AND SECTIONS SHEET 1
B06	ELEVATIONS AND SECTIONS SHEET 2





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Accepted (Team Leader)	B.GAMLIN	Date 21.11.25
Accepted (Principal)	C.MALES	Date 21.11.25

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PROJECT
INCAT CHANDLERS SHED
100 DERWENT PARK RD, DERWENT PARK, TAS, 7009

TITLE
BUILDING DESIGN
COVER SHEET

PROJECT NO. 250367CS
DWG NO. B00
REVISION P2

Document Set ID: 3628299
Version: 1, Version Date: 09/06/2026

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ADDRESS: 100 DERWENT PARK ROAD, DERWENT PARK, TAS. 7009

CERTIFICATE OF TITLE REF (VOLUME / FOLIO): 168298/1

PROPERTY IDENTIFICATION NUMBER: 7671632

BUILDING CLASSIFICATION: 8

SITE PLAN - PROXIMITY RADIUS

SCALE 1 : 2500

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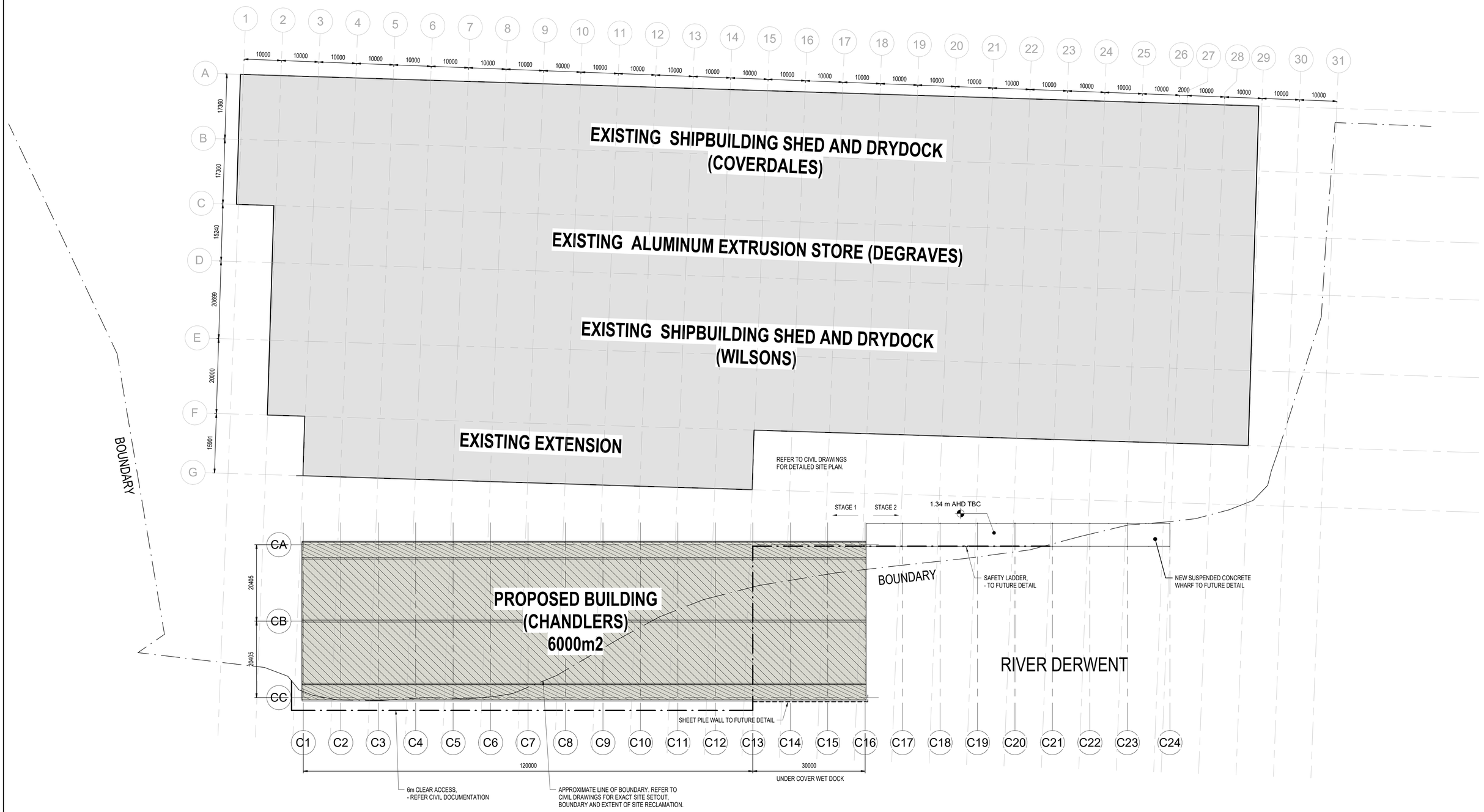
TITLE
BUILDING DESIGN
LOCATION / PROXIMITY PLAN

PROJECT NO. 250367CS

DWG NO. B01

REVISION P2



SITE AND LOCALITY PLAN

SCALE 1 : 500

0 5 10 15 20 25m
SCALE 1:500

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100 DERWENT PARK RD, DERWENT PARK, TAS, 7009

TITLE
BUILDING DESIGN
SITE PLAN

PROJECT NO. 250367CS
DWG NO. B02
REVISION P2

Document Set ID: 3628299
Version: 1, Version Date: 03/06/2026

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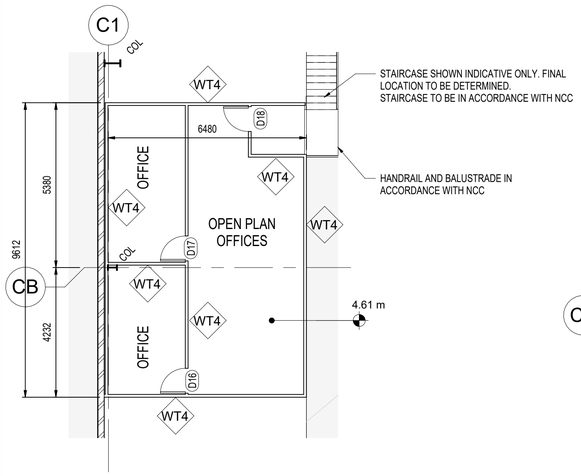
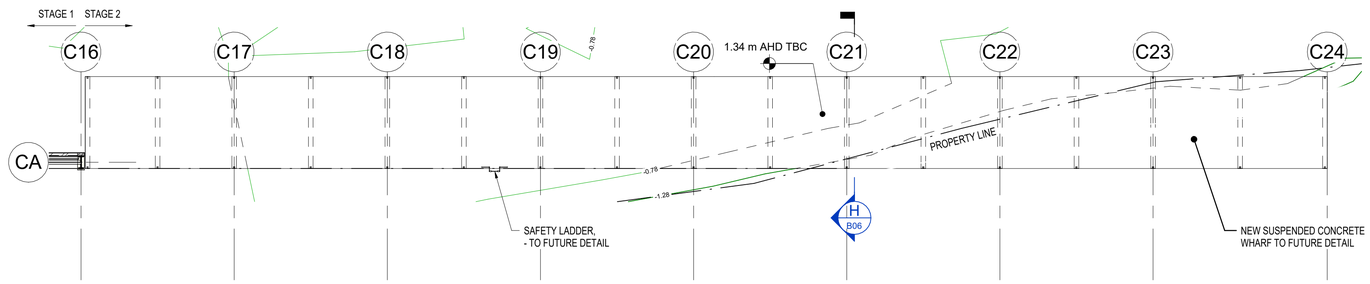


FIRST FLOOR PLAN

SCALE 1 : 100

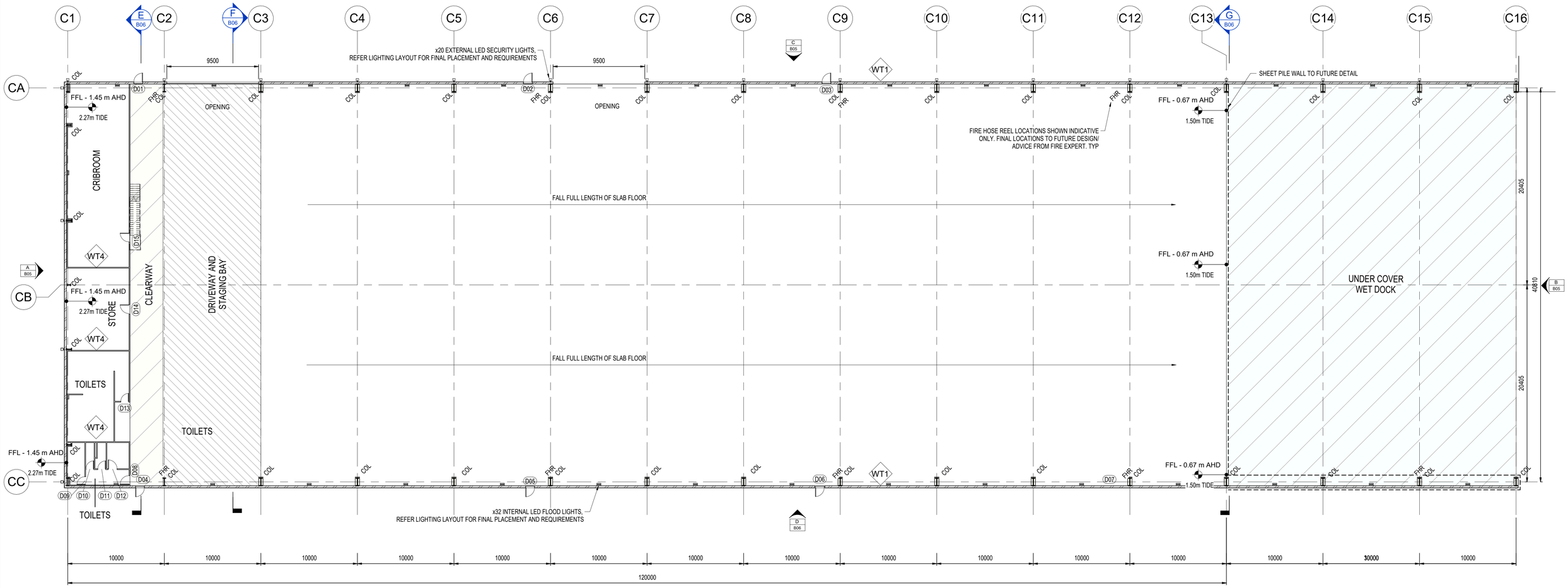


STAGE 2 - WHARF PLAN

SCALE 1 : 200

WALL TYPE SCHEDULE		
MARK	TYPE	COMMENTS
WT1	COLORBOND/200 GIRT	
WT2	150 THICK CAST INSITU WALL	
WT3	ALSYNITE /200 GIRT	
WT4	TIMBER STUD WALL	

DOOR SCHEDULE		
MARK	SIZE	DESCRIPTION
D01	820 x 2100mm	FIRE DOOR
D02	820 x 2100mm	FIRE DOOR
D03	820 x 2100mm	FIRE DOOR
D04	820 x 2100mm	FIRE DOOR
D05	820 x 2100mm	FIRE DOOR
D06	820 x 2100mm	FIRE DOOR
D07	820 x 2100mm	FIRE DOOR
D08	820 x 2100mm	STANDARD
D09	0813 x 2134mm	STANDARD
D10	0813 x 2134mm	STANDARD
D11	0813 x 2134mm	STANDARD
D12	820 x 2100mm	STANDARD
D13	0813 x 2134mm	STANDARD
D14	820 x 2100mm	STANDARD
D15	820 x 2100mm	STANDARD
D16	0813 x 2134mm	STANDARD
D17	0813 x 2134mm	STANDARD
D18	0813 x 2134mm	STANDARD
D19	820 x 2100mm	FIRE DOOR



GROUND FLOOR PLAN

SCALE 1 : 200

0 2 4 6 8 10m
SCALE 1:200

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TITLE
BUILDING DESIGN
FLOOR PLANS

PROJECT NO. 250367CS
DWG NO. B03
REVISION P2

Document Set ID: 3628299
Version: 1, Version Date: 09/06/2026

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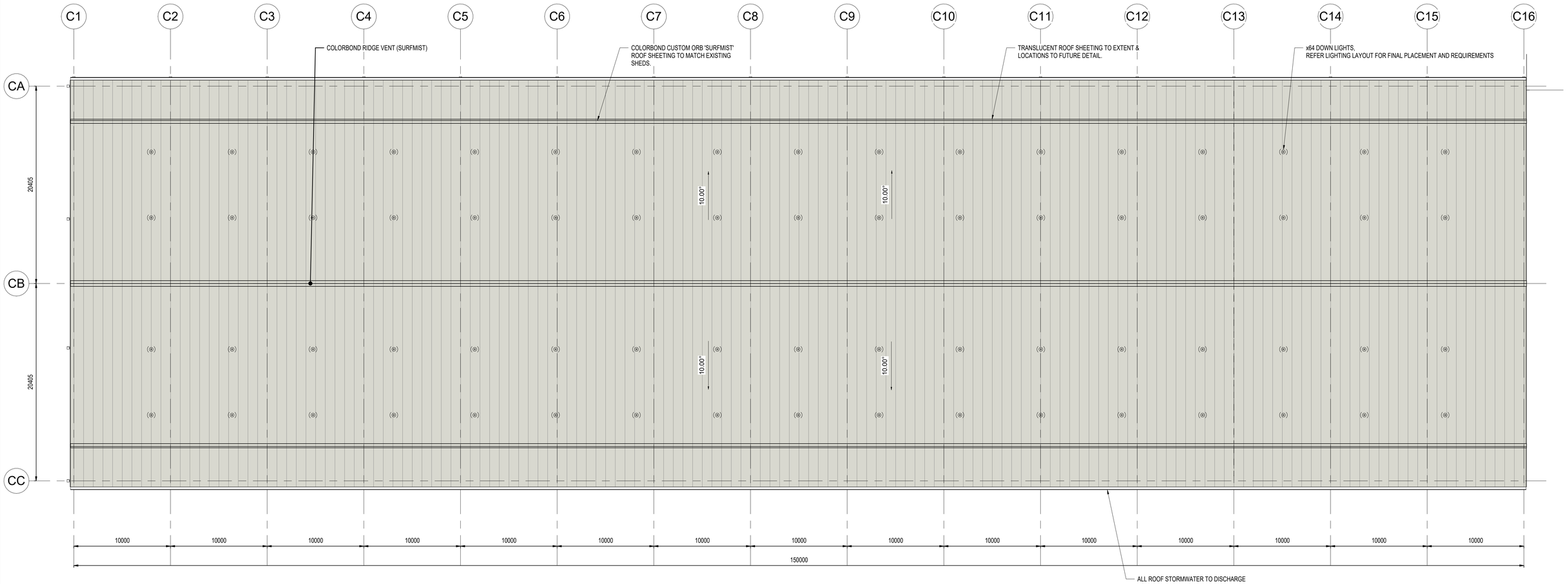

ROOF PLAN

SCALE 1 : 200

0 2 4 6 8 10m
SCALE 1:200

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TITLE
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ROOF PLAN

PROJECT NO. 250367CS
DWG NO. B04
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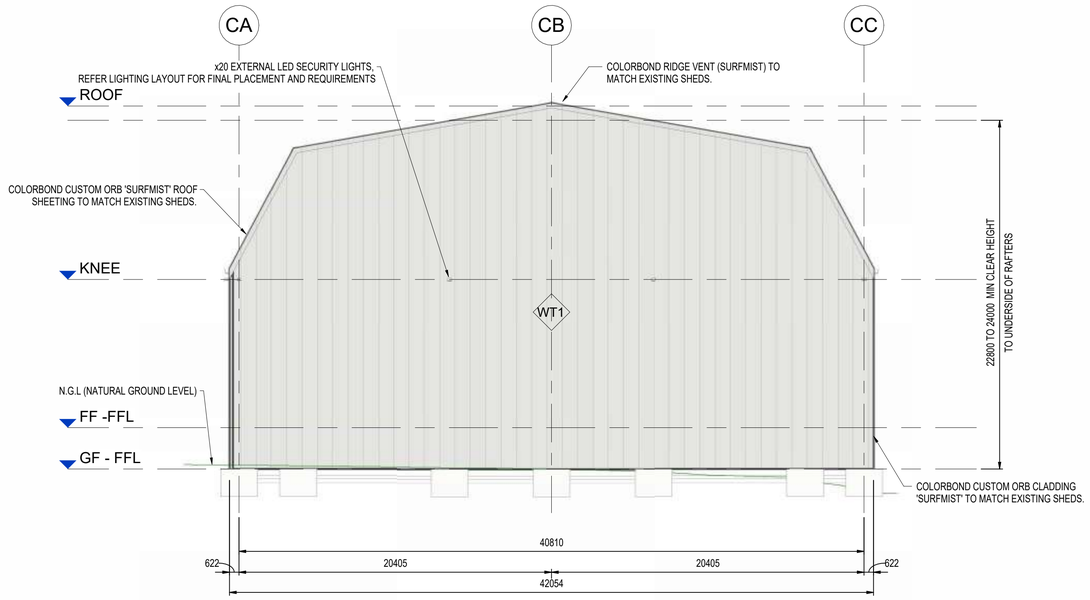

SOUTH ELEVATION A
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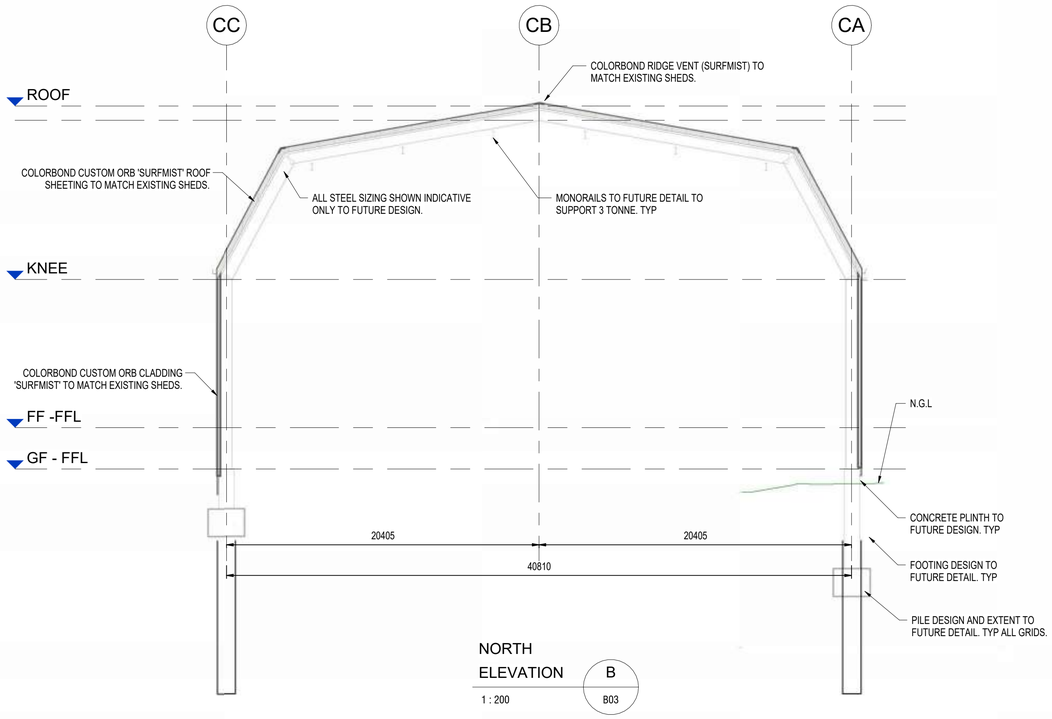

NORTH ELEVATION B
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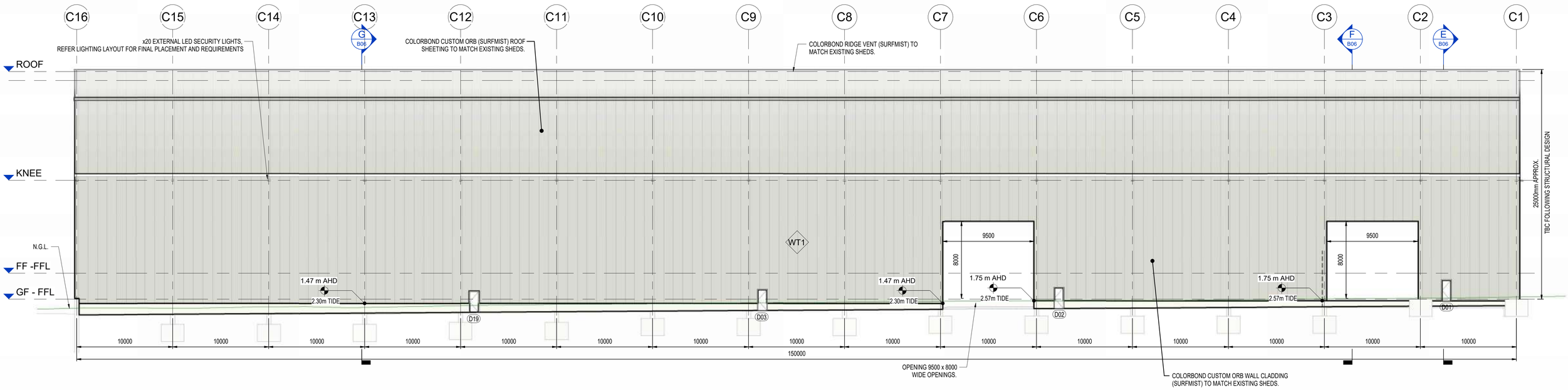

WEST ELEVATION C
1 : 200 B03

0 2 4 6 8 10m
SCALE 1:200

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TITLE
BUILDING DESIGN
ELEVATIONS AND SECTIONS SHEET 1

PROJECT NO. 250367CS
DWG NO. B05
REVISION P2

Document Set ID: 3628399
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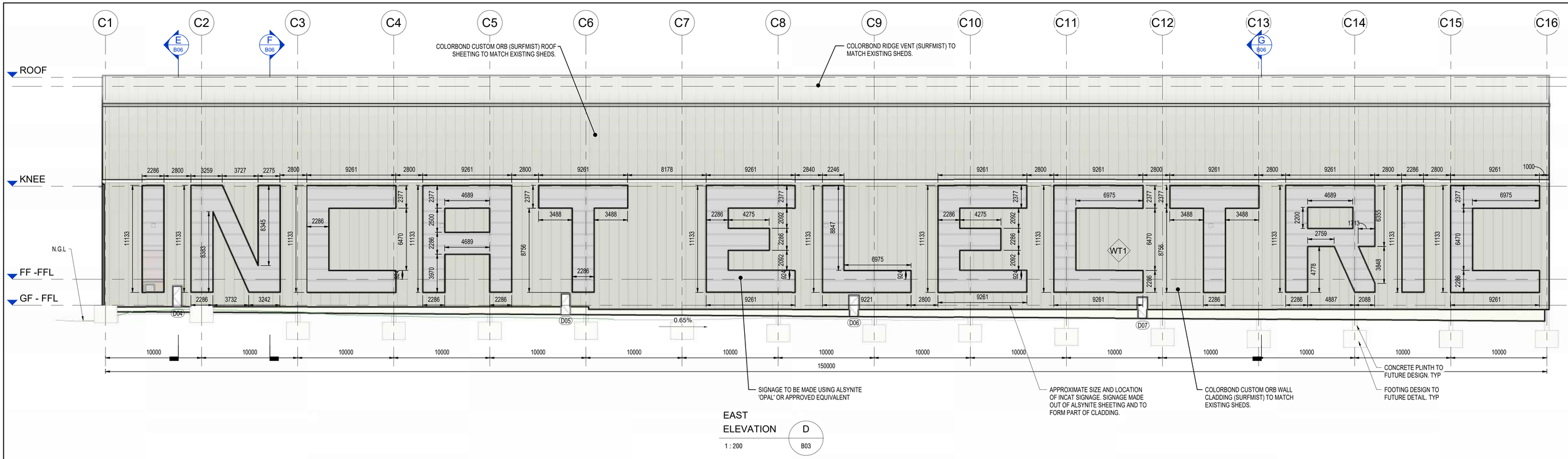

EAST ELEVATION D
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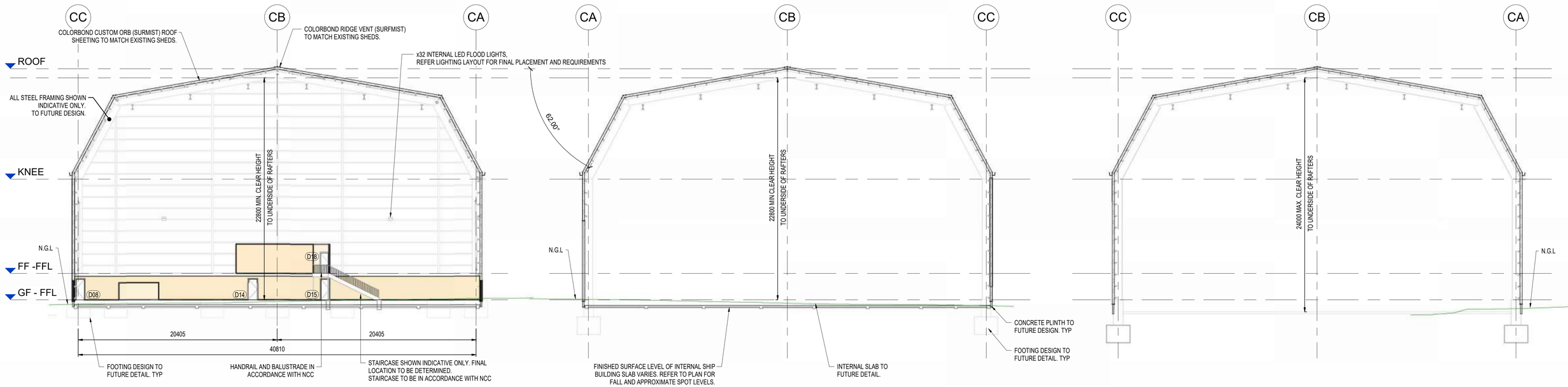

SECTION E
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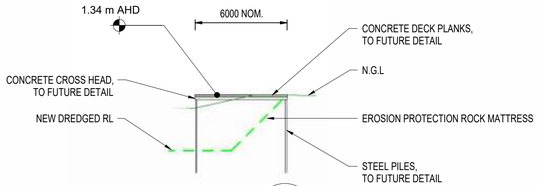
SECTION F
1 : 200 B03



SECTION H
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SECTION G
1 : 200 B03

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The following risks which are unique to this design have been identified:	NIL
This report does not relieve contractors from their responsibilities under the Act to identify, report, mitigate and manage all aspects of risk and safety.	

Accepted (Discipline Head)	R.CHILD	Date	21.11.25
Accepted (Team Leader)	B.GAMLIN	Date	21.11.25
Accepted (Principal)	C.MALES	Date	21.11.25

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	PLOT DATE	21.11.25

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73 Paterson Street, Launceston TAS (03) 6334 5548
www.jmg.net.au infohbt@jmg.net.au infoltn@jmg.net.au

PROJECT
INCAT CHANDLERS SHED
100 DERWENT PARK RD, DERWENT PARK, TAS, 7009

TITLE
BUILDING DESIGN
ELEVATIONS AND SECTIONS SHEET 2

PROJECT NO. 250367CS
DWG NO. B06
REVISION P2

Document Set ID: 3628399
Version: 1, Version Date: 09/06/2026

Autodesk Docs://INCAT TAS - DERWENT PARK RD /250367CS-S-R25.rvt:PLOT DETAILS

5. Attachment 2 – Internal Referrals

DEVELOPMENT APPLICATIONS

TRAFFIC ENGINEER REFERRAL

DA No:.	PLN-25-367	**Date Referred:**	23/12/2025
Development Engineer:		**Date Returned:**	7/01/2026
Traffic Engineer:	Emily Burch	**Property File No:**	7671632
Standard:		**Discretionary Permitted**	Discretionary

Details of Application:	**Applicant's Name:**	Gray Planning
	Business Contact Name:	Danielle Gray
	Contact Email:	admin@grayplanning.com.au
	Address of Development:	100 Derwent Park Road Derwent Park 13 Surveyors Drive Derwent Park 300 Risdon Road Lutana
	Proposal in Detail:	Boat building shed, fill & reclamation works

Comments:

Introduction

The assessment below is based on the Traffic Impact Assessment (TIA) undertaken by Midson Traffic dated March 2026, along with the supporting planning response and updated civil/site plans.

The TIA addresses the relevant provisions of the Tasmanian Planning Scheme – Glenorchy, including:

- C2.5.1 Car parking numbers
- C2.5.3 Motorcycle parking
- C2.5.4 / C2.6.6 Loading bays
- C2.6.2 Design and layout of parking areas
- C2.6.5 Pedestrian access
- C3.5.1 Traffic generation at vehicle crossings

The proposal involves the construction of a new shed and associated works, with an increase in staffing and changes to site operations at the existing facility.

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Parking Supply

The TIA outlines that the development will result in a total of 560 staff on site, being approximately 470 existing staff and 180 additional staff, with a parking requirement of 374 spaces under the planning scheme.

A total of 376 car parking spaces are proposed, comprising:

- 356 spaces within the existing off-site car parking area, including 8 visitor spaces and 2 accessible spaces
- 20 new spaces associated with the proposed works, including 2 accessible spaces

On this basis, the proposed development is considered to satisfy the Acceptable Solution for Clause C2.5.1 of the Tasmanian Planning Scheme.

Motorcycle and bicycle parking do not meet the Acceptable Solutions, however, are addressed under the Performance Criteria and are considered acceptable based on the site context and observed demand.

The TIA undertook a parking survey which indicates that there is existing spare capacity within the site of between 120 to 170 spaces. The surveyed showed that there is available space capacity to accommodate fluctuations in demand associated with shift changes, as well as additional demand generate by the proposed development.

Regardless, the parking and traffic assessment relies on the assumption that a proportion of staff will be transported via organised bus services, reducing demand for private vehicle parking. The TIA has assumed that, of the additional 180 staff, approximately 150 workers will be overseas employees accommodated off-site and transported to and from the site by organised bus services provided by Incat.

Traffic Generation

The TIA estimates that the proposed new development will generate approximately 66 additional vehicle movements per day, including staff vehicles and buses. This is due to the majority of new staff arriving by bus.

This represents an increase of approximately 8.4% in traffic at the site access and is considered to satisfy the Acceptable Solution for Clause C3.5.1 of the Tasmanian Planning Scheme.

The TIA concludes that the additional traffic will not result in unreasonable impacts on the safety or efficiency of the surrounding road network. Even under a scenario of increased private vehicle use, the impact on the surrounding road network is expected to remain acceptable.

Access and Internal Circulation Roads

Access to the site will continue via the existing vehicle crossings from Derwent Park Road.
The TIA confirms that:

1. Sight distance at the access points is adequate
2. Internal vehicle movements occur in a low-speed environment
3. Heavy vehicle servicing will continue to be accommodated within the broader site

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The previously submitted swept path through the existing sheds has been removed in the updated plans. Heavy vehicles and buses can turn within the site, meaning they enter and leave forward facing.

Pedestrian Access

Pedestrian access is provided within the car park via perimeter paths and shared vehicle areas.

While the layout does not fully meet the Acceptable Solution for Clause C2.6.5, the Performance Criteria is satisfied given the low-speed environment and site conditions.

Conclusion
The TIA is accepted, noting the reliance on staff transport assumptions outlined within the report.

Based on the information provided, the proposed development is not expected to have any significant detrimental impacts on the surrounding road network in terms of traffic efficiency, parking or road safety.

I have no objection to the development on traffic engineering or road safety grounds, subject to appropriate conditions.

Recommended Permit Conditions (Traffic)

1. Development to be undertaken and operate in generally in accordance with the Traffic Impact Assessment (March 2026), including:

    - Parking contained within the development site which includes staff using an organised staff bus service operated by Incat to reduce parking demand; and

    - Bus turn area and drop off/pick up area, that must be clearly delineated and managed to ensure safe operation within the site.

Kind Regards

Leenah Ali-Lavroff
Principal Traffic Engineer

Document Set ID: 3629809
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DEVELOPMENT APPLICATIONS

ENVIRONMENTAL HEALTH REFERRAL

DA No:.	PLN-25-367	**Date Referred:**	23/12/2025
Planner:	Helen Ayers	**To Be Returned By:**	7/01/2026
EHO:	Amanda Wieland	**Date Returned:**	28/05/2026
Property File No:	7671632	**Discretionary/Permitted**	Discretionary

Details of Application:	**Applicant's Name:**	Gray Planning
	Business Contact Name:	Danielle Gray
	Contact Email:	admin@grayplanning.com.au
	Address of Development:	13 Surveyors Drive Derwent Park 300 Risdon Road Lutana 100 Derwent Park Road Derwent Park
	Proposal In Detail:	Boat building shed, fill & reclamation works

Report: (to be included in Planner's Report):

This development application has been assessed by Environmental Health against the *Potentially Contaminated Land Code C14.0.* The proposal includes land reclamation works that involves the placement of fill material within the Derwent Estuary. Particular consideration must be given to the potential for contaminated material to be used as fill. Any such material could present a risk to human health and the aquatic environment within the Derwent Estuary.

Under C14.2.2, the Planning Authority may request a report prepared by a suitably qualified site contamination practitioner where it reasonably believes that land proposed for a development has been used, or may have been used, for one of the potentially contaminating activities listed in Table C14.2, or where contamination from such an activity may have migrated to the site from elsewhere. As boat building is included in Table C14.2 and the current permitted use for the site is for a boat building facility, it is appropriate for Council to require such a report. Furthermore, the development site is located adjacent to the Nystar Zinc Works facility at 300 Risdon Road, which conducts a potentially contaminating activity included in Table C14.2 (metal smelting and refining). It is reasonable to assume that contamination associated with that activity may have migrated, to some extent, onto the development site.

Document Set ID: 4629805
Version: 1, Version Date: 28/05/2026

Further Information Request

An Environmental Site Assessment, prepared by a certified contaminated site assessment consultant, must be submitted to address the Performance Criteria (P1) for C14.6.1 in the *Potentially Contaminated Land Code.*

The assessment is to demonstrate how the site is suitable for the intended development in relation to risks to human health and the environment. To satisfy (P1) C14.6.1, the assessment must include, but not be limited to:

- Any specific remediation or protection measures that are required to be implemented at the site prior to the commencement of excavation
- Any recommended land reclamation construction methods specific to the site that would eliminate adverse impacts on the aquatic environment within the Derwent Estuary

A description of proposed fill material including quantity, source and composition analysis is also required.

Environmental Site Assessment Report

An Environmental Site Assessment (ESA) report prepared by Pitt and Sherry (dated 25 March 2026) was submitted by Gray Planning to address the further information requested by Environmental Health. Following review of the ESA, Environmental Health issued an additional request for information in relation to several matters identified within the report including:

- The identification of certain contaminants in representative samples of both existing soils and imported stockpiles at concentrations exceeding the applicable Human Investigation Levels (HILs) and/or Ecological Investigation Levels (EILs), as defined under the *National Environment Protection (Assessment of Site Contamination) Measure 1999*.
- The identification of certain contaminants within imported stockpiles exceeding the thresholds for Level 2 and Level 3 contaminated soils, in accordance with the classification criteria outlined in the EPA Information Bulletin 105.
- The presence of solid wastes, including building demolition rubble, proposed for use as reclamation fill, with one fragment confirmed as asbestos-containing material (ACM).
- The potential for environmental impacts associated with the disturbance of Acid Sulphate Soils (ASS) during reclamation activities.

Additional further information request

The ESA includes recommendations that, if appropriately implemented, would effectively manage the identified low to medium risks to sensitive receptors. The further information requested by Environmental Health was based on these recommendations and includes the following:

1. A Construction Environmental Management Plan (CEMP) that details -
    - Nomination of responsible person
    - Management of excavated and generated soils
    - Erosion and sediment runoff controls
    - Imported fill quality
    - Removal and disposal of unsuitable materials
    - Minimisation of silt plumes
    - Containment of reclamation materials
    - Reclamation edge stabilisation
    - Dust and fibre management

2. An Acid Sulfate Soil (ASS) Assessment
    - To determine whether the reclamation works would exceed the threshold for disturbance of acid sulfate soils that would trigger the requirement for an ASS management plan.

3. Contaminated Stockpiles
    - Further information was sought in relation to the quantities and status of imported, potentially contaminated stockpiles already brought to the site for the purpose of land reclamation.

Construction Environmental Management Plan

A CEMP prepared by Burbury Engineering (dated May 2026) was submitted to Council in response to the additional further information request. The CEMP included a Storm Water Management Plan (SWMP). The document was reviewed by Environmental Health and it was determined that the CEMP and SWMP adequately addresses the key requirements of the further information request.

Acid Sulfate Soil Assessment

An ASS assessment was provided by Pitt and Sherry (dated 21 April 2026), which concluded that the potential disturbance of ASS associated with the land reclamation works will not meet the threshold that would require an ASS Management Plan.

Contaminated Stockpiles

A meeting with representatives from Council, Incat, Gray Planning and Pitt & Sherry was held, during which the status of the contaminated and/or potentially contaminated stockpiles was confirmed. It was concluded that:

- The imported stockpiles identified as contaminated and/or potentially contaminated had not been, and will not be, moved from their current location until the necessary approvals have been obtained from the EPA;

- Any soils identified as Level 2 contaminated soil would not be reused on site until the necessary approvals have been obtained from the EPA, and any such reuse would be limited to the capped driveway;
- The quantity of potentially contaminated soil imported is estimated to be approximately thirty (30) truckloads;
- The management of the contaminated and/or potentially contaminated stockpiles would be excluded from the planning approval process as these stockpiles are not being used in the land reclamation area. This matter is being addressed by Environmental Health under the *Environmental Management and Pollution Control Act 1994*.

Comments:

It is recommended that conditions are included in the Planning Permit to ensure compliance with the Construction Environmental Management Plan and the Stormwater Management Plan, thereby meeting the recommendations outlined in the Environment Site Assessment.

Conditions:

1. No works are to commence until:

a) the Construction Environmental Management Plan, prepared by Burbury Consulting (dated May 2026), has been formally reviewed and signed by the Project Manager; and

b) the signed copy of the Construction Environmental Management Plan has been submitted to Council's Senior Environmental Health Officer and written acknowledgement of receipt has been obtained.

2. The Construction Environmental Management Plan, including Appendix B – the Stormwater Management Plan, must be fully implemented and complied with at all times during the development, in strict accordance with:

a) all methodologies, procedures, and control measure specified;
b) all nominated timeframes and staging requirements;
c) all monitoring, inspection and reporting requirements; and
d) all corrective actions and responsibilities assigned to personnel.

Advice to applicant:

This advice does not form part of the permit but is provided for the information of the applicant.

DEVELOPMENT APPLICATIONS

ENVIRONMENT COORDINATOR REFERRAL

DA No:.	PLN-25-367	**Date Referred:**	23/12/2025
Planner:	Helen Ayers	**To Be Returned By:**	7/01/2026
Natural Areas:	Jasmine Young	**Date Returned:**	
Property File No:	7671632	**Discretionary/Permitted**	Discretionary

Details of Application:	**Applicant's Name:**	Gray Planning
	Business Contact Name:	Danielle Gray
	Contact Email:	
	Address of Development:	100 Derwent Park Road Derwent Park 13 Surveyors Drive Derwent Park 300 Risdon Road Lutana
	Proposal In Detail:	Boat building shed, fill & reclamation works

Report: (to be included in Planner's Report):

C7.6.1 Building and works within a waterway and coastal protection area or a future coastal refugia area

A1 P1.1- Buildings and works within a waterway and coastal protection area must avoid or minimise adverse impacts on natural assets, having regard to:

(a) Impacts caused by erosion, siltation, sedimentation and runoff;

Further Information Request (Jan 2026)

1) **Ecological Assessment** – An ecological assessment must be prepared by a consultant experienced in assessing benthic flora and fauna

2) **Soil and Water Management Plan (SWMP)**: Typically needed for disturbance over 250 m^2, although considering advice from Derwent Estuary Program and reclamation processes/implementation, this mitigation presents necessary and must be prepared for the all works including any staging. Guidance from Department of Natural Resources and Environment Tasmania – NRE. Also, Derwent Estuary Program https://www.derwentestuary.org.au/stormwater/ (they call Erosion and sediment control- ESC).

Ecological Assessment (Jun 2026)

Document Set ID: 3629804
Version: 2, Version Date: 03/06/2026

A Marine Ecological Assessment report prepared by Marine Solutions Tasmania (dated February 2026 Reviewed in April 2026) was submitted by Gray Planning to address the further information requested by Environmental Services. Following review of the MEA, was observed:

- active reclamation already occurring;
- significant sediment plumes;
- incomplete ecological surveys; and
- inability to assess the reclaimed footprint,

Comments:

Following the Marine Ecological Assessment (MEA) Council's Environmental Services need an enforceable mechanism to **monitor impacts during construction and for 12 months afterwards**, which is particularly relevant given the identified incomplete surveys, existing turbidity impacts, and uncertainty regarding the condition of habitats within the reclamation footprint.

It is recommended that the **Planning Permit include a condition** requiring all recommendations of the Marine Ecological Assessment to be incorporated into, and implemented through, the Construction Environmental Management Plan (CEMP).

Final Compliance Report

Within **three (3) months of completion of the post-construction monitoring period, a Final Marine Environmental Compliance Report must be prepared by a suitably qualified marine ecologist and submitted to Council's Environmental Services.**

The report must:

a) summarise all monitoring results;

b) assess the effectiveness of mitigation measures;

c) identify any environmental impacts attributable to the reclamation works;

e) recommend any additional remediation or management actions required to protect natural values within the Waterway and Coastal Protection Area.

Advice to the applicant:
This advice does not form part of the permit but is provided for the information of the applicant

DEVELOPMENT APPLICATIONS

DEVELOPMENT ENGINEER REFERRAL

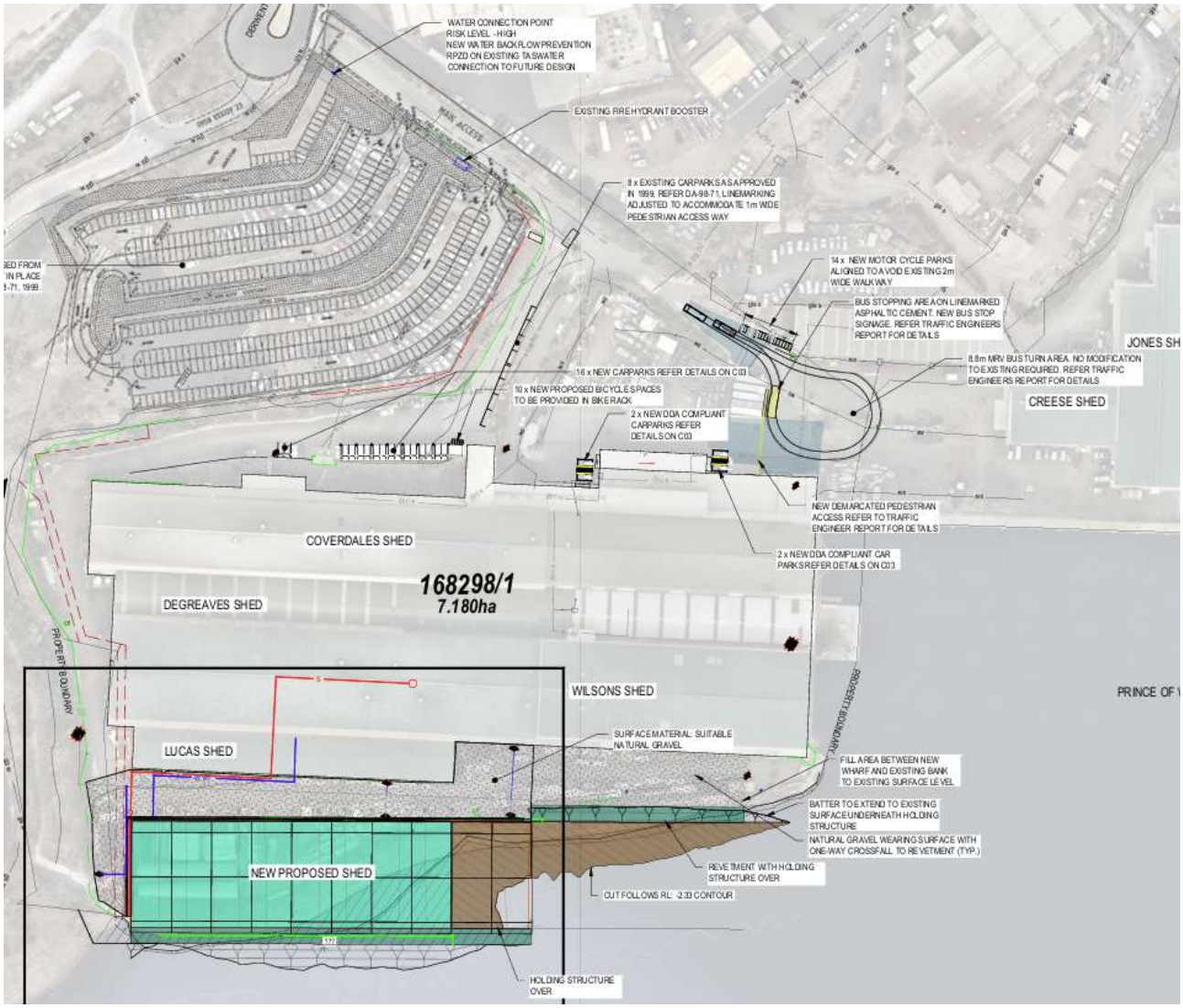
DA No.	PLN-25-367	**Date Referred**	23/12/2025
Planner	Helen Ayers	**To Be Returned By**	7/01/2026
Development Engineer	Naji Faridnia	**Date Returned**	5/06/2026
Property File No.	7671632	**Discretionary Permitted**	Discretionary

Details of Application	**Applicant**	Gray Planning
	Business Contact Name	
	Contact Email	admin@grayplanning.com.au
	Address of Development	13 Surveyors Drive Derwent Park 300 Risdon Road Lutana 100 Derwent Park Road Derwent Park
	Proposal in Detail	Boat building shed, fill & reclamation works

Comments

The development application mainly seeks an approval for a new boat building shed at 100 Derwent Park Road. The works also include parking modifications, reclamation works, revetment works, formalising the surface between Lucas shed and the new proposed shed, and associated runoff management works. The scope of the works can be seen in the figure below.

Document Set ID: 3629804
Version: 1, Version Date: 05/06/2026



Runoff is proposed to be drained via a vegetated open channel and new SW route to Prince of Wales Bay. The General Manager's consent to interfere with stormwater infrastructure is not required to be granted.

C2.0 Parking and Sustainable Transport Code

The development complies with the Code and is considered that the site is capable of being developed and the local traffic conditions are not expected to be significantly affected.

The site can be accessed off the existing vehicular accesses, onto the parking areas. The requirement under the C2.5.1 and table C2.1, A1 requires the total of 374 car parking spaces for the proposed development based on the staff number which required more spaces compared to floor area. The applicant proposes to provide the total of 376 car parking spaces consist of 20 new parking spaces for the entire site. 14 motorcycle parking spaces, 4 disabled parking compliant with the acceptable solution of scheme will also be provided. This must be clearly shown and delineated on the site.

The layout of parking area complies with the standard AS2890.1:2004. The turning swept path for a bus and 25-meter-long truck is provided and tested demonstrating compliance with C2.6.6 acceptable solution. The parking area surface is proposed to be all weather durable, with surface runoff directed to vegetated open channel and Prince of Wales Bay.

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Pedestrian access is applicable for the new proposed parking spaces. A pedestrian path is provided adjacent to the proposed carpark aisle. However, it is not complied with the acceptable solution requirements as no protective devices have been provided based on the proximity of the carparks to the buildings. Minimal pedestrian activity is expected on the external road network. TIA has addressed C2.6.5 performance criteria.

The applicant has submitted 10 bicycle which doesn't meet the acceptable solution requirements. However, the TIA has adequately addressed the performance criteria.

C3.0 Road and Railway Assets Code

The proposed development is not expected to increase vehicle movements over 20% or 40 vehicles

trips per day as it creates approx. 8.4% increase in traffic based on TIA. The site can be accessed off the existing vehicle crossing, and no new access is

proposed. Therefore, the proposed development complies with the code requirements.

Other

C7.0 Natural Assets Code

The proposed development is affected by the Natural Assets Code. A comprehensive Environmental Site Assessment prepared by Pitt & Sherry has been submitted, addressing all relevant environmental considerations and potential constraints associated with the site.

Council's Property and Environment Department have been involved throughout the assessment of the proposal and have provided their inputs into the evaluation of the environmental concerns.

C12.0 Flood-Prone Areas Hazard Code

The site is marginally affected by the Flood-Prone Area Overlay. The affected area is limited in extent and is generally characterised by low-hazard, ponding-type flooding associated with the existing topography. Given the minor nature of the flood impact and the limited extent of the affected area, it is considered that the flood hazard does not adversely affect the proposed development.

C15.0 Landslide Code

The site is marginally affected by the Landslide Hazard Overlay. However, the affected areas are limited in extent and dispersed across the site. Given the minor nature of the overlay's impact, there are no significant concerns from a landslide hazard perspective.

Standard Conditions

1. Prior to the issuing of a Building Approval or the commencement of works on site, including demolition (whichever occurs first), submit an Erosion and Sediment Control (ESC) plan detailing proposed sediment and erosion control measures to the satisfaction of Council's Development Engineer.
   The approved control measures must be installed prior to any disturbance of soil or construction activity such as concrete cutting, demolition and must be regularly inspected and maintained during the construction and demolition period to prevent soil and other materials entering the local stormwater system, roadways, or adjoining properties.
   The approved control measures must remain in place until such time as all construction activity likely to generate sediment has been completed or all disturbed areas have been stabilised using vegetation and/or restored or sealed to the satisfaction of the Council.
   The approved Erosion and Sediment Control plan (ESC) forms part of this permit and must be

complied with.
Advice: For further information please refer to Erosion and Sediment Control (ESC) Fact Sheets published by the Department of Primary Industries, Parks, Waters and Environment. These are available from Council or online at www.derwentestuary.org.au/stormwater/

2. The loading and unloading of goods from vehicles, including building materials and equipment, must only be carried out on the land.

3. The design and construction of the parking, access and turning areas must comply with the Australian Standard, Parking facilities, Part 1: Off-Street Car parking, AS 2890.1 – 2004, to the satisfaction of the Council's Development Engineer. Engineering drawings showing the driveway details must be in accordance with the Australian Standard and submitted with the Building Application for approval by Council's Development Engineer prior to the commencement of works on site. The proposed driveway and parking must comply with the following-:

   a) Total of 376 delineated car parking spaces comprising 356 existing spaces and 20 new parking spaces must be provided in accordance with the approved plan received by Council and always kept available for these purposes;

   b) Of the required number of car parking spaces, eight (8) visitor car parking spaces and four (4) accessible spaces (2 existing and 2 new) must be provided and clearly marked and kept available for these purposes at all times;

   c) All runoff from paved and driveway areas must be discharged into the approved point of discharge in accordance with approved plan;

   d) The gradient of any parking areas must not exceed 5% and

   All works required by this condition must be installed prior to the commencement of the use.

4. Any damage to Council's assets, including services, footpaths, driveway crossings and nature strips must be promptly reported to and then repaired to the requirements of Council's Development Engineer, at the developer's cost. It shall be the developer's responsibility to obtain and submit with the Building approval application, a comprehensive photographic record of the condition of the footpaths, driveways and nature strips at the road frontage to the site and adjacent to the site, prior to commencing construction. The photographic record shall be relied upon to establish the extent of damage caused to Council's assets throughout construction. In the event that the developer fails to provide a pre-construction photographic record of the site then any damage to Council assets found on completion of the works shall be deemed to be the responsibility of the developer and shall be repaired at the developer's cost.

5. Prior to the issue of building approval and/or commencement of works (whichever occurs first), including demolition and excavation, a Construction Management Plan, must be submitted to the satisfaction of the Council's Senior Statutory Planner. The plan must provide details of the following:

   (a) Hours for construction activity in accordance with any other condition of this permit;

   (b) Measures to control noise, dust, water and sediment laden runoff;

   (c) Measures relating to removal of hazardous or dangerous material from the site, where applicable;

   (d) A plan showing the location of parking areas for construction and sub-contractors' vehicles on and surrounding the site, to ensure that vehicles associated with construction activity cause minimum disruption to surrounding premises. Any car parking on the land must be made available for use by sub-constructors/tradespersons upon completion of such areas, without delay;

(e) A Traffic Management Plan showing truck routes to and from the site;

(f) A plan showing the location and design of a vehicle wash-down bay for construction vehicles on the site;

(g) Measures to ensure that sub-contractors/tradespersons operating on the site are aware of the contents of the construction management plan;

(h) Contact details of key construction site staff;

(i) A site plan showing the location of any site sheds, on-site amenities, building waste storage and the like, noting that Council does not support site sheds on Council Road reserves; and

(j) Any other relevant matters

Traffic

6. Development to be undertaken and operate in generally in accordance with the Traffic Impact Assessment (March 2026), including:

   - Parking contained within the development site which includes staff using an organised staff bus service operated by Incat to reduce parking demand; and
   - Bus turn area and drop off/pick up area, that must be clearly delineated and managed to ensure safe operation within the site.

Hydraulics

7. The new stormwater infrastructure must be constructed substantially in accordance with the approved plans prior to issue of an occupancy certificate.

8. Prior to the commencement of the use or development, a new stormwater connection as shown on approved civil engineering plans by JMG consulting, must be installed from the property boundary to Council's public stormwater network. The detailed design of the connection must comply with the LGAT drawing and be submitted for approval prior to the issuing of the building permit or the commencement of works (whichever occurs first). Any existing stormwater connections that are abandoned must be decommissioned and sealed at the owner's expense.

Advice to Applicant:

This advice does not form part of the permit but is provided for the information of the applicant.

The designer must ensure that the needs of all providers including TasWater, TasGas, TasNetworks, and Telstra are catered for both in the design and construction of the works. Underground service providers should be contacted for line marking of their services and any requirements or conditions they may have prior to commencing any works on site. Phone 1100, Before You Dig or visit https://www.byda.com.au/ for information on the location of underground services and cables in relation to the proposed development prior to commencing any works on site.

Document Set ID: 3629804
Version: 1, Version Date: 05/06/2026

APPENDIX

C2.0 Parking and Sustainable Transport Code

Standard	Acceptable Solution	Proposed	Complies?
C2.5 Use Standards			
C2.5.1 **Car parking numbers**	**A1** The number of on-site car parking spaces must be no less than the number specified in Table C2.1, less the number of car parking spaces that cannot be provided due to the site including container refund scheme space, excluding if: (a) the site is subject to a parking plan for the area adopted by council, in which case parking provision (spaces or cash-in-lieu) must be in accordance with that plan; (b) the site is contained within a parking precinct plan and subject to Clause C2.7; (c) the site is subject to Clause C2.5.5; or (d) it relates to an intensification of an existing use or development or a change of use where: (i) the number of on-site car parking spaces for the existing use or development specified in Table C2.1 is greater than the number of car parking spaces specified in Table C2.1 for the proposed use or development, in which case no additional on-site car parking is required; or	This is a requirement for 374 parking spaces. The provision of 376 on-site parking spaces therefore complies with the requirements of Acceptable Solution A1 of Clause C2.5.1 of the Planning Scheme.	yes

Standard	Acceptable Solution	Proposed	Complies?
	(ii) the number of on-site car parking spaces for the existing use or development specified in Table C2.1 is less than the number of car parking spaces specified in Table C2.1 for the proposed use or development, in which case on-site car parking must be calculated as follows: N = A + (C- B) N = Number of on-site car parking spaces required A = Number of existing on site car parking spaces B = Number of on-site car parking spaces required for the existing use or development specified in Table C2.1 C= Number of on-site car parking spaces required for the proposed use or development specified in Table C2.1.		
C2.5.2 **Bicycle parking numbers**	**A1** Bicycle parking spaces must: (a) be provided on the site or within 50m of the site; and (b) be no less than the number specified in Table C2.1.	112 bicycle parking spaces is required, 10 spaces is proposed. TIA has addressed P1.	NO
C2.5.3 **Motorcycle parking numbers** *This applies to:*	**A1** The number of on-site motorcycle parking spaces for all uses must: (a) be no less than the number specified in Table C2.4; and	14 Motorcycle parkin spaces has been provided.	Yes

Standard	Acceptable Solution	Proposed	Complies?
Business and Professional Services; *Community Meeting and Entertainment;* *Custodial Facility;* *Crematoria and Cemeteries;* *Educational and Occasional Care;* *Food Services;* *General Retail and Hire;* *Hospital Services;* *Hotel Industry;* *Pleasure Boat Facility;* ***Residential if for a communal residence, multiple dwellings or hostel use**;* *Sports and Recreation; and* *Tourist Operation.*	(b) if an existing use or development is extended or intensified, the number of on-site motorcycle parking spaces must be based on the proposed extension or intensification, provided the existing number of motorcycle parking spaces is maintained.		
C2.5.4 **Loading bays** *This applies to:* *Bulky Goods Sales;* *General Retail and Hire;* *Manufacturing and Processing; and* *Storage.*	**A1** A loading bay must be provided for uses with a floor area of more than 1000m² in a single occupancy.	There is no specific loading bay shown within the site. However, the commercial vehicles will continue to service the existing sheds, as well as the proposed shed.	yes

Standard	Acceptable Solution	Proposed	Complies?
C2.5.5 **Number of car parking spaces within the General Residential Zone and Inner Residential Zone** *This applies to:* *Business and Professional Services;* *Community Meeting and Entertainment;* *Educational and Occasional Care;* *Emergency Services;* *Food Services;* *General Retail and Hire;* *Sports and Recreation; and* *Utilities, if not for minor utilities.*	**A1** Within existing non-residential buildings in the General Residential Zone and Inner Residential Zone, on-site car parking is not required for: (a) Food Services uses up to 100m² floor area or 30 seats, whichever is the greater; and (b) General Retail and Hire uses up to 100m² floor area, provided the use complies with the hours of operation specified in the relevant Acceptable Solution for the relevant zone.		NA
C2.6 Development Standards for Building Works			
C2.6.1 **Construction of parking areas**	**A1** All parking, access ways, manoeuvring and circulation spaces must: (a) be constructed with a durable all weather pavement; (b) be drained to the public stormwater system, or contain stormwater on the site; and	The parking area is proposed to be all weather durable. The runoff will be directed to the existing vegetated swale drain and discharged to Prince of Wales Bay	YES

Standard	Acceptable Solution	Proposed	Complies?
	(c) excluding all uses in the Rural Zone, Agriculture Zone, Landscape Conservation Zone, Environmental Management Zone, Recreation Zone and Open Space Zone, be surfaced by a spray seal, asphalt, concrete, pavers or equivalent material to restrict abrasion from traffic and minimise entry of water to the pavement		
C2.6.2 **Design and layout of parking areas**	**A1.1** Parking, access ways, manoeuvring and circulation spaces must either: (a) comply with the following: (i) have a gradient in accordance with Australian Standard AS 2890 - Parking facilities, Parts 1-6; (ii) provide for vehicles to enter and exit the site in a forward direction where providing for more than 4 parking spaces; (iii) have an access width not less than the requirements in Table C2.2; (iv) have car parking space dimensions which satisfy the requirements in Table C2.3; (v) have a combined access and manoeuvring width adjacent to parking spaces not less than the requirements in Table C2.3 where there are 3 or more car parking spaces; (vi) have a vertical clearance of not less than 2.1m above the parking surface level; and (vii) excluding a single dwelling, be delineated by line marking or other clear physical means; or (b) comply with Australian Standard AS 2890- Parking facilities, Parts 1-6.	Layout and gradients are provided in accordance with the AS2890.1	Yes

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Standard	Acceptable Solution	Proposed	Complies?
	A1.2 Parking spaces provided for use by persons with a disability must satisfy the following: (a) be located as close as practicable to the main entry point to the building; (b) be incorporated into the overall car park design; and (c) be designed and constructed in accordance with Australian/New Zealand Standard AS/NZS 2890.6:2009 Parking facilities, Off-street parking for people with disabilities.		
C2.6.3 **Number of accesses for vehicles**	**A1** The number of accesses provided for each frontage must: (a) be no more than 1; or (b) no more than the existing number of accesses, whichever is the greater.	No changes to existing accesses are proposed	Yes
	A2 Within the Central Business Zone or in a pedestrian priority street no new access is provided unless an existing access is removed.		NA
C2.6.4 **Lighting of parking areas within the General Business Zone and Central Business Zone**	**A1** In car parks within the General Business Zone and Central Business Zone, parking and vehicle circulation roads and pedestrian paths serving 5 or more car parking spaces, which are used outside daylight hours, must be provided with lighting in accordance with Clause 3.1 "Basis of Design" and Clause 3.6 "Car Parks" in *Australian Standard/New Zealand Standard AS/NZS 1158.3.1:2005 Lighting for roads and public spaces Part 3.1: Pedestrian area (Category P) lighting – Performance and design requirements*.		NA

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Standard	Acceptable Solution	Proposed	Complies?
C2.6.5 **Pedestrian access**	**A1.1** Uses that require 10 or more car parking spaces must: (a) have a 1m wide footpath that is separated from the access ways or parking aisles, excluding where crossing access ways or parking aisles, by: (i) a horizontal distance of 2.5m between the edge of the footpath and the access way or parking aisle; or (ii) protective devices such as bollards, guard rails or planters between the footpath and the access way or parking aisle; and (b) be signed and line marked at points where pedestrians cross access ways or parking aisles. **A1.2** In parking areas containing accessible car parking spaces for use by persons with a disability, a footpath having a width not less than 1.5m and a gradient not steeper than 1 in 14 is required from those spaces to the main entry point to the building.	A pedestrian path is provided adjacent to the proposed new parking areas without protective devices. This arrangement has been assessed and found to satisfy the relevant Performance Criteria.	NO
C2.6.6 **Loading bays**	**A1** The area and dimensions of loading bays and access way areas must be designed in accordance with *Australian Standard AS 2890.2–2002, Parking facilities, Part 2: Offstreet commercial vehicle facilities*, for the type of vehicles likely to use the site.		yes
	A2		yes

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Standard	Acceptable Solution	Proposed	Complies?
	The type of commercial vehicles likely to use the site must be able to enter, park and exit the site in a forward direction in accordance with *Australian Standard AS 2890.2 – 2002, Parking Facilities, Part 2: Parking facilities Offstreet commercial vehicle facilities.*		
C2.6.7 **Bicycle parking and storage facilities within the General Business Zone and Central Business Zone**	**A1** Bicycle parking for uses that require 5 or more bicycle spaces in Table C2.1 must: (a) be accessible from a road, cycle path, bicycle lane, shared path or access way; (b) be located within 50m from an entrance; (c) be visible from the main entrance or otherwise signed; and (d) be available and adequately lit during the times they will be used, in accordance with Table 2.3 of Australian/New Zealand Standard AS/NZS 1158.3.1: 2005 Lighting for roads and public spaces -- Pedestrian area (Category P) lighting -- Performance and design requirements.		NA
	A2 Bicycle parking spaces must: (a) have dimensions not less than: (i) 1.7m in length; (ii) 1.2m in height; and (iii) 0.7m in width at the handlebars;		NA

Standard	Acceptable Solution	Proposed	Complies?
	(b) have unobstructed access with a width of not less than 2m and a gradient not steeper than 5% from a road, cycle path, bicycle lane, shared path or access way; and (c) include a rail or hoop to lock a bicycle that satisfies Australian Standard AS 2890.3-2015 Parking facilities -- Part 3: Bicycle parking.		
C2.6.8 **Siting of parking and turning areas**	**A1** Within an Inner Residential Zone, Village Zone, Urban Mixed Use Zone, Local Business Zone or General Business Zone, parking spaces and vehicle turning areas, including garages or covered parking areas must be located behind the building line of buildings, excluding if a parking area is already provided in front of the building line.		NA
	A2 Within the Central Business Zone, on-site parking at ground level adjacent to a frontage must: (a) have no new vehicle accesses, unless an existing access is removed; (b) retain an active street frontage; and (c) not result in parked cars being visible from public places in the adjacent roads.		NA
C2.7 Parking Precinct Plan			
C2.7.1 **Parking Precinct Plan**	**A1** Within a parking precinct plan, on--site car parking must: (a) not be provided; or (b) not be increased above existing parking numbers.		NA

Footnotes

[S35] Requirements for the number of accessible car parking spaces are specified in part D3 of the National Construction Code 2016.

C3 Road and Railway Assets Code

Standard	Acceptable Solution	Proposed	Complies?
C3.5 Use Standards			
C3.5.1 **Traffic generation at a vehicle crossing, level crossing or new junction**	**A1.1** For a category 1 road or a limited access road, vehicular traffic to and from the site will not require: (a) a new junction; (b) a new vehicle crossing; or (c) a new level crossing. **A1.2** For a road, excluding a category 1 road or a limited access road, written consent for a new junction, vehicle crossing, or level crossing to serve the use and development has been issued by the road authority. **A1.3** For the rail network, written consent for a new private level crossing to serve the use and development has been issued by the rail authority. **A1.4** Vehicular traffic to and from the site, using an existing vehicle crossing or private level crossing, will not increase by more than:	A1.2 – Met, no new vehicle crossing proposed. A1.4 – Not met - Vehicular traffic is expected to increase over 40 vpd. TIA assessed traffic generation being acceptable as the scheme. This represents an increase of approximately 8.4% in traffic at the site access and is considered to satisfy the Acceptable Solution for Clause C3.5.1 of the Tasmanian Planning Scheme.	yes

Standard	Acceptable Solution	Proposed	Complies?
	(a) the amounts in Table C3.1; or (b) allowed by a licence issued under Part IVA of the *Roads and Jetties Act 1935* in respect to a limited access road. **A1.5** Vehicular traffic must be able to enter and leave a major road in a forward direction.		
C3.6 Development Standards for Buildings and Works			
C3.6.1 **Habitable buildings for sensitive uses within a road or railway attenuation area**	**A1** Unless within a building area on a sealed plan approved under this planning scheme, habitable buildings for a sensitive use within a road or railway attenuation area, must be: (a) within a row of existing habitable buildings for sensitive uses and no closer to the existing or future major road or rail network than the adjoining habitable building; (b) an extension which extends no closer to the existing or future major road or rail network than: (i) the existing habitable building; or (ii) an adjoining habitable building for a sensitive use; (c) located or designed so that external noise levels are not more than the level in Table C3.2 measured in accordance with Part D of the *Noise Measurement Procedures Manual, 2nd edition, July 2008*.		NA

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Standard	Acceptable Solution	Proposed	Complies?
C3.7 Development Standards for Subdivision			
C3.7.1 **Subdivision for sensitive uses within a road or railway attenuation area**	**A1** A lot, or a lot proposed in a plan of subdivision, intended for a sensitive use must have a building area for the sensitive use that is not within a road or railway attenuation area.		NA

DEVELOPMENT APPLICATIONS

HYDRAULICS DEPARTMENT REFERRAL

DA No:.	PLN-25-367	**Date Referred:**	23 December 2025
Development Engineer:	Naji Faridnia	**To Be Returned By:**	7/01/2026
Hydraulics Engineer:	Adele Lui	**Property File No:**	7671632
Standard:		**Discretionary Permitted**	Discretionary

Details of Application:	**Applicant's Name:**	Gray Planning
	Business Contact Name:	Danielle Gray
	Contact Email:	admin@grayplanning.com.au
	Address of Development:	100 Derwent Park Road Derwent Park 13 Surveyors Drive Derwent Park 300 Risdon Road Lutana
	Proposal in Detail:	Boat building shed, fill & reclamation works

Comments

The proposed boat building shed is an extension of boat building activity at Incat located at 100 Derwent Park Road.

1. **Referenced Documents**

    a. Architectural Plans dated 21/11/2025 by JMG Consulting

    b. Planning Report dated 11/12/2025 by Gray Planning

2. **Stormwater Management Policy**

    a. Stormwater Disposal Method Requirements:

    All stormwater generated from the development will drain to stormwater systems by gravity. Therefore, 4 (a) is met.

    b. **Stormwater Quality Management Requirements:**

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The development creates hardstand that's limited to roofed area of the new shed structure. Considering the discharge mechanism of roof runoff is undisturbed due to being an open area, the proposal is not expected to result in a measurable increase in pollutant generation. Therefore no additional stormwater treatment measures are required. The site already consists of vegetated table drains as a natural mechanism to capture gross pollutants in the vicinity. Furthermore, a new filter screening basket is proposed to the stormwater pit within existing gravel driveway area as preliminary gross pollutant trap. Therefore stormwater quality management requirements are deemed satisfactory.

Therefore, 5 (a) is met.

c. Stormwater Quantity Management Requirements:

The proposed development is exempt from On Site Detention (OSD) as stormwater runoff will be discharged directly to the River Derwent.

Therefore, 6(a) is met.

d. Stormwater System Design Requirements:

The major stormwater system and the minor stormwater system have been demonstrated in the report.

3 (a) and (b) are met.

Conclusion

In summary I have no objections with the proposal from a hydraulics perspective, provided the following conditions are met:

1. The new stormwater infrastructure must be constructed substantially in accordance with the approved plans prior to issue of an occupancy certificate.

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6. Attachment 1 – Planning Scheme Instrument of Amendment and Certificate of Amendment

GLENORCHY LOCAL PROVISIONS SCHEDULE
AMENDMENT PLAM-26/01

The Glenorchy Local Provisions Schedule is amended as follows:

Land affected by this amendment: Black Snake Road, Granton

PID: 1696361; Title: 120863/16

The Planning Scheme maps are amended by:

1. Modifying the zoning maps as shown in the image below, to include Black Snake Road, Granton (PID: 1696361; Title: 120863/16) in a Rural Living Zone.

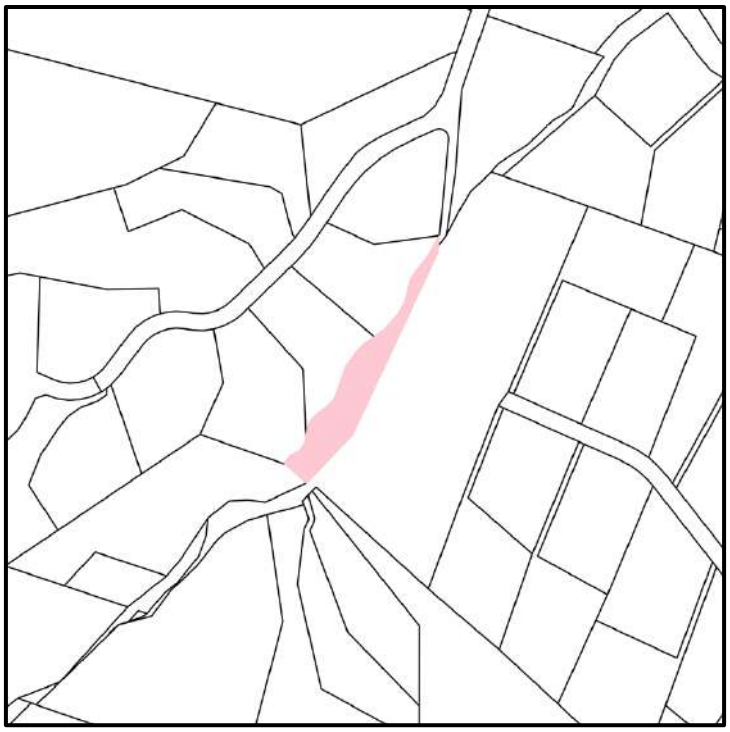

Figure 1 – Zoning Map with subject site shown in the Rural Living Zone

The common seal of the Glenorchy City Council has been affixed on the

_____ (date)

as authorised by the Planning Authority in the presence of:

_____

Council Delegate

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GLENORCHY CITY COUNCIL

CERTIFICATION OF DRAFT AMENDMENT
UNDER SECTION 40F OF THE LAND USE PLANNING AND APPROVALS ACT 1993

The Planning Authority has prepared the attached draft amendment, Amendment PLAM-26/01, to the Glenorchy Local Provisions Schedule.

The Planning Authority:

- has determined that it is satisfied that the draft amendment meets the LPS Criteria specified in Section 34 of the Land Use Planning and Approvals Act 1993 (LUPAA), and

- in accordance with Section 40F(2) of LUPAA, certifies that the draft amendment meets those requirements.

The common seal of the Glenorchy City Council has been affixed on the

_____ (date)

as authorised by the Planning Authority in the presence of:

_____

Council Delegate

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6. Attachment 2 – Comparative analysis of Environmental Management, Landscape Conservation and Rural Living Zones

Attachment 2: Comparative analysis of Environmental Management, Landscape Conservation and Rural Living Zones

Zone	Comment
Environmental Management (current zone) The Zone Purpose for the Environmental Management Zone is: *23.1.1 To provide for the protection, conservation and management of land with significant ecological, scientific, cultural or scenic value.* *23.1.2 To allow for compatible use or development where it is consistent with:* *(a) the protection, conservation and management of the values of the land* *(b) applicable reserved land management objectives and objectives of reserve management plans.* The Zone Application Guidelines for the Environmental Management Zone are: *EMZ 1 The Environmental Management Zone should be applied to land with significant ecological, scientific, cultural or scenic values, such as:* a. *land reserved under the Nature Conservation Act 2002;* b. *land within the Tasmanian Wilderness World Heritage Area;* c. *riparian, littoral or coastal reserves;* d. *Ramsar sites;* e. *any other public land where the primary purpose is for the protection and conservation of such values; or*	EMZ 1 is not relevant to the subject site at Black Snake Road as it does not contain any significant ecological, scientific, cultural or scenic values identified in the provided list. While it does identify that private land may be zoned Environmental Management, it is not considered that the site possesses values that are of such significance to justify deviation from the principles of how the zone is applied throughout the Glenorchy LGA. The land is not seaward of the high water mark and is not intended for the development of water storage facilities, so EMZ 2 and EMZ 3 are not applicable. While the current application of the Zone may not be inconsistent with 23.1.2 "To allow for compatible use or development…" its status as private land places it at odds with the rest of land zoned as Environmental Management in the municipality. Given its application is not strongly supported within the Guidelines, its consistency with the Zone Purpose is not so apparent as to offset this issue. The Zone Purpose and Zone Application Guidelines do not support the continued application of the Environmental Management Zone, especially when local zoning principles are considered. Given the Environmental Management Zone's application is not strongly supported within the Guidelines and its consistency with the Zone Purpose is not especially stronger than either of the alternatives, it does not make sense to retain this zone for the site. This would not be the case if the site was in public ownership, and this inconsistency with the rest of the Environmental Management zoned land should be rectified.

f. *any private land containing significant values identified for protection or conservation and where the intention is to limit use and development.* *EMZ 2 The Environmental Management Zone should be applied to land seaward of the high water mark unless contrary intention applies, such as land with existing, or intended for:* a. *passive recreation opportunities (see Open Space Zone);* b. *recreational facilities (see Recreation Zone);* c. *large scale port and marine activities or facilities (see Port and Marine Zone);* d. *industrial activities or facilities (see industrial zones); or* e. *major utilities infrastructure (see Utilities Zone).* *EMZ 3 The Environmental Management Zone may be applied to land for water storage facilities directly associated with major utilities infrastructure, such as dams.*	
Landscape Conservation Zone (alternative zone) The Zone Purpose for the Landscape Conservation Zone is: *22.1.1 To provide for the protection, conservation and management of landscape values.*	The application of the Landscape Conservation Zone to the subject site is consistent with the Zone Purpose, specifically 22.1.2. The Landscape Conservation Zone could be considered to reflect the constraints of the land which are greater than any surrounding land parcels. However, the site does not possess any notable landscape values

22.1.2 To provide for compatible use or development that does not adversely impact on the protection, conservation and management of the landscape values. The Zone Application Guidelines for the Landscape Conservation Zone are: *LCZ 1 The Landscape Conservation Zone should be applied to land with landscape values that are identified for protection and conservation, such as bushland areas, large areas of native vegetation, or areas of important scenic values, where some small scale use or development may be appropriate.* *LCZ 2 The Landscape Conservation Zone may be applied to:* a. *large areas of bushland or large areas of native vegetation which are not otherwise reserved, but contains threatened native vegetation communities, threatened species or other areas of locally or regionally important native vegetation;* b. *land that has significant constraints on development through the application of the Natural Assets Code or Scenic Protection Code; or* c. *land within an interim planning scheme Environmental Living Zone and the primary intention is for the protection and conservation of landscape values.* *LCZ 3 The Landscape Conservation Zone may be applied to a group of titles with landscape values that are less than the allowable minimum lot size for the zone.* *LCZ 4 The Landscape Conservation Zone should not be applied to:*	and is not contiguous with the Landscape Conservation zoned land further to the west. The approach taken to proposed Landscape Conservation land in Kingborough Council and Huon Valley Council has highlighted the necessity of applying the Landscape Conservation Zone to land primarily for its landscape values, rather than as a de facto environmental zone. Therefore it is not appropriate to pursue the Landscape Conservation Zone for this site. The Landscape Conservation Zone has some merit in being applied to the site, particularly given the constraints on the site under the Natural Assets Code. However, as the site is isolated from the nearest Landscape Conservation zoned area and does not exhibit significant or notable landscape values, it would be an inappropriate application of the zone. Further, there is land in Greater Hobart which arguably exhibits greater landscape values than the subject site that has not been considered to meet the threshold for the Landscape Conservation Zone so it would be inappropriate to pursue this zoning, despite the land constraints, for this site given that context.

a. *land where the priority is for residential use and development (see Rural Living Zone); or* b. *State-reserved land (see Environmental Management Zone).* *Note: The Landscape Conservation Zone is not a replacement zone for the Environmental Living Zone in interim planning schemes. There are key policy differences between the two zones. The Landscape Conservation Zone is not a large lot residential zone, in areas characterised by native vegetation cover and other landscape values. Instead, the Landscape Conservation Zone provides a clear priority for the protection of landscape values and for complementary use or development, with residential use largely being discretionary. Together the Landscape Conservation Zone and the Environmental Management Zone, provide a suite of environmental zones to manage use and development in natural areas.* The application of the Landscape Conservation Zone to the subject site is consistent with the Zone Purpose, specifically 22.1.2.	
Rural Living Zone (proposed zone) The Zone Purpose for the Rural Living Zone is: *11.1.1 To provide for residential use or development in a rural setting where:* *(a) services are limited; or* *(b) existing natural and landscape values are to be retained.* *11.1.2 To provide for compatible agricultural use and development that does not adversely impact on residential amenity.*	The subject site is considered consistent with RLZ 1 (a) given the size of the lot is approximately 7,500m2. While this is at the smaller end of the scale for rural living land parcels, 244 Black Snake Road (approximately 180 metres south-west of the site) is smaller than 3,500m2 and provides a precedent for the Rural Living Zone to be applied to lots smaller than 1 hectare within the surrounding area. The site is also consistent with RLZ 2 (a) as it is consistent with the Southern Tasmanian Regional Land Use Strategy (STRLUS) and with the six criteria identified under Settlement and Residential Development 1.3 (c). Crucially, the land does “predominantly share common boundaries with existing Rural Living zoned land” and “does not constitute a significant increase in the immediate locality.” It is not expected to increase the

11.1.3 To provide for other use or development that does not cause an unreasonable loss of amenity, through noise, scale, intensity, traffic generation and movement, or other off site impacts. *11.1.4 To provide for Visitor Accommodation that is compatible with residential character.* The Zone Application Guidelines for the Landscape Conservation Zone are: *RLZ 1 The Rural Living Zone should be applied to:* a. *residential areas with larger lots, where existing and intended use is a mix between residential and lower order rural activities (e.g. hobby farming), but priority is given to the protection of residential amenity; or* b. *land that is currently a Rural Living Zone within an interim planning scheme or a section 29 planning scheme,* *unless RLZ 4 below applies.* *RLZ 2 The Rural Living Zone should not be applied to land that is not currently within an interim planning scheme Rural Living Zone, unless:* a. *consistent with the relevant regional land use strategy, or supported by more detailed local strategic analysis consistent with the relevant regional land use strategy and endorsed by the relevant council; or* b. *the land is within the Environmental Living Zone in an interim planning scheme and the primary strategic intention is for residential use and development within a rural setting and a similar*	potential for land use conflict with other uses given it is a site constrained by the Natural Assets Code as well as its narrow boundaries. While the site was not previously within an Environmental Living Zone under the Interim Planning Scheme, its consistency with the STRLUS should be considered sufficient to justify the Rural Living Zone being applied. It also ensures consistency with the zoning of the surrounding area which is a well-established rural living community. It should be noted that, while the Rural Living Zone is the preferred zone based on its greater consistency with the Section 8A Guidelines and the STRLUS, the site's development potential is noticeably constrained given the extent of the Waterway and Coastal Protection Overlay and the Priority Vegetation Overlay under the Natural Assets Code. These are not absolute obstacles to development of the site or the proposed zone given that other lots in the Rural Living Zone have large portions of land covered by these overlays. The extent to which these overlays apply to the subject site is far greater however and will likely limit the feasibility of many of the uses within the Rural Living Zone land use table.

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minimum allowable lot size is being applied, such as, applying the Rural Living Zone D where the minimum lot size is 10 ha or greater. *RLZ 3 The differentiation between Rural Living Zone A, Rural Living Zone B, Rural Living Zone C or Rural Living Zone D should be based on:* a. *a reflection of the existing pattern and density of development within the rural living area; or* b. *further strategic justification to support the chosen minimum lot sizes consistent with the relevant regional land use strategy, or supported by more detailed local strategic analysis consistent with the relevant regional land use strategy and endorsed by the relevant council.* *RLZ 4 The Rural Living Zone should not be applied to land that:* a. *is suitable and targeted for future greenfield urban development;* b. *contains important landscape values that are identified for protection and conservation, such as bushland areas, large areas of native vegetation, or areas of important scenic values (see Landscape Conservation Zone), unless the values can be appropriately managed through the application and operation of the relevant codes; or* c. *is identified in the 'Land Potentially Suitable for Agriculture Zone' available on the LIST (see Agriculture Zone), unless the Rural Living Zone can be justified in accordance with the relevant regional land use strategy, or supported by more detailed local strategic analysis consistent with the relevant regional land use strategy and endorsed by the relevant council.*	