AUSTRAL TASMANIA

kunanyi Mountain Bike Tracks
Aboriginal Heritage Assessment Report

Version 1

Final Report prepared by Austral Tasmania Pty Ltd

For the City of Hobart

AT0311

April 2021

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Table 0.1 Quality Assurance

Document Version	**Date**	**Review Reason**	**Prepared By**	**Reviewed and Approved By**
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EXECUTIVE SUMMARY

The City of Hobart has received funding from the State Cycle Tourism Grant Scheme, which in part funds the construction of 15 new mountain bike tracks in the lower foothills of kunanyi - Mt Wellington (kunanyi). Three new tracks, Track 1a, Track 1b and Track 12, and modification to an existing track, the Upper Luge track, are being considered by the City of Hobart (the Proponent) as part of this phase of works. An Aboriginal Heritage Property Search was submitted by the Proponent and received a response from Aboriginal Heritage Tasmania (AHT) stating that, owing to an absence of recorded sites on kunanyi and the low likelihood that Aboriginal Tasmanians used resources in this area, further Aboriginal heritage investigation was not warranted under the terms of the *Aboriginal Heritage Act 1975*.

However, adopting a best practice approach to managing cultural heritage meant that the Proponent decided to complete a formal Aboriginal heritage assessment report.

To this end the City of Hobart has engaged Austral Tasmania Pty Ltd (Austral Tasmania) to complete this Aboriginal heritage investigation. This report documents the outcome of that investigation and provides recommendations consonant with the above requirements.

The project consists of two study areas, Study Area One around Track 1a and Track 1b and Study Area Two relating to the area around the Upper Luge and Track 12. The study areas are within Wellington Park, 100 Pinnacle Rd, Wellington Park, and is within land owned by the City of Hobart (Study Area One: PID 5587226, CTs 126375/1 and Study Area Two: PID 5587226 252495/1) (see Figure 1.1.1 to Figure 1.1.3). These properties form part of the larger Wellington Park reserve and are within the management purview of the Wellington Park Management Trust. The location of the study areas within Tasmania is shown in Figure 1.1.1, a topographic overview of its location is shown in Figure 1.1.2 and aerial images of the study areas are shown in Figure 1.1.3 and Figure 1.1.4.

Aboriginal community consultation was undertaken with by Caleb Pedder between the 26 March 2021 to the 9 April 2021. This consultation took the form of a project document that contained the details of the project, details of the study area and the results of the field survey being sent to weetapoona, the Tasmanian Aboriginal Centre, Karadi, Pungenna Community and South East Tasmanian Aboriginal Corporation. These organisations have no comments at the present time.

Despite the presence of a number of Aboriginal sites within the surrounding landscape no Aboriginal sites were identified nor are there any areas of sensitivity within the area of proposed development within Study Area One (Track 1a and Track 1b) and Study Area Two (Track 12 and Upper Luge). Past timber getting resulting in high levels of disturbance in Study Area Two and steep topography in Study Area One contribute considerably to this outcome, although extremely low ground surface visibility in some survey areas has hampered the identification of any sites, had they been present. The survey results also suggest that the study areas have a low potential for the unanticipated discovery of Aboriginal cultural material during the proposed works but that the low level of research previously undertaken on the upper slopes of kunanyi limits the predictive power of archaeological investigations.

Recommendations

As the study area contains no sites or sensitive areas and neither does the proposed development have the potential to incidentally impact previously recorded sites within its vicinity, there are no site specific management recommendations. Nevertheless, the study area retains a residual risk for the unanticipated discovery of Aboriginal heritage items. Aboriginal heritage in Tasmania is afforded blanket protection by the *Aboriginal Heritage Act 1975* therefore:

1. All contractors and staff are to be made aware that there is a potential for unanticipated discovery across the entire study area and should also be made aware of the Unanticipated Discovery Plan and their obligations under the *Aboriginal Heritage Act 1975*. Aboriginal Heritage Tasmania's *Unanticipated Discovery Plan* (Appendix B) should be followed during this project. A copy of this plan should be kept with the person who is responsible for the on-ground works for the duration of the project.
2. In accordance with the statement of significance supplied by Mr Pedder and Section 5.3.1. of the Wellington Park Management Plan 2016 it is recommended that the City of Hobart initiates long term consultation, i.e. ongoing consultation that extends beyond the scope of a single project, with the Aboriginal community across the broad spectrum of small scale

developments taking place across the mountain to prevent harm to cultural values through the accumulation of minor impacts.

3. All spatial or descriptive information that may be readily used to relocate Aboriginal sites is to be redacted before this report is made publicly available.
4. Copies of this report should be submitted to Aboriginal Heritage Tasmania for review.
5. A copy of the final report must be distributed to the Tasmanian Aboriginal Centre, Karadi, Pungenna Community and South East Tasmanian Aboriginal Corporation

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1.0 INTRODUCTION

1.1 Project Background

The City of Hobart has received funding from the State Cycle Tourism Grant Scheme, which in part funds the construction of 15 new mountain bike tracks in the lower foothills of kunanyi - Mt Wellington (kunanyi). Three new tracks, Track 1a, Track 1b and Track 12, and modification to an existing track, the Upper Luge track, are being considered by the City of Hobart (the Proponent) as part of this phase of works. An Aboriginal Heritage Property Search was submitted by the Proponent and received a response from Aboriginal Heritage Tasmania (AHT) stating that, owing to an absence of recorded sites on kunanyi and the low likelihood that Aboriginal Tasmanians used resources in this area, further Aboriginal heritage investigation was not warranted under the terms of the *Aboriginal Heritage Act 1975*.

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Due to the impact of two centuries of European development, steep slope gradients and probable high levels of erosion no Aboriginal sites or potential areas of sensitivity were identified during this investigation.

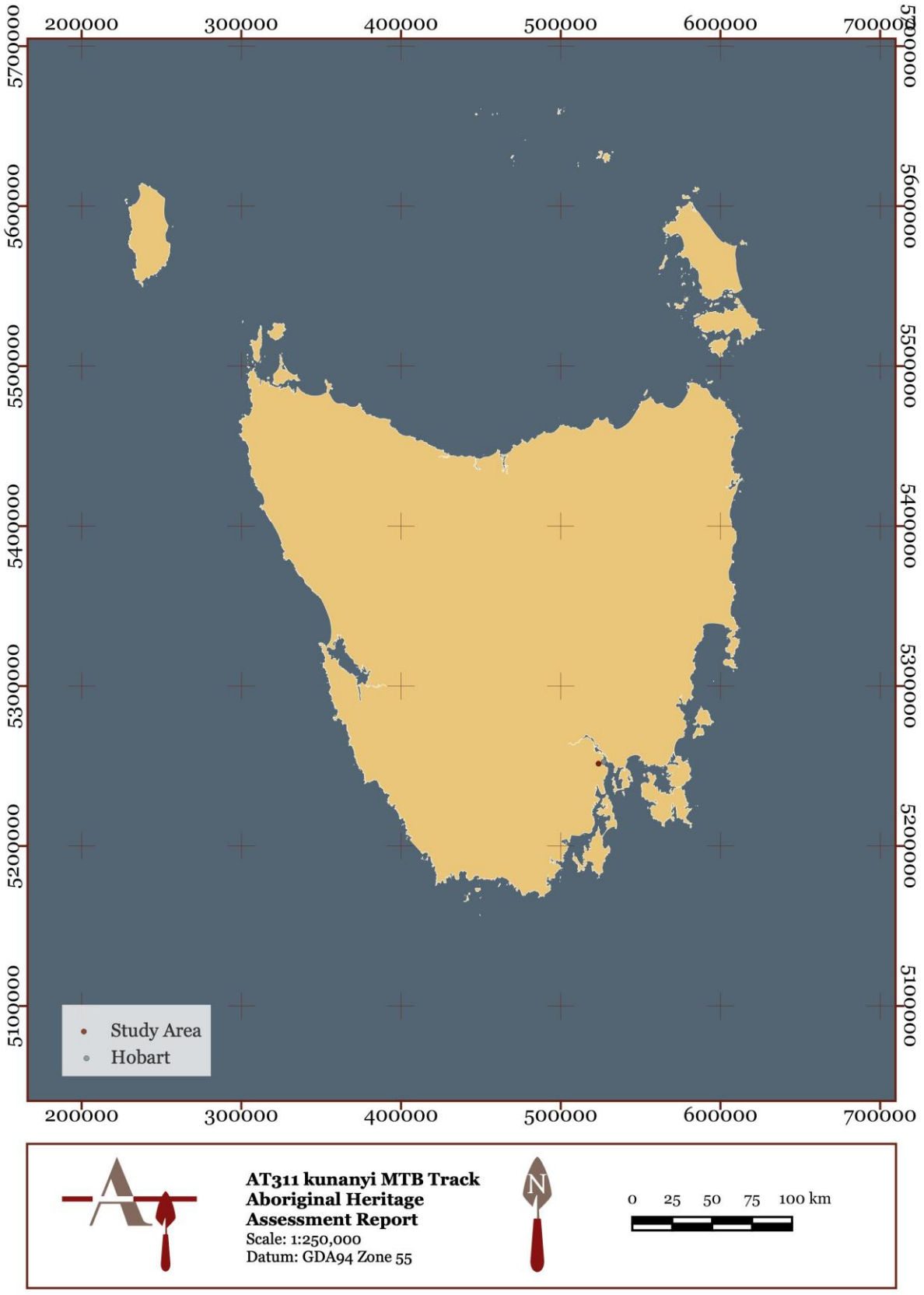

Figure 1.1.1 Tasmania, showing the location of the study area and Hobart (nipaluna).

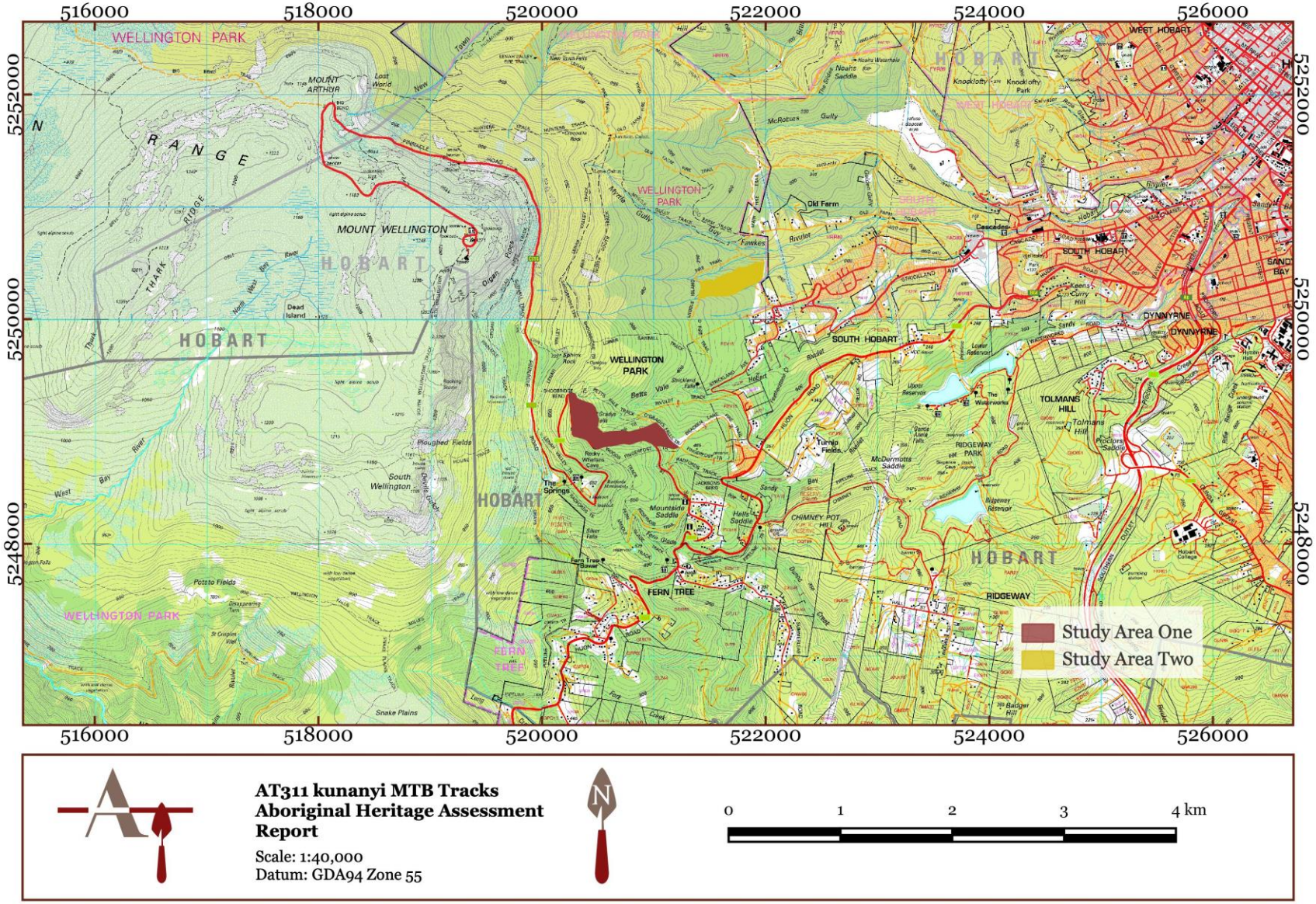

Figure 1.1.2 Topographic overview showing the location of Study Area One and Study Area Two (Basemap: Tasmap Digital 1:25,000).

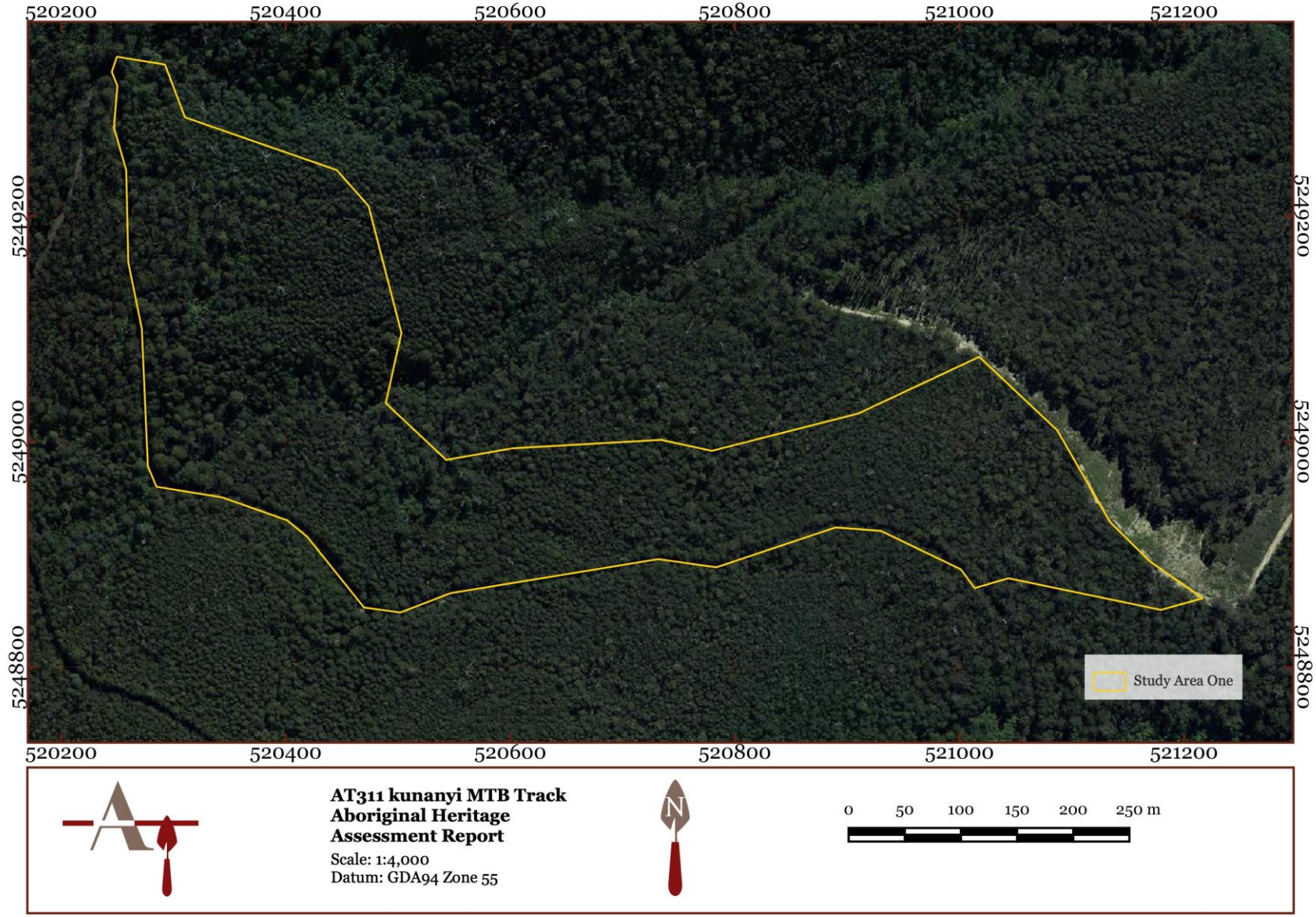

Figure 1.1.3 Aerial overview showing the location of Study Area One (Basemap: Listmap 2021).

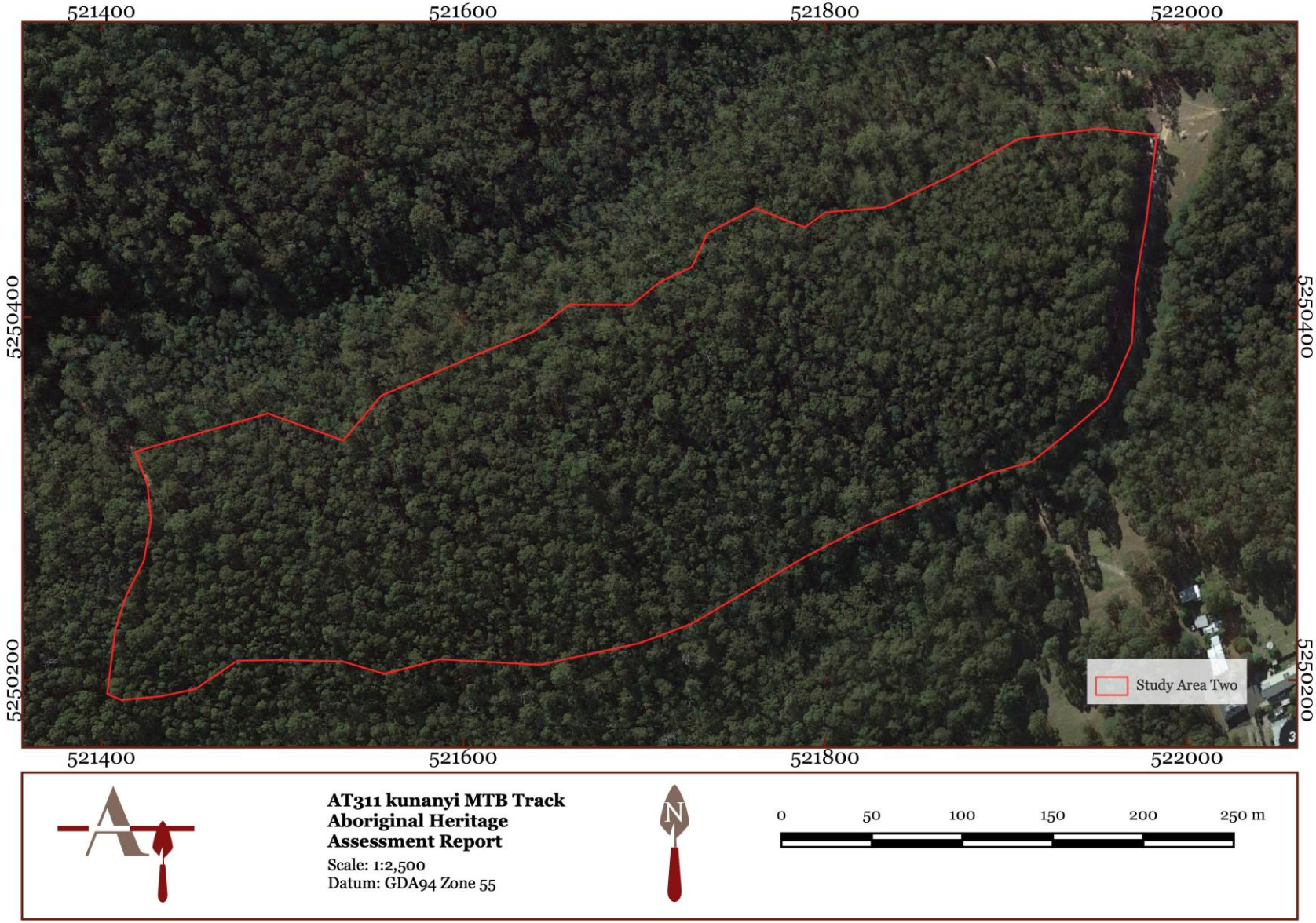

Figure 1.1.4 Aerial overview showing the location of Study Area One (Basemap: Listmap 2021).

1.2 Aims

The aim of this study is to assess the presence of Aboriginal cultural material within the study areas and determine what impact, if any, the proposed work will have.

To this end, this report aims to:

- Describe the proposed development especially in regards to the extent of its possible impact on Aboriginal cultural heritage.
- Document the results of analysis of the environmental, historical and archaeological background.
- Present the results of the field survey, including and potential areas of sensitivity and Aboriginal cultural materials identified.
- Record the results of Aboriginal community consultation.
- Interpret the results of the investigation and assess the significance of the study area.
- Provide conclusions and mitigation advice relating to the proposed work.

1.3 Authorship and Acknowledgements

The project was directed by Alan Hay (Senior Archaeologist, Austral Tasmania). The report was written by Alan Hay and the community consultation undertaken by Caleb Pedder (Aboriginal Heritage Officer) and reviewed by Justin McCarthy (Managing Director, Austral Tasmania) and James Puustinen (Senior Heritage Manager, Austral Tasmania). The fieldwork was undertaken by Alan Hay and Caleb Pedder. Austral Tasmania would like to acknowledge the following people and organisations, who assisted in the production of this report:

- Bree Hunter - Program Officer, City of Hobart
- Sarah Waight - Senior Heritage Officer, City of Hobart
- Lindsay Ashlin - Supervisor Track Management, City of Hobart
- Jeram Cowley - Team Leader, City of Hobart
- Anne McConnell, Cultural Heritage Coordinator, Wellington Park Management Trust

1.4 Glossary of Terms

The following terms are largely excerpted and adapted from the 2018 *Aboriginal Heritage Standards and Procedures* by AHT, where this is not the case the alternate source is referenced in text.

Aboriginal community consultation – Communication between the proponent and the Aboriginal community (usually via the Aboriginal Heritage Officer or AHO) in relation to any potential impact/s of a proposed development on Aboriginal heritage site/s, and how they might be avoided, mitigated or managed.

Aboriginal heritage – This phrase refers to everything covered by the term "relics" as defined in Section 2(3) of the *Aboriginal Heritage Act* 1975.

Aboriginal Heritage Assessment Report (AHAR) – An AHAR can comprise a desktop study, a heritage options or strategic assessment, Aboriginal heritage survey, or a combination of these to determine whether Aboriginal heritage sites are present in the proposed area. Aboriginal heritage assessment reports are carried out by Aboriginal heritage practitioners.

Aboriginal Heritage Council (AHC) – The Aboriginal Heritage Council is established under Part 2 of the Act to advise the Minister on Aboriginal heritage issues. One of its key roles is to provide advice on new permit applications, development or research proposals, and relevant documentation including policies and the Guidelines. The Council anticipates discussion with proponents regarding significant proposals.

Aboriginal Heritage Desktop Review (AHDR) – A desktop assessment of the project area undertaken by qualified Aboriginal Heritage Tasmania officers, to determine if the proposed development will impact on recognised Aboriginal heritage sites. A desktop review determines whether an Aboriginal heritage assessment report or permit is required.

Aboriginal Heritage Officer (AHO) – A Tasmanian Aboriginal community member who is recognised by the Tasmanian Aboriginal community as being able to liaise with the community on Aboriginal heritage matters and who also possesses the skills and knowledge required to carry out Aboriginal heritage assessment reports.

Aboriginal Heritage Register (AHR) – The Aboriginal Heritage Register (AHR) was launched in November 2014 to replace a number of internal systems, including the Tasmanian Aboriginal Site Index (TASI). The AHR records information about Aboriginal Heritage (AH) sites and supports many of Aboriginal Heritage Tasmania's business processes. Information recorded for an AH site may include site recording forms/site cards, photographs, slides, spatial data, site composition and associated Aboriginal heritage assessment reports.

Aboriginal heritage site – Any site that bears signs of the activities of the original inhabitants of Australia or their descendants. This includes, but is not limited to, any artefact, painting, carving, engravings, arrangement of stones, midden, modified landscape, and human remains within the site.

Aboriginal Heritage Tasmania (AHT) – Aboriginal Heritage Tasmania is part of the Department of Primary Industries, Parks, Water and Environment, and is responsible for administering the *Aboriginal Heritage Act* 1975 and maintaining the Aboriginal Heritage Register (AHR). Aboriginal Heritage Tasmania also provides secretariat support to the Aboriginal Heritage Council.

Aboriginal Heritage Act 1975 – This is the new title of the *Aboriginal Relics Act* 1975 and is referred to in this document as 'the Act'. The Act provides the legislative basis for the protection and management of Aboriginal heritage in Tasmania.

Ground surface exposure (exposure) – An assessment of the prevailing sedimentation within a survey area, in reference to processes of erosion, stability or aggradation that influence the extent to which artefacts are brought to the surface or concealed (Burke and Smith 2006:79).

Ground surface visibility (GSV) – An assessment of how much of the ground surface in a survey area is visible and what other factors, like introduced gravel or leaf litter, might limit the detection of artefacts (Burke and Smith 2006:79).

Permit – Under Section 14 of the *Aboriginal Heritage Act* 1975, permits may be granted by the Minister, (at the recommendation of the Director of Parks and Wildlife) to "destroy, damage, deface, conceal or otherwise interfere with a relic" (s14(1)(a)). Permits may be granted for other actions such as research. Avoidance is the preferred course of action when Aboriginal heritage sites are under threat. If avoidance is not possible, mitigation is required to demonstrate all possible consideration has been given to minimising the impact of the project activity on Aboriginal heritage before a permit is considered by the Minister.

Project investigation area (Study Area) – The project area subject to an Aboriginal Heritage Assessment Report. A development footprint (see Project Activity Area) may be within an assessed investigation area.

Unanticipated discovery plan (UDP) – An Unanticipated Discovery Plan (UDP) is a plan that the Aboriginal heritage practitioner provides in the Aboriginal Heritage Assessment Report (AHAR). It is a contingency plan detailing the process and procedures that should be followed if Aboriginal heritage including skeletal material is located during any stage of project works.

2.0 PROJECT ACTIVITY

2.1 Proposed Development

The proposed development consists of the construction of three new tracks (Track 1a, 1b and Track 12) and the modification of an existing *ad hoc* track (the Upper Luge). Track 1a and Track 1b are each approximately 3km in total length and the area of works for each will be <1m in width along the length of each of these tracks. The Upper Luge Track is an existing *ad hoc* track created by mountain bikers within an existing snig track along the ridge crest in Study Area Two, it is proposed to formalise this existing track, <700m in length, and to add an additional climbing track, Track 12, along the valley slope immediately to the south. Track 12 will have a greater length (~1.5km) through its inclusion of switchbacks suitable for climbing mountain bikes.

The construction of the new tracks will include the removal of deadfall and leaf litter, the cutting of any live vegetation and some areas of surface hardening by introducing hard materials like stone along the length of the track. Water bars, constructed with small amounts of hand excavation, will be added to sections of these tracks but will be positioned in such a way that the water will fan out across the surrounding slopes rather than creating new rills. The Upper Luge Track will receive similar modifications, for example hardening in boggy areas, but much of its existing surface will be retained as is. Minimal signage will be installed at the entrance to these tracks but will involve the excavation of small footings for the new sign structures.

Due to the thick vegetation and steep topography of the area, the work will be undertaken by teams of City of Hobart employees and volunteers using hand tools. The work will be restricted to the footprint of the tracks and the sign locations at the track heads. Nearby vehicle access tracks and roads will be used for the transport of the construction teams to the area of proposed works.

2.2 Probable Disturbance

This assessment of probable disturbance is not an assessment of potential impact to Aboriginal cultural material or heritage values, which is detailed in Section 8.1 of this report, but instead briefly outlines the likely ground disturbance entailed by the proposed development.

The disturbance caused by this work will not be extended beyond the proposed footprint, which will result in long linear disturbances. The use of manual labour as the sole means of construction will restrict the impact of this work to the footprint and much of the work will not disturb the existing ground surface other than the removal of the O1 and O2 horizon. Localised areas of slightly deeper disturbance are likely to occur around areas that involve the construction of water bars or track hardening. Generally all of these disturbances associated with construction will be restricted to the track itself, shallow and free from ancillary construction activities that will extend the disturbance further into the surrounding landscape.

The most substantial possibility for disturbance will occur after the construction of the track with the long term use of these features by mountain bikes. The areas of track hardening and water bars considered above are likely to mitigate this disturbance by managing the risk of fluvial erosion and track wear that are the likely causes of long term disturbance and damage. Nevertheless disturbance caused by use and unchecked rill formation may cause damage to the soil profile adjacent to these tracks. The chief risk of additional disturbance arises from the potential for braiding as track uses may create and modify tracks alongside those currently proposed.

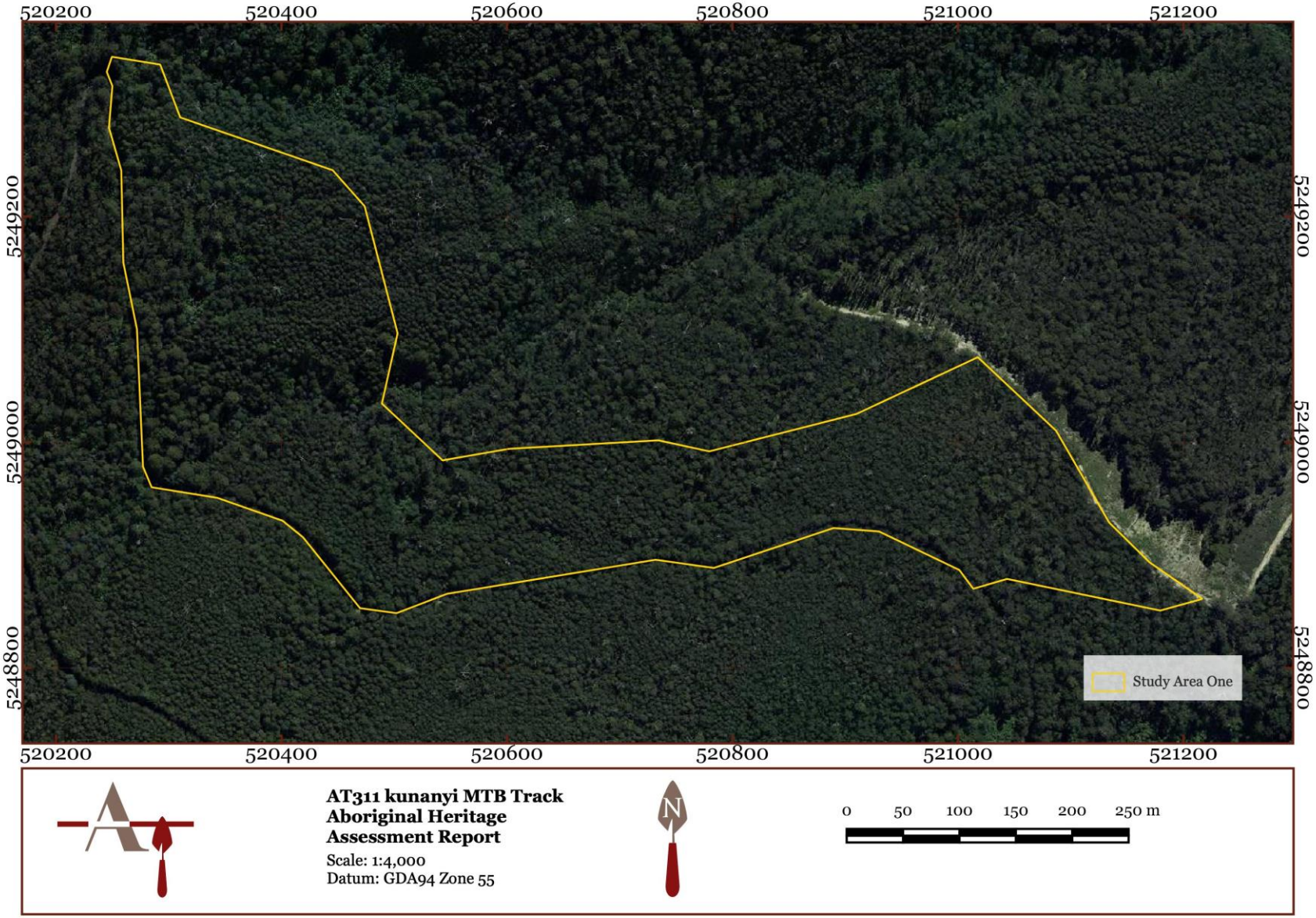

Figure 2.0.1 Aerial overview of Study Area One showing the proposed works (Listmap 2021).

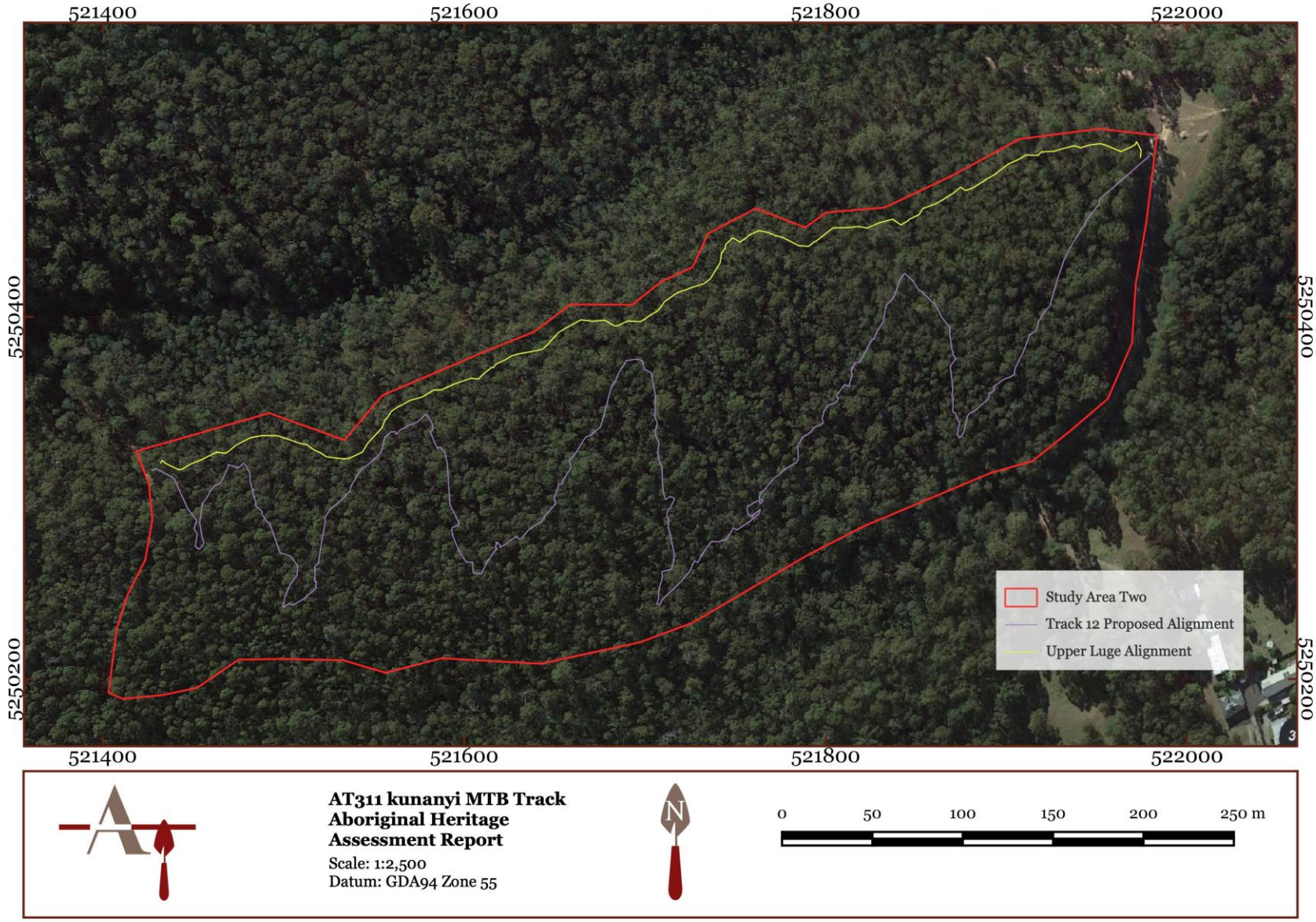

Figure 2.0.2 Aerial overview of Study Area Two showing the proposed works (Listmap 2021).

3.0 LEGISLATIVE FRAMEWORK

Aboriginal heritage in Australia is protected through Commonwealth, state and local government management frameworks. Legislation that may apply to this project are:

- Environment Protection and Biodiversity Conservation Act 1999
- Aboriginal and Torres Strait Islander Heritage Protection Act 1984
- Aboriginal Heritage Act 1975
- The Hobart Interim Planning Scheme 2015
- Wellington Park Act 1993

3.1 Commonwealth Heritage Legislation

3.1.1 *Environment Protection and Biodiversity Conservation Act 1999*

This Act establishes the National Heritage list, which may include places of Indigenous significance that are of outstanding heritage value to the nation. The act also protects the heritage value of any places included in this list from impact or disturbance. In addition to this, the Act establishes the Commonwealth Heritage List which includes places in Australia that are have Indigenous heritage significance and that are under the control of the Australian Government. It also provides protection for Indigenous heritage on Commonwealth land, which is not part of a listed place, from the actions of the Australian Government.

There are no listed places in the study area and the study area is not on Commonwealth Land. Therefore the Act does not apply.

3.1.2 *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*

This Act protects places of particular significance to Aboriginal and Torres Strait islander people through allowing the Environment Minister to make a declaration of protection for an area, object or set of objects from threat, injury or desecration. This can only be done upon the application of an Aboriginal person or group for such a declaration. This Act has the potential to take precedence over state legislation where this is not considered to provide acceptable protection for Aboriginal cultural heritage.

There are no declared protected places in the study area and the Act does not apply.

3.2 *Aboriginal Heritage Act 1975*

The primary legislative vehicle for the protection of Aboriginal cultural heritage in Tasmanian is the *Aboriginal Heritage Act 1975*. Originally titled the *Aboriginal Relics Act 1975* the title of the Act was changed, replacing 'relic' with 'heritage,' by the *Aboriginal Relics Amendment Act* 2017. This amendment also enacted a number of other changes to the terms of the Act.

3.2.1 Protection of Aboriginal Relics

The Act establishes the protection of Aboriginal Relics in Tasmania, defining these relics as:

> 2(3)(a) any artefact, painting, carving, engraving, arrangement of stones, midden, or other object made or created by any of the original inhabitants of Australia or the descendants of any such inhabitants; which is of significance to the Aboriginal People of Tasmania or their descendants; or;
>
> (b) any object, site, or place that bears signs of the activities of any such original inhabitants or their descendants, which is of significance to the Aboriginal People of Tasmania; or
>
> (c) the remains of the body of such an original inhabitant or of a descendant of such an inhabitant that are not interred in –
>
> (i) any land that is or has been held, set aside, reserved, or used for the purposes of a burial-ground or cemetery pursuant to any Act, deed, or other instrument; or
>
> (ii) a marked grave in any other land.

Subsection 2(8) of the Act defines the significance of a relic as being in accordance with:

(a) the archaeological or scientific history of Aboriginal people; or

(b) the anthropological history of Aboriginal people; or

(c) the contemporary history of Aboriginal people; or

(d) Aboriginal tradition.

'Aboriginal tradition' means:

(a) the body of traditions, knowledge, observances, customs and beliefs of Aboriginal people generally or of a particular community or group of Aboriginal people; and
(b) any such tradition knowledge, observance custom or belief relating to particular persons, areas, objects or relationships.

Section 14 of the Act protects Aboriginal relics against knowing or 'reckless or negligent' contravention of Subsection (1), where no person shall, without a permit:

(a) destroy, damage, deface, conceal, or otherwise interfere with a relic;

(b) make a copy or replica of a carving or engraving that is a relic by rubbing, tracing, casting, or other means that involve direct contact with the carving or engraving;

(c) remove a relic from the place where it is found or abandoned;

(d) sell or offer or expose for sale, exchange, or otherwise dispose of a relic or any other object that so nearly resembles a relic as to be likely to deceive or be capable of being mistaken for a relic;

(e) take a relic, or cause or permit a relic to be taken, out of this State; or

(f) cause an excavation to be made or any other work to be carried out on Crown land for the purpose of searching for a relic.

3.2.2 Guidelines, Aboriginal Heritage Assessment and the Permitting Process

The amended Act allows for guidelines to be issued by the Minister for Environment Parks and Heritage (the Minister). Under Section 21A of the Act, there are currently three documents issued by the Minister (AHT 2017):

- *Guidelines: issued by the Minister for Environment, Parks and Heritage under section 21A of the Aboriginal Heritage Act 1975* (AHT:2017)
- *Aboriginal Heritage Standards and Procedures* (AHT 2018)
- *Procedures for Managing Aboriginal Cultural Heritage when Preparing Forest Practices Plans* (FPAT 2016)

Of particular relevance here is the *Aboriginal Heritage Standards and Procedures* (AHT 2018). This document outlines the process by which Aboriginal heritage is assessed (AHT 2018:4-17) and how permits are obtained (AHT 2018:18). This procedure is outlined in a flow chart in these standards and procedures (AHT 2016:38) and is included as Figure 3.2.1 below. These standards and procedures replaces the *Guide to the Aboriginal Heritage Assessment Process* (AHT 2016).

Where heritage has been identified or has been identified as likely within an area to be impacted upon by the proposed works AHT will require a full assessment. This assessment will be subsequently reviewed by AHT and this may lead to a range of requirements, such as mitigation or application for a permit. In cases where Aboriginal sites are not present within the area of proposed work no further action may be required.

If a permit is required an application must be made in accordance with the guidelines and will be considered by AHT, the Aboriginal Heritage Council (AHC), the Director of Primary Industries, Parks, Water and the Environment and the Minister administering the Act. It may take up to 20 working days for the permit documents to be prepared and forwarded for ministerial consideration after application has been made although in practice this process may take considerably more time.

The Aboriginal Heritage Act 1975 applies to this project.

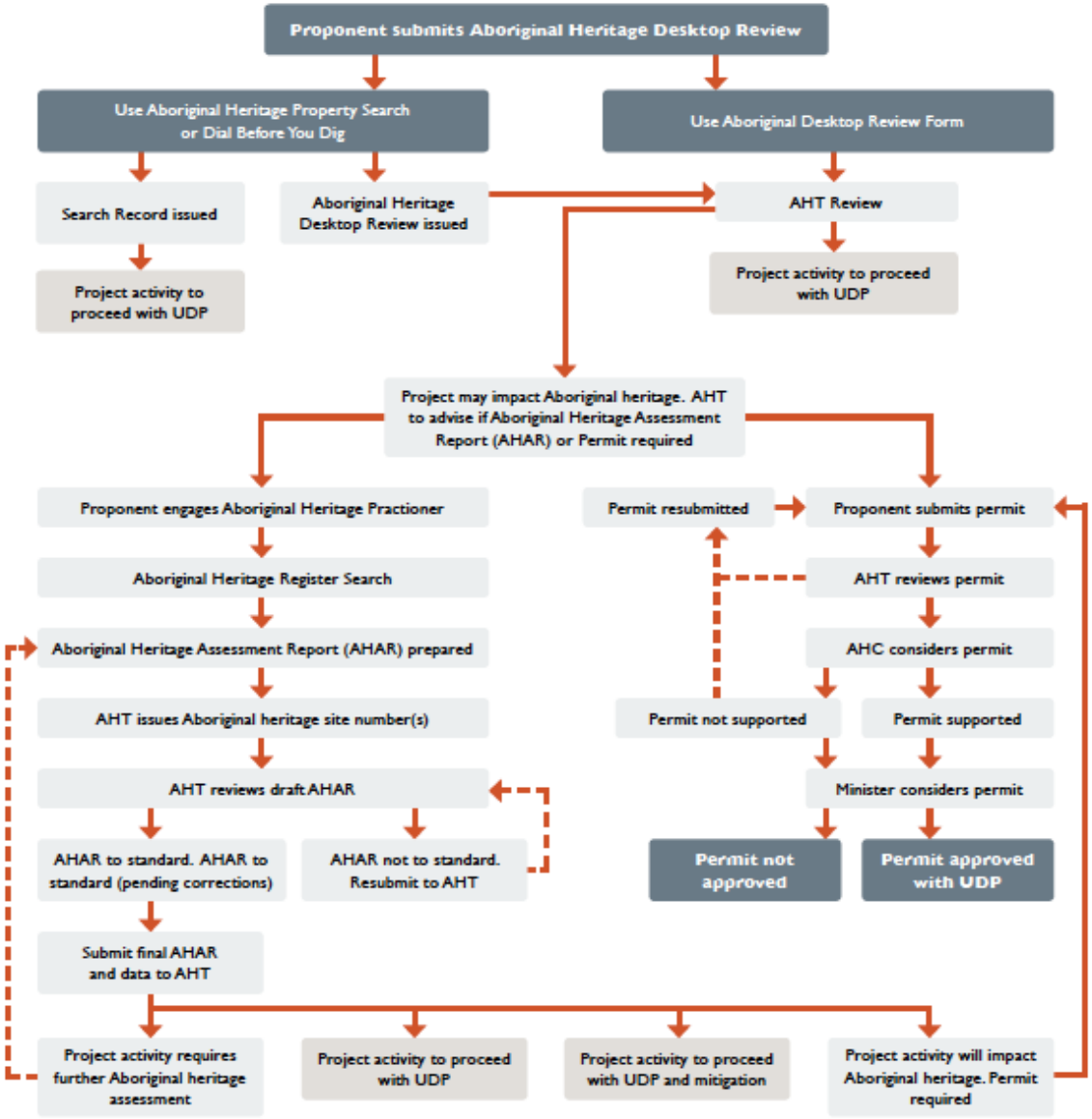

Figure 3.2.1 Overview of the Aboriginal Heritage Assessment and permitting process (AHT 2018:38).

3.3 *Hobart Interim Planning Scheme 2015*

Section 3.0.10 of the *Hobart Interim Planning Scheme 2015* 'Liveability: Regional Objectives' states that a desired outcome of the scheme is that:

> c) Aboriginal heritage values within the region are recognised, retained and protected for their character, culture, sense of place, contribution to our understanding history and contribution to the region's competitive advantage. [And that this outcome is to be achieved by] Ensure development proponents are aware of their responsibilities under the Aboriginal Relics Act 1975

This legislation was framed prior to the amendment to the *Aboriginal Heritage Act 1975* and still uses its earlier title yet it confirms the importance of the provisions of this Act rather than providing additional protection of Aboriginal heritage or constraints on development.

The Hobart Interim Planning Scheme 2015 applies to this project. However, its scope is limited and has no practical implications for Aboriginal heritage on the proposed development.

3.4 Wellington Park Act 1993

The *Wellington Park Act 1993* (Tas) provides for the formation of the Wellington Park Management Trust, the establishment of a management plan and also specifies that Wellington Park is set aside as a reserve to, among other aims, further "the preservation or protection of any features of the land being features of historical, Aboriginal, archaeological, scientific, architectural or geomorphological interest." This is principally achieved through the Wellington Park Management Plan 2013, prepared by the Wellington Park Management Trust in accord with Part IV, Division 1 of the *Wellington Park Act*.

The Act provides for the preparation of management plans for Wellington Park and Section 23(4) of the act makes any management plan for the park to be considered as part of any scheme in force under the *Land Use Planning and Approvals Act 1993* with the management plan prevailing in the case of any conflict between the two. Currently The *Wellington Park Management Plan 2015* is the approved management plan for the park.

3.4.1 Wellington Park Management Plan 2015

The Act considers the past use of the park by Aboriginal peoples to be a definitive value of the park and Section 5.3.1. of the *Wellington Park Management Plan 2015* sets forth specific policies and actions for managing Aboriginal cultural heritage within the park, these are:

> 1. Develop a strong and ongoing relationship with the Aboriginal community to gain a better understanding of how the community values of the Park and the particular management issues it seeks to be involved with.
>
> 2. In cooperation with the Aboriginal community, develop strategies to protect, conserve and, where permitted, interpret Aboriginal heritage. This may include designating sites as heritage sites or heritage precincts in accordance with this Management Plan.
>
> 3. Co-ordinate implementation of actions associated with the dual naming of kunanyi / Mount Wellington. In association with the Aboriginal community, investigate co-naming of the Park. This may involve retaining 'Wellington Park' but also utilising an Aboriginal name agreed to by the Aboriginal community.
>
> 4. Identify and record Aboriginal archaeological sites on the Tasmanian Aboriginal Site Index. Focus on conducting this survey work after an area has been burnt, when the ground is less obscured with vegetation and leaf litter.
>
> 5. The Aboriginal community will be consulted on any undertaking or development which will impinge upon Aboriginal sites and other heritage values.
>
> 6. Aboriginal archaeological sites will not be publicised unless the site has been assessed and chosen by the Trust and the Aboriginal community for education and interpretive use.
>
> 7. Aboriginal heritage will not be disturbed for management, development, or research purposes unless there is no technically feasible alternative and a permit has been issued under the *Aboriginal* [*Heritage*] *Act 1975*.
>
> 8. Where a proposal for new use and development requires an assessment of potential impact upon Aboriginal heritage values, the assessment shall comply with any relevant guidelines produced by Aboriginal Heritage Tasmania.

The relevant policies, 1, 2, 5, 6, 7 and 8, the significant role that the Aboriginal community plays in managing Aboriginal heritage in Wellington Park. Community consultation includes not only the

management of specific site but broader Aboriginal heritage values that are present in the parks landscape and cannot be readily associated with a particular place or location.

3.5 Summary

This section has outlined the sections of the act that are most relevant to the current project. A summary of the application of the relevant legislation can be found in Table 3.1 below.

Table 3.1 Summary of legislative framework and applicable acts.

Act	Applies	Implications
Environment Protection and Biodiversity Conservation Act 1999	No	None.
Aboriginal and Torres Strait Islander Heritage Protection Act 1984	No	None.
Aboriginal Heritage Act 1975	Yes	Blanket protection of Aboriginal heritage items in Tasmania. Aboriginal heritage report and review required.
Hobart Interim Planning Scheme 2015	Yes	The scope of this Act is limited and has no practical implications for Aboriginal heritage on the proposed development.
Wellington Park Act 1993	Yes	Reinforces the requirements of adhering to the regulations *Aboriginal Heritage Act 1975* within the park boundaries and emphasises the importance of community consultation in managing Aboriginal values within the park.

4.0 BACKGROUND INFORMATION

This background information is presented in order to formulate the survey methodology, predictive model and to assist in the understanding and interpretation of any Aboriginal cultural material encountered during the investigation. Environmental, historical and archaeological backgrounds are all separate areas that are considered in this background. These areas will be considered in sequence and will ultimately contribute to the formulation of a predictive statement and the interpretation of any Aboriginal cultural material that may be encountered during the investigation.

4.1 Environment

As part of the requirements for an Aboriginal Heritage Assessment Report there must be a consideration of (AHT 2018:20): "Geology – stone tool resources, Geomorphology – past human habitats, Past and current vegetation– flora resources [and] Landscapes – animal resources and human interactions." All these aspects of the environment are complex and interrelated and in order to present them clearly, first the geological underpinning will be considered and then the ecological context for past human behaviour will be built on top of it. Between these two sections and being influenced by and influencing both is the climatic and hydrological context of the study area, which will consist of a consideration of the prevailing climate and water resources present in the study area. All three of these sections will explicate the relationship between the geological and ecological world and human behaviour specific to the study area. The results of this section is summarised in Table 4.1.

4.1.1 Geology

This section summarises the underlying geological formations and soil profiles of the study area and the soil profile. Where geological or soil resources, such as geological strata that form rock shelters or lithic raw materials, that are amenable to human use are present within the study area these will also be considered here. Use of lithic materials within the broader area is considered through the review of previous archaeological studies presented in Section 4.3 below.

The study areas have already been the subject of a site stability review by Scherzic Ground Investigations (2020:4-5) who summarise the geological background as 'the majority of the tracks will traverse Permian age sandstones & siltstones & limestones with some recent talus located near the stream edges. The site walkover confirms these general descriptions with outcropping sandstones and siltstones visible in the existing tracks over the routes.'

Their assessment, based on the geological mapping of the area, contributes to an understanding of the geological strata and soils of the area that relies on the broader work of Hofto, Sloane and Weldon (1991) combined with geographical information system overlays of digital geological maps of the area. Significantly the study areas contain a range of soil profiles derived from the geological strata, displayed in Figure 4.1.1, and the relationship between these will be considered in turn.

In the south of Study Area Two and the northwest of Study Area One are areas of talus consisting dominantly of dolerite boulders. The soils above these areas of talus often have an upper deposit clayey sand horizon of high plasticity clay to a depth of 800mm, with large dolerite boulders throughout and deeper more sandy and organic deposits overlying the clays around drainage areas (Hofto, Sloane and Weldon 1991:17).

Three areas composed of variations of permian sandstones, siltstones and limestones are present in east of Study Area One and the eastern and western extents of Study Area Two. Pebbly beds are present in some areas and lonestones are common in these geological strata. The soil profile that accompanies these geological strata have been identified and described with taxing comprehensiveness by Hofto, Sloane and Weldon (1991:10)

> Exposed ridge crests and upper slopes typically contain shallow (<0.40 m) grey-brown, gravelly, silty sand (SM) developed on bedrock. Surface outcrop is common. Flat topped crests and upper slopes may have shallow (<0.60 m) gravelly, duplex soils consisting of grey-brown, organic silty sand (SC) over yellow-brown, medium plasticity clay/clayey sand (SC) on bedrock. Duplex soils have a marked contrast in clay content between surface and subsurface horizons, the lower horizons having the higher clay content. These soils may be locally deep (1.50 m) on steep, exposed slopes. Mid and lower slopes commonly contain similar duplex soil but they are usually deeper (1.20–1.40 m).
>
> Thick (>2.0 m) silty, sandy gravels (GM) often exist on steep south and south-east facing slopes. These slope deposits have previously been loosely termed 'talus...' Lower slopes and flat areas often contain a deep (>1.10 m) duplex soil consisting of light-grey, organic, silty sand (SM–SC) sometimes with minor clay content over a grey, medium plasticity clay/sandy clay (CH) that may have a light-brown mottle at depth. Soils may be gradational rather than duplex on drainage flats.

Along the northern extent of Study Area Two is present a deeply dissected alluvial fan containing boulders of weathered dolerite and Parmeener derived rocks in places. These deposits arising from a former alluvial fan recut by the stream to the north of Study Area Two contain a combination of clays, sands and gravel. They may contain additional material derived from the upslope geological areas, such as the lonestones present in the surrounding permian geological strata.

The contour lines show that Study Area One lies across a steep slope, with a roughly an 18° slope across the width of the study area and two clear gullies show in the contour mapping of the area. Study Area Two, however, lies across a shallow ridge top with a 10° fall from the east to the west along the length of that study area.

Other than a generally rocky soil profile with clays and gravels forming significant parts of the subsurface strata, this profile also indicates the potential for isolated occurrences of raw materials suitable for the manufacture of tools by humans. Except in isolated level areas within the broader steep terrain, or any possible rockshelters the steepness of Study Area One suggests a low potential for intensive human occupation. Conversely, the shallow gradient of Study Area Two suggests that the potential for substantial use or occupation exists anywhere across the area.

The geological background is summarised by geomorphological unit in Table 4.1.

4.1.2 Hydrology

The geological background has demonstrated that Study Area One was on the steep slopes of kunanyi, whereas Study Area Two is situated within the rolling foothills at the base of the mountain. In addition to this the temperature (see Figure 4.1.2) and rainfall (see Figure 4.1.3) records at the Springs, the closest Bureau of Meteorology station to the study area, show that the climate that prevails is temperate with drier, warm summers and wet, cold winters. The climate for this area also shows that the study areas are wetter than the land to the west, with an average rainfall of 100mm and minimum of 15 days of rain for every month except February, which is also the warmest month. Although autumn is slightly drier than winter the amount of rainfall and days of rain are very similar for winter and spring, with October being the wettest month all year. The results of this comparatively wet climate and steep topography are that a range of watercourses are present in or around the study area (see Figure 4.1.4), these are;

- The headwaters of the Hobart Rivulet run through the gullies in the centre of Study Area One.
- To the south of Study Area Two a small unnamed perennial stream passes along the bottom of the shallow ridge that feeds into Guy Fawkes Rivulet.
- At a distance of 120m to the north of Study Area Two is an unnamed stream, undetermined whether perennial, seasonal or ephemeral, that feeds into Guy Fawkes Rivulet.

The hydrological background is summarised by geomorphological unit in Table 4.1.

4.1.3 Ecology

Following from the geological and hydrological background it is possible to divide the study area into a number of geomorphological units with different subsurface and ecological profile. The work in this section relies heavily on natural value assessments by Enviro-dynamics Pty Ltd for Study Area One 'Natural Values Assessment For the proposed Rocky Wheelin' MTB track (Track 1), Wellington Park' (2020a) and Study Area Two 'Natural Values Assessment For the proposed Track 12 and Upper Luge MTB tracks, Wellington Park' (2020b). This present report will not only utilise the description and analysis provided in these detailed reports but also the high resolution and highly detailed mapping that they provide.

Firstly the three vegetation communities present within Study Area One were described in the 'Natural Values Assessment For the proposed Rocky Wheelin' MTB track (Track 1), Wellington Park' (Enviro-dynamics Pty Ltd 2020a:4-5) as:

> Eucalyptus regnans *wet forest (WRE)*
>
> This forest type occurs in the northwestern corner of the survey area. The canopy is dominated by mountain ash (*E. regnans*) with stringybark (*E. obliqua*) subdominant. Large old emergent trees are infrequent.
>
> There is a dense tall shrub layer of dogwood (*Pomaderris apetala*), blanket leaf (*Bedfordia salicina*) and other broad-leafed shrubs. Sassafras (*Atherosperma moschatum*), a rainforest tree, occurs occasionally as immature plants in the northwesternmost part of the survey area.

Smaller shrubs, including mountain correa (*Correa lawrenceana*) and cherry riceflower (*Pimelea drupacea*), are infrequent. The ground layer features patches of ferns such as soft treefern (*Dicksonia antarctica*) and mother shield-fern (*Polystichum proliferum*), along with cutting grass (*Gahnia grandis*). Mosses and liverworts are common on the ground and as epiphytes. Large fallen logs are common.

The vegetation is in good condition with no weeds and a healthy canopy.

Eucalyptus obliqua wet forest with broadleaf understorey (WOB)

This forest type has a similar structure and species composition to the WRE forest, differing mostly in the dominant canopy species. Stringybark is the only canopy species in the eastern part of this community where it intergrades with E. obliqua dryforest (DOB). In the west and north there is a mixed canopy of stringybark and mountain ash or gum-topped stringybark.

The riparian zones along the small creeks support some fern species not found elsewhere in the survey area, such as ray waterfern (Blechnum fluviatile) narrow spleenwort (*Asplenium appendiculatum*) and common forkfern (*Tmesipteris obliqua*).

Eucalyptus obliqua dry forest (DOB)

This community is dominated by stringybark with occasional white gums (E. viminalis). Most of the community is post-1967 regrowth but patches of older trees remain, including some old-growth eucalypts.

Best described as 'damp' *E. obliqua* forest, this community is not dry enough to develop a typical DOB understorey of diverse heathy shrubs. There is a dense tall shrub layer comprising varnished wattle (*Acacia leprosa*) across most of this forest. A mix of smaller dry and wet forest shrubs occur sporadically. There is little groundcover vegetation and few mosses and liverworts.

Disturbance-induced species such as bracken (*Pteridium esculentum*) and parrot food (*Goodenia ovata*) suggest some low intensity burning or other disturbance has occurred in places. Apart from one established holly plant, the community appears to be free of weeds.

Secondly the vegetation communities for Study Area Two were described in 'Natural Values Assessment For the proposed Track 12 and Upper Luge MTB tracks, Wellington Park' (Enviro-dynamics Pty Ltd 2020b:4-5) as:

Eucalyptus obliqua wet forest with broadleaf understorey (WOB).

Stands of blue gum (E. globulus) in the survey area, totalling less than 0.5 ha, are too small to map separately as E. globulus wet forest (WGL). Forest in the north of the survey area, which is somewhat intermediate between typical wet (WOB) and dry E. obliqua (DOB) communities, has been included in the WOB community…

This forest type occurs throughout the survey area but varies in structure and composition. The canopy is dominated by stringybark (E. obliqua) with blue gum (E. globulus) locally dominant and occasional white gums (E. viminalis). Large old emergent trees are infrequent.

There is a dense medium to tall shrub layer of musk (Olearia argophylla), blanket leaf (Bedfordia salicina) and other broad-leafed shrubs. Smaller shrubs, including cheeseberry (Cyathodes glauca) and cherry riceflower (Pimelea drupacea), are infrequent. The groundcover is mostly sparse, comprising sedges, forbs and grasses.

The damp gully in the south of the survey area supports a denser understorey of wet forest shrubs. The drier ridgetop and northeast-facing slopes in the north are best described as 'damp' E. obliqua forest (Figure 4), characterised by a shrub layer comprising varnished wattle (Acacia leprosa) and native cherry (Exocarpos cupressiformis) with smaller shrubs including viscid daisy bush (Olearia viscosa) and common heath (Epacris impressa). This drier forest has little groundcover vegetation and few mosses and liverworts.

While these reports, as a natural values management documents, concentrate on the threatened fauna within the study area they indicate a wide range of animals, including owls, eagles, quolls and bandicoots that have been recorded within 2km of each of these study areas. This indicative of the pre-colonisation faunal wealth that this area is likely to have possessed. With suitable habitat for a wide variety of species that would have been important to Aboriginal Tasmanians for food and material resources.

Overall the ecological context of the two study areas would have been one rich in plant and animal resources, with the terrestrial fauna typical of forests in southeast Tasmania and a range of habitats suitable for both ground and tree dwelling animals. The vegetation would have provided raw materials both for the production of shelters and also for tools and weapons. A range of plant foods would have also been present within this area, including *D. antarctica*, which provides a significant source of carbohydrates and is likely to have been an important food source.

The ecological background is summarised by geomorphological unit in Table 4.1 and vegetation mapping in Figure 4.1.4.

Table 4.1 Environmental background for the study area.

Geomorphological Unit	Geological Resources	Hydrological Resources	Ecological Resources	Erosional Character
Moderate mid or lower slope of talus covered by clays and loamy clay sands.	Poor geological resources, with low likelihood of lithic raw materials unless transported as isolated items through fluvial or colluvial agents. Very low likelihood of rockshelters.	Permanent streams within or nearby to this geomorphological unit.	Typical suite of terrestrial flora and fauna for southeast Tasmanian forests with uses as foods and raw materials for the construction of shelter, tools and weapons. Specifically the presence of *D. antarctica* an important food source.	Likely an aggradational environment with specific areas of localised erosion along drainage lines.
Steep mid slope of permian sedimentary bedrock with duplex (sand over clay) soils.	Moderate potential for the presence of rockshelters, although likely buried, and potential for lithic raw material to be present as lonestones with the exposed geological strata.	Permanent streams within or nearby to this geomorphological unit.	Typical suite of terrestrial flora and fauna for southeast Tasmanian forests with uses as foods and raw materials for the construction of shelter, tools and weapons. Specifically the presence of *D. antarctica* an important food source.	High levels of colluvial and sheet erosion. Strong stream bank erosion in established gullies.
Ridge crest of permian sedimentary bedrock with duplex (sand over clay) soils.	Moderate potential for the presence of rockshelters and low potential for lithic raw material to be present as lonestones with the exposed geological strata.	Permanent streams within or nearby to this geomorphological unit.	Typical suite of terrestrial flora and fauna for southeast Tasmanian forests with uses as foods and raw materials for the construction of shelter, tools and weapons.	Currently with moderate sheet erosion with likely high levels of sheet erosion during nineteenth century timber getting activities.
Moderate mid slope of permian sedimentary bedrock with duplex (sand over clay) soils.	Very low potential for the presence of rockshelters and low potential for lithic raw material to be present as lonestones with the exposed geological strata.	Permanent streams within or nearby to this geomorphological unit.	Typical suite of terrestrial flora and fauna for southeast Tasmanian forests with uses as foods and raw materials for the construction of shelter, tools and weapons.	Moderate colluvial and sheet erosion with likely high levels of sheet erosion during nineteenth century timber getting activities. Strong stream bank erosion in established gullies
Upper slope of deeply bisected alluvial fan with mixed sand, clays and gravels.	Very low likelihood of rockshelters. Lithic raw materials may have been deposited through past fluvial activity but were likely to have been buried and unavailable.	Permanent streams within or nearby to this geomorphological unit.	Typical suite of terrestrial flora and fauna for southeast Tasmanian forests with uses as foods and raw materials for the construction of shelter, tools and weapons.	Moderate colluvial and sheet erosion with likely high levels of sheet erosion during nineteenth century timber getting activities.

Figure 4.1.1a Geological units underlying the study area and surrounds, the legend is shown in Figure 4.1.1b below (Source data: Mineral Resources Tasmania 2014; theLIST ©State of Tasmania).

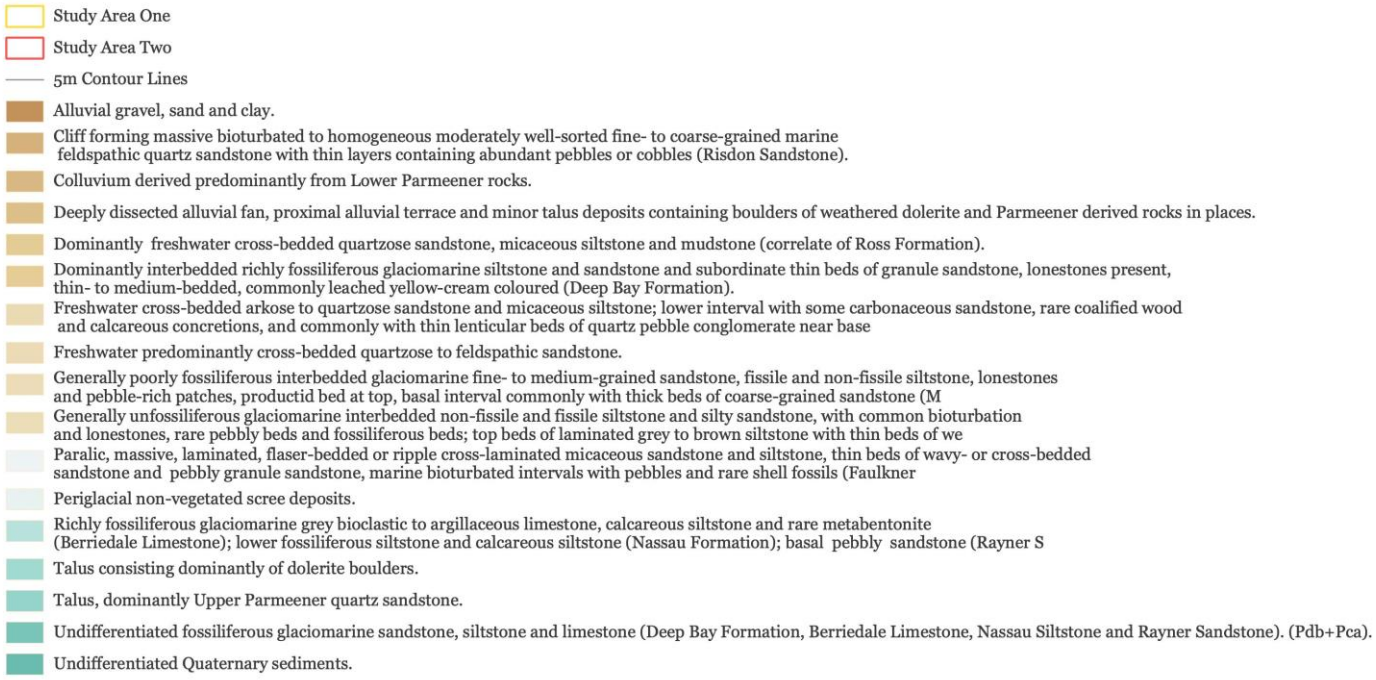

Figure 4.1.1b Legend for the geological units underlying the study area and surrounds shown in Figure 4.1.1a (Source data: Mineral Resources Tasmania 2014; theLIST ©State of Tasmania).

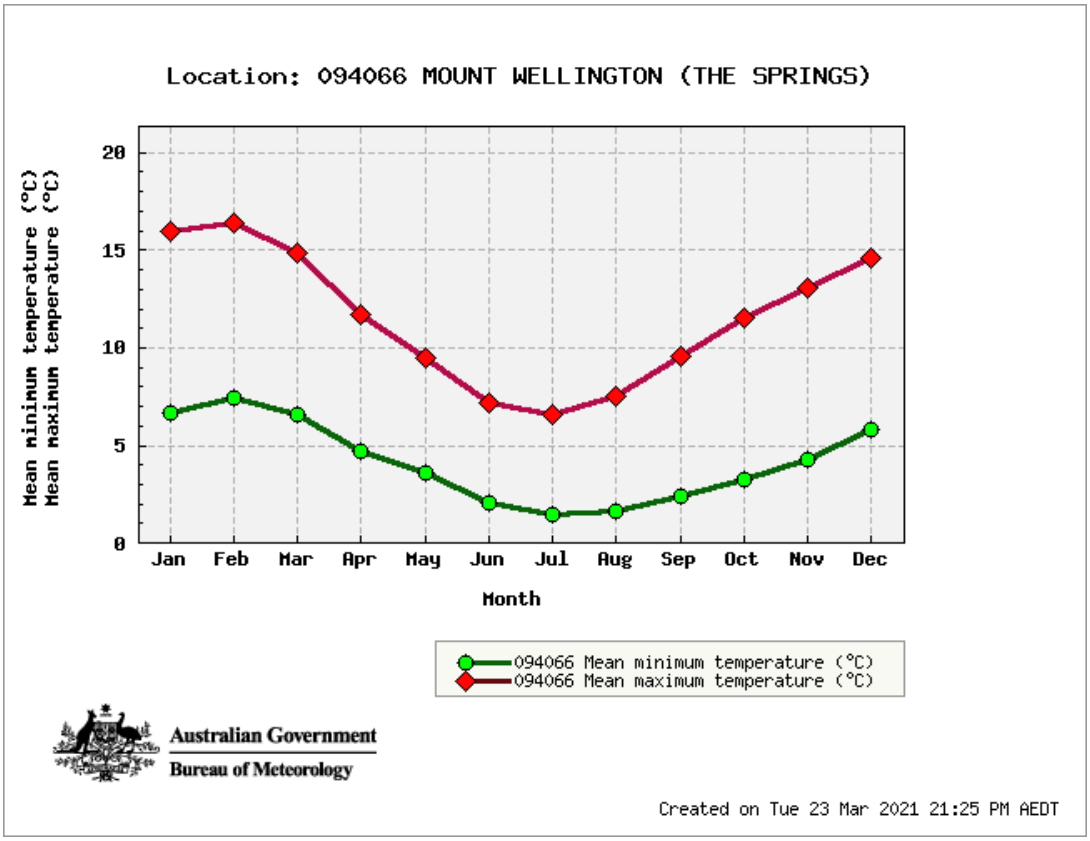

Figure 4.1.2 Monthly mean average maximum and minimum temperatures for the Springs, from data collected 1891 to the present day (BOM 2020).

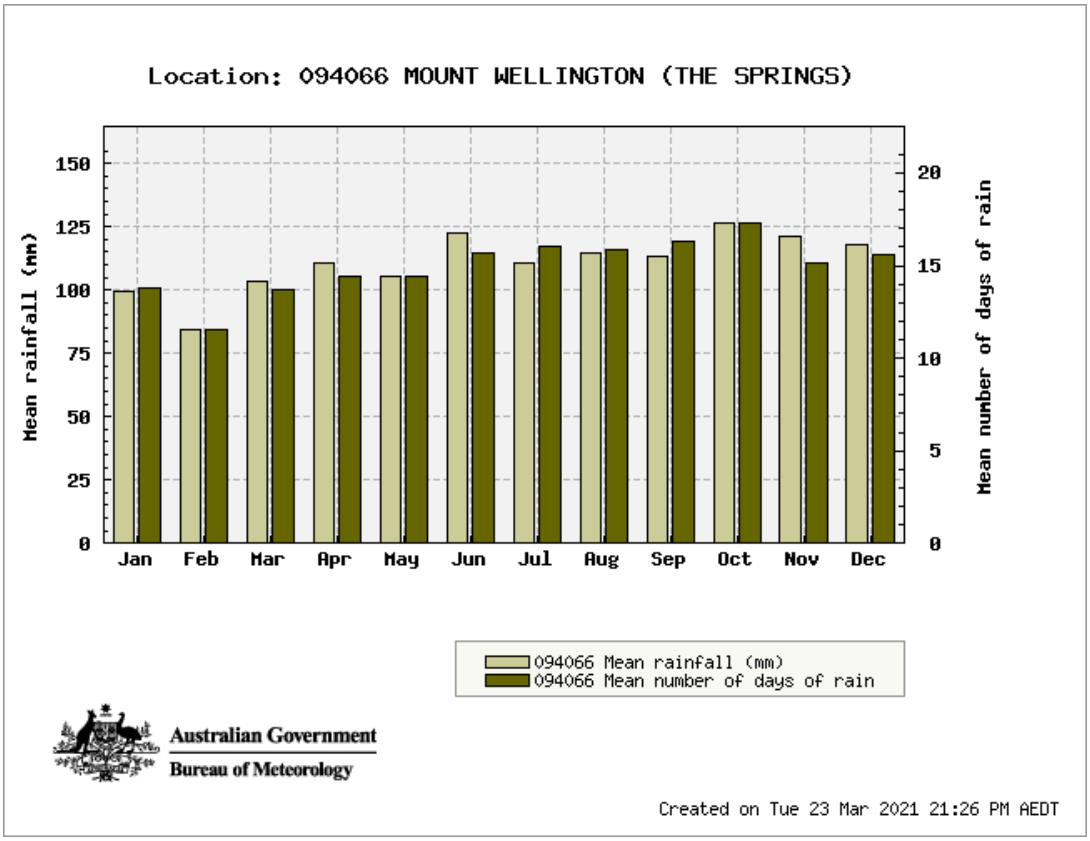

Figure 4.1.3 Monthly mean average rainfalls and rainy days the Springs, from data collected 1891 to the present day (BOM 2020).

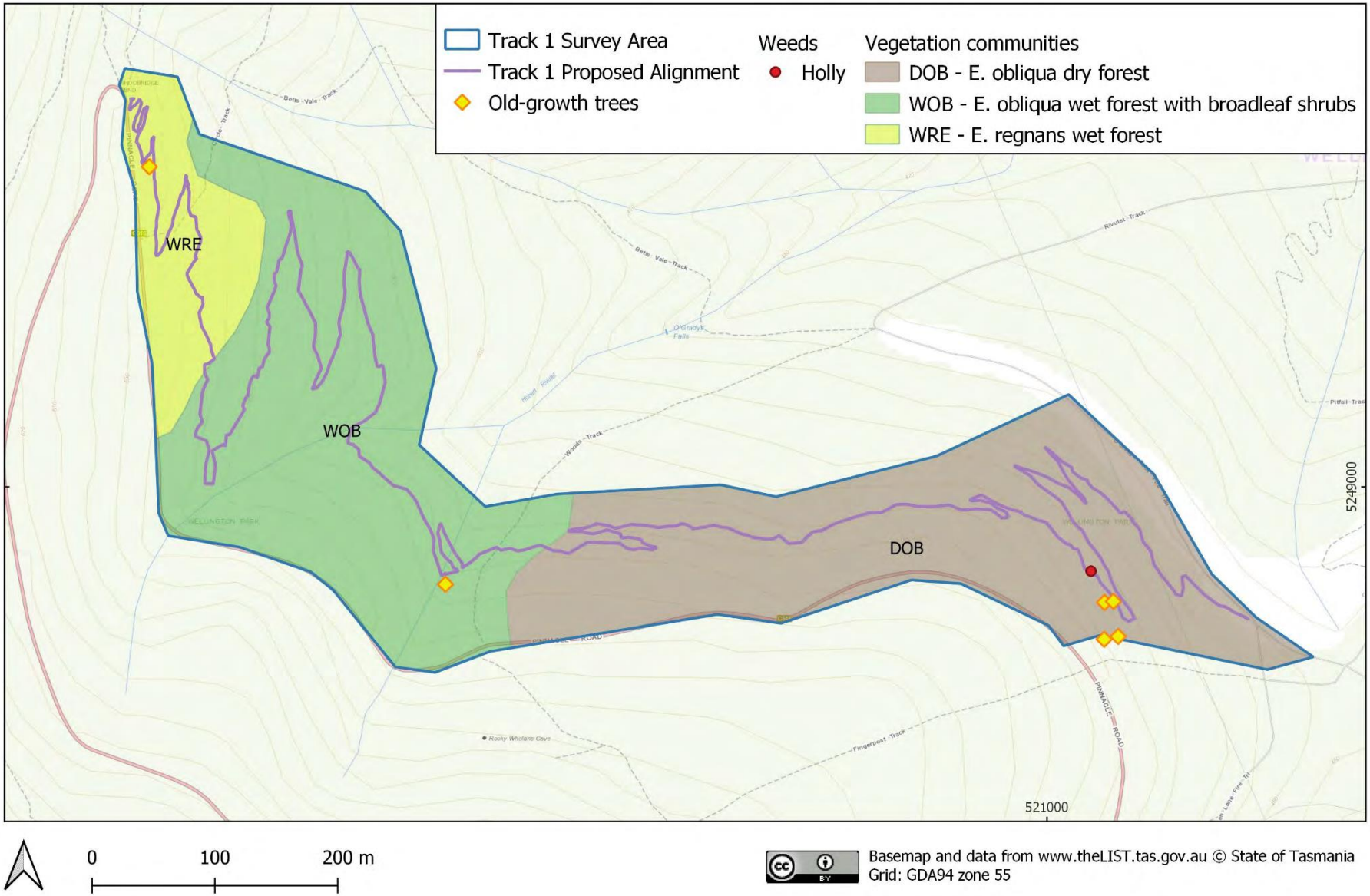

Figure 4.1.4 Vegetation and hydrology within Study Area One (Enviro-dynamics Pty Ltd 2020a:6).

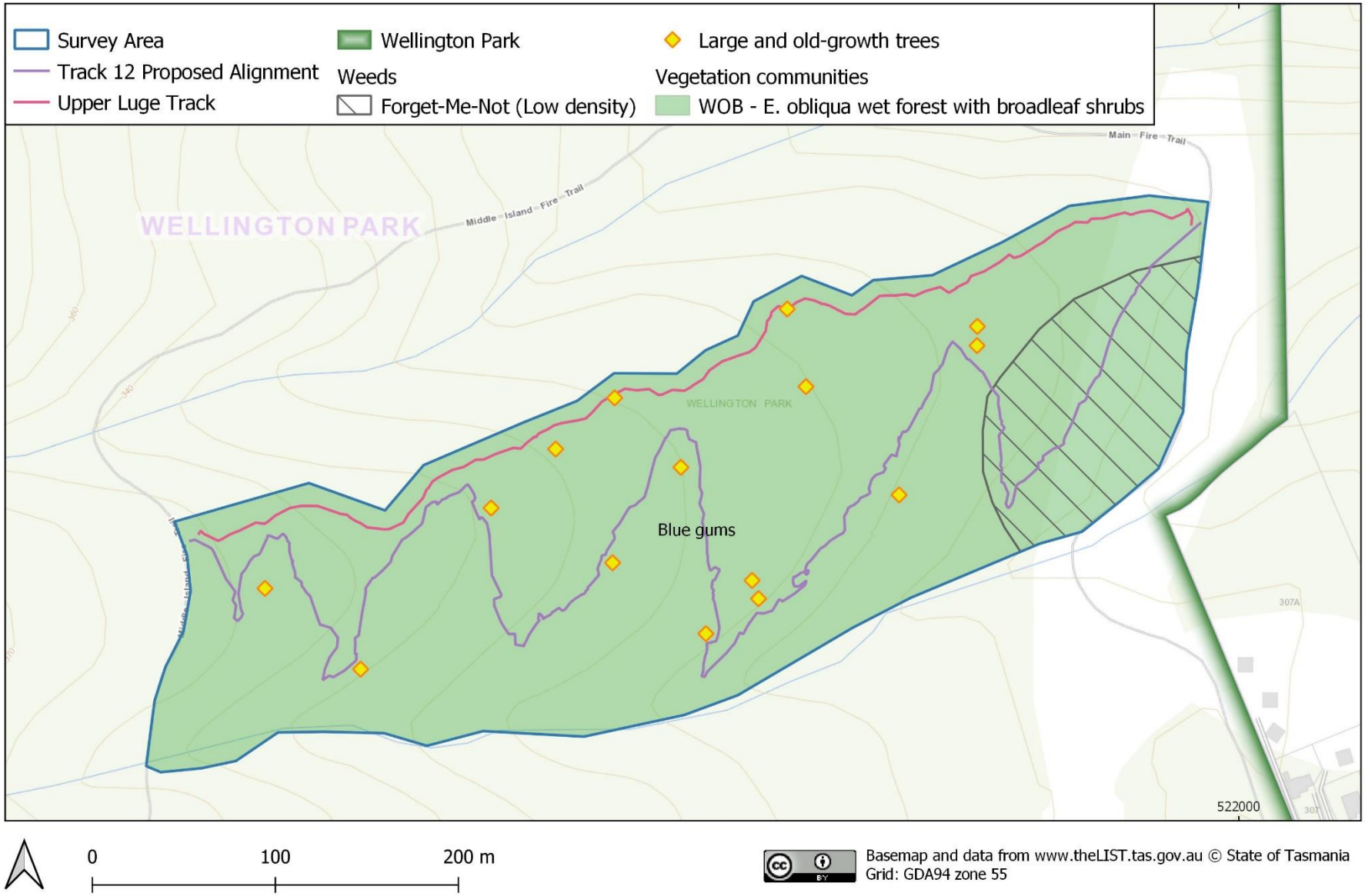

Figure 4.1.4 Vegetation and hydrology within Study Area Two (Enviro-dynamics Pty Ltd 2020b:6).

4.2 Historical Background

The historical background must have two components; an ethnohistorical context for the local area and a history specific to the area investigated. This historical background is essential for both undertaking the field survey of the study area and interpreting the presence or absence of Aboriginal cultural materials in the landscape.

4.2.1 Ethnohistorical Context

The Muwinina were the people who lived in the area around Hobart (nipaluna) and kunanyi. They were members of the South East Nation, who's country extended from the western shore of the Derwent River down to South Cape. Given the possibilities for travel and resources to be gained from the Derwent Estuary and the D'Entrecasteaux Channel, Ryan called the South East Nation "the most maritime people in [lutriwita - Tasmania]' (Ryan 2014: 41).

That the land at the foot of kunanyi was a site of sustained habitation by the Muwinina when the colonists arrived is indicated by Knopwood in his diary in February 1804 where he records that 'many fires of the natives around but none come to the camp' and a week later 'I walked some distance, see many of the native huts but none of them' (Nicholls 1977:43-46). Knopwood, a vigorous perambulator while sober, may have been here referring to Little Sandy Bay (referred to as 'kreewer' by Wurati), approximately two and a half kilometres to the south, where Wurati is recorded by George Augustus Robinson as saying that there was a large native village there (Plomley 2005:349). However, Knopwood may have been referring to huts in the vicinity of Hobart camp.

There is some evidence from a close reading of Robinson that would suggest that these huts were much closer and possibly within Hobart. When giving the name of nipaluna in the first instance, Robinson transliterates it as NIB.BER.LOON.NE (nipaluna) gives another name in association with this LING.HE although does not explain the association. The Tasmanian Aboriginal Centre considers this conjunction, stating 'Two of Robinson's recordings of '(1) Nibberloonne' each have a second word with them: '(2) linghe/lineghe'. While no further information or context is given for this other word, it is very similar to several recordings (European spellings) for a word for 'huts'/'house'/'encampment', and so may well refer to the buildings erected at the site of the town within nipaluna. (TAC n.d.). The association of linghe with an encampment does seem likely but it is not clear whether this refers to the European settlement or whether it refers to an Aboriginal habitation site that existed prior to colonisation is not certain. However, Knopwood's mention of huts close to the colonists' camp is certainly suggestive of the latter and such an intensity of occupation has been demonstrated by the archaeological record (see Section 4.3 below).

The mountain, and its foothills, would have been a ready source of economic resources for the people occupying the land around nipaluna. Even though the harvesting of shellfish is the most visible form of economic activity left by Aboriginal Tasmanian people it is often accompanied by seeking out of terrestrial game in the coastal hinterland. The long term and intensive occupation of nipaluna would also have been accompanied by this form of hunting in the hinterland, reaching at least to the slopes of kunanyi. Similarly, the harvesting of plant foods and raw materials for tools, accoutrement and structures would have taken place in the area back from the coast. Transcending economic interests there may have been social and cultural reasons for accessing kunanyi that are not predicted solely by a consideration of practical needs. The single fragment of ethnohistorical information relating to kunanyi is of just such an activity.

Even while there is evidence to suggest the intensive occupation of nipaluna there is far less for kunanyi itself. The sole piece of ethnohistorical evidence is a statement by Wurati recorded by George Augustus Robinson (Plomley 2008:408) regarding the initial response of the Muwinina to the colonists arriving at nipaluna. Wurati states that 'when they saw the first ship coming at sea they were frightened and said it was Wrageowrapper [a powerful maleficent entity]; that when the first people settled they cut down the trees, built houses, dug the ground and planted; that by and by more ships came, then at last plenty of ships; that the natives went to the mountains, went and looked at what the white people did, went and told other natives and they came and looked also.'

Although kunanyi is not specifically mentioned in this recounting, the mountain or its foothills is most certainly the location for this to take place as nowhere else would allow for such a view of the construction activities of the colonists at Hobart. Despite being only a single sentence this fragment contains a lot of information about the Aboriginal presence on kunanyi. Firstly, that kunanyi could be accessed and be a site of the sustained occupation as Aboriginal people observed what was taking

place at nipaluna, suggests that there was enough food resources there to allow for people to remain at a distance and observe what was taking place. Secondly, that other Aboriginal people were able to come and also observe from the mountains indicates that kunanyi was a part of a well defined social landscape, with places for meeting and accommodation for visiting peoples. This sentence also indicates that the mountain was considered in a tactical sense by the Muwinina for although it would have been possible, in a strictly physical sense, for the Muwinina to visit Hobart Town directly or at least to observe from close by, they chose to observe from a safe distance. This retreat to higher ground as a defensive manoeuvre was observed at other times and allowed for stones to be more effectively employed against any attackers (Ryan 2008 and Clements 2014:82). It is possible, even prior to colonisation, kunanyi was also used for its tactical benefits. This lone fragment of ethnohistorical information helps to demonstrate the economic, social and tactical value of the mountain and is suggestive of a broader range of activities that took place there but remain as yet unknown.

Aboriginal people were to continue to visit the outskirts of Hobart even as long as ten years after colonisation. During this time it is likely that kunanyi would present a useful refuge for Aboriginal people passing through the area or seeking to escape imprisonment, of whatever type, within the town. The decimation of the local game by Europeans early during colonisation is likely to included that in the foothills, which would have reduced the potential food resources in the area, and the danger of being so close to the town for Aboriginal people meant that it is unlikely the area would have been intensively occupied after colonisation. The timber getting activities taking place in the early nineteenth century is likely an important date for the end of contact activities occurring in the area.

4.2.2 Site and Disturbance History

A completely referenced and detailed site and disturbance history was recorded in Austral Tasmania's AT0296 'kunanyi - Mt Wellington Mountain Bike Track Historical Heritage Assessment Report.' It is not proposed to recapitulate this history here but rather to present a summary of its findings alongside the results of the historical archaeological survey that can assist in understanding the disturbance of the area.

The historical background of the study areas mirrors two key themes of historical development typical of the mountain, early economic use for timber-getting and later recreational use of the mountain. All of Study Area Two was within the grant given to Degraves as was part of Study Area One. There is historical and archaeological evidence indicate that Study Area Two contained and was in close proximity to intense timber-getting activity and while it is likely that parts of this activity extended into Study Area One it is clearly the former that is most deeply associated within this phase of development. Similarly, although historical tracks border the land around Study Area Two, it is Study Area One that contains the most substantial and complex evidence of the use of this area for recreational purposes. However, as both of these areas are in within close proximity to one another, they will be discussed together except where cases of specific activity can be demonstrated to relate to one area or the other.

There are four clear phases of use that can be identified in the historical background for the study area, in order of appearance, they are; timber-getting, early recreational use, depression era track formation and post depression recreational use of the mountain. Each of these phases, synthesising both the documentary and archaeological record researched in the historical heritage assessment, will be considered in turn.

Timber-Getting 1815-1850

From the early nineteenth century, the mountain was used as a source of eucalypts to provide timber for the nearby town. There is an historical record of a convict timber-getting station on the slopes of kunanyi between 1815 and 1820 (McConnell and Scripps 2005), the historical archaeological investigation of this area has identified it as being immediately to the south and partly within Study Area Two. The extent of this initial timber getting was limited, with the larger trees beyond the capabilities of convict labour unsupported by industrial saw milling machinery. Nevertheless, the construction of sawmilling infrastructure, such as sawpits and snig tracks, as well as the felling and processing of the smaller trees would have caused deep localised disturbances and initiated the erosion of the existing soil profile within Study Area Two.

Large scale timber milling operations took place with a grant of land to Peter Degraves in 1824, followed by a second much larger grant a year later, and the construction of a water powered saw mill soon after (Hughes and Machintosh 2011:110-117). The land that Degraves' held on the footslopes of the mountain granted included the entirety of Survey Area Two and the easternmost extent of Survey Area One.

Within years of construction an overseer with twenty timber millers and getters were employed on the property and in 1832 a second sawmill had been constructed and among the other enterprises also taking place on the property fifty people were employed there (Reid-Mcilreavy n.d.). There is some evidence that the sawyers lived in close proximity to their place of work, with Backhouse mentioning that at Kings Pits, a short distance to the south of the study area, that he held a meeting in the sawyer's huts. The historical plans also show that a substantial network of tracks for timber-getting had also been established within the property at this time.

The devastation of the pre-colonial vegetation within Study Area One would have occurred as a consequence this intensive timber harvesting, with substantial milling equipment and a considerable team of workers. The removal of the remaining large trees themselves would have been the key result but secondary effects would also have taken place. Movement of the topsoil *en masse* and changes in the wider ecosystem would have also taken place and there similarly would have been systematic or *ad hoc* construction of structures or features associated with timber harvesting. There is some evidence from the historical plans that a track or road constructed along the northern border of Study Area Two during this phase. The historical archaeological investigation of Study Area Two confirmed this by identifying typical proxies for this disturbance, large sawn stumps and a skeletal soil profile.

This activity would have had an intrinsic time limit and once the natural timber supplies were exhausted along with the opportunities for expansion the timber-getting must have ceased. It is possible that saw mill continued operation with timber from other locations but this is of little relevance for the study areas. The study area continued in private hands, with little evidence of extensive modification or use within either study area inside of Degraves grant after the early phase of timber-getting. The land was incorporated into Mount Wellington Park in 1930.

As part of the significant activity occurring around the Degraves complex at Cascades it is likely that the Fingerpost Track began to take shape at this time. The data sheet for this track in the Wellington Park Historic Heritage Management Database considers that the early fingerpost track began in the 1820s as a sawyers road from the Cascade mills to Fingerpost on the Huon Road. Subsequently it appears that the track was extended to the springs in the early 1830s at the latest, as part of the water supply scheme. It is likely that the section passing close to the south of Study Area One was formed during this period. It is likely that the first phases of the track were utilitarian. It is also possible that Pillinger Track, along the current alignment of Pinnacle Road to the south of Study Area One. Both of these tracks may have caused disturbance on the land within Study Area One, directly through the use and construction of these tracks but also through the incidental use of the surrounding area by travellers passing through. Aboriginal use of these areas would have been restricted by presence of Europeans in these areas during the first decades of colonisation and after timber getting had radically altered the environment in parts of the area under investigation there would have been little incentive to return to this part of country.

Pinnacle Road and Tracks 1850 -1928

From the middle of the nineteenth century the focus of the recreational use of the park was centred around 'major scenic attractions such as the Pinnacle, the Springs, Wellington Falls and Fern Tree Bower' (McConnell and Scripps 2005:14-15). From 1890 to 1920 there was a significant intensification in the recreational use of the park and a corresponding growth in the amount of huts and tracks that supported it (McConnell and Scripps 2005:14-15). These huts were generally constructed of timber and were often subsequently lost through bushfires. In 1906 large portions of Mount Wellington were declared a Public Park (de Quincey and Cannon 2005:245).

Survey Area One contains and is in close proximity to a number of historical tracks that area associated with this phase of use. While there is some evidence for timber-getting in the eastern parts of this study area, its proximity to the Springs, and the already existing Fingerpost Track, means that it was further imbricated within the track network growing around the mountain at this time.

The use of the Fingerpost track likely continued through the middle of the nineteenth century, with its connection to the Icehouse Track, became part of a key route to the pinnacle of kunanyi. Although three other tracks also allowed access to the Springs by the 1890s, the Fingerpost Track was still popular for this purpose during the latter half of the nineteenth century. This use of the Fingerpost Track continued to change its form as well as the landscape around it, with established tracks forming a basis on which other tracks were planned and formed. The Springs were also central in the way tracks developed in the southeast of the mountain in the coming decades.

The Springs, a flat area with a number of uses for Europeans from the commencement of colonisation, is close but not within the study area and has made its presence felt on the cultural landscape around it (McConnell and Scripps 2005:73-74). The surrounding tracks have gravitated towards this site and Pinnacle Road is likely the reiteration of an earlier track that had connected it to Huon Road in the

South. Favoured in the early nineteenth century by Hobartians as a place for social activity and a base for more distant activities in the park the Springs has also had important practical value through its history. In 1831 water was diverted from the natural springs nearby to supply Hobart and the Springs served as a staging area for the construction works associated with this endeavour (McConnell and Scripps 2005:73-74). Through the later decades of the nineteenth century, huts were constructed here memorials made to the departed and it served as a social venue for the people of Hobart. In 1907 a Hotel, now gone, was constructed there and during the construction of the road to the pinnacle of Mount Wellington it was used as a construction base.

Although it is likely that the alignment of Pinnacle Road reflects a track formed during the 1830s, it was in the latter half of the nineteenth century that this road was to achieve a more formal shape that reflects the nature of the current road. Shown in earlier plans from the middle of the nineteenth century the road itself was only constructed in 1888, originally with prison labour then with free labour (McConnell and Scripps 2005:59-60).

It is possible that further cultural modification of the land around Study Area Two was taking place at this time and it is almost certain that existing trails in the vicinity of this study area continued to be used with the possibility that *ad hoc* tracks were opened. However, as the land had been substantially cleared during the early nineteenth century and the land itself was not included within Wellington Park until 1931. The likeliest estimation of its use during this period is that this land was allowed to rest, perhaps used for low intensity agricultural activity after the cessation of timber-getting, with the regrowth of native vegetation taking place.

The disturbance within Study Area Two would have been thorough and near total by the end of this phase with any remnant trees suitable for timber removed and the soil profile locked into a cycle of erosion. However, the disturbance within Study Area One is hard to define despite the cumulative impacts of tracks cutting through and near the area. While the construction of the precursor of Pinnacle Road and the small tracks within Study Area Two would have had direct and drastic impact upon the soil profile this would have been restricted to the area immediately surrounding them. However, the increasing intensity of use of this area by Europeans, albeit with the foci of development outside of Study Area One, would have lead to small scale but widespread disturbances. Modification of the ecosystem through introduced plants and animals along with the harvesting of timber or deadfall for burning or hut construction would have led to a range of small scale disturbances and may have exacerbated existing patterns of natural erosion in such steep topography.

Depression Era Construction 1928-1936

As with the later decades of the nineteenth century this brief period will concentrate on developments taking place around Study Area One, as although Study Area Two was brought in to the land of Wellington Park in 1931, there is no direct evidence of cultural modification until the late twentieth century. There is some evidence that the predecessor track to the Main Fire Trail was in place as a 'rough track' by 1930 and that the luge track, immediately to the north of the current study area, was still extant and in some sort of use as a 'cart track' (See Figure 4.3.3).

Alongside the development of the section of Pinnacle Road to the summit, and likely the modification and upgrade of this road as it extends along the southern boundary of the study area, tracks construction was an important source of work around Hobart during the lean years of the Great Depression. This period saw the construction or formalisation of three new tracks within Study Area One, Featherstones Cascades Track, Boundary Track and Circle Track, as part of a scheme to provide employment during the depression. All these tracks date to approximately the same time and, although little is known for certain, have closely linked functional characters.

The tracks would have intensified the disturbance around Study Area One in much the same way as had occurred during the preceding phase of development, with intense disturbance concentrated within the footprint of these works and a wide range of smaller scale disturbances in this area.

Stability and Recent Modification 1936-2020

Through the rest of the twentieth century, little change took place in either study area and while the effects of the 1967 bushfire would have been devastating to the ecological communities of the mountain it appears to have very little direct impact on the material culture present within the study areas. Instead, disuse and disinterest, relating to specific sections of track has lead to their obsolescence and obscurity within Study Area One and minor modifications to the track network around Study Area Two.

By 1950 Featherstones Cascades Track had fallen out of use by the 1950s and the section of the Betts Vale/Boundary Track within the study area had already been left off maps and possibly in disuse by

1942. Woods track appeared to continue in use within the study area throughout this time but was bulldozed for a fire trail to the south of the study area.

Adjacent to Study Area Two are both the Main Fire Trail and Middle Island Fire Trail were constructed in the 1960s in response to the bushfire. Mirroring the alignment of earlier tracks that are now no longer extant in this are. In an earlier plan a track in the approximate location of the Middle Island Fire Trail, this track is absent from earlier plans of this area, and it is likely that the current form of the trail was the modification of a mid twentieth century track for the purpose of fighting fires.

Small scale disturbances would have continued throughout this time and patterns of erosions initiated through the earlier phases of development would have continued through this time, mitigated in areas of revegetation and regrowth.

4.3 Archaeological Background

In order to predict the Aboriginal heritage that may be encountered within the study area and to effectively interpret the results of the survey it is necessary to consider previous local studies as well as nearby sites recorded on the Tasmanian Aboriginal Heritage Register. The results of this archaeological background will be summarised in Table 4.2 and Table 4.3.

4.3.1 Previous Archaeological Studies

A number of previous archaeological studies have been undertaken on the eastern slopes of kunanyi, with the majority at or below the height of the current area of investigation. These studies all stress two factors that have shaped the identification and understanding of Aboriginal cultural material on kunanyi, steep topography and a fringe of hard disturbance caused by urban development. The full range of these studies are listed in Table 4.2 below.

A report by McConnell and Sculthorpe (2019) describing a May 2018 survey of burnt areas in Wellington Park was included in the document summary report provided by AHT but not in the reports provided for review and is only referred to as in preparation on the site card it is assumed that this report is not yet completed.

These surveys have largely been based on management of the large areas of bushland around Wellington Park and their associated infrastructure, with a number of track, bushland, cable routes and fire management projects triggering Aboriginal heritage investigations. These investigations, with the exception of lithic artefacts encountered in a recent fill during an historical excavation at the Cascades Female Factory (SKM 2013) have succeeded in identifying several isolated artefacts, an artefact scatter and rock shelters primarily on the eastern foot slopes of kunanyi.

One of the isolated artefacts was located during a burnt area survey by McConnell and Sculthorpe (2017) as part of a series of burnt area surveys undertaken on behalf of the Wellington Park Management Trust and the Tasmanian Aboriginal Centre. The other isolated artefact, scatter and rock shelters were all identified within a survey of Ridgeway Park to the southeast of the current areas of investigations (McConnell, Stanton and Scripps 1998). These reports note that although isolated artefacts were located on ridge lines there was a low probability for there being more substantial material in these areas as a result of the intensive survey that has taken place across ridgelines and, as such, it was considered that isolated artefacts are typical of these areas. McConnell, Stanton and Scripps (1998) further argue that rockshelters are likely to be within prominent sandstone cliffs and that there is a high potential for scatters to be present on broad valley floors.

As a result of this generally low amount of finds the investigations have expended some effort identifying the reasons for this paucity of Aboriginal heritage sites within this prominent landscape. Stanton (1998, 1999a and 199b) has conducted a number of surveys for infrastructures sites around the fringes of Wellington Park and has cogently argued that disturbance has affected lower lying level areas, which would have been more favourable for sustained occupation, around the mountain while the unfavourability of steep topography has limited the presence of other sites further up slope. Jackman and Pedder (2018 and 2020) have echoed this view in consideration of areas of with steep topography. Jackman and Pedder (2020:18-19) also note that a lack of studies of the higher slopes of kunanyi, in part reflecting the fact that development driven assessment activity has focused on the foot slopes of the mountain, means that there may be a sampling bias shaping our current understanding of the archaeological patterning present on kunanyi. Given the very small amount of area covered by current surveys and generally low ground surface visibility throughout, or areas of visibility that are primarily concentrated around the disturbance along the foot slopes of kunanyi, it is reasonable to assume that the current suit of results is not conclusive in determining site distribution on the mountain.

Even in the surveys targeting burnt ground McConnell and Sculthorpe (2017:17) note an additional problem affecting surveys in a similar way to low ground surface visibility. Without vegetation obscuring the soil of the ground surface a large number of angular pebbles were present that made survey difficult. These pebbles had the potential to camouflage lithic materials, especially as a number of natural broken stones of the same material and with some traits diagnostic of lithic artefacts were also present. This highlights an additional issue with previous investigations of the mountain where the raw materials present create a level of background noise where even in an areas of exposure there is additional factor limiting the identification of cultural material.

Clearly rockshelters, isolated artefacts and very small artefact scatters are the most common site types recorded in previous investigations. Although these sites are sparse within the landscape they do not necessarily denote a lack of Aboriginal presence in this area but instead are suggestive of the economic activities that may have been taking place. Isolated artefacts and small scatters are suggestive of activities that are not sustained habitation sites or that did not require an extensive use of lithic artefacts to be undertaken. This means that the pursuit of game of the harvesting of certain plant foods may be responsible for the patterning observed in the archaeological record. This fits well with ethnohistorical observations that indicate concentrated coastal habitations sites and a wide ranging exploitation of the coastal hinterland within reach of these areas.

Additionally an excavation by Austral Tasmania (in preparation and not yet present in the AHR) has identified *Dicksonia antarctica* fossil pollen in a midden dating from 8,140BP demonstrates that plant food was sourced from the slopes of kunanyi and consumed within the littoral zone as part of the coastal habitation of the Muwinina people. This indicates that the mountain played an important role in providing material resources for Aboriginal people and is suggestive of a wider range of activity taking place there than has been previously indicated. It shows that, rather than being subject to a set of conditions different from the coastal sites throughout nipaluna, the mountain is closely linked to the network of Aboriginal occupation and movement throughout this area. With evidence of occupation associated with some of the rockshelters in this area, and a lack of excavation providing a detailed basis for interpreting their use, it is also possible that these shelters played an important role in human movement and habitation within this area as a ready form of shelter, if not long term occupation.

There are few sites currently reported in the existing archaeological literature around kunanyi but this cannot be taken as a basis for a lack of Aboriginal presence within this area. In the first case European occupation has been concentrated on the more level areas around the mountain and consequently high levels of disturbance have affected the potential of Aboriginal sites being present there. Adjacent areas of steep topography have been uniformly found to have low potential for sites to be present, with the exception of rockshelters in steep cliffs, but these investigations have been limited in scope and affected by limiting factors such as low ground surface visibility. Although, where isolated artefacts or artefact scatters have been present they have been on gently inclined ridgelines or valley floors. Another factor skewing these results may be rocky A horizons with angular pebbles forming a background noise that may further obscure lithic artefacts. There is archaeological evidence from both on the mountain and nipaluna to indicate that the Aboriginal Tasmanian use of the mountain was closely linked to intensive habitation of economic exploitation of the littoral zone of the nearby coasts.

The essential point to consider is that the pattern of site distribution on kunanyi is little understood, owing in part to poor survey conditions and restricted survey scope, but cannot be considered in isolation from the complex of sites and places so much in evidence on plains and coasts below. While there is as yet little archaeological evidence to fully characterise the Aboriginal presence on kunanyi, what evidence there is points to the mountain as valuable part of the life of people around nipaluna more generally with access to hinterland resources driving the arrangement of known sites.

Table 4.2 Previous Aboriginal heritage investigations relevant to the project.

Project Name	Date And Author	Description of Investigation	Summary of Results
Aboriginal and Historic Heritage Desktop Report Proposed Drops Track and Unnamed Track, Wellington Park	Jackman and Pedder 2018	An Aboriginal and historic heritage desktop investigation of two recreational tracks south of the Rivulet Track and north of the O'Grady's Falls and Bracken Line fire trails on kunanyi.	This report was a desktop investigation only, and while, it provides detailed consideration of the archaeological and ethnohistorical background of this area does not supply additional field results for consideration. The recent, relevant and extremely proximal background is of importance to this study and is considered in Section 4.3.1 above.
Wellington Park Fuelbreaks WPF10, WPF11, WPF13 and WPF15, Fern Tree, Hobart - Aboriginal Heritage Assessment Addendum Report	Jackman and Pedder 2020	This investigation was both an Aboriginal and historic heritage survey of four proposed firebreak locations around Fern Tree on the eastern slopes of kunanyi. The survey areas were of a very small scale, less than a 1,000m² with a single survey area being 5,000m².	Low ground surface visibility hampered the results of the investigation and no Aboriginal sites were identified during the survey. Furthermore, Jackman and Pedder observe (2020): No statutory relics, either in the form of stone artefacts, or other forms of Aboriginal culturally modified material or activity areas were identified during the field surveys. Given the small size of the study areas and low effective coverage resulting from obscured ground it is hard to be definitive, however the generally steep ground slope encountered and paucity of specific economic resources, such as lithic sources or culturally useful plants, combined with the results of recent surveys, suggests that the potential for statutory relics to be present, or at least detectable, is very low.

Project Name	Date And Author	Description of Investigation	Summary of Results
Report on the 2016 Burnt Area Survey for Aboriginal Heritage, Wellington Park	McConnell and Sculthorpe 2017	An archaeological survey for Aboriginal heritage on the eastern fringes of Wellington Park in areas of land that had recently been cleared of vegetation as a result of bushfires. Targeted survey, as opposed to total survey, was undertaken in all but one of seven areas by teams of four to seven people.	A single lithic artefact was identified during the survey (McConnell and Sculthorpe 2017:17): This site is an isolated artefact: It comprises a 40mm x 57mm x 12mm, well worked scraper made on a flake. The full edge of the flake is worked except for the platform, and three different worked edges can be recognised – one long convex worked edge (distal edge) and a small-medium worked nose each side of the convex scraper edge (on the lateral edges). The artefact is made from a grey silcrete which has large pale (whitish) subrounded to subangular grains of various appearance and size (c.0.25 – 7mm diameter) floating in a homogenous grey cherty matrix. The grains appear to be predominantly of a white chert, and some may be fossil fragments. The source of the material is not known. [redacted] Additionally the authors were able to identify lithic raw materials in the area that helped to obscure any Aboriginal potential in this area (McConnell and Sculthorpe 2017:17): The lack of vegetation cover also showed that some areas had abundant pebbles of quartz and quartzite included. The quartzite in most cases was a well sorted, quartz-rich, white stone which looked suitable for stone artefact manufacture. This material occurred mainly as angular fragments up to c.3cm diameter, but larger fragments of up to c.10cm diameter also were noted. In some areas this quartz and quartzite occurred as rounded pebbles (whole and fragmented). Because this material looks similar to stone artefacts of the same or similar materials, the presence of this material and the generally stony nature of the groundsurfaces made the surveying more difficult. It is possible therefore that artefacts were missed in the survey. A small number of pieces of quartzite with flake scars were noted, but none were considered to be Aboriginal artefacts as none had clear conchoidal flakes and there was no evidence of other working.

Project Name	Date And Author	Description of Investigation	Summary of Results
Report of the May 2018 Burnt Area Survey for Aboriginal Heritage, Wellington Park, Tasmania Wellington Park Management Trust the the Tasmanian Aboriginal Centre	McConnell and Sculthorpe 2019	This investigation consisted primarily of a field survey of three broad areas along the northern fringes of Wellington Park, targeting recently burnt areas. The ground surface visibility was extremely high.	No Aboriginal sites were identified during the survey and this was largely attributed to the nature of the rocky ground, with a large number of angular pebbles present on the exposed ground surface. These pebbles included materials that are often used for the manufacture of lithic items and some exhibited diagnostic attributes consistent with flaking but not to such an extent that there were considered to be lithic artefacts but rather they constituted a level of background noise that hampered observation of lithic materials in a way similar to that of low levels of ground surface visibility.
RPT10464 Unpublished Report for Heritage Tasmania Ridgeway Park Hobart Cultural Heritage Survey & Assessment	McConnell, Stanton and Scripps 1998	Aboriginal and historical cultural heritage investigation of Ridgeway Park to the east of Fern Tree south of Hobart. Field survey targeted areas of high potential for Aboriginal and historical cultural heritage.	Four Aboriginal sites were identified during the field survey. A single isolated artefact (AH7990), an scatter of two quartzite flakes (AH7993) and two rockshelter sites (AH7992 and AH7993), denominated unoccupied. The lithic artefacts were identified on a ridge and valley floor and the authors of this report consider that this is indicative of a high potential for similar sites to occur on other valley floors, which also have very low levels of ground surface visibility. The intensive survey of ridge locations during this survey and the location of only a single lithic item caused the authors to assert that there was a low potential for isolated artefacts or scatters to occur on ridges in this environment. The rockshelters were within prominent sandstone cliffs and although no other items were identified in association with them the authors suggest the potential for occupation deposits remains.

Project Name	Date And Author	Description of Investigation	Summary of Results
A Cultural Heritage Survey and Assessment of the proposed Telstra Cable Route Huon Road to Turnip Fields Road Residence Fern Tree	Sim 1999	This investigation was undertaken as part of the risk assessment process of 300m of a proposed Telstra Cable route from Huon Road to a residence above the Sandy Bay Rivulet.	In this short survey along the western edge of a cleared paddock found no Aboriginal sites. However, given that this survey only covered 300m of ground this result in unsurprisingly and also cannot be taken to indicate an absence of sites within the surrounding landscape. Little description of the environmental context or landform is provided in the report.
Archaeological Test Excavation Cascades Female Factory National Broadband Network	Sinclair Knight Merz 2013	Test trenching, seven pits, within the Cascades Female Factory Precinct at locations of proposed poles associated with the installation of the National Broadband Network. This is an historical test excavation report and the Aboriginal cultural material encountered was incidental to this.	Chert flakes were encountered in recent fill deposits on the site, there is estimation of where these artefacts may have been taken from or the context of the fill in general. "Test pits 2 and 3 were excavated to a depth of approximately 200 mm at which point Aboriginal stone artefacts were found in surface fill material (TASI 11786). While Aboriginal artefacts were found near the surface in pits 2 and 3 (TASI 11786), the completed excavation of pit 4 showed the silty sand deposit in which these Aboriginal artefacts were found was sitting upon historical period fill deposits. This suggests that the Aboriginal artefacts in pits 2 and 3 were brought in to the area with a top soil deposit relatively recently (post-1989). (SKM 2013:8)"
Additional Route Option Associated with the Hydro-Electric Corporations West Hobart Re - Development	Stanton 1998	Investigation of the proposed installation and replacement of parts of a transmission line from Chapel Street Substation in Glenorchy to McRobies Gully, to the southwest of Mt Knocklofty. This area was subject to a pedestrian survey by Steve Stanton who also conducted a background analysis of the area.	Stanton noted that there was a large amount of historical disturbance to the landscape with the northern more urban portions of the investigation area and that areas of exposure were generally associated with higher levels of recent or contemporary disturbance. No Aboriginal heritage sites were identified during the survey. Stanton (1998:6) observes that 'evidence of prior Aboriginal use of country in the general region of the study area appears to be concentrated primarily in the lower lying, level sections of the Derwent River Valley, apart from a sparse distribution of sites located on the lower foothills of Mt Wellington, and a small number of sites adjacent to nearby watercourses.'

Project Name	Date And Author	Description of Investigation	Summary of Results
Assessment of Aboriginal Cultural Heritage Values - Proposed Upgrading of the Wellington Park Road Access	Stanton 1999	This Aboriginal heritage investigation, including a field survey, relates to an area of 100m of road widening along Pillinger Drive near its junction with Huon Road along with a new section of Pillinger Drive from its junction with Bracken Lane to Huon Road.	A combination of disturbance and roadworks, southerly aspect and steep and rugged terrain meant that this study area was considered to have a low potential for Aboriginal sites and no Aboriginal sites were identified in the survey. The results of the investigation were hampered by low levels of ground surface visibility which severely lowered any possible effectiveness of the investigation.
Aboriginal Heritage Assessment Knocklofty Reserve	Stanton 1999a	This investigation consisted of a field investigation of the land of Knocklofty reserve on behalf of the Friends of Knocklofty Bushcare Group.	Although no sites were identified during the survey Stanton (1999a) indicates that this is likely the result of significant historical disturbance in the area.

4.3.2 Previously Recorded Aboriginal Heritage Sites

There are 15 Aboriginal heritage sites recorded within Wellington Park or in close proximity to the investigation areas but there are none recorded within the study area. The previously recorded site locations are presented in Figure 4.3.2 and the summary of the site information is presented in Table 4.3. Three (20%) of the sites are artefact scatters, six (40%) are isolated artefacts, one (7%) is an occupied rockshelter and five (33%) are unoccupied rockshelters. Thus the archaeological profile is dominated by isolated artefacts and rock shelters, which likely reflects the topography, low ground surface visibility and relative ease of identification of rock shelters in such a thickly vegetated landscape.

Although the majority of the rockshelters had potential for occupation deposits within them the single 'occupied' rockshelter was so denoted owing to the presence of two chalcedony flakes on the floor of this site, and can be functionally considered as a rockshelter and artefact scatter. The rockshelters were uniformly present in sandstone cliff faces, with a northwesterly or northeasterly aspect, and ranged from 3 to 8m in depth. All of the rockshelters showed signs of recent use, with modern detritus and graffiti present, in some cases bones and charcoal were also present but it is not clear that these were not of post colonisation provenance.

The lithic artefacts are dominated by cherty hornfels and quartzite, with a single isolated silcrete flake also present. All of the cherty hornfels artefacts were located at a single site and may be associated with knapping or quarrying activity in this area. These artefact sites were located on gently sloping ridge crests or spurs. Generally the artefacts were considered to be flakes or scrapers with retouch being present in a number of cases.

A single subsurface artefact scatter was inadvertently excavated in an historical test excavation at Cascades and was attributed to artefacts deposited as part of a fill deposit. However, this attribution was derived from a stratigraphic association inferred from a sequence in a test pit that did not contain any lithic materials and thus must remain somewhat uncertain.

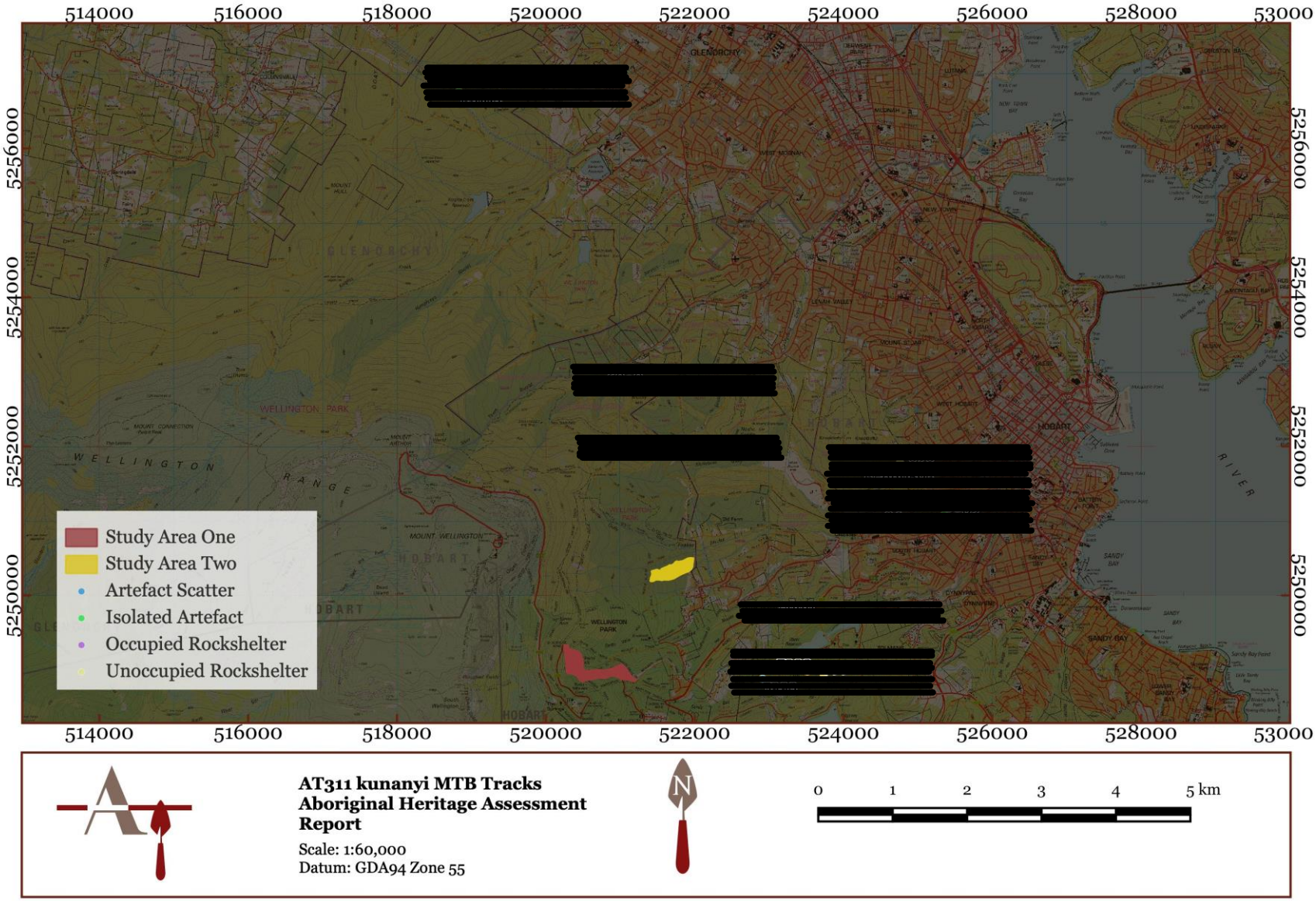

Figure 4.3.1 Archaeological sites on the Aboriginal Heritage Register within the vicinity of the study area. (Basemap: Tasmap 1:25,000 Series).

Table 4.3 Previously Recorded Aboriginal Heritage Sites

AH Number	Site Type	Description	Report Source	Distance From Proposed Activity (m)	Significance and Interpretation
6592	Unoccupied Rockshelter	Recorded as an unoccupied rockshelter, one of four roughly 4-8m deep rockshelters present above the quarry to the north of Knocklofty Reserve.	No associated report.	[redacted]	None given in site card. All Aboriginal sites are non-renewable and have high cultural significance for today's Aboriginal community. See Section 7.
6593	Occupied Rockshelter	One of four roughly 4-8m deep rockshelters above the quarry to the north of Knocklofty Reserve. Significant amounts of charcoal and bone were recorded in this shelter. Two chalcedony flakes were present in this shelter.	No associated report.	[redacted]	None given in site card. All Aboriginal sites are non-renewable and have high cultural significance for today's Aboriginal community. See Section 7.
6594	Unoccupied Rockshelter	Recorded as an unoccupied rockshelter, one of four roughly 4-8m deep rockshelters present above the quarry to the north of Knocklofty Reserve. Significant amounts of charcoal and bone were recorded in this shelter.	No associated report.	[redacted]	None given in site card. All Aboriginal sites are non-renewable and have high cultural significance for today's Aboriginal community. See Section 7.
6595	Unoccupied Rockshelter	Recorded as an unoccupied rockshelter, one of four roughly 4-8m deep rockshelters present above the quarry to the north of Knocklofty Reserve.	No associated report.	[redacted]	None given in site card. All Aboriginal sites are non-renewable and have high cultural significance for today's Aboriginal community. See Section 7.

AH Number	Site Type	Description	Report Source	Distance From Proposed Activity (m)	Significance and Interpretation
6838	Isolated Artefact	A single quartzite scraper found in a gully on a track above a small creek to the south of Lenah Valley Road.	Mt Wellington Management Plan	[redacted]	None given in site card. All Aboriginal sites are non-renewable and have high cultural significance for today's Aboriginal community. See Section 7.
6839	Isolated Artefact	A single artefact, of unspecified form and material, found in a garden bed of South Hobart Primary School.	No associated report.	[redacted]	None given in site card. All Aboriginal sites are non-renewable and have high cultural significance for today's Aboriginal community. See Section 7.
7990	Isolated Artefact	A single grey silcrete flake, with usewear and retouch present along one margin located in coarse sandy soil 8m south of Huon Road [redacted] of the main ridge crest in Ridgeway Reserve. Artefact is located in a disturbed area with finely crushed bluestone gravel also present. Located within 500m of a former source of freshwater.	McConnell, Stanton and Scripps 1998	[redacted]	High cultural value recorded.
7991	Unoccupied Rockshelter	A 5m deep rockshelter within a sandstone cliff face, with a 6m wide mouth, with a noted high potential for an occupation deposit to be present. The rockshelter has a northwesterly aspect with a level floor with at least 150mm of sand deposition, recent camping and graffiti are also present.	McConnell, Stanton and Scripps 1998	[redacted]	High scientific and cultural value recorded.
7992	Unoccupied Rockshelter	A 2m deep rockshelter within a sandstone cliff at the top of a slope with a 3.5m wide mouth. The rockshelter has a northwesterly aspect and deposits with a high level of archaeological potential.	McConnell, Stanton and Scripps 1998	[redacted]	High scientific and cultural value recorded.
7993	Artefact Scatter	Two quartzite flakes, 6m apart from one another, located on a lower section of a small southwest to northeast aligned spur, on the edge of a very old track in a recently burnt area. The site is 75m distant from Sandy Bay Rivulet.	McConnell, Stanton and Scripps 1998	[redacted]	High cultural value recorded.

AH Number	Site Type	Description	Report Source	Distance From Proposed Activity (m)	Significance and Interpretation
11786	Artefact Scatter	Three lithic artefacts (material and form not specified) in a supposed fill layer at Cascades Female Factory during historical archaeological test excavation. The excavation was within a garden bed adjacent to the foot path [redacted]	SKM 2013	[redacted]	No comment provided on site card or associated report. All Aboriginal sites are non-renewable and have high cultural significance for today's Aboriginal community. See Section 7.
13264	Isolated Artefact	"The isolated artefact is a scraper on a flake of silcrete, and is 40mm x 57mm x 12mm. There is working around the full flake edge except for the platform. The distal edge is a convex scraper and the two sides protrude creating a small, broad, nosed scraper on each side. The stone material is a grey silcrete of predominantly cherty matrix with floating, pale white, sub-rounded grains/nodules of coarse gravel to small pebble size. The artefact was located [redacted]"	McConnell and Sculthorpe 2017	[redacted]	The site is considered to be of high cultural significance.
13604	Isolated Artefact	"The site comprises a single artefact - a waste flake, 25mm x 37mm x 20mm, of a translucent (colourless), strongly welded quartzite of a well sorted, medium- coarse sand. It is possibly broken, but no other pieces were identified in spite of intense survey in the site area. [redacted]"	McConnell and Sculthorpe 2019 (not supplied and possibly in preparation)	[redacted]	None given in site card. All Aboriginal sites are non-renewable and have high cultural significance for today's Aboriginal community. See Section 7.

AH Number	Site Type	Description	Report Source	Distance From Proposed Activity (m)	Significance and Interpretation
13605	Artefact Scatter	"The site comprises a sparse scatter c.25-30m by c.10m of 13 pieces of cherty hornfels (ie, contact metamorphosed Permo-Triassic fine grained sedimentary rock). Eight of the pieces are considered to be definite Aboriginal artefacts, but three of the recorded pieces are less definitively Aboriginal artefacts, but have been included s they may be artefacts and are of a similar material to the other artefacts. It should be noted that there is other similar material in the site area and nearby which is not considered artefactual, indicating the worked material maybe locally sourced cherty hornfels (outcropping Permian Faulkner Group sedimentary rocks are mapped immediately to the south (south of Jacksons Fire Trail)."	McConnell and Sculthorpe 2019 (not supplied and possibly in preparation)	[redacted]	None given in site card. All Aboriginal sites are non-renewable and have high cultural significance for today's Aboriginal community. See Section 7.
13606	Isolated Artefact	"A flaked piece with use wear on one nose (and1 side of nose); 50mm x 39mm x 19mm, a pale red-brown probable quartzite. (The piece is mottled with areas of welded quartz sand size grains, areas that are more pink-milky where the grains are not obvious, and gradations between these two types of material and zone boundaries that are irregular. The stone is thought to be a metamorphosed quartzite). The site is located on the crest of, and near the east end of a broad flat spur crest that tapers as it runs northeast from the relatively wide bench on the mid-slopes (at c. 400-450m asl) of the eastern flank of the Goat Hills. The broad flatter part of the crest is c.800m long, and is relatively level, but comprises two different levels with a break in slope about half way along. The ridge is c.75-100m wide in the vicinity of the site. The [redacted] it drops off steeply into the Derwent River valley. The side slopes of the spur are also [redacted]"	McConnell and Sculthorpe 2019 (not supplied and possibly in preparation))	[redacted]	None given in site card. All Aboriginal sites are non-renewable and have high cultural significance for today's Aboriginal community. See Section 7.

4.4 Predictive Statement

Based on the environmental, historical and archaeological background to this site it is possible to formulate a predictive statement that will aid in the identification and location of Aboriginal cultural material during the survey and provide a baseline against which interpretations may be made.

The preceding sections provide the basis for the formulation of a predictive statement, these sections can be summarised as a series of descriptive statements regarding the Environmental and Historical Context specific to the land within the study area and Ethnohistorical and Archaeological Context for the study area and its immediate surrounds.

Environmental and Historical Context:

- In the south of Study Area Two and the northwest of Study Area One are areas of talus consisting dominantly of dolerite boulders. The soils above these areas of talus often have an upper deposit clayey sand horizon of high plasticity clay to a depth of 800mm, with large dolerite boulders throughout and deeper more sandy and organic deposits overlying the clays around drainage areas.
- Three areas composed of variations of permian sandstones, siltstones and limestones are present in east of Study Area One and the eastern and western extents of Study Area Two. Pebbly beds are present in some areas and lonestones are common in these geological strata.
- Along the northern extent of Study Area Two is present a deeply dissected alluvial fan containing boulders of weathered dolerite and Parmeener derived rocks in places. These deposits arising from a former alluvial fan recut by the stream to the north of Study Area Two contain a combination of clays, sands and gravel.
- The contour lines show that Study Area One lies across a steep slope, with a roughly an 18° slope across the width of the study area and two clear gullies show in the contour mapping of the area. Study Area Two, however, lies across a shallow ridge top with a 10° fall from the east to the west along the length of that study area.
- Other than a generally rocky soil profile with clays and gravels forming significant parts of the subsurface strata, this profile also indicates the potential for isolated occurrences of raw materials suitable for the manufacture of tools by humans.
- Overall the ecological context of the two study areas would have been one rich in plant and animal resources, with the terrestrial fauna typical of forests in southeast Tasmania and a range of habitats suitable for both ground and tree dwelling animals.
- The vegetation would have provided raw materials both for the production of shelters and also for tools and weapons. A range of plant foods would have also been present within this area, including D. antarctica, which provides a significant source of carbohydrates and is likely to have been an important food source.
- Temperature and rainfall records at the Springs, the closest Bureau of Meteorology station to the study area, show that the climate that prevails is temperate with drier, warm summers and wet, cold winters. The climate for this area also shows that the study areas are wetter than the land to the west, with an average rainfall of 100mm and minimum of 15 days of rain for every month except February, which is also the warmest month.
- The headwaters of the Hobart Rivulet run through the gullies in the centre of Study Area One.
- To the south of Study Area Two a small unnamed perennial stream passes along the bottom of the shallow ridge that feeds into Guy Fawkes Rivulet.
- At a distance of 120m to the north of Study Area Two is an unnamed stream, undetermined whether perennial, seasonal or ephemeral, that feeds into Guy Fawkes Rivulet.
- The devastation of the pre-colonial vegetation within Study Area One would have occurred as a consequence of intensive timber harvesting in the first half of the nineteenth century, with substantial milling equipment and a considerable team of workers.
- Movement of the topsoil *en masse* and changes in the wider ecosystem would have also taken place as a result of sawmilling and there similarly would have been systematic or *ad hoc* construction of structures or features associated with timber harvesting. There is some evidence from the historical plans that a track or road constructed along the northern border

of Study Area Two during this phase. The land was incorporated into Mount Wellington Park in 1930.

- From the 1830s through to the middle of the twentieth century track and road construction has been ongoing in and around Study Area One, with a concentration first on connecting the Springs to Hobart and then the Pinnacle. Disturbances would have been limited in extent and would have lead to small scale but widespread disturbances. Modification of the ecosystem through introduced plants and animals along with the harvesting of timber or deadfall for burning or hut construction would have led to a range of small scale disturbances and may have exacerbated existing patterns of natural erosion in such steep topography.

Ethnohistorical and Archaeological Context:

- There are 15 Aboriginal heritage sites recorded within Wellington Park or in close proximity to the investigation areas but there are none recorded within the study area.
- Three (20%) of the sites are artefact scatters, six (40%) are isolated artefacts, one (7%) is an occupied rockshelter and five (33%) are unoccupied rockshelters.
- Although the majority of the rockshelters had potential for occupation deposits within them the single 'occupied' rockshelter was so denoted owing to the presence of two chalcedony flakes on the floor of this site, and can be functionally considered as a rockshelter and artefact scatter. The rockshelters were uniformly present in sandstone cliff faces, with a northwesterly or northeasterly aspect, and ranged from 3 to 8m in depth. All of the rockshelters showed signs of recent use, with modern detritus and graffiti present, in some cases bones and charcoal were also present but it is not clear that these were not of post colonisation provenance.
- The lithic artefacts are dominated by cherty hornfels and quartzite, with a single isolated silcrete flake also present. All of the cherty hornfels artefacts were located at a single site and may be associated with knapping or quarrying activity in this area. These artefact sites were located on gently sloping ridge crests or spurs. Generally the artefacts were considered to be flakes or scrapers with retouch being present in a number of cases.
- There is evidence that *D. antarctica* was harvested on the slopes of kunanyi and transported to the coastal area around nipaluna.
- Rocky A horizons with angular pebbles forming a background noise that may further obscure lithic artefacts.
- European occupation has been concentrated on the more level areas around the mountain and consequently high levels of disturbance have affected the potential of Aboriginal sites being present there.
- Adjacent areas of steep topography have been uniformly found to have low potential for sites to be present, with the exception of rockshelters in steep cliffs, but these investigations have been limited in scope and affected by limiting factors such as low ground surface visibility.
- The pattern of site distribution on kunanyi is little understood, owing in part to poor survey conditions and restricted survey scope, but cannot be considered in isolation from the complex of sites and places so much in evidence on plains and coasts below.

Therefore, the *predictive statement* is as follows:

- The archaeological background of the land around the study area is not clear and any predictions must be considered in the light of this dearth of evidence.
- Ground surface visibility is likely to be low throughout both of the study areas and there may also be a background scatter of natural angular pebbles that will make the identification olithic artefacts problematic.
- Except in isolated level areas within the broader steep terrain, or any possible rockshelters the steepness of Study Area One suggests a low potential for intensive human occupation.
- Conversely, the shallow gradient and ridge crest of Study Area Two suggests that the potential for artefact scatters or isolated artefacts arising from sustained occupation exists anywhere across this area.
- There is no evidence of sandstone cliffing in either of the study area and therefore there is low potential for sandstone rockshelters to be present.

- Isolated artefacts or artefact scatters can anywhere within either study area but are much more likely to be present in Study Area Two, there is very low potential for them to occur in Study Area One.
- Where sites do occur they are likely to be on level or gently sloping ridges in Area One or the creek terraces along its southern boundary.
- It is possible that scar trees may be present within the study areas, although it is unlikely that any would be present within Study Area One owing to the timber getting taking place in the early nineteenth century.
- It is highly unlikely that any midden material will be present within the study area.
- It is also unlikely that other cultural features, such as burials or hearths will be present within the study area.
- Although no previously recorded rock art is present within close proximity to the study area it is still possible that this may occur on suitable areas of exposed bedrock.

5.0 RESEARCH DESIGN AND FIELD METHODS

The field survey of the study area was undertaken on 15 February 2021 by Alan Hay (Senior Archaeologist, Austral Tasmania) and Caleb Pedder (Aboriginal Heritage Officer).

The study areas were approached differently based on the predicted landforms and levels of ground surface visibility of each. Study Area One had near zero ground surface visibility and few landforms that would invite sustained occupation. It was subject to targeted investigations with key areas sampled and investigated by accessing them through existing tracks. Study Area Two contained a clear area of exposure around the Upper Luge Track and a creek terraces and ridge crest above the unnamed perennial stream but low levels of ground surface visibility. Both of these areas were subjected to survey transects to identify areas of exposure and suitable landforms that may have invited occupation.

The survey pattern was recorded through handheld GPS units by both the Aboriginal Heritage Officer and Senior Archaeologist. Photographs and written notes were also used to document each survey area individually and the study area as a whole. The topography, vegetation, weather conditions, exposures and ground surface visibility were recorded for each survey area separately.

The description of landform and soil has been undertaken in accordance with The National Committee on Soil and Terrain's (2009) *Australian Soil and Land Survey Field Handbook Third Edition*. Alpha numeric colour designations are given with reference to the Munsell colour space.

The approach to recording Aboriginal cultural material or potential Aboriginal cultural material adopted by this survey was that should any be found it would be designated as a site and a given an individual site number. The overall disposition of these sites would be recorded through photography, written notes and sketch plans. Vegetation and soil profiles would then be recorded for the site and the surrounding area. Exposures displaying multiple strata of deposits were sought in order to characterise the underlying geological and pedological character of the site. The overall site boundaries were based on the extent of artefacts, exposure and topographical context.

The location of specific artefacts or elements of Aboriginal cultural material would be indicated through sketch plans and at sites with multiple artefacts that were greater than 2-3m distant from one another, the range of error for the GPS unit used, were to be recorded as separate GPS points.

The weather was cool and sunny for the survey but the very low ground surface visibility hampered the overall survey effectiveness, which will be described for each survey area in Section 6.0 below.

6.0 RESULTS

The study areas were each considered as a separate survey area (see Section 5.0 above) based on practical considerations, predicted ground surface visibility and landforms, each are presented in Section 6.1 to Section 6.2. A summary of each of these survey areas is presented in Table 6.1 below. Although Study Area Two is considered to have a higher degree of potential no specific potential areas of sensitivity during the investigation. The current section provides a brief overview of the results and the summary table of study areas as required by the *Aboriginal Heritage Standards and Procedures* (AHT 2018).

Table 6.1 Outlining size, length, visual width, visibility and number of team members for each transect.

Survey Area	m²	Number in Team	Approximate Transect Length (m)	Approximate Survey Area Width (m)	Visibility %	Sites Found
SA1	301,180	2	1,031	4	2	Nil
SA2	174,136	2	574	4	5	Nil

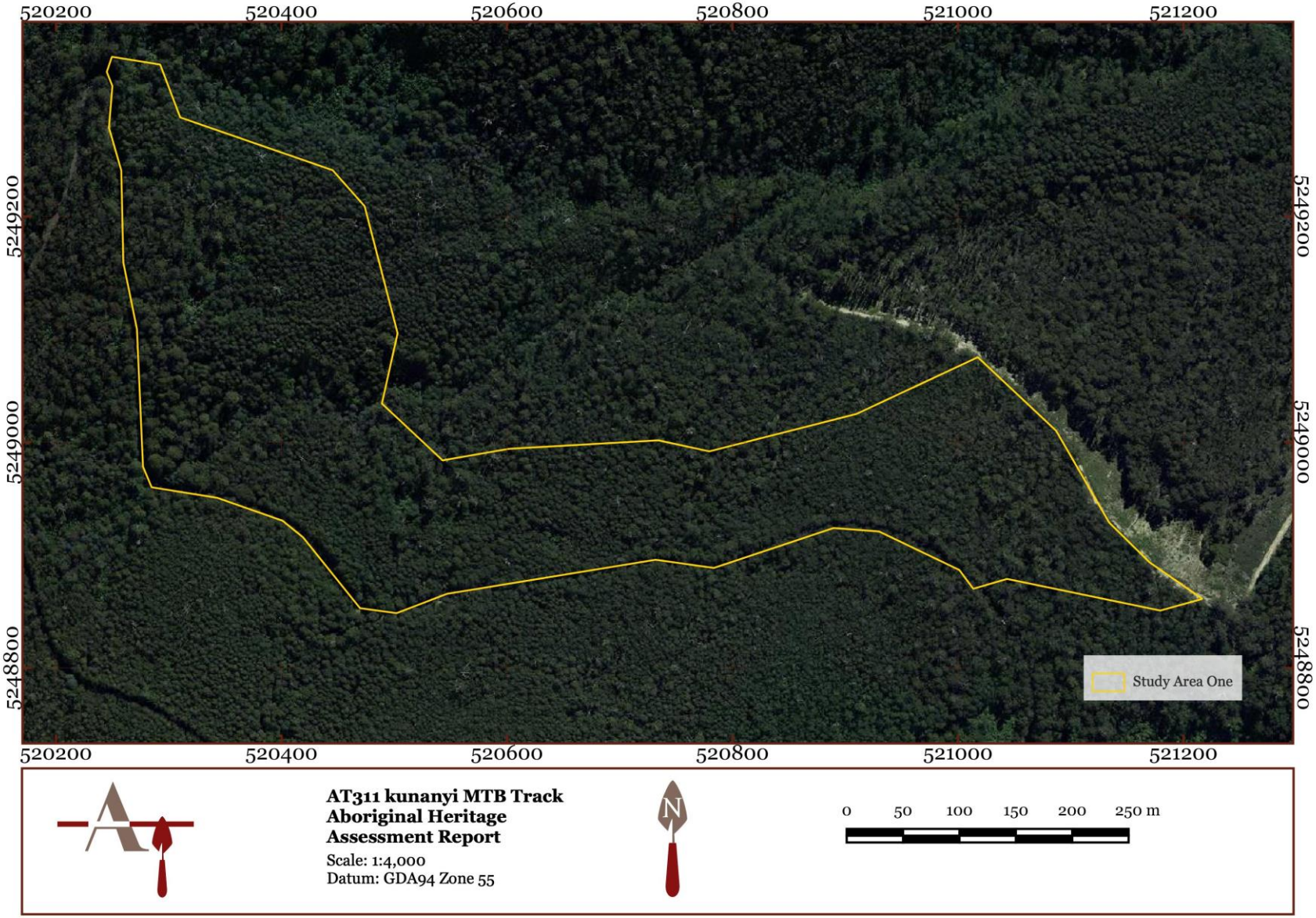

Figure 2.0.1 Study Area One showing the proposed development (Listmap 2021).

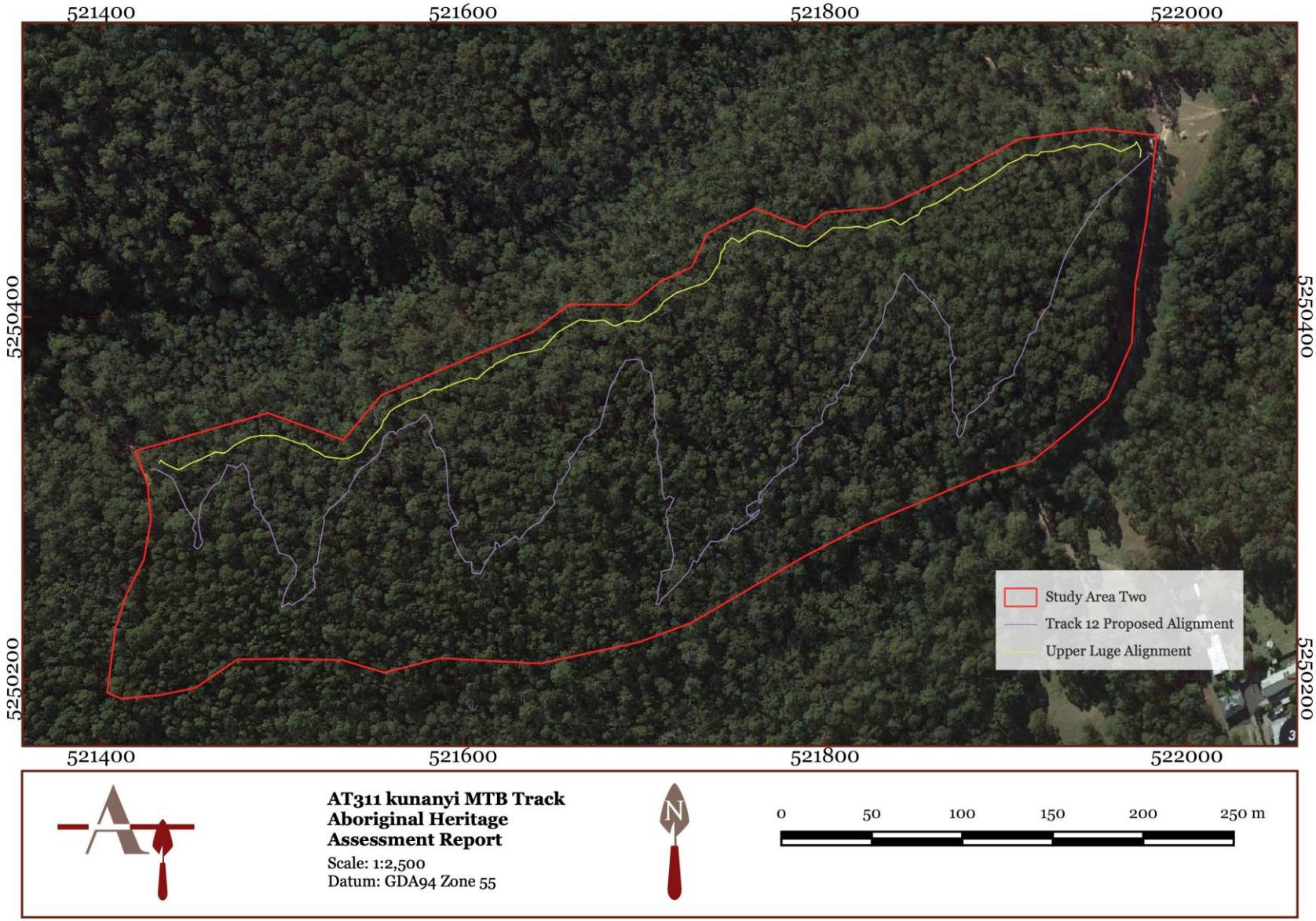

Figure 2.0.2 Study Area Two showing the proposed development (Listmap 2021).

6.1 Study Area One

Figure 6.1.1 and Figure 6.1.4.

Size: 301,180m²

Landform: Waxing mid slope and waning lower slope.

Gradient: 30˚

Primary geomorphological agents: Sheet and colluvial erosion.

Exposure: 5%

Vegetation: *E. regnans* wet forest in a extreme west of study area, *E. obliqua* broadleaf forest with broadleaf shrubs in the western half of the study area (up to Woods Track) and *E. obliqua* dry forest in the eastern half of the study area.

Ground surface visibility: <2%

Disturbance: Localised track construction is the chief form of disturbance throughout this area. Disturbance has also arisen from the vehicle access track in the north of the study area and along the edge of Pinnacle Road.

Distance to fresh water: The perennial freshwater headwaters of the Hobart Rivulet are present leading from south to north in the centre of the study area.

Soil profile observed: Recently forming O horizon >200mm, very dark gray (10YR 3/1) sandy loam, over yellow (10YR 7/8) B1 horizon stony, slightly sandy clay soil.

Soil profile estimated: As above but likely with additional lower strata varying across the study area according to geological origin (see Section 4.1.1).

General description: Except in the western extreme of the study area, with *E. regnans* wet forest over talus, this study area consisted of a steep slope covered in *E. Obliqua* forests. The visible evidence of European disturbance was limited to tracks and the retaining wall along Pinnacle Road. Fallen trees had torn up the ground in some areas suggesting that in the long span this would have been a consistent form of ground disturbance. Small macropods were visible during the survey and numerous locations suitable for animals nests were also evident throughout. Similar to other investigations in this area the thick ground cover severely hampered the effectiveness of the survey.

Consideration of Aboriginal archaeological potential: The steep topography of this study area limits the potential for Aboriginal cultural material to be present. Although preserved from extensive European disturbance, similarly steep areas subject to other investigations have generally returned no results. Nevertheless, given the paucity of research on kunanyi and the extremely low ground surface visibility it is possible that some sites may be present within this area but could not be identified during the survey.

Aboriginal sites found: No Aboriginal sites or Potential Areas of Sensitivity were found within this survey area.

Figure 6.1.1 View to the east showing the topography and vegetation common with Study Area One (15 February 2021).

Figure 6.1.2 View to the east of the showing the very low of ground surface visibility typical of Study Area One (15 February 2021).

Figure 6.1.3 Looking to the south over a twentieth century track within Study Area One, showing its associated disturbance and exposure. The scale has 100mm marks (15 February 2021).

Figure 6.1.4 Looking to the east showing the soil turned up by a recently fallen tree. Clearly visible are the dolerite blocks and sandy clay soil common through this study area (15 February 2021).

6.2 Study Area Two

Figure 6.2.1 and Figure 6.2.4.

Size: 174,136m²

Landform: Ridge crest of permian sedimentary bedrock with duplex (sand over clay) soils and moderate mid slope of permian sedimentary bedrock with duplex (sand over clay) soils.

Gradient: 2-6˚

Primary geomorphological agents: Track, sheet erosion scars, rills and fluvial erosion along the creek terrace in the south of the study area.

Exposure: 5%

Vegetation: *E. obliqua* wet forest with broadleaf understorey.

Ground surface visibility: 5%

Disturbance: Early nineteenth century timber getting with a large number of stone cairns, snig tracks and sawpits present.

Distance to fresh water: Freshwater is present along the southern boundary of the study area.

Soil profile observed: Recently forming O horizon >100mm, very dark gray (10YR 3/1) sandy loam, over a reddish brown (12.5YR 5/3) B1 horizon stony, slightly sandy clay soil. In some areas the sandy loam deposit is absent and only the stony clay is visible.

Soil profile estimated: As above but likely with additional lower strata varying across the study area according to geological origin (see Section 4.1.1).

General description: This study area showed high levels of European disturbance throughout with visible evidence of timber getting and earthworks still present in this area. Similarly the ground surface visibility was limited through high levels of leaf litter and deadfall. What areas of ground surface were visible sometimes showed only the stony clay and this may be a result of sheet erosion taking place as a result of prior land clearance.

Consideration of Aboriginal archaeological potential: Although it is likely that in the past this area would have been suitable for Aboriginal use or occupation it is likely that the severe disturbance taking place in the early nineteenth century, and the resulting exacerbation of natural erosion, has limited strongly limited this potential. Nevertheless, pockets of *in situ* soil may remain within level areas or small depressions and retain the potential for archaeological material to be present.

Aboriginal sites found: No Aboriginal sites or Potential Areas of Sensitivity were found within this survey area.

Figure 6.2.1 Looking to the west over deadfall typical of Study Area Two (15 February 2021).

Figure 6.2.2 Looking at the perennial creek along the southern boundary of Study Area Two. The creek banks are also shown in this photograph. The scale has 100mm marks (15 February 2021).

Figure 6.2.3 Looking at the typical exposure within Study Area Two, a small area free from leaf litter beneath a fallen tree (15 February 2021).

Figure 6.2.4 A stone cairn formed as part of early nineteenth century timber getting, indicative of the high levels of disturbance caused by the European modification of this area. The scale has 100mm marks (15 February 2021).

6.3 Summary

As with other investigations in similar environments on kunanyi there was a very low level of ground surface visibility (2% Study Area One, 5% Study Area Two) which severely restricted the survey effectiveness (0.15% Study Area One, 0.25% Study Area Two). A similar pattern of disturbance and steep topography were also likely contributing factors in the absence of Aboriginal heritage sites or potential areas of sensitivity identified. Although it is likely that Study Area Two held some potential in the past, extensive disturbance has mitigated this potential. The disposition of the study areas were consistent with the environmental and archaeological background. The overall effective survey coverage is presented in Table 6.3 below.

Table 6.3 Showing the effective survey coverage[*] for each area, note the generally low visibility and exposure in the first three survey areas.

Survey Area	m²	Geomorphic Unit	Landform	Exposure Type	%	Ground Cover	Visibility %	Effective Coverage (m²)	%	Sites Found
SA1	301,180	Moderate mid or lower slope of talus covered by clays and loamy clay sands and steep mid slope of permian sedimentary bedrock with duplex (sand over clay) soils.	Hill slope.	Track, sheet erosion scars, rills.	5	Thick vegetation, deadfall and leaf litter.	2	451.77	0.15%	Nil
SA2	174,136	Ridge crest of permian sedimentary bedrock with duplex (sand over clay) soils and moderate mid slope of permian sedimentary bedrock with duplex (sand over clay) soils.	Hill slope.	Track, sheet erosion scars, rills.	5	Thick vegetation, deadfall and leaf litter.	5	435.34	0.25%	Nil

[*] The formula used to calculate Effective coverage is, Effective coverage = m2 x Exposure % x Visibility %. Exposure refers to processes that may bring artefacts out from below the soil surface whereas visibility measures the amount of the ground surface that is not covered (Burke and Smith 2006:79-80).

7.0 INTERPRETATION AND CONSULTATION

7.1 Interpretation

The findings of this investigation are consistent with surveys of similar terrain on kunanyi with low ground surface visibility, steep topography and historical disturbance being contributing factors to the lack of identification of any sites or areas of high sensitivity. Although both of the study areas displayed extreme levels of ground disturbance each had distinct reasons, readily identifiable in the environmental and archaeological context, for this result.

In the case of Study Area One it was little disturbed by European development during the nineteenth or twentieth century, with any impact being localised or restricted to the margins of the study area, but the steepness of the topography meant that no landforms with a high likelihood to contain Aboriginal material were present. However, this study area is one of the highest altitude survey areas yet completed on kunanyi and there is little research to provide context for this investigation and the high level of ground cover makes any definitive statement of an absence of Aboriginal sites an uncertain endeavour at best. While there were no lithic materials identified in areas of exposure along tracks and no geological formation suitable for the formation of rockshelters it does not mean that a previously unidentified form of site patterning is not occurring in this location. Concentrations of Aboriginal cultural material reflecting unexpected uses of the landscape are possible and although this area is considered to have low potential this can only be done so with the caveat that sustained research into the upper slopes of kunanyi is lacking and that modelling of site distribution in the foot hills may not be an appropriate means of assessing the potential of higher slope environments.

If the higher slopes were being accessed primarily for resources or for strategic reasons, with rockshelters forming habitation sites either temporarily or for longer periods, then typical considerations such as aspect and gentleness of slope may not be an appropriate measure of potential or probability for site location. The distribution of Aboriginal material culture may instead be shaped by concentrations of resources, broader paths of movement linking the mountain to the low land surrounding it or the defensive advantages offered by certain places or positions. Additionally, as it is known that the mountain has an important cultural significance to the contemporary Aboriginal community there is further potential for activities taking place on the mountain that need not necessarily follow the dictates of practical necessity but could instead reflect long established spiritual or social practices. These possibilities underscore the paucity of research about site distribution on the upper slopes of kunanyi.

Study Area Two presents a different profile but is similarly consistent with lower lying areas around the mountain as it has been strongly affected by European disturbance associated with the occupation of Hobart. The timber getting itself would have had direct impact to this study area, with sawpits and snig tracks excavated and the ground churned up by the movement of people and draught animals. It would have also entrained long term processes of erosion as a consequence of the removal of the natural flora of this area. It is this high level of disturbance that can be considered to be the most significant factor in limiting the potential of this area. This is especially the case as there are a number of reasons to expect some Aboriginal occupation of this study area in the past.

Other archaeological investigations in the foot hills of kunanyi have identified gently inclined ridges and spurs as areas of potential, albeit limited, and this potential drastically increases in conjunction with readily available freshwater. Study Area Two possess both of these key characteristics and it is reasonable to believe that but for the extensive disturbance that has already taken place here there would have been stronger potential for the presence of, or perhaps there would have been identified, Aboriginal sites.

The low archaeological potential of both these areas does not necessarily reflect the cultural significance of the study area. As Section 7.2 and 7.3 make clear the Aboriginal community values kunanyi over and above any specific material culture identified within its bounds. Nor does the low potential of these areas readily translate into similarly low levels of potential for other areas on the mountain unless they meet the same conditions that have contributed to an absence of identified sites or potential areas of sensitivity in this case. In areas that have been targeted because of favourable conditions for occupation there has been a consistent, albeit low level, of cultural material encountered (e.g. McConnell and Sculthorpe 2017 and AH16304-AH16306). On the balance of probability the archaeological potential of the study areas are low but further research is required before a holistic interpretation of site patterning on kunanyi can be reliably established.

7.2 Significance

Under the terms of the *Aboriginal Heritage Act 1975* an Aboriginal relic may have four broad types of significance; archaeological or scientific, anthropological historical, contemporary historical or significance in accordance with Aboriginal tradition. In addition to this the *Aboriginal Heritage Standards and Procedures* (AHT 2018:24) requires that 'aesthetic and historic' values always be considered. Although no sites were identified during the survey area it is important to consider the broader significance that the area may have to Aboriginal people. Such a statement of cultural significance has been provided by Mr. Caleb Pedder for the land subject to this investigation:

> Aboriginal cultural significance can only be determined by Aboriginal people. Cultural significance is formed from a complex mix of the emotional and physical attributes identified for a place. One attribute is the heritage places found across the country. Aboriginal heritage places are many and varied, from isolated artefacts, artefact scatters, rockshelters, middens and rock art, to places with intangible and/or nonphysical associations.
>
> All Aboriginal places are non-renewable and have high cultural significance for today's Aboriginal community. Aboriginal sites reinforce Aboriginal connections with country and are an integral part of Aboriginal culture and the relationship with land.
>
> It should be noted that all land has high cultural significance, both for individual Aboriginal people and for the Aboriginal community collectively. The presence of Aboriginal sites or other values contributes to the cultural significance of the land.
>
> As a general principle, any development upon, or other disturbance of land, is contrary to Aboriginal beliefs regarding the land, its values, and its inherent cultural significance. This applies to all land irrespective of its tenure, the degree of landscape modification or the levels of existing disturbance.
>
> It is expected that preservation and protection of Aboriginal heritage should be the overriding factors when making decisions about that heritage. To do otherwise undervalues Aboriginal culture and heritage and attempts to minimise its importance to the Tasmanian community.
>
> No Aboriginal artefacts were identified during the heritage assessment of the proposed bike tracks on the slopes of kunanyi.
>
> Kunanyi is highly significant to Aboriginal people. That significance was articulated by two members of the Aboriginal community in a media story on the ABC on the 26th of April 2020. The mountain has high cultural values and impacts to those values are not appropriate. The proposal for upgraded and new bike tracks on kunanyi while small could lead to detrimental impacts to the Aboriginal values of the mountain. An accumulation of small proposals can ultimately generate significant impacts.
>
> While there were no comments on the bike track proposal during the Aboriginal consultation there is an opportunity for the Hobart City Council to consider undertaking consultation about development proposals on the Aboriginal values of kunanyi. As stated above the accumulation of many small developments has the capacity to generate significant impacts and once the impacts have occurred they are rarely reversible.

All Aboriginal sites have cultural significance as a record of the achievement of past peoples, the connection between place and culture and as an embodiment of traditions and understandings of Aboriginal Tasmanians that extend far into the past. It is important to state that only the Aboriginal community can determine the significance of sites in terms of Aboriginal tradition, social values or landscape values. In the impact assessment process an understanding of this significance is commonly obtained through consultation with the Aboriginal community. The results of this consultation is documented in Section 7.3 below. There are no direct impacts to Aboriginal heritage places for the proposed development.

7.3 Aboriginal Community Consultation

Aboriginal community consultation was undertaken with by Caleb Pedder between the 26 March 2021 to the 9 April 2021. This consultation took the form of a project document that contained the details of the project, details of the study area and the results of the field survey being sent to weetapoona, the Tasmanian Aboriginal Centre, Karadi, Pungenna Community and South East Tasmanian Aboriginal Corporation. These organisations have no comments at the present time.

Table 7.1 Community consultation log.

Date consultation was commenced:	26.03.2021	26.03.2021	26.03.2021	26.03.2021	26.03.2021
Forwarded by:	Caleb Pedder	Caleb Pedder	Caleb Pedder	Caleb Pedder	Caleb Pedder
Role:	Aboriginal Heritage Officer	Aboriginal Heritage Officer	Aboriginal Heritage Officer	Aboriginal Heritage Officer	Aboriginal Heritage Officer
Subject:	Provision of project outline and summary of results and request for comment on the same.	Provision of project outline and summary of results and request for comment on the same.	Provision of project outline and summary of results and request for comment on the same.	Provision of project outline and summary of results and request for comment on the same.	Provision of project outline and summary of results and request for comment on the same.
Method:	Email	Email	Email	Email	Email
Forwarded to:	Sarah Wilcox, weetapoona	Heather Sculthorpe, Tasmanian Aboriginal Centre	Rachel Dunn, Karadi	Peter MacDonald, Pungenna Community	Tracy Dillon, South East Tasmanian Aboriginal Corporation
Date requested:	9.04.2021	9.04.2021	9.04.2021	9.04.2021	9.04.2021
Date required:	9.04.2021	9.04.2021	9.04.2021	9.04.2021	9.04.2021
Date responded:	No response.	No response.	No response.	No response.	No response.
Response:	No response.	No response.	No response.	No response.	No response.
Outcome/Further Action:	No comment.	No comment.	No comment.	No comment.	No comment.

7.4 Summary

No Aboriginal sites or potential areas of sensitivity were encountered within the study areas. Past timber getting resulting in high levels of disturbance in Study Area Two and steep topography in Study Area One contribute considerably to this outcome, although extremely low ground surface visibility in some survey areas has hampered the identification of any sites, had they been present. The survey results also suggest that the study areas have a low potential for the unanticipated discovery of Aboriginal cultural material during the proposed works but that the low level of research previously undertaken on the upper slopes of kunanyi limits the predictive power of archaeological investigations.

8.0 IMPACT ASSESSMENT AND MITIGATION OPTIONS

It is highly unlikely that any damage to Aboriginal material culture will occur as the result of the currently proposed works. The high levels of disturbance in the study area and paucity of sites in similar and undisturbed locations in the general area suggests that there is low but residual potential for subsurface cultural materials to be encountered. The currently proposed mountain bike tracks will be restricted in scope, shallow in depth and will not be accompanied by incidental disturbance as a result of the use of the machinery, the track will be hand constructed. However, due to the paucity of research and the low levels of ground surface visibility there is some residual potential for Aboriginal cultural material to be present within the study area.

Potential harm to Aboriginal heritage within the study area can be managed through appropriate use of Aboriginal Heritage Tasmania's *Unanticipated Discovery Plan*. Although work almost anywhere in Tasmania has the potential to encounter artefacts in below ground contexts there is nothing in the study area that suggests a higher likelihood of material culture to be present below ground. Throughout the study area the strata that had the potential to retain artefacts has been removed. Nonetheless, Aboriginal Heritage Tasmania's *Unanticipated Discovery Plan* (Appendix B) should be adhered to during works. A copy of this plan should be kept with the person who is responsible for the on ground works.

9.0 CONCLUSIONS AND RECOMMENDATIONS

Despite the presence of a number of Aboriginal sites within the surrounding landscape no Aboriginal sites were identified nor are there any areas of sensitivity within the area of proposed development within Study Area One (Track 1a and Track 1b) and Study Area Two (Track 12 and Upper Luge). Past timber getting resulting in high levels of disturbance in Study Area Two and steep topography in Study Area One contribute considerably to this outcome, although extremely low ground surface visibility in some survey areas has hampered the identification of any sites, had they been present. The survey results also suggest that the study areas have a low potential for the unanticipated discovery of Aboriginal cultural material during the proposed works but that the low level of research previously undertaken on the upper slopes of kunanyi limits the predictive power of archaeological investigations.

Recommendations

As the study area contains no sites or sensitive areas and neither does the proposed development have the potential to incidentally impact previously recorded sites within its vicinity, there are no site specific management recommendations. Nevertheless, the study area retains a residual risk for the unanticipated discovery of Aboriginal heritage items. Aboriginal heritage in Tasmania is afforded blanket protection by the *Aboriginal Heritage Act 1975* therefore:

1. All contractors and staff are to be made aware that there is a potential for unanticipated discovery across the entire study area and should also be made aware of the Unanticipated Discovery Plan and their obligations under the *Aboriginal Heritage Act 1975*. Aboriginal Heritage Tasmania's *Unanticipated Discovery Plan* (Appendix B) should be followed during this project. A copy of this plan should be kept with the person who is responsible for the on-ground works for the duration of the project.
2. In accordance with the statement of significance supplied by Mr Pedder and Section 5.3.1. of the Wellington Park Management Plan 2016 it is recommended that the City of Hobart initiates long term consultation, i.e. ongoing consultation that extends beyond the scope of a single project, with the Aboriginal community across the broad spectrum of small scale developments taking place across the mountain to prevent harm to cultural values through the accumulation of minor impacts.
3. All spatial or descriptive information that may be readily used to relocate Aboriginal sites is to be redacted before this report is made publicly available.
4. Copies of this report should be submitted to Aboriginal Heritage Tasmania for review.
5. A copy of the final report must be distributed to the Tasmanian Aboriginal Centre, Karadi, Pungenna Community and South East Tasmanian Aboriginal Corporation

10.0 REFERENCES

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APPENDIX A – WRITTEN EVIDENCE OF COMMUNITY CONSULTATION

Cultural Significance

Aboriginal cultural significance can only be determined by Aboriginal people. Cultural significance is formed from a complex mix of the emotional and physical attributes identified for a place. One attribute is the heritage places found across the country. Aboriginal heritage places are many and varied, from isolated artefacts, artefact scatters, rockshelters, middens and rock art, to places with intangible and/or nonphysical associations.

All Aboriginal places are non-renewable and have high cultural significance for today's Aboriginal community. Aboriginal sites reinforce Aboriginal connections with country and are an integral part of Aboriginal culture and the relationship with land.

It should be noted that all land has high cultural significance, both for individual Aboriginal people and for the Aboriginal community collectively. The presence of Aboriginal sites or other values contributes to the cultural significance of the land.

As a general principle, any development upon, or other disturbance of land, is contrary to Aboriginal beliefs regarding the land, its values, and its inherent cultural significance. This applies to all land irrespective of its tenure, the degree of landscape modification or the levels of existing disturbance.

It is expected that preservation and protection of Aboriginal heritage should be the overriding factors when making decisions about that heritage. To do otherwise undervalues Aboriginal culture and heritage and attempts to minimise its importance to the Tasmanian community.

No Aboriginal artefacts were identified during the heritage assessment of the proposed bike tracks on the slopes of kunanyi.

Kunanyi is highly significant to Aboriginal people. That significance was articulated by two members of the Aboriginal community in a media story on the ABC on the 26th of April 2020. The mountain has high cultural values and impacts to those values are not appropriate. The proposal for upgraded and new bike tracks on kunanyi while small could lead to detrimental impacts to the Aboriginal values of the mountain. An accumulation of small proposals can ultimately generate significant impacts.

While there were no comments on the bike track proposal during the Aboriginal consultation there is an opportunity for the Hobart City Council to consider undertaking consultation about development proposals on the Aboriginal values of kunanyi. As stated above the accumulation of many small developments has the capacity to generate significant impacts and once the impacts have occurred they are rarely reversable.

Figure A.1 Screen capture of the statement of cultural significance supplied by Caleb Pedder (Aboriginal Heritage Officer).

Consultation log: Kunanyi Bike Track March 2021					
Date	Who	Organisation	How	Response/ Action	Comment
26/03/2021	Sarah Wilcox	weetapoona	weetapoona@hotmail.com	Sent information and a request for comment	No response 9/4/2021
26/03/2021	Rachel Dunn	Karadi	rcoad@karadi.org.au	Sent information and a request for comment	No response 9/4/2021
26/03/2021	Peter MacDonald	Pungenna Community	pungennacommunity@gmail.com	Sent information and a request for comment	No response 9/4/2021
26/03/2021	Tracy Dillon	SETAC	tracey.dillon@setac.org.au	Sent information and a request for comment	No response 9/4/2021
26/03/2021	Heather Sculthorpe	TAC	hobart@tacinc.com.au	Sent information and a request for comment	No response 9/4/2021

Figure A.2 Screen capture of the consultation log supplied by Caleb Pedder (Aboriginal Heritage Officer).

APPENDIX B – ABORIGINAL HERITAGE TASMANIA'S UNANTICIPATED DISCOVERY PLAN

Unanticipated Discovery Plan

Procedure for the management of unanticipated discoveries of Aboriginal relics in Tasmania

For the management of unanticipated discoveries of Aboriginal relics in accordance with the *Aboriginal Heritage Act 1975* and the *Coroners Act 1995*. The Unanticipated Discovery Plan is in two sections.

Discovery of Aboriginal Relics other than Skeletal Material

Step 1:
Any person who believes they have uncovered Aboriginal relics should notify all employees or contractors working in the immediate area that all earth disturbance works must cease immediately.

Step 2:
A temporary 'no-go' or buffer zone of at least 10m x 10m should be implemented to protect the suspected Aboriginal relics, where practicable. No unauthorised entry or works will be allowed within this 'no-go' zone until the suspected Aboriginal relics have been assessed by a consulting archaeologist, Aboriginal Heritage Officer or Aboriginal Heritage Tasmania staff member.

Step 3:
Contact Aboriginal Heritage Tasmania on **1300 487 045** as soon as possible and inform them of the discovery. Documentation of the find should be emailed to **aboriginal@heritage.tas.gov.au** as soon as possible. Aboriginal Heritage Tasmania will then provide further advice in accordance with the *Aboriginal Heritage Act 1975*.

Discovery of Skeletal Material

Step 1:
Call the Police immediately. Under no circumstances should the suspected skeletal material be touched or disturbed. The area should be managed as a crime scene. It is a criminal offence to interfere with a crime scene.

Step 2:
Any person who believes they have uncovered skeletal material should notify all employees or contractors working in the immediate area that all earth disturbance works cease immediately.

Step 3:
A temporary 'no-go' or buffer zone of at least 50m x 50m should be implemented to protect the suspected skeletal material, where practicable. No unauthorised entry or works will be allowed within this 'no-go' zone until the suspected skeletal remains have been assessed by the Police and/or Coroner.

Step 4:
If it is suspected that the skeletal material is Aboriginal, Aboriginal Heritage Tasmania should be notified.

Step 5:
Should the skeletal material be determined to be Aboriginal, the Coroner will contact the Aboriginal organisation approved by the Attorney-General, as per the *Coroners Act 1995*.

Aboriginal Heritage Tasmania
Department of Primary Industries, Parks, Water and Environment

Tasmanian Government

Guide to Aboriginal site types

Stone Artefact Scatters

A stone artefact is any stone or rock fractured or modified by Aboriginal people to produce cutting, scraping or grinding implements. Stone artefacts are indicative of past Aboriginal living spaces, trade and movement throughout Tasmania. Aboriginal people used hornfels, chalcedony, spongelite, quartzite, chert and silcrete depending on stone quality and availability. Stone artefacts are typically recorded as being 'isolated' (single stone artefact) or as an 'artefact scatter' (multiple stone artefacts).

Shell Middens

Middens are distinct concentrations of discarded shell that have accumulated as a result of past Aboriginal camping and food processing activities. These sites are usually found near waterways and coastal areas, and range in size from large mounds to small scatters. Tasmanian Aboriginal middens commonly contain fragments of mature edible shellfish such as abalone, oyster, mussel, warrener and limpet, however they can also contain stone tools, animal bone and charcoal.

Rockshelters

An occupied rockshelter is a cave or overhang that contains evidence of past Aboriginal use and occupation, such as stone tools, middens and hearths, and in some cases, rock markings. Rockshelters are usually found in geological formations that are naturally prone to weathering, such as limestone, dolerite and sandstone

Quarries

An Aboriginal quarry is a place where stone or ochre has been extracted from a natural source by Aboriginal people. Quarries can be recognised by evidence of human manipulation such as battering of an outcrop, stone fracturing debris or ochre pits left behind from processing the raw material. Stone and ochre quarries can vary in terms of size, quality and the frequency of use.

Rock Marking

Rock marking is the term used in Tasmania to define markings on rocks which are the result of Aboriginal practices. Rock markings come in two forms; engraving and painting. Engravings are made by removing the surface of a rock through pecking, abrading or grinding, whilst paintings are made by adding pigment or ochre to the surface of a rock.

Burials

Aboriginal burial sites are highly sensitive and may be found in a variety of places, including sand dunes, shell middens and rock shelters. Despite few records of pre-contact practices, cremation appears to have been more common than burial. Family members carried bones or ashes of recently deceased relatives. The Aboriginal community has fought long campaigns for the return of the remains of ancestral Aboriginal people.

Further information on Aboriginal Heritage is available from:

Aboriginal Heritage Tasmania
Natural and Cultural Heritage Division
Department of Primary Industries, Parks, Water and Environment
GPO Box 44 Hobart TAS 7001

Telephone: **1300 487 045**
Email: **aboriginal@heritage.tas.gov.au**
Web: **www.aboriginalheritage.tas.gov.au**

Tasmanian Government