Aboriginal Heritage Assessment Report

of the proposed

kunanyi/Mount Wellington Cable Car Footprint

Aboriginal Heritage Assessment Report
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Cover image: Summit of kunanyi/Mt Wellington looking east.

Executive Summary

Project Background

The Mount Wellington Cableway Company Pty Ltd (MWCC) engaged consulting archaeologist Dr Nic Grguric, of Frontier Heritage Consulting Pty Ltd (FHC), to carry out an archaeological field survey of the proposed development areas for a cable car to the summit of kunanyi/Mt Wellington. The aim of the project was to demonstrate that:

(a) The development does not involve an Aboriginal heritage site as defined under the Aboriginal Heritage Act 1975; or
(b) That impacts on any Aboriginal heritage sites have been reasonably avoided, mitigated or remedied.

This was achieved by means of:

- A desktop study of the location of previously registered Aboriginal heritage sites in the vicinity of the proposed works; and
- An archaeological field survey of the proposed construction footprint for the Mount Wellington Cableway.

The desktop study was carried out by Dr Nic Grguric (FHC). The archaeological field survey was carried out by consulting archaeologist Dr Nic Grguric and archaeological assistant Summer Maskey on the 22nd and 23rd April 2021.

Desktop Results

An Aboriginal heritage property search was previously undertaken in 2018 during the project design phase in order to identify whether any Aboriginal heritage sites were within or in the immediate vicinity of the proposed development areas. The results of this search identified 14 Aboriginal heritage sites located between 300m and 6km from the development areas. Owing to their distance from the development areas, none of these are believed to be at risk of being disturbed by the development. Additionally, FHC sought a new search in 2021 to check for any updates to the heritage register. The results of both desktop studies indicated that the potential for Aboriginal heritage sites to occur within the development areas was nil to very low. This was due to the fact that the landforms in which the development areas were located were not of the type preferred by Aboriginal people for occupation, being very steep, and removed from reliable water sources and sources of knappable stone for tool making. Furthermore, the known distribution of Aboriginal archaeological sites on the ridges and slopes of kunanyi/Mt Wellington was extremely sparse.

Field Survey Results

No Aboriginal heritage was found during the field survey. The field survey has demonstrated that no aboriginal heritage sites occur within the development footprint.

Impact Assessment

The field survey has established that no Aboriginal heritage will be impacted by the development.

Management Recommendations

It is recommended that providing the development takes place within the surveyed areas, no further management is required. It is noted that Aboriginal Heritage Tasmania have recommended MWCC follow the Unanticipated Discovery Plan procedures for the construction phase.

However, if the development footprint is substantially altered, it is recommended that a new field survey be carried out in any additional areas in order to assess whether or not they contain Aboriginal heritage.

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Introduction

The project was commissioned by the Mount Wellington Cableway Company Pty Ltd (MWCC), and was required as part of a development application by the MWCC to construct a cable car providing access to the kunanyi/Mt Wellington summit. As part of this application, the Hobart City Council (HCC) required MWCC to demonstrate via:

1. Evidence from a suitably qualified person that either:

    (a) The development does not involve an Aboriginal heritage site as defined under the Aboriginal Heritage Act 1975; or

    (b) Demonstrates that impacts on any Aboriginal heritage sites have been reasonably avoided, mitigated or remedied having regard to:

        i) The history of the surrounding area and known surveys of other nearby areas and any necessary prescriptions that set out mitigation or remediation measures; or

        ii) An on-site survey.

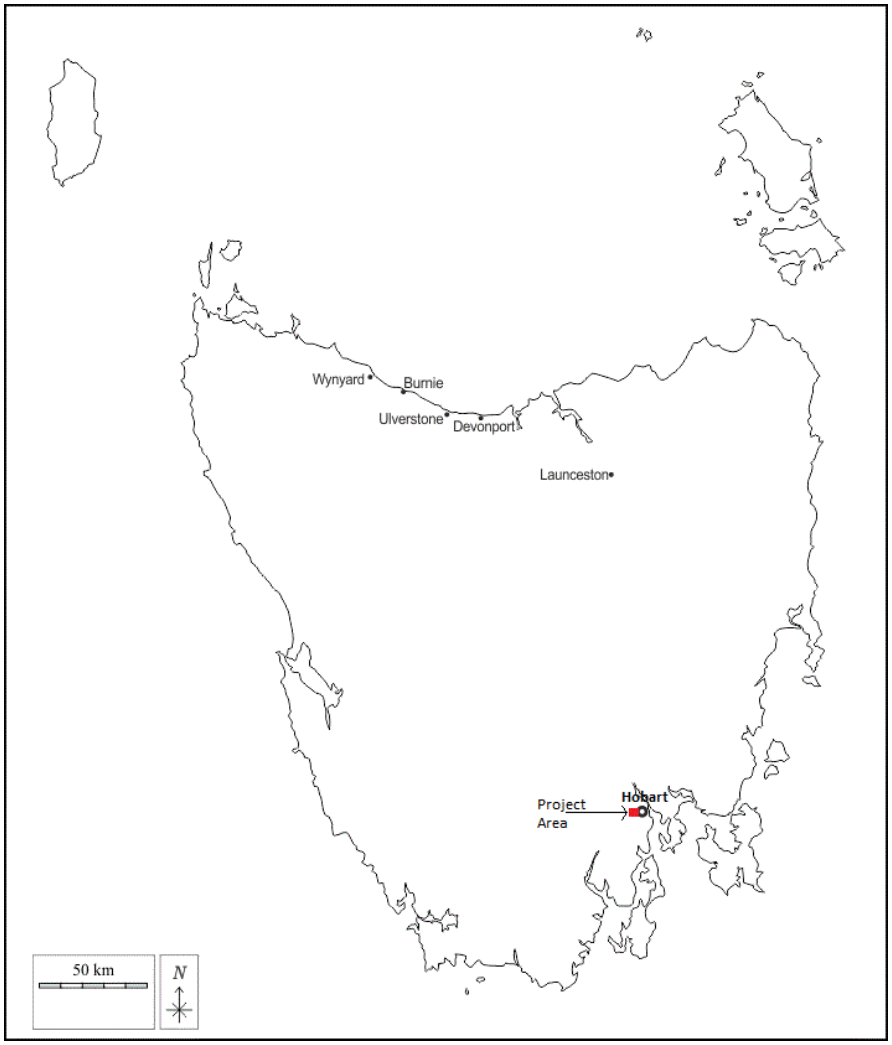

Figure 1: Map of Tasmania showing the location of the project area.

The project area was located approximately 2.7km WSW of Hobart, Tasmania (Figure 1). The project can be divided into six development areas that were subjected to the archaeological field survey, these being (from east to west):

- The access road
- The base station
- Towers 1 and 2
- Scaffold
- Tower 3
- The Pinnacle

The access road survey area was approximately 2500m long by 25m wide. It commenced at McRobies Rd and ran along the northern flank of a wooded spur within McRobies Gully Park, before intersecting with the northern end of the base station area (Figure 2).

The base station survey area was located close to the eastern edge of Wellington Park reserve, with the majority being within an artificial clearing (Figure 2). It measured 156m E-W by 75m N-S, and covered an area of 8053m2.

The proposed footprint of towers 1 and 2 were located directly west of the base station area, on a steep rocky hill (Figure 2). The tower 1 area was 137m west of the base station area, and the tower 2 area was 268m west of the base station area. Both tower locations were 22m x 22m squares. An east-west running 308m long by 15m wide tower access route intersected the two tower areas.

The scaffold location was 40m to the west of Pinnacle Road, within Wellington Park. It was located on the very steep rocky eastern flank of kunanyi/Mt Wellington, and was accessed via the Northern Buttress Track (Figure 3). The scaffold location itself was an area of 12m diameter.

The tower 3 area was located 146m to the east of and below the current pinnacle observation shelter (Figure 3). It covered a circular area 12m diameter, and was accessed via a rock climbing track.

The pinnacle development area consisted of a network of boardwalks and a building footprint (Figure 3). The building footprint covered an area of approximately 3215m2. The pinnacle survey area was accessed on foot via the public car park on the summit.

The aim of the project was to establish whether any Aboriginal heritage sites were located within the proposed development areas, and therefore were at risk of being disturbed by the construction of the Mount Wellington Cableway.

The field survey took place on the 22nd and 23rd April 2021. The survey was carried out by consulting archaeologist Dr Nic Grguric and archaeological assistant Summer Maskey. MWCC personnel involved with the project were Christian Rainey and Adrian Bold.

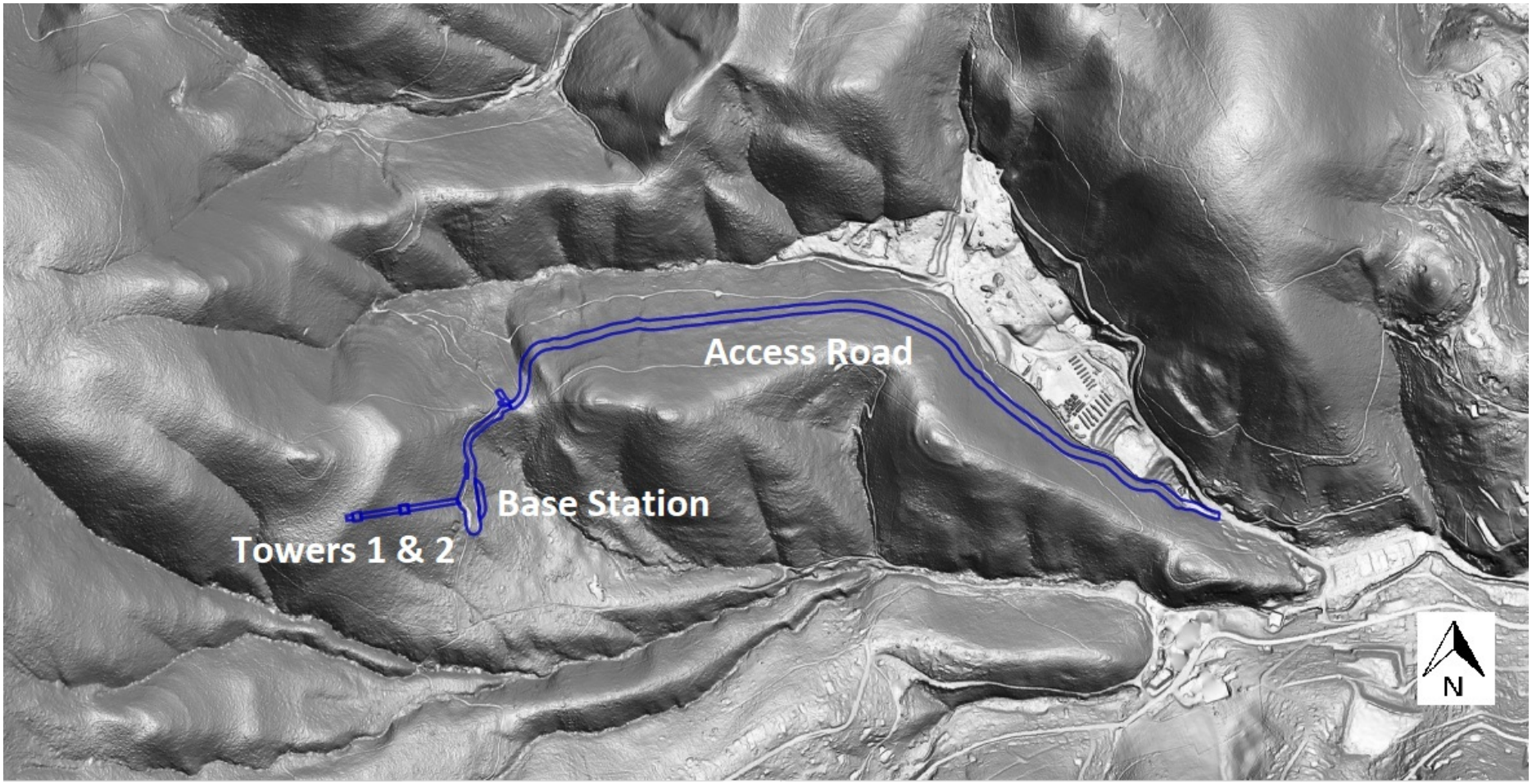

Figure 2: The Access road, base station and towers 1 & 2 survey areas showing the nature of the terrain on which they were situated (LISTmap 2021).

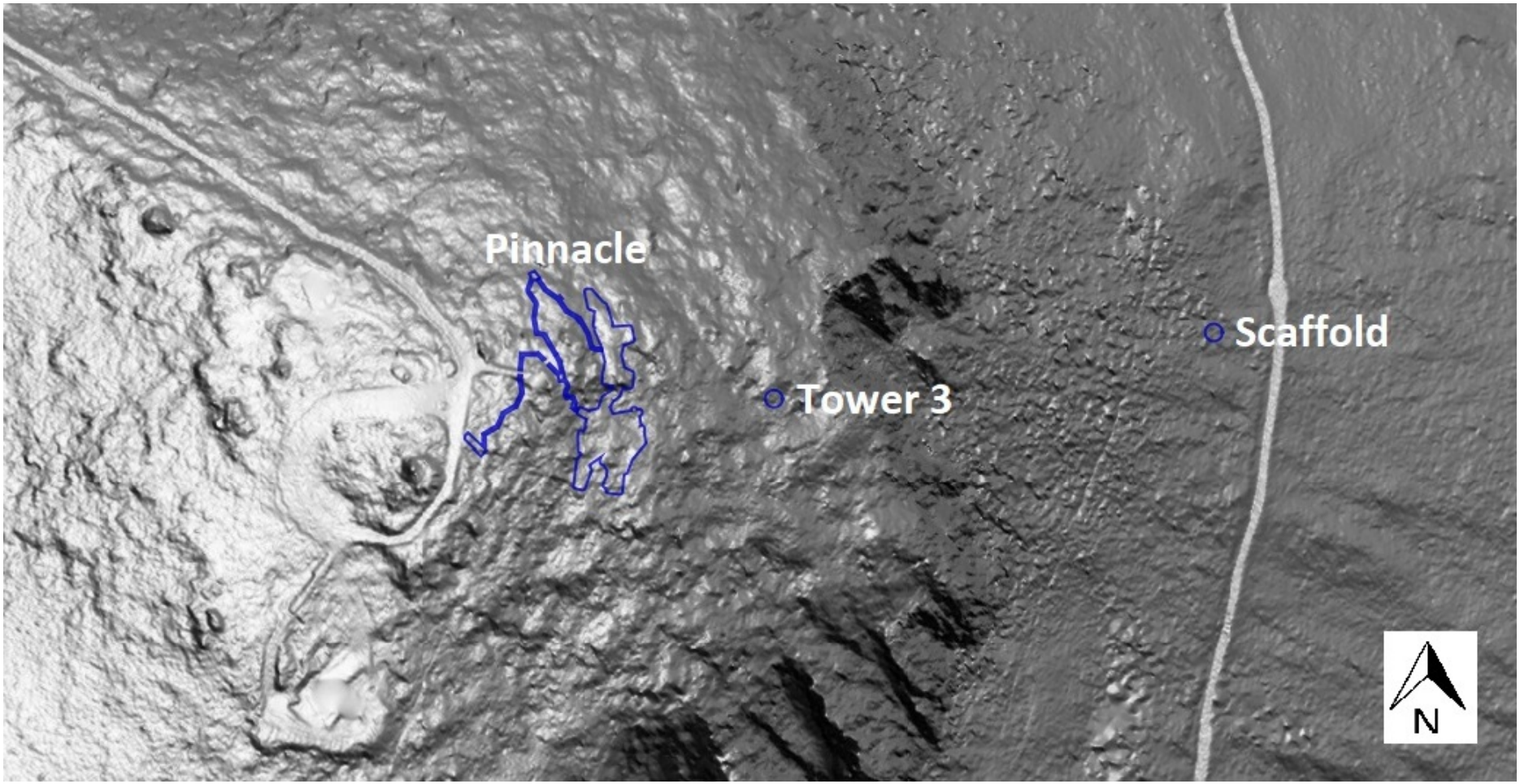

Figure 3: Scaffold, tower 3 and pinnacle survey areas showing the nature of the terrain on which they were situated (LISTmap 2021).

Project Activity Description

The project entails the development of an aerial cableway and associated visitor facilities within Wellington Park, with the aim of providing sustainable, inclusive and reliable access for all ages and abilities to appreciate the environment and scenic beauty from the summit of the kunanyi/Mt Wellington.

The proposal has been designed to blend naturally with its surrounds and minimise footprint. It includes the development of day-use public amenities, interpretation and hospitality facilities at the pinnacle; three towers to support the cableway, the development of a base station, carpark and entry road on the Main Fire Trail. Some level of ground disturbance and/or excavation will occur at each site. Operationally, the project activity introduces on-site staff to improve waste management, first aid, education and interpretation to improve cultural and environmental awareness.

As recommended in the Wellington Park Management Plan, the proposal will consolidate infrastructure in the pinnacle zone where plausible such as the removal of the non-compliant boardwalks and partial removal of the existing observation shelter. This will aid to restore the natural skyline of the mountain.

Background Information

Predictive Statement

During the Late Pleistocene period in Tasmania (ca 40,000-10,000 years ago), the evidence indicates that Aboriginal people heavily concentrated their activities in fertile, sheltered grassland pockets in river valleys in the island's south (Jones et al. 2019:2571). A recent study by Jones et at. (2019) which used a combination of environmental data and archaeological site data to create a model of Aboriginal 'habitat suitability' for the Holocene period (ca10,000BP to contact) indicated that the highest areas of suitability were concentrated around the coast, and along several major river valleys (including the Derwent). Conversely, the areas of lowest suitability included mountain ridges and high alpine plateaus (Jones et al. 2019:2576). The most preferred vegetation habitats were eucalypt woodlands. Heathlands, tussock grasslands, low closed forests/shrublands and shrubby eucalypt forests were also favoured, although to a lesser degree. Rainforests and *Leptospermum* forests on the other hand, were not favoured habitats (Jones et al. 2019:2577). On a broader landscape level, the model indicated that the probability for the presence of occupation decreases with increasing distance from coast, elevation, slope and topographic roughness (Jones et al. 2019:2578).

The terrain in which the development is planned to take place consists of densely forested, steep to very steep terrain which is very difficult to traverse on foot, some of it is so steep and thickly wooded that individuals must climb rather than walk to access it. No watercourses occur within the survey areas, nor do any outcrops or deposits of highly siliceous stone of the types suitable for knapped stone tool manufacture occur in the vicinity of the survey areas. Based on the above factors, it was predicted that the types of landforms and surface geology in which the development areas are located were highly unlikely to contain Aboriginal heritage sites.

Although a wide range of Aboriginal site types have been recorded in forested areas at a national level, including rockshelter occupation and art sites, quarries, axe grinding grooves, scarred and carved trees, stone arrangements, ceremonial grounds, rock engravings, burials and artefact scatters, site types other than artefact scatters are generally extremely rare in forested areas (Lomax 1998:10).

Site types such as burial grounds, scarred trees and ceremonial grounds are generally located in those areas which were the primary focus of Aboriginal exploitation, that is productive riverine areas and coastal and estuarine resource areas, rather than steep and rocky hills, ridges and mountains, as found in the study area. Ceremonial and burial grounds in particular are often associated with riverine landforms rather than forested broken terrain (Lomax 1998:10).

The occurrence of rockshelter occupation, art sites and axe grinding grooves is in a large part determined by the presence of suitable rock outcrops or shelters for occupation (Lomax 1998:10), none of which occur within the survey areas.

In hilly/mountainous terrain, stone quarrying sites often occur where sources of highly siliceous stone, suitable for knapping, are present in the form of outcrops or scree deposits. Such deposits are not present within the development areas, where the surface geology is overwhelmingly composed of coarse grained dolerite and soft sandstone and mudstone, which is unsuitable for knapped tool manufacture.

Although artefact scatters (i.e. camp sites) do occur in forested areas, they generally do so where other favourable environmental factors are present. Such factors can be reasonably flat or level ground, a nearby watercourse or water hole, a nearby rockshelter, or a source of knappable stone is to hand. None of these factors are present within the survey areas. Similarly, scarred trees (used to make implements) are usually found in conjunction with more habitable landforms such as river flats and artefact scatters, rather than difficult to access locations such as steep ridges. Additionally, the repeated burning events that have occurred on kunanyi/Mt Wellington make it unlikely that many trees that were mature enough to be scarred pre-contact have survived to the present.

Due to the very low potential for the landforms on which the development areas are located to have Aboriginal heritage sites, no potential areas of sensitivity (PAS) were identified.

Environment

kunanyi/Mt Wellington, a dominant and spectacular natural landscape feature, and its associated range provide a forested backdrop to Hobart and parts of the Huon and Derwent Valleys. The Wellington Range, which is approximately 25km long, is relatively flat topped, but slopes gradually towards the west. The vegetation of the Wellington Range is diverse, due largely to differences in altitude and rainfall. There are two major vegetation formations on the Range: Eucalyptus forest, generally below 800m, but stunted above 800m, and an austral-montane formation on the summits of the range on well drained but shallow soils, with swamps on poorly drained areas.

Early European observers were impressed and awe struck by the sheer size and majesty of the trees on kunanyi/Mt Wellington. At the time of fires in the 1930's and 60's some few surviving remnants of these trees might still have existed. It is possible that the extent of eucalypts seen on kunanyi/Mt

Wellington today owes more to the post-colonial burning of the mountain than to fires by Aboriginal people. The sclerophylly seen today could result from a successional pathway which allows rainforest to 'drift' towards sclerophylly after a fire, providing a suitable seed source exists (Thomas 1991:71).

kunanyi/Mt Wellington is capped by a Jurassic dolerite sill approximately 500m in depth, overlying a band of Triassic sandstones, averaging 275m in thickness. The most striking geological feature of the area is the occurrence of dolerite boulder fields, talus slopes and rock columns, particularly toward the higher, eastern part of the Range. In places, the edges of the dolerite sill have weathered to form columns. This columnar jointing is well illustrated by the 'Organ Pipes' immediately below the summit of kunanyi/Mt Wellington. The eastern portion of the survey area consists of fossiliferous sandstones and mudstones present on the foothills. These sedimentary deposits formed during the permian period (around 230-280 million years ago). Triassic sandstones are also present in the area at heights of 600m and above.

Fauna

Wellington Park is home to a wide range of endemic species. The range of altitude, vegetation and landforms across Wellington Park influences faunal diversity. Consequently, the Park is species rich, with many significant communities and threatened species (Wellington Park Trust 2010-2020). Many of these would have served as food sources for Aboriginal people.

Wellington Park is home for the long–nose potoroo, pademelon, bettong, southern brown and eastern barred bandicoots, brush-tail, ring-tail, pygmy and eastern pygmy possums, eastern quoll, platypus and echidna, swamp rat, long-tailed mouse, dusky antechinus and various species of bats. In damp places in and around the Park reside the Tasmanian and brown froglet, brown tree frog, southern toadlet, bull frogs, spotted grass frogs and the endangered green and gold frog. Reptiles found in the Park include blue–tongued lizards, mountain dragons, a variety of skinks, and all three of Tasmania's snakes – the tiger, copperhead and white–lipped snake. Owing to the diversity in habitats found within Wellington Park, a large proportion of Tasmanian bird life is found within it. A total of 67 bird species have been identified within Wellington Park. A number European-introduced species are found in Wellington Park today including house mice, black rats, rabbits, blackbirds, goldfinches, sparrows, feral cats, goats and bumble bees. These species have a detrimental effect on native flora and fauna, and the integrity of natural systems (Wellington Park Trust 2010-2020).

A description of the geology, geomorphology and vegetation that occurs in each of the designated survey areas is presented in Table 1. The geology of an area is important as it dictates the presence or absence of suitable stone resources for tool making, which was an important factor in determining the attractiveness of an area to Aboriginal people, and hence the likelihood of it containing archaeological sites. The same is true of the geomorphology and plant species present in an area.

Table 1: Environmental descriptions of the six survey areas. Information drawn from LISTmap 2021, Kitchener & Harris 2013, Wellington Park 2010-2020.

Survey Area	Geology	Geomorphology	Vegetation
Access Road	Generally poorly fossiliferous interbedded glaciomarine fine- to medium-grained sandstone, fissile and non-fissile siltstone, lonestones and pebble-rich patches, productid bed at top, basal interval commonly with thick beds of coarse-grained sandstone; Dominantly interbedded richly fossiliferous glaciomarine siltstone and sandstone and subordinate thin beds of granule sandstone, lonestones present, thin- to medium-bedded, commonly leached yellow-cream coloured (Deep Bay Formation); Paralic, massive, laminated, flaser-bedded or ripple cross-laminated micaceous sandstone and siltstone, thin beds of wavy- or cross-bedded sandstone and pebbly granule sandstone, marine bioturbated intervals with pebbles and rare shell fossils ; Undifferentiated Permo-Carboniferous sediments; Undifferentiated generally unfossiliferous glaciomarine fissile and non-fissile siltstone and silty sandstone with lonestones ; Generally unfossiliferous glaciomarine interbedded non-fissile and fissile siltstone and silty sandstone, with common bioturbation and lonestones, rare pebbly beds and fossiliferous beds; top beds of laminated grey to brown siltstone; Talus of dolerite and subordinate Lower Parmeener rocks; Freshwater predominantly cross-bedded quartzose to feldspathic sandstone commonly with overturned cross-bedding, subordinate siltstone with sparse plant and vertebrate fossils.	No watercourses exist within survey area. Nearest watercourse is a minor ephemeral unnamed tributary at the base of McRobies Gully, approximately 140m to the north of the survey area. The survey area hugs the northern flank of a ridge. The terrain here is steep and lacking in suitable landforms for occupation in the form of camp sites (artefact scatters).	Eucalyptus obliqua wet forest: A tall to very tall overstorey of E. obliqua over a well-developed secondary layer of rainforest trees. On fertile sites the rainforest is callidendrous, with Nothofagus cunninghamii and/or Atherosperma moschatum predominating over an understorey of tree ferns, ground ferns and relatively diverse and abundant epiphytic ferns. The rainforest becomes increasingly thamnic as fertility decreases, when secondary dominants may include Eucryphia lucida and Phyllocladus aspleniifolius; Tall to very tall trees with well-formed trunks about two-thirds of the total height of the tree. In regrowth trees, the crowns are relatively small, but mature trees can form large, spreading crowns. Across its distribution range E. obliqua wet forest often occurs in pure stands. In areas with fertile soils and high rainfalls E. regnans may co-occur with E. obliqua. On relatively dry sites, E. viminalis is a frequent codominant that is either replaced or co-occurs with E. globulus in eastern and south-east Tasmania. At altitudes above 300 m, E. dalrympleana replaces E. viminalis as a co-dominant; The understorey is typically composed of broadleaved shrubs, most commonly including Pomaderris apetala, Nematolepis squamea and Olearia argophylla, with a high proportion of ground ferns; Tall to very tall tree canopy of E. obliqua over a dense secondary tree cover of Leptospermum lanigerum and/or Melaleuca squarrosa. Other tall shrub or tree species include Nematolepis squamea and Acacia verticillata. The

			ground layer is sometimes sparse, but more often is a dense tangle of Bauera rubioides, Gahnia grandis Gleichenia microphylla and Restionaceae species. <u>Eucalyptus obliqua dry forest:</u> The dominant tree species is E. obliqua. Acacia dealbata is frequently present, but it is typically in the tall shrub layer rather than the canopy, as is Acacia melanoxylon when present. E. obliqua dry forest occurs as mixed-species stands with eucalypts from both the gum (Series Ovatae and Viminales) and peppermint (Series Piperitae) groups. In dolerite areas in the south-east, E. amygdalina and E. pulchella are common subdominants, and on mudstone, E. tenuiramis is common. E. globulus occurs as a subdominant or minor species on the east coast and in the south-east, either replacing or co-occurring with E. viminalis. E. delegatensis may co-occur with E. obliqua at the higher altitudinal limits of E. obliqua dry forest. At sites where the dolerite-derived substrate is prone to winter waterlogging, and often summer drought, E. ovata may occur with E. obliqua and E. amygdalina, and/or E. pulchella. The forest community typically has trees of medium height with stems of good form. Typically, the understorey is shrubby. The shrub layer is dense and species-diverse, and the ground layer sparse. The exception to this is frequently fired sites, where the shrub layer is sparse and speciespoor, and the dense ground layer is dominated by Pteridium esculentum. Where the shrub layer is dense, common species include Acacia dealbata, Exocarpos cupressiformis, Allocasuarina littoralis, Lomatia tinctoria and Epacris impressa. On siliceous substrates, the

			understorey may tend more toward a heathy/shrubby understorey with such species as Amperea xiphoclada, Aotus ericoides and Leucopogon ericoides. Occasionally on siliceous substrates, the understorey can be grassy, often with the only shrubs being Acacia dealbata. <u>Eucalyptus tenuiramis forest and woodland on sediments</u>: The dominant tree species is E. tenuiramis with other tree species sometimes present include E. pauciflora, E. rubida, E. viminalis, E. obliqua and Acacia melanoxylon. E. perriniana occurs sporadically in small patches on small sites within similar habitat. Trees are rarely more than 25 m in height and are often considerably smaller on highly insolated nutrient-poor sites. Old-growth stands of this community are uncommon, as there is often rapid replacement before senescence due to the frequent fires. Substrate, insolation and fire-frequency strongly influence the understorey, which generally has a low cover and diversity of shrubs. The medium- tall shrub layer is sparse, but includes Banksia marginata, Allocasuarina littoralis, Acacia species and Exocarpos cupressiformis. Pteridium esculentum often dominates the understorey, particularly on sandstone substrates or where fires are frequent. Other low shrubs include Epacris impressa, Astroloma humifusum, Pultenaea species, Aotus ericoides, Lomatia tinctoria and Tetratheca labillardierei. The density of the ground layer is variable. Native grasses such as Poa rodwayi, Austrodanthonia species, Deyeuxia species and Austrostipa species, as well as Lomandra longifolia, often dominate the ground layer where slope and aspect allow soil to form. However, ground cover can become very sparse on

			insolated sites where soil development is poor, or where fires are frequent.
Base Station	Generally poorly fossiliferous interbedded glaciomarine fine- to medium-grained sandstone, fissile and non-fissile siltstone, lonestones and pebble-rich patches, productid bed at top, basal interval commonly with thick beds of coarse-grained sandstone; Undifferentiated fossiliferous glaciomarine sandstone, siltstone and limestone (Deep Bay Formation, Berriedale Limestone, Nassau Siltstone and Rayner Sandstone). (Pdb+Pca).	No watercourses exist within the survey area. The nearest watercourse is a minor ephemeral unnamed tributary located at the base of the gully approximately 120m to the east of the survey area. The terrain within the survey area is a steep hillside which has been extensively disturbed in the 20th Century by the construction of fire tracks. This landform has no properties that would make is a likely location for Aboriginal occupation in the form of camp sites (artefact scatters)	Eucalyptus pulchella forest and woodland: E. pulchella is normally the dominant tree species. Other tree species that may be present include E. globulus, E. viminalis, E. amygdalina, E. ovata and E. barberi. The tree height in this community rarely exceeds 25 m and may be less than 15 m because of poor sites and low rainfall. The community may have a woodland structure. Due to the high fire-frequency in this community, hollows and butt damage are common. There is normally a sparse cover of tall to medium shrubs, including Banksia marginata, Acacia dealbata, A. mearnsii, Exocarpos cupressiformis, Allocasuarina verticillata and Bursaria spinosa. Callitris rhomboidea occurs locally in fire- protected sites. In situations subject to high fire- frequency and grazing, this tall shrub layer may be absent. The low shrub layer is also sparse. Epacris impressa, Lomatia tinctoria, Astroloma humifusum, Lissanthe strigosa and Acrotriche serrulata occur occasionally. The ground layer is diverse and usually dominated by native grasses and Lomandra longifolia. Common species include those from the genera Poa, Dichelachne, Austrostipa, Notodanthonia and Agrostis. Lomandra longifolia and Lepidosperma spp. are frequent, and common herbs include Brachyscome species, Wahlenbergia species, Leptorhynchos squamatus, Bossiaea prostrata, Gonocarpus tetragynus and Hovea linearis. Leptecophylla divaricata is often prominent on rocky sites, which can often be characteristically shrubbier, with sparse grasses.
Tower 1 & Tower 2	Undifferentiated fossiliferous glaciomarine sandstone, siltstone and limestone (Deep Bay	No watercourses exist within the survey area. The nearest watercourse is a minor ephemeral	Eucalyptus obliqua wet forest: A tall to very tall overstorey of E. obliqua over a well-developed

	Formation, Berriedale Limestone, Nassau Siltstone and Rayner Sandstone). (Pdb+Pca); Generally poorly fossiliferous interbedded glaciomarine fine- to medium-grained sandstone, fissile and non-fissile siltstone, lonestones and pebble-rich patches, productid bed at top, basal interval commonly with thick beds of coarse-grained sandstone.	unnamed tributary located at the base of the gully approximately 195m to the east of the survey area. The terrain within the survey area is a very steep hillside This landform has no properties that would make is a likely location for Aboriginal occupation in the form of camp sites (artefact scatters)	secondary layer of rainforest trees. On fertile sites the rainforest is callidendrous, with Nothofagus cunninghamii and/or Atherosperma moschatum predominating over an understorey of tree ferns, ground ferns and relatively diverse and abundant epiphytic ferns. The rainforest becomes increasingly thamnic as fertility decreases, when secondary dominants may include Eucryphia lucida and Phyllocladus aspleniifolius; Tall to very tall trees with well-formed trunks about two-thirds of the total height of the tree. In regrowth trees, the crowns are relatively small, but mature trees can form large, spreading crowns. Across its distribution range E. obliqua wet forest often occurs in pure stands. In areas with fertile soils and high rainfalls E. regnans may co-occur with E. obliqua. On relatively dry sites, E. viminalis is a frequent codominant that is either replaced or co-occurs with E. globulus in eastern and south-east Tasmania. At altitudes above 300 m, E. dalrympleana replaces E. viminalis as a co-dominant; The understorey is typically composed of broadleaved shrubs, most commonly including Pomaderris apetala, Nematolepis squamea and Olearia argophylla, with a high proportion of ground ferns; Tall to very tall tree canopy of E. obliqua over a dense secondary tree cover of Leptospermum lanigerum and/or Melaleuca squarrosa. Other tall shrub or tree species include Nematolepis squamea and Acacia verticillata. The ground layer is sometimes sparse, but more often is a dense tangle of Bauera rubioides, Gahnia grandis Gleichenia microphylla and Restionaceae species.
Scaffold	Talus consisting dominantly of dolerite boulders.	No watercourses exist within the survey area. The	Eucalyptus coccifera forest and woodland: The

		nearest watercourse is the commencement of a minor ephemeral unnamed tributary located approximately 560m to the southeast of the survey area. The terrain within the survey area is a very steep hillside This landform has no properties that would make is a likely location for Aboriginal occupation in the form of camp sites (artefact scatters)	dominant tree species is E. coccifera. E. subcrenulata, E. gunnii, E. pauciflora, E. delegatensis, Athrotaxis cupressoides and A. selaginoides are sometimes present as subdominants. In subalpine areas, E. delegatensis may form forest or woodland on very rocky ground with a mix of E. coccifera and E. delegatensis on the fringes. Around 1 000 m, E. pauciflora can be co- dominant with E. coccifera such as at Liawenee Moor. At lower altitudes (600–800 m) E. pauciflora largely replaces E. coccifera on these woodland margins. In swampy alpine areas, E. coccifera occupies the better-drained rises and mixes with E. gunnii at the edges. E. archeri occurs on rocky slopes at plateau edges, with or without E. coccifera. E. urnigera is found on rocky alpine plateaus and steep to moderate subalpine slopes down to 800 m, almost always with E. coccifera. Both E. archeri and E. urnigera have very restricted ranges. There is evidence that large trees were more widespread before extensive wildfires in the 1960s. Woodland trees generally range from 5– 10 m in height. At exposed sites, it is usual for trees to show fire and frost damage, with the common form of recovery being regrowth from epicormic buds. E. archeri forms small, often spindly trees less than 8 m tall. Subalpine woodlands generally have a sparse heathy understorey among rocks, commonly including Richea sprengelioides, Orites revoluta, O. acicularis, Leptospermum rupestre, Coprosma nitida, Ozothamnus rodwayi and Cyathodes species. On less rocky sites, Richea pandanifolia and/or R. scoparia may occur together with rainforest species. Grasses, herbs and prostrate shrubs occur in openings. Long-unburned areas may support small conifers (small trees and

			shrubs) and/or Nothofagus gunnii. At lower altitudes, understorey dominance may change and include Coprosma nitida, Orites diversifolia, Acacia riceana, Banksia marginata, Telopea truncata, Hakea lissosperma and Tasmannia lanceolata. The ground layer may include Bauera rubioides, Planocarpa petiolaris, Cyathodes straminea and Orites revoluta. E. archeri occurs in exposed rocky areas above shrubby alpine heath. E. urnigera usually occurs over a shrubby understorey composed of Oxylobium ellipticum, Leptecophylla juniperina subsp. parvifolia, C. glauca, and Orites diversifolia.
Tower 3	Dolerite and related rocks.	No watercourses exist within the survey area. The nearest watercourse is the commencement of a minor ephemeral unnamed tributary located approximately 730m downslope to the southeast of the survey area. The terrain within the survey area is a very high elevation steep apron beneath the pinnacle, with a cliff immediately to the east. This landform has no properties that would make is a likely location for Aboriginal occupation in the form of camp sites (artefact scatters)	Eastern alpine heathland: Drainage, exposure and fire history determine the dominant species. Orites revoluta is often the most prominent shrub on well–drained slopes, with O. acicularis prominent in some well–watered areas but slow to recover from fire in others. Other species include Grevillea australis, Leptecophylla juniperina, Cyathodes straminea, Boronia citriodora, Leptospermum rupestre, Baeckea gunniana, Monotoca empetrifolia and Epacris serpyllifolia. Very rocky areas are often dominated by Richea sprengelioides, with Exocarpos humifusus, Olearia erubescens, Leucopogon montanus, Coprosma nitida and Planocarpa petiolaris. Many species are common to both these facies. Open ground is generally covered by prostrate Epacridaceae species (e.g. Pentachondra pumila, Cyathodes dealbata), short Poa gunnii and herbs. As drainage decreases, Richea scoparia may be prominent where heathland is replaced by sedgeland.
Pinnacle	Dolerite and related rocks.	No watercourses exist within the survey area. The nearest watercourse is the commencement of a minor ephemeral unnamed tributary located	Eastern alpine heathland: Drainage, exposure and fire history determine the dominant species. Orites revoluta is often the most prominent shrub on

		approximately 790m downslope to the east-southeast of the survey area. The terrain within the survey area is a very high mountain summit. This landform has no properties that would make is a likely location for Aboriginal occupation in the form of camp sites (artefact scatters)	well–drained slopes, with O. acicularis prominent in some well–watered areas but slow to recover from fire in others. Other species include Grevillea australis, Leptecophylla juniperina, Cyathodes straminea, Boronia citriodora, Leptospermum rupestre, Baeckea gunniana, Monotoca empetrifolia and Epacris serpyllifolia. Very rocky areas are often dominated by Richea sprengelioides, with Exocarpos humifusus, Olearia erubescens, Leucopogon montanus, Coprosma nitida and Planocarpa petiolaris. Many species are common to both these facies. Open ground is generally covered by prostrate Epacridaceae species (e.g. Pentachondra pumila, Cyathodes dealbata), short Poa gunnii and herbs. As drainage decreases, Richea scoparia may be prominent where heathland is replaced by sedgeland.

Historical

Several traditional names for Mount Wellington have been recorded across different dialects, such as *poorawetter* (or *pooranetere*), *unghbanyahletta* (or *ungyhaletta*), and *kunanyi* (Milligan 1858). The latter, *kunanyi*, was used by the Muwinina of the Hobart area and has been reestablished today.

Following the European settlement of Hobart during the early 19th century, Charles Augustus Robinson, appointed as the 'Conciliator of Aborigines'[sic], recorded oral histories which described the period of rapid colonisation. Wooraddy (Wurati), a Nuennone man from Bruny Island, recounted to Augustus that, "when the first people settle 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" (Plomley 1966). Wurati may have been referring to the Wellington Ranges as the location where these events were viewed.

When A.W. Humphrey scaled kunanyi/Mt Wellington in 1804, he described forests of tall tree ferns (Dicksonia antarctica) and groves of 'sassafras trees' (Atherosperma moschatum). More impressive still were the tall eucalypts (E. obliqua) which were truly gigantic. One of these was so large that Humphrey joked that: "a coach and six might be drawn along it" (Thomas 1991:71).

During his 1836 visit to Hobart, naturalist Charles Darwin climbed kunanyi / Mount Wellington, describing some of the vegetation he encountered, "[...]In many parts the Eucalypti grew to a great size, and composed a noble forest. In some of the dampest ravines, tree-ferns flourished in an extraordinary manner; I saw one which must have been at least twenty feet high to the base of the fronds, and was in girth exactly six feet." (Darwin et al. 1989: 449).

When European colonists occupied the area that is now Hobart in 1804, it was what has been termed a 'beachhead frontier' (Connor 2002:33), with relatively little initial conflict between the colonists and the Aboriginal occupants. This is because the Hobart settlement initially occupied a small area of land as its geopolitical purpose was to block French colonial ambitions. Inevitably, however there was conflict, such as when troops of the New South Wales Corps fired on a Moomairremener hunting party across the Derwent at Risdon Cove, killing a substantial number of them (Connor 2002:33-34). While other small-scale acts of violence were perpetrated by both sides in the Hobart area during the initial years of European colonisation (Connor 2002:85; Clements 2019:19), conflict was not sustained enough to regard it as one of the main 'fronts' of the 'Black War' (Clements 2019:xvii). Generally, the small size of the colonial enclave around Hobart meant the two sides were able to coexist. European-introduced diseases devastated the Aboriginal community, but the Europeans also brought dogs, flour and tea, which were enthusiastically adopted by Aboriginal people (Connor 2002:85).

Land Use History

In the late 18th century French expeditions recorded burning activities by the Muwinina in the foothills of the mountain. The use of fire for the purpose of hunting and clearing vegetation has been observed across mainland Australia, with several reported early accounts of the Muwinina practicing deliberate burning in the Hobart and Mount Wellington area (Ryan 1996).

In 1792, Captain Bligh remarked on the use of fire as land management tool. He correctly supposed that the land at the foot of kunanyi/Mt Wellington was well-inhabited by Aboriginal people. The frequency of fire in the area would have had major effects on the vegetation. Furthermore, the fact that tall wet eucalypt and Atherosperma forests were restricted to fire protected locations at the time of settlement suggests that fires had played a major part in the evolution of vegetation patterns of the Hobart area, and the open grassy nature of Eucalyptus and Allocasuarina woodlands on surrounding hill slopes suggests a high frequency of low intensity burns (Thomas 1991:50).

The description of rainforests or mixed forests on kunanyi/Mt Wellington make it clear that places on the mountain had not been subjected to fire for a very long period of time; certainly since well before the fires recorded by Du Fresne and subsequent maritime explorers. The gigantic trees which so impressed Humphrey could well have been 300 years old in 1804 (Thomas 1991:71).

European exploitation of the project area commended in the eighteen-teens, with convicts felling trees for timber which was required for construction and fuel. This was initially in the foothills along the Hobart Rivulet. The 1830s saw timber getting and milling increase. Robert Barter Wiggins was engaged in quarrying slate below the present Junction Cabin, located some 600m to the north of the proposed cableway alignment, and Australia's first major water pipeline was constructed from the Springs along the Hobart Rivulet. European use of the mountain as a place of recreation commenced in earnest in the 1840s, with a number of huts and tracks constructed, and the first ice houses were built by convicts. In the 1860s a waterworks scheme was initiated, taking water from the mountain to a reservoir in the Sandy Bay Rivulet. These waterworks projects continued in the 1870s and 1880s. Timber getting all but ceased by 1906, with much of the eastern face of Mount Wellington declared a public park (Wellington Park Trust 2010-2020(c)).

Previous Aboriginal Investigations

Although wider studies have shown that Aboriginal people were in occupation of southern Tasmania at least 35,000 years ago (Bowdler 2010:178), no systematic research has been undertaken in Wellington Park (Wellington Park Trust 2010-2020(b)). A search of the Aboriginal Heritage Register in May 2021 found twelve unpublished reports relating to the broader area in which the proposed development area is located.

Previously Recorded Aboriginal Heritage Sites

A Search of the Tasmanian Aboriginal Heritage Register in May 2021 showed 15 Aboriginal heritage sites have been previously recorded in the broader area in which the development is proposed between 1992 and 2018. These 15 sites are located between 300m and 5900m from the proposed activity footprints (Figure 4). Summary details of these 15 sites are presented in Table 2. Five of these sites are described as 'unoccupied' rockshelters, meaning that their archaeological potential has not been established (usually through excavation). A further six of these sites are isolated artefacts, meaning a single stone tool which was likely lost or discarded by an individual passing through the landscape, such as might occur during a hunt. Due to their distance from the activity footprints, it can be confidently stated that none of these sites are at risk of being disturbed by the proposed development.

Table 2: Previously recorded Aboriginal heritage sites in vicinity of the project area (AHT 2021).

Number	Site Type	Site Recording Date	Place Name	Locality	Easting	Northing	Shape?	Aliases	Distance from Proposed Activity Footprint (m)
11786	Artefact Scatter	12/02/2013	Syme Street Hobart Artefact Scatter	South Hobart	524253	5250923	No		300
6592	Unoccupied Rockshelter	29/10/1992	Knocklofty Reserve	West Hobart	524753	5251693	No		1000
6593	Occupied Rockshelter	29/10/1992	Knocklofty Reserve	West Hobart	524754	5251705	No		1000
6594	Unoccupied Rockshelter	29/10/1992	Knocklofty Reserve	West Hobart	524753	5151719	No		1000
6595	Unoccupied Rockshelter	29/10/1992	Knocklofty Reserve	West Hobart	524759	5251787	No		1100
6838	Isolated Artefact	16/07/1993	Lenah Valley	Wellington Park	520812	5252782	No	Site Name – Lenah Valley 1, Field Designation Number 01	1800
6839	Isolated Artefact	5/08/1993	South Hobart	South Hobart	525352	5251082	No	Field Designation Number - SHP, Site Name - South Hobart Primary School	1400
7990	Isolated Artefact			South Hobart	523134	5249699	No		1600
7991	Unoccupied Rockshelter			Ridgeway	523735	5248933	No		2200
7992	Unoccupied Rockshelter			Ridgeway	523512	5248982	No		2200
7993	Artefact Scatter			Ridgeway	522912	5248882	No		2500
13264	Isolated Artefact	2/11/2016	kunanyi/Mt Wellington	Wellington Park	521425	5251887	No	Field Designation Number - WP BAS 2016-1	730
13604	Isolated Artefact	3/05/2018		Wellington Park	518831	5256762	No	Field Designation Number - Montrose FT 1, Site Name - Goat Hills East Slopes 1	5800
13605	Artefact Scatter	3/05/2018		Wellington Park	519377	5256859	Yes	Field Designation Number - Jacksons FT 1, Site Name - Goat Hills East Slopes 2	5900
13606	Isolated Artefact	3/05/2018		Wellington Park	519462	5256876	No	Field Designation Number - Jacksons FT 2, Site Name - Goat Hills East Slopes 3	5900

Figure 4: Location of previously recorded Aboriginal heritage sites in relation to the designated survey areas (site location data provided by AHT 2021).

Research Design and Field Methods

Weather forecasts were observed when planning the timing of the field survey in order to minimise the chance of snow which would adversely affect ground surface visibility, and rainfall which would make working in the steep and often slippery rocky terrain difficult and unsafe.

As the survey areas were relatively small, only two personnel were required in order to effectively survey the required areas within the allotted timeframe of two days. The survey team was led by consulting archaeologist Dr Nic Grguric, who has 14 years of extensive experience carrying out Aboriginal archaeological projects throughout Australia. Dr Grguric was assisted by archaeological assistant Summer Maskey, who is also experienced in Aboriginal field surveys.

The survey was carried out by means of foot transects. The survey personnel were spaced a maximum of 12m apart (notably along the 25m wide access road survey area), however for the majority of the survey their spacing was able to be considerably reduced owing to the small size of the survey areas. Given the very low to nil potential for Aboriginal heritage sites to be present in the landforms surveyed, special attention was paid to any features or exposures that might hold more potential, such as bulldozed cuts in the side of fire tracks. However no knappable stone was observed in these exposures.

Spatial data in the field was captured by means of hand held GPS devices (Garmin GPSMAP 64), capable of sub-5m accuracy. The devices had the footprint of the development uploaded to them, which was used to guide the survey team. The devices created track logs and could be used to take points to record the location of any Aboriginal heritage found.

Photographic records were taken of the landscape and vegetation in each of the development areas that were surveyed. In the event of Aboriginal heritage being found, photographic records would also have been made of them in situ with an appropriate scale.

A hand field diary was kept in which the progress and observations of the survey team were recorded. Aboriginal Heritage Tasmania's Aboriginal Heritage Register (AHR) Site Recording Forms were carried by the survey team which were to be used to record any finds.

Limitations to the field survey included consistently poor ground surface visibility and steep terrain. Vegetation covered 90-100% of the ground owing to dense leaf litter, twigs and fallen branches, and dense grass and bushes. The steep terrain made searching parts of the survey area (particularly the scaffold and tower 3 locations) hazardous.

Effective Survey Coverage

Survey coverage was calculated on the basis that an individual can effectively scan 1m to either side of them (Burke & Smith 2004:65). Survey coverage ranged from 21% along the access road area to 100%. Ground surface vegetation was very dense throughout, ranging from 90-100%. The survey coverage achieved for the six development areas, calculated as per AHT's prescribed method, is presented in Table 2 below. The GPS track logs of the survey team are shown in Figures 2-6.

Table 3: Summary details of survey area results.

Area (m2)	Geomorphic Unit	Landforms	Exposure Type (%)	Vegetation Cover %	Effective Coverage in m2 (% of Transect Total)	Sites Found
Access Road (61842)	Hills and Ridges	Flank of wooded ridge line	Occasional gaps in vegetation (5)	90-100	13140 (21)	Nil
Base Station (8053)	Hills and Ridges	Deforested clearing on hill side	Bulldozed vehicle tracks (30)	90-100	3430 (42)	Nil
Towers 1 and 2 (3751)	Hills and Ridges	Steep thickly forested hill side	Occasional gaps in vegetation (5)	95-100	4134 (100)	Nil
Scaffold (113)	Mountain	Very steep rocky and thickly vegetated mountain side	Occasional gaps in vegetation (5)	100	62 (55)	Nil
Tower 3 (113)	Mountain	Steep and rocky thickly vegetated mountain side	Occasional gaps in vegetation (5)	95-100	44 (39)	Nil
Pinnacle (3958)	Mountain	Rocky and thickly vegetated mountain top	Occasional gaps in vegetation (5)	95-100	5788 (100)	Nil

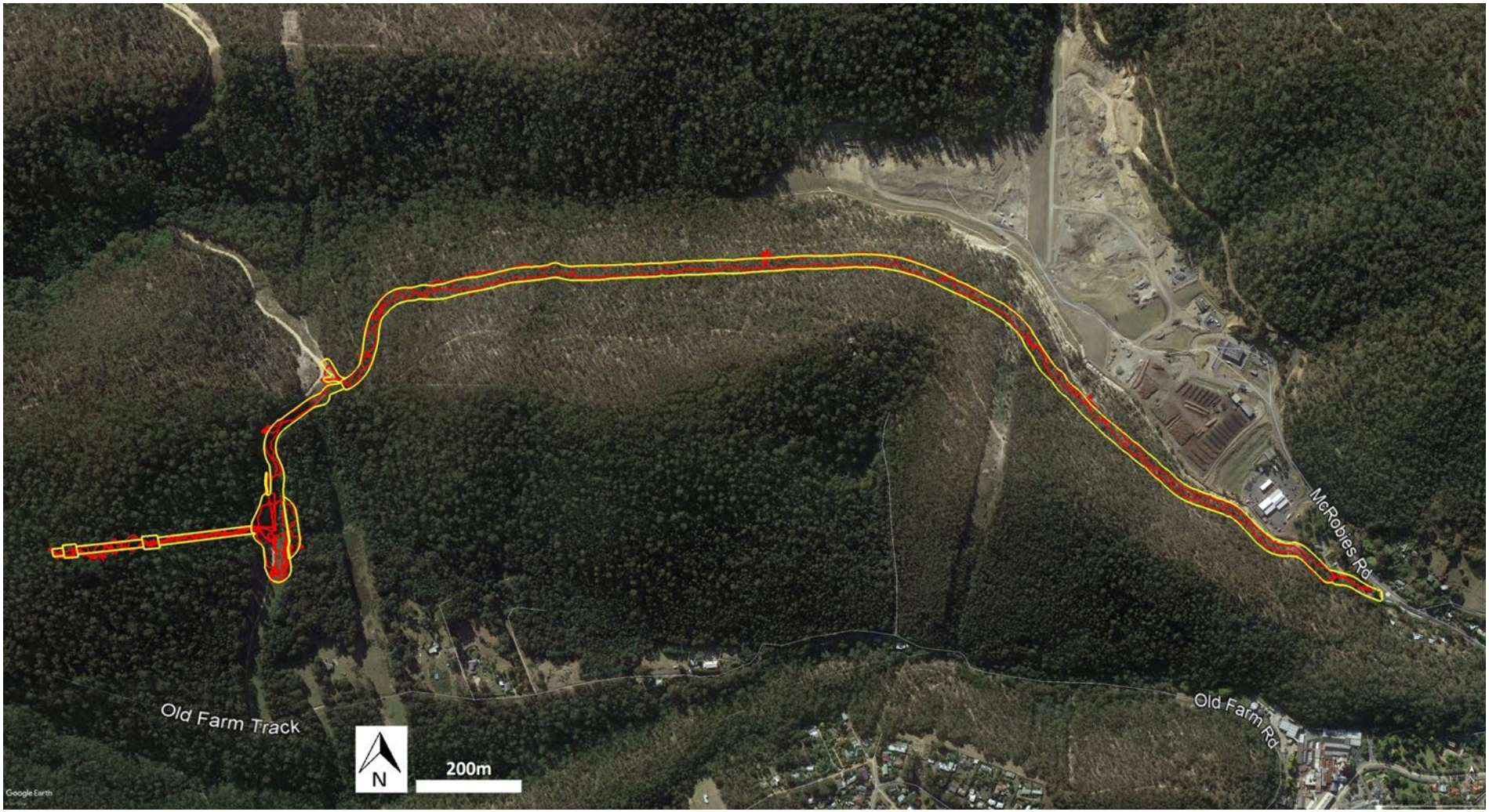

Figure 5: Access road, base station and towers 1 & 2 areas showing GPS track logs (in red).

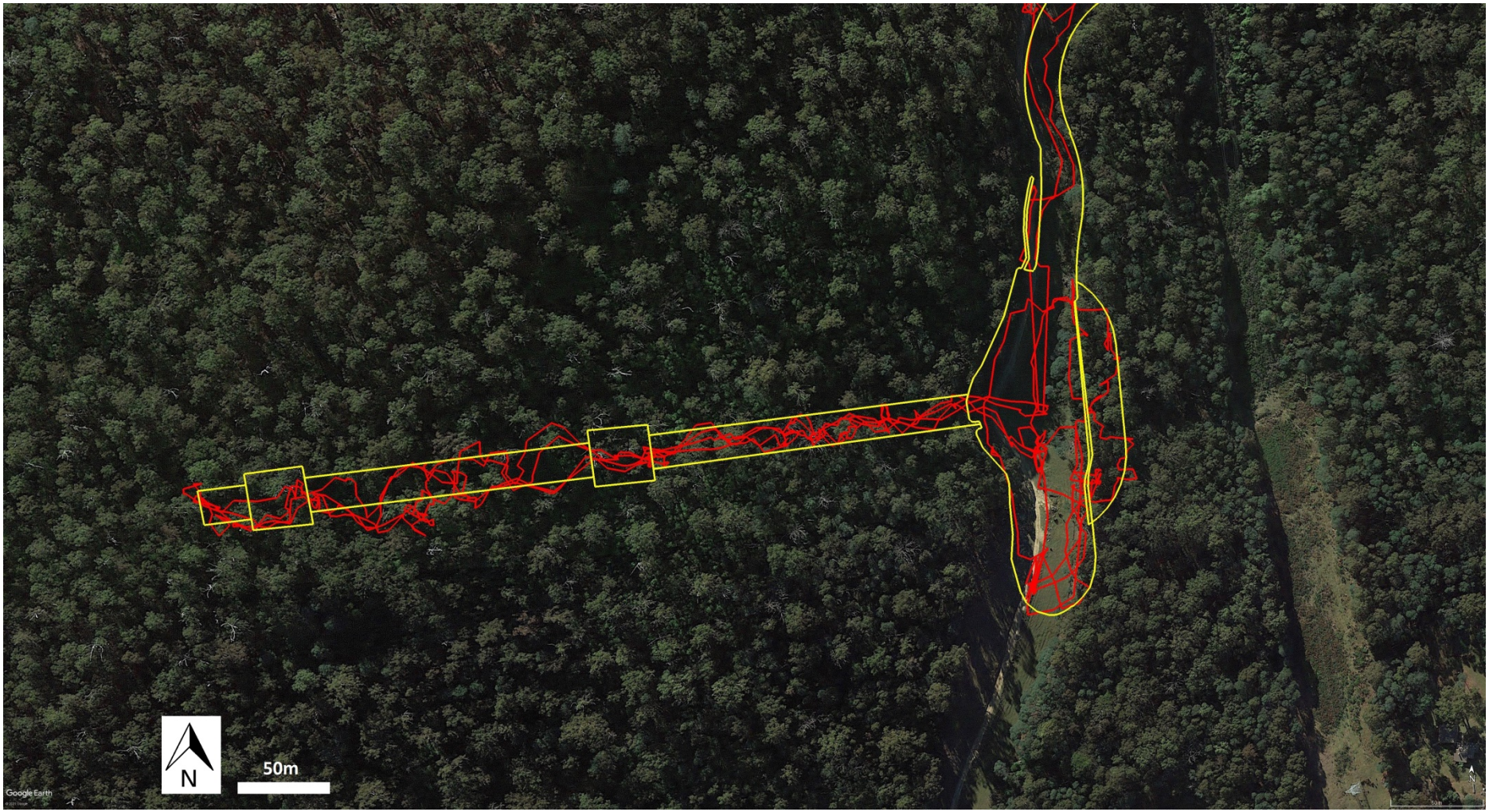

Figure 6: Closer view of base station and towers 1 and 2 areas showing GPS track logs (in red).

Figure 7: Scaffold area showing GPS track logs (in red).

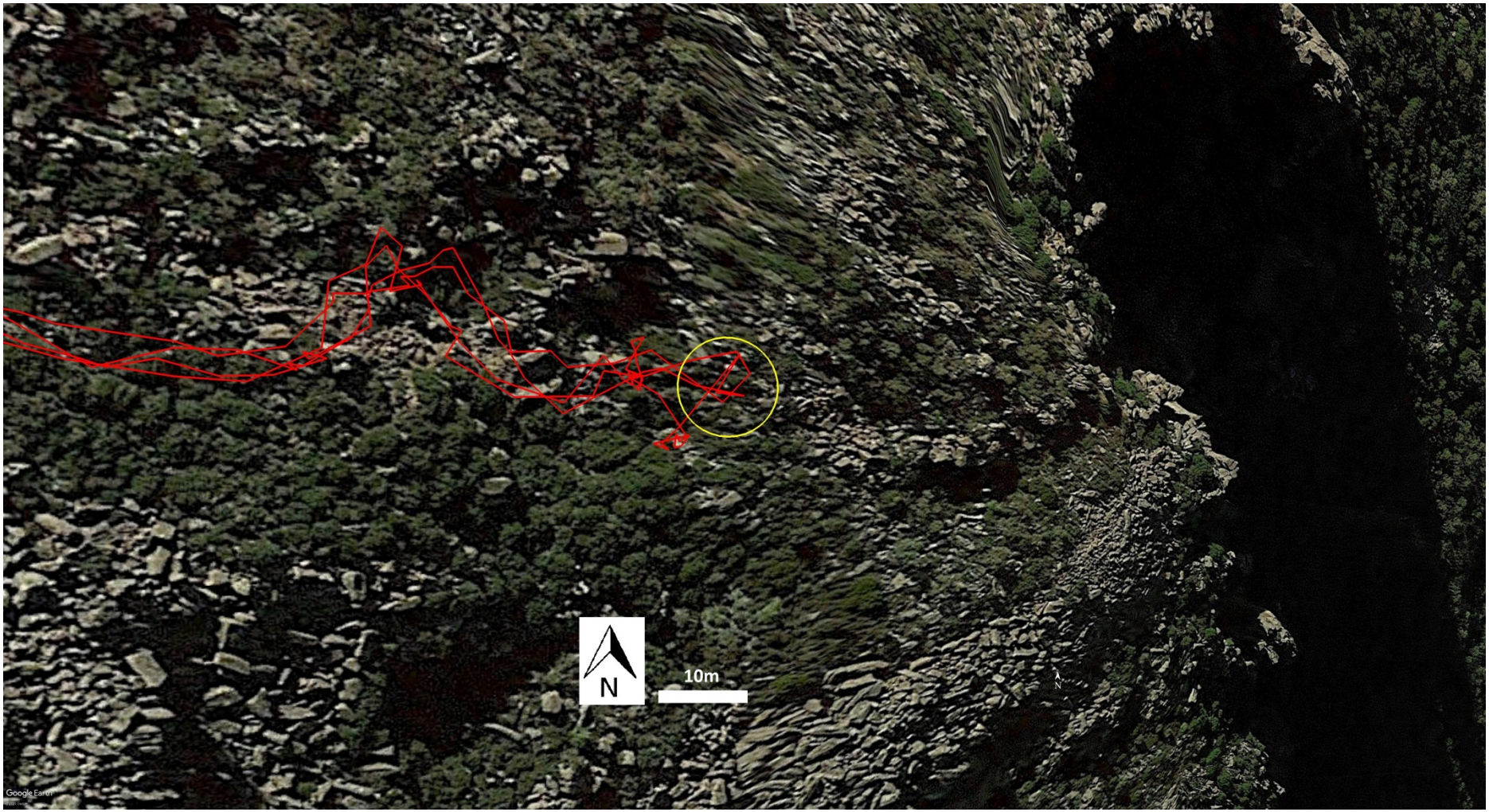

Figure 8: Tower 3 area showing GPS track logs (in red).

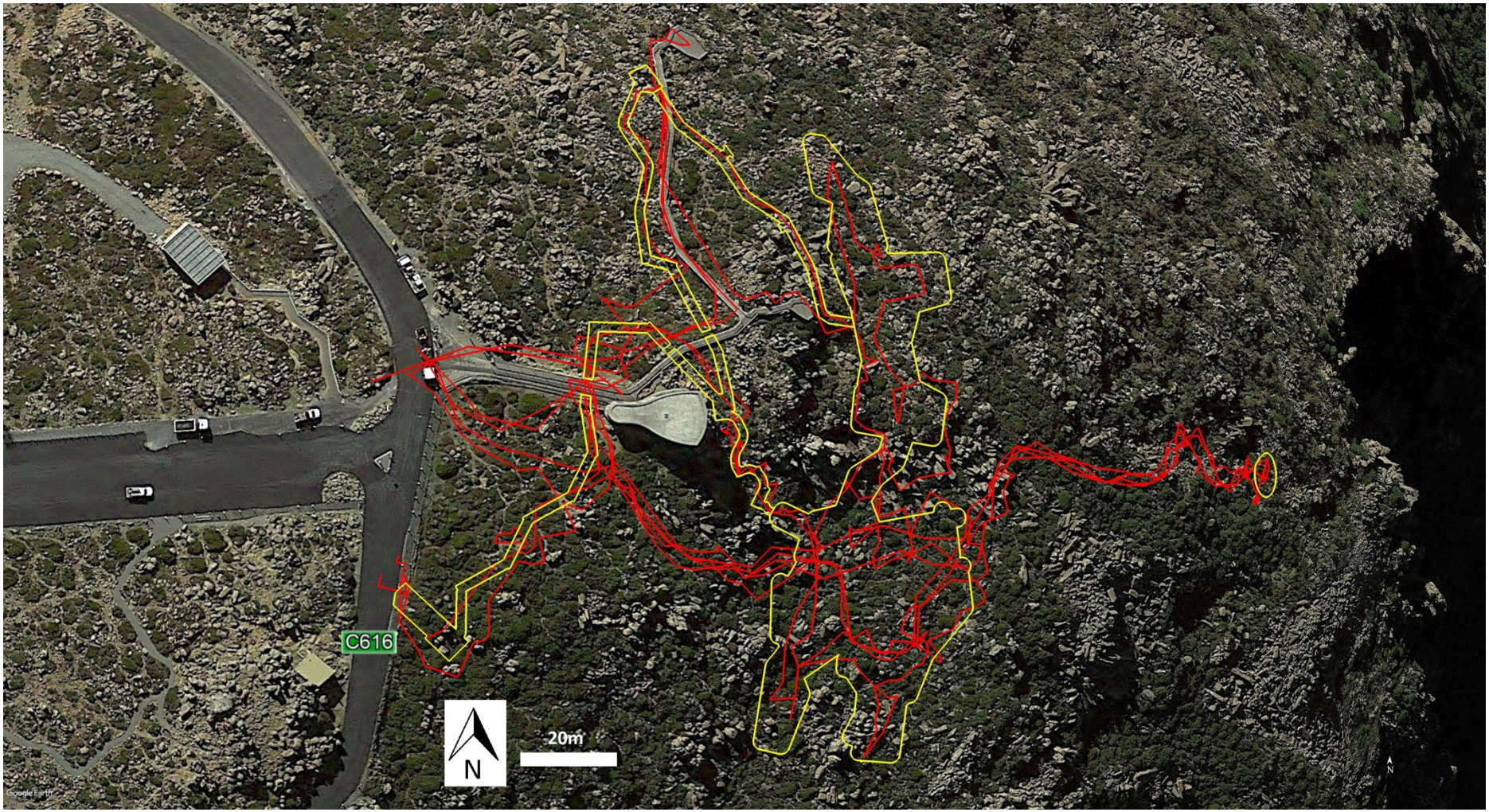

Figure 9: Pinnacle area showing GPS track logs (in red).

Results

The Access Road

This was an approximately 2500m long by 25m wide corridor. It was surveyed from west to east. Its western end commenced at the northern end of the base station area in Wellington Park, and followed the course of the Main Fire Trail for a distance of 240m until it reached the junction of three fire trails. This western portion of the survey area was heavily disturbed by the construction of fire trails. Exposures in the sides of the fire trail cuts showed the geology to be composed of creamy white to grey medium grained mudstone and sandstone in a pale tan coloured silty matrix. From this point the survey area passed through an area containing a network of approximately 1m wide bike tracks and hiking tracks (Figure 10), some of which incorporated drystone walling retaining walls and paving. Very occasional very small (<10mm) fragments of natural while quartz was observed in this portion of the survey area, however no large enough pieces that could be a source of raw material for stone tool manufacture were observed. From this point on the survey corridor hugged the steep northern flank of the southern ridge of McRobies Gully. Vegetation was dense in general, consisting of low Eucalypt obliqua dry forest and Eucalyptus tenuiramis forest (LISTmap 2021). The terrain was steeply sloping down to the north and ground surface visibility ranged from nil to very low with 90-100% vegetation in the form of leaf litter. Surface geology throughout the central portion of the corridor consisted of light grey medium grained mudstone over light grey silt. The survey corridor terminated at McRobies Road near the entrance to the McRobies Gully Waste Management Centre. No Aboriginal heritage was found.

Figure 10: Western end of access road survey area, looking north. Dry eucalypt forest over siltstone and sandstone. Note the considerable slope and mountain bike track disturbance.

The Base Station and Towers 1 and 2

The proposed base station site was an approximately 8053m2 irregularly shaped area, located in an artificial clearing along the 4m wide Main Fire Trail near the eastern edge of Wellington Park. The ground in this area was undulating and sloped steeply down to the east, where the survey area entered 5-10m into the low Eucalyptus pulchella forest (LISTmap 2021 2021) along its eastern edge. This forested area contained 90-100% ground cover composed of leaf litter. A 4m wide overgrown bulldozed track also ran along the tree line on the eastern side of the survey area. With the exception of the Main Fire Trail, which was covered with introduced gravel, the remainder of the clearing was covered with tufts of reeds and dense approximately 30mm tall grass, which reduced surface visibility to nil. The northern portion of the area contained scattered reeds and bracken clusters over the aforementioned dense grass. The clearing in general showed evidence of heavy disturbance from tree removal and earthworks associated with the construction of the fire trails in the form of grassed-over mounds and dozer pushes of soil (Figure 11). The base station footprint was surveyed with a series of north-south transects, in addition to targeting any potential exposures such as eroded channels and the edge of the bulldozer cuts. No Aboriginal heritage was found.

Figure 11: The base station area, looking north. Dry eucalypt forest over siltstone and sandstone. Note extensive earthmoving disturbance from construction of fire trails and modern deforestation.

Towers 1 and 2

The proposed access route to Towers 1 and 2 was a 15m wide, 308m long corridor, starting on the western side of the base station area, along which the 22m x 22m tower footprint areas were located. The corridor and tower areas were on steep, thickly wooded Eucalyptus obliqua wet forest (LISTmap 2021) and rocky terrain with dense undergrowth in the form of bushes. This vegetation

covered 95-100% of the ground surface. The tower 1 location was on steeply sloping ground with 95-100% surface vegetation of leaf litter and dolerite boulders (Figure 12). Most of the trees were saplings or young trees although a few mature trees were present. The tower 2 location was situated on moderately steep ground. The ground surface here was covered in large dolerite scree, fallen trees and twig/leaf litter, the vegetation covering 95-100% of the ground surface (Figure 12). A large mature Eucalyptus tree stood close to the centre of the footprint. No Aboriginal heritage was found in either of the tower footprint areas, nor along the tower access corridor.

Figure 12: The tower 1 location, looking west. Dense wet eucalypt forest over sandstone, siltstone and limestone with dolerite scree on surface.

Figure 13: The tower 2 location, looking west. Dense wet eucalypt forest over sandstone and siltstone, with dolerite scree on surface.

Scaffold

This area measured 12m diameter and was located approximately 40m to the west (i.e. up slope) of Pinnacle Road, within Wellington Park. It was located on the very steep rocky eastern flank of kunanyi/Mt Wellington and was accessed via the Northern Buttress Track. The location itself is a steep rocky (dolerite) semi-clearing surrounded by very dense trees and bushes (Eucalyptus coccifera forest) (LISTmap 2021). Vegetation and leaf litter reduced ground surface visibility to nil (Figure 14). No Aboriginal heritage was found.

Figure 14: Scaffold location, looking east. Dense dry eucalypt forest over dolerite boulders.

Tower 3

This was a 12m diameter area located 146m to the east of and below the current pinnacle observation shelter. It covered a circular area 12m diameter, and was accessed via a rock climbing track. The area itself was on a dolerite boulder-strewn apron of the mountain, with a steep drop to the east and a steep boulder rise to the west. Dense alpine heathland (LISTmap 2021) shrubs and bushes covered 95-100% of the ground surface (Figure 15). No Aboriginal heritage was found.

Figure 15 Tower 3 location, looking north. Highland vegetation over dolerite.

The Pinnacle

This was an irregularly shaped area covering approximately 3958m2, along with a network of boardwalks, located on top of kunanyi/Mt Wellington. The area was easily accessible via the pinnacle road. Survey of the pinnacle building footprint was at times difficult owing the presence of very large boulders with hazardous crevices between. Vegetation was alpine heathland (LISTmap 2021) composed of very dense bushes which grew between the dolerite rocks and boulders, covering 95-100% of the ground surface (Figure 16). No Aboriginal heritage was found.

Figure 16: View of the southern portion of the proposed pinnacle structure area, looking southeast. Highland vegetation over dolerite.

Interpretation and Discussion

All six of the survey areas were notable for the total absence of suitable raw material for making knapped stone tools. The surface geology was composed of either extremely hard, coarse-grained dolerite or soft, medium to coarse-grained mudstone, siltstone and sandstone. While these latter rock types can be used to make knapped stone tools, it is a very poor substitute for other locally available fine-grained stone that is known to have been used by the local Aboriginal people such as hornfels (a hard, fine-grained metamorphosed stone), fine-grained basalt, or metamorphosed siltstone (Kerrison & Binns 1984:61).

The nature of the terrain, too, was unfavourable for occupation owing to its steepness, rocky ground surface and distance from reliable water sources. It has been well demonstrated that Aboriginal people, both in Tasmania and on the mainland, preferred to camp on reasonably flat ground close to water sources. Jones et al. in their recent comprehensive study of the relationship between the known archaeological record and the pre-contact Tasmanian environment, found that landscapes with the least evidence for Tasmanian Aboriginal utilisation can be characterized as, "inland locations that are: (a) high elevation; (b) steep; (c) wetter and/or (d) topographically rough. A sizeable proportion is rain forest, open shrubby forest, wet sclerophyll forest or sedgeland. Notably, they are definitively not woodland landscapes" (Jones et al. 2019:2578). The above description aptly describes the terrain in which the survey areas here were located. As an example of this occupation pattern, hundreds of middens (evidence of camping activity) as well as quarry sites and rockshelters have been identified along both sides of the Derwent estuary from New Norfolk to Tryworks Point (Kerrison & Binns 1984:53), clearly demonstrating the preferred settlement pattern. Thomas states that the lack of archaeological evidence from Mt. Wellington near Hobart points to a very low rate of visits above the snowline, and that this might be expected in an environment located so close to rich sources of marine and forest resources (Thomas 1991:131).

Occasionally, Aboriginal people did venture into the steeper terrain, particularly for hunting expeditions, ceremonial practices, or to seek refuge during times of conflict. The archaeological footprint of ceremonial activities, hunting, and refuges are by their nature extremely sparse and ephemeral, composed as they are of small groups and short term, transient occupations. These activities may explain the occasional isolated artefacts and occupied rockshelters found in the kunanyi/Mt Wellington area, however none were found during the course of the field survey.

In terms of potential future research directions into the Aboriginal occupation of the kunanyi/Mt Wellington area, a targeted landform-element based approach would be most effective. This would involve identifying and then surveying flatter areas and saddles in the foothills, outcrops of knappable stone and rockshelters/overhangs. No such features were encountered in or near the designated survey areas.

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Curriculum Vitae

Of

Dr Nic Grguric

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Email: eqeta@yahoo.com.au

Indigenous Skills/Experience

- Leading and carrying out Indigenous heritage surveys.
- Supervising/directing Aboriginal excavations
- Extensive fieldwork experience in various regions in Australia.
- Recording sites to a range of levels from basic site avoidance to detailed/salvage level.
- Working with Aboriginal representatives in surveying, site recording and excavation.
- Report writing.

Historical Skills/Experience

- PhD in Australian historical archaeology.
- Historical artefact analysis.
- Directing historical archaeological projects.
- Excavation of historical sites, structures and human burials.
- Research design and significance assessments.
- Historical archaeological report writing.
- Specialist knowledge of Australian vernacular architecture.
- Specialist knowledge of 19th century firearms-related artefacts.
- Conducting archival background research.

General Skills/Experience

- Leadership skills.
- Results driven.
- Versatile, able to quickly grasp and apply procedures and methodologies.
- Writing for publication to a range of audiences.
- Completed 4WD training courses.
- Senior First Aid certificate.
- Use of GPS.
- Working in remote locations.
- Working in high temperatures.
- Team work.

Employment History (2008 – Present)

January March 2021 – Site Supervisor. Directing historical excavation in Young, NSW.

July – December 2020 –Archaeologist, Team Leader (casual) with ACHM. Aboriginal Heritage salvage and surveys in metropolitan and regional Victoria.

March - June 2020 – Archaeologist at Port Arthur Historic Site Management Authority. Carrying out historical excavation at Port Arthur Historic Site.

October 2019 – December 2019 – Leading Aboriginal heritage surveys and detailed Aboriginal site recording in Western Australia for Waru Consulting.

October 2019 – Director – Callington Smelting Works Archaeological Project. Historical excavation.

September 2019 – Senior Archaeologist (casual) with Waru Consulting. Aboriginal heritage projects in Goldfields region of WA.

May 2019 – July 2019 – Senior Archaeologist (full time casual) with Andrew Long & Associates. Supervising and directing historical archaeological excavations in Melbourne and environs.

February 2019 – April 2019 – Archaeologist with Godden Mackay & Logan, excavating historical sites in Melbourne CBD.

November 2018 – February 2019 – Archaeologist (team leader/trench supervisor) with ArchLink, supervising historical excavations in the Melbourne CBD.

May 2018 – November 2018 – Archaeologist (assistant team leader) with Andrew Long & Associates, excavating historical sites in Melbourne CBD.

December 2017 – May 2018 – Team leader of Aboriginal salvage excavations in western N.S.W. for Niche Environment & Heritage. Work involves leading excavations and working with Traditional Owners.

November 2016 – Ongoing (intermittent) - Directing and managing the excavation of the 1860s Callington Smelting Works, South Australia. This project involves working with volunteers from the local community.

May 2010 – Ongoing (intermittent) - Senior Archaeologist for Waru Consulting, managing Aboriginal heritage projects in WA Goldfields and the Pilbara regions.

March 2016 to May 2016 – Niche Environment & Heritage – Team Leader, conducting Aboriginal test excavations in the Broken Hill/Wentworth region.

August – December 2016 – Historical artefact specialist for Austral Archaeology, carrying out artefact analysis for the Windsor Bridge Realignment test excavation project, Windsor, NSW.

April –June 2016 Carried out heritage assessment on the Callington Smelting Works, for the Callington Recreation Park.

May 2016 – Archaeologist for Niche Environment & Heritage Services, salvage excavating Aboriginal hearths in Western NSW.

October 2015 – February 2016 – Archaeologist for Austral Archaeology. Carried out excavation of historical site in Adelaide CBD, followed by artefact analysis and preparation of artefact report.

August – November 2016 – Archaeologist for Navin Officer Heritage Consultants. Carried out Indigenous open site excavations in northern NSW.

January and February 2015 – Archaeologist for Australian Heritage Services. Carried out Indigenous heritage surveys in Cooper Basin, SA.

October, December 2014 – Archaeologist for Niche Environment & Heritage. Role involved Indigenous heritage surveys, site recording and report writing.

June 2013 – Archaeologist for Australian Heritage Services. Role included taking part in excavation of the Adelaide Observatory site and carrying out artefact analysis.

February - March 2013 – Archaeologist for Austral Archaeology. Role involved taking part in historical excavation of the C.H. Smith site in Launceston, Tasmania.

January – May 2010 – Archaeologist with Kelleher Nightingale Consulting, carrying out salvage excavations of Indigenous sites in southern N.S.W.

June – December 2008 – Archaeologist with Archae-Aus. This involved carrying out Indigenous heritage surveys and site recording in the Pilbara region of W.A.

Educational Background

March 2008 – Awarded PhD in Archaeology from Flinders University, South Australia. Thesis title: "Fortified homesteads: The architecture of fear in frontier South Australia and the Northern Territory, ca 1847-1885."

2005, 2006 and 2007 – Completed training courses in sessional teaching through Flinders University Staff Development & Training Unit.

December 2002 – Received Bachelor of Arts with First Class Honours in Classical Studies from the University of Adelaide.

April 2002 – Received Bachelor of Archaeology from Flinders University of South Australia.

Academic Publications

Grguric, N. (in preparation) Archaeological Excavations of an 1860s Welsh-Style Copper Smelting Works, at Callington, South Australia.

Grguric, N. (in preparation) Uniform Buttons of the Native Mounted Police in Queensland, 1852-1904.

Grguric, N. (in preparation) The Fortified Homestead of the Australian Frontier. *Terra Australis.*

Grguric, N. (2018) Archaeological insights into a South Australian Volunteer Rifle Company: The Buttons of the Kapunda Mine Rifles. *The Artefact*, Vol. 41.

Grguric, N. (2018) Fortified Homesteads. In Smith, C. (Ed.) *Encyclopedia of Global Archaeology.* New York: Springer.

Grguric, N. (2017) Nic Grguric's Guide to Firearms Related Artefacts. In Burke, H, Morrison, M & C. Smith. *The archaeologist's field handbook : the essential guide for beginners and professionals in Australia*. Crows Nest, NSW: Allen & Unwin.

Grguric, N. (2010) Staking a Claim: Fortified Homesteads and their Place in Australian Settler Identity Construction. *Archaeological Review from Cambridge, Volume 25.1.*

Grguric, N. (2008) Fortified Homesteads: The Architecture of Fear in Frontier South Australia and the Northern Territory, ca 1847-1885. *Journal of Conflict Archaeology, Volume 4*, 59-85.

Grguric, N. (2005) *The Mycenaeans*. London: Osprey.

Volunteer Work

2014- Ongoing – Curator of the Nairne Community Museum, South Australia. Role involves directing the museum, developing programs and exhibitions.

2001-2008 – Conservator, SA Museum. Role involved conserving and researching the Pitt and Aiston collections of historical arms.

Referees

Joe Mattner. Director, Waru Consulting Pty Ltd (WA)
Ph: 0488 338 966

Bec Parkes. Director, Lantern Heritage Pty Ltd (NSW)
Phone: 0402 831 291