5 Aboriginal cultural heritage assessment

This section presents desktop assessment of the activity area.

5.1 Desktop assessment

This section provides background information on the activity area and the surrounding region. This information is presented to provide an understanding of the physical, historical, cultural, and archaeological setting in which the activity area is located. This information is useful in developing archaeological place prediction models. Melinda Albrecht and Peter Mathews undertook the background research for the desktop assessment. There were no obstacles encountered to undertaking the desktop assessment.

5.1.1 Environmental context

This section provides an overview of the environmental context of the activity area, with particular focus on factors that may have influenced past human behaviour and hence archaeological place formation processes and the distribution of Aboriginal cultural heritage places. The land-use history of the activity area is also reviewed as it assists in identifying any site formation processes that may have impacted on the occurrence and/or location of Aboriginal cultural material.

It is necessary to place geographical parameters on this desktop assessment to provide a meaningful context broad enough to capture regional environmental and Aboriginal place distribution patterns, while remaining targeted so that these patterns are not missed. The geographic region used for this CHMP covers an area within a 10 km radius of the activity area clipped to the WTOAC RAP boundary (itself based on physical geography such as the Werribee River) (Figure 5-1). The geographic region is located within the Victorian Volcanic Plain Bioregion. This geographic region is considered to provide an effective comparative sample of previous assessments and registered places both on similar landforms and from a broader landscape perspective as numerous studies have been undertaken within this radius. It also provides an effective scope to understand the flora and fauna, geology, soils, and geomorphological context which would have influenced the occupation by Aboriginal people and the post-contact land-use history that may have impacted Aboriginal places.

5.1.1.1 Geology and geomorphology

The activity area is located within the Western Uplands, Dissected Uplands and under the Victorian Geomorphological Framework, the geomorphological units present in the activity area comprise geomorphological unit [GMU] 2.1.6 – Eruption points and volcanic plains (Creswick - Ballarat plains, Mt. Franklin, Mt. Blackwood, Metcalfe), (VRO 2022- See Figure 5-1 for the specific geomorphological units present within the activity area; Table 5-1). There are also a wide range of geomorphological units present within the geographic region (Table 5-2), dominated by the basalt geomorphological unit 2.1.6 – Eruption points and volcanic plains (Creswick - Ballarat plains, Mt. Franklin, Mt. Blackwood, Metcalfe), followed by the sedimentary geomorphological unit, GMU 2.1.2 – Hills, valley slopes and plains on non- granitic Palaeozoic rocks (Daylesford, Maryborough, Bendigo).

The geology of the activity area predominately comprises Miocene to Holocene Newer Volcanic Group - basalt flows (Neo): generic with smaller amounts of Pleistocene to Holocene Alluvium (Qa1) and Pliocene to Pleistocene Incised alluvium (Na) (Table 5-3). The Newer Volcanic Group - basalt flows (Neo) consists of Olivine tholeiite, quartz tholeiite, basanite, basaltic icelandite, hawaiite, mugearite, minor scoria and ash, fluvial sediments: tholeiitic to alkaline; includes sheet flows and

valley flows and intercalated gravel, sand, clay (Table 5-3). There are also a range of geological units present within the geographic region (Table 5-4, Figure 5-2).

Table 5-1 Geomorphological units within the activity area

Geomorphological Units (Tier 3)	Geomorphological Units (Tier 1)	Geomorphological Units (Tier 2)	Geomorphological Unit Tier 3 Description	Lithology	Area (ha)	Area (%)
2.1.6	Western Uplands (WU)	Dissected Uplands	Eruption points and volcanic plains (Creswick - Ballarat plains, Mt. Franklin, Mt. Blackwood, Metcalfe)	Basalt	91.31	100.00%
Total					**91.31**	**100.00%**

Table 5-2 Geomorphological units within the geographic region

Geomorphological Units (Tier 3)	Geomorphological Units (Tier 1)	Geomorphological Units (Tier 2	Geomorphological Unit Tier 3 Description	Lithology	Area (ha)	Area (%)
2.1.1	Western Uplands (WU)	Dissected Uplands	Ridges, escarpments, mountains on non-granitic Palaeozoic rocks (Ararat Colbinabbin, Pyrenees, Tarrangower, Big Hill, Mt. Macedon)	Sedimentary	2576.69	7.46%
2.1.2	Western Uplands (WU)	Dissected Uplands	Hills, valley slopes and plains on non-granitic Palaeozoic rocks (Daylesford, Maryborough, Bendigo)	Sedimentary	8872.51	25.70%
2.1.4	Western Uplands (WU)	Dissected Uplands	Hills, valley slopes and plains on plutonic Palaeozoic rocks (Pittong, Harcourt, Amphitheatre, Victoria Valley)	Granite	733.26	2.12%
2.1.5	Western Uplands (WU)	Dissected Uplands	Plateaux and rises of residual Cainozoic landscapes (Dereel, Meredith, White Hills, Trentham)	Sedimentary	1115.95	3.23%
2.1.6	Western Uplands (WU)	Dissected Uplands	Eruption points and volcanic plains (Creswick ┬┐ Ballarat plains, Mt. Franklin, Mt. Blackwood, Metcalfe)	Basalt	18836.44	54.56%
2.1.7	Western Uplands (WU)	Dissected Uplands	Terraces and floodplains (Upper Loddon, Upper Woady Yallock Creek, Pomonal-Moyston area, Crowlands, Avoca, Newstead	Alluvium	2265.34	6.56%
Waterbody	waterbody	waterbody	waterbody		124.01	0.36%
Total					**34524.20**	**100.00%**

Table 5-3 Geological units within the activity area

ID	Geological Unit	Description	Lithology	Geological History	Area (ha)	Area (%)
Na	Incised alluvium (Na): generic	Gravel, sand, silt, minor ferricrete; variably incised.	sand (significant); silt [material] (significant); gravel [material] (significant)	Pliocene to Pleistocene (channelled stream flow - fluvial [environment])	0.52	0.57%
Neo	Newer Volcanic Group - basalt flows (Neo): generic	Olivine tholeiite, quartz tholeiite, basanite, basaltic icelandite, hawaiite, mugearite, minor scoria and ash, fluvial sediments: tholeiitic to alkaline; includes sheet flows and valley flows and intercalated gravel, sand, clay	alkali basalt (major [proportion]); tholeiitic basalt (major [proportion]); tuff (minor [proportion]); scoria (minor [proportion]); alluvium (minor [proportion])	Miocene to Holocene (lava flow [process] - eruption centre [environment]; water [process] - fluvial [environment])	1565.83	60.28%
Qa1	Alluvium (Qa1): generic	Gravel, sand, silt: variably sorted and rounded; generally unconsolidated; includes deposits of low terraces; alluvial floodplain deposits	silt [material] (significant); sand (significant); gravel [material] (significant)	Pleistocene to Holocene (channelled stream flow-fluvial [environment])	8.38	9.17%
Total					**91.31**	**100%**

Table 5-4 Geological units within the geographic region

ID	Geological Unit	Description	Lithology	Geological History	Area (ha)	Area (%)
Czf	Duricrust (Czf): generic	Ferricrete, silcrete: duricrust	duricrust (all)	Miocene to Quaternary (weathering-regolith)	51.39	0.15%
Czg	Conglomerate and sandstone (Czg): generic	Conglomerate, quartz sandstone and siltstone: consolidated to commonly ferruginised; variably sorted; cross-bedding common	conglomerate (major [proportion]); quartz arenite (significant); siltstone (trace [proportion])	Paleocene to Pliocene (channelled stream flow - fluvial [environment])	4.51	0.01%
G279	Ingliston Granite (G279): generic	Biotite granite: grey; medium to coarse-grained; dykes of quartz porphyry and feldspar porphyry	granite (major [proportion]); plutonic rock (significant)	Late Devonian to Late Devonian (intrusion [process] - mid-crustal - continental crust - I-type)	511.53	1.48%

ID	Geological Unit	Description	Lithology	Geological History	Area (ha)	Area (%)
G280	Mount Egerton Granodiorite (G280): generic	Biotite granodiorite: pale grey; fine to coarse-grained, occasionally feldspar-phyric; mafic microgranular enclaves and mineral clots; nonmagnetic; fresh to kaolinised	granodiorite (all)	Late Devonian to Late Devonian (intrusion [process] - mid-crustal - continental crust - I-type)	526.73	1.53%
Na	Incised alluvium (Na): generic	Gravel, sand, silt, minor ferricrete; variably incised.	sand (significant); silt [material] (significant); gravel [material] (significant)	Pliocene to Pleistocene (channelled stream flow - fluvial [environment])	721.24	2.09%
Neo	Newer Volcanic Group - basalt flows (Neo): generic	Olivine tholeiite, quartz tholeiite, basanite, basaltic icelandite, hawaiite, mugearite, minor scoria and ash, fluvial sediments: tholeiitic to alkaline; includes sheet flows and valley flows and intercalated gravel, sand, clay	alkali basalt (major [proportion]); tholeiitic basalt (major [proportion]); tuff (minor [proportion]); scoria (minor [proportion]); alluvium (minor [proportion])	Miocene to Holocene (lava flow [process] - eruption centre [environment]; water [process] - fluvial [environment])	18304.06	53.02%
Nes	Newer Volcanic Group - scoria deposits (Nes): generic	Hawaiite, basanite, nephelinite, mugearite, trachybasalt, trachyandesite; scoria, ash, lapilli, agglutinated lava spatter, volcanic bombs, minor lava flows and calcareous lithic fragments: massive to moderately bedded, poorly consolidated	pyroclastic sediment (all); lava flow [rock type] (minor [proportion])	Miocene to Holocene (explosive eruption - eruption centre [environment])	208.69	0.60%
Ocb	Castlemaine Group - Bendigonian(Ocb): hornfels	Hornfels	hornfels (all)	Bendigonian to Bendigonian (turbidity current - submarine fan; water [process] - hemipelagic); Devonian to Devonian (contact metamorphism - contact metamorphic)	1489.84	4.32%
Occ	Castlemaine Group - Castlemainian (Occ): generic	Sandstone, mudstone, black shale and minor granule quartz conglomerate: mostly thick-bedded sandstone, coarse- to fine-grained, often graded, diffusely stratified to cross laminated, moderately to well sorted; sparsely fossiliferous with graptolites and	sandstone (significant); mudstone (significant); shale (significant); conglomerate (minor [proportion])	Castlemainian to Castlemainian (water [process] - hemipelagic; turbidity current - submarine fan)	859.00	2.49%

ID	Geological Unit	Description	Lithology	Geological History	Area (ha)	Area (%)
	Castlemaine Group - Castlemainian (Occ): hornfels	Hornfels	hornfels (all)	Castlemainian to Castlemainian (water [process] - hemipelagic; turbidity current - submarine fan); Devonian to Devonian (contact metamorphism - contact metamorphic)	44.79	0.13%
Ocl	Castlemaine Group - Lancefieldian(Ocl): generic	Sandstone, mudstone, black shale and minor granule quartz conglomerate: mostly thick-bedded sandstone, coarse- to fine-grained, often graded, diffusely stratified to cross laminated, moderately to well sorted; sparsely fossiliferous with graptolites and	shale (significant); sandstone (significant); mudstone (significant); conglomerate (minor [proportion])	Lancefieldian to Lancefieldian (water [process] - hemipelagic; turbidity current - submarine fan)	1708.01	4.95%
	Castlemaine Group - Lancefieldian(Ocl): hornfels	Cordierite hornfels, biotite hornfels, calc-silicate hornfels.ÔÖ¬ÔùÕ	hornfels (minor [proportion]); calc-silicate rock (rare)	Lancefieldian to Lancefieldian (water [process] - hemipelagic; turbidity current - submarine fan); Devonian to Devonian (contact metamorphism - contact metamorphic)	1887.03	5.47%
Ocy	Castlemaine Group - Yapeenian (Ocy): generic	Sandstone, mudstone, black shale and minor granule quartz conglomerate: mostly thick-bedded sandstone, coarse- to fine-grained, often graded, diffusely stratified to cross laminated, moderately to well sorted; sparsely fossiliferous with graptolites and	shale (significant); mudstone (significant); sandstone (significant); conglomerate (minor [proportion])	Yapeenian to Yapeenian (water [process] - hemipelagic; turbidity current - submarine fan)	80.47	0.23%
	Castlemaine Group - Yapeenian (Ocy): hornfels	Hornfels	hornfels (all)	Yapeenian to Yapeenian (turbidity current - submarine fan; water [process] - hemipelagic); Devonian to Devonian (contact metamorphism - contact metamorphic)	238.79	0.69%

ID	Geological Unit	Description	Lithology	Geological History	Area (ha)	Area (%)
-Pp	Pentland Hills Volcanic Group (-Pp): generic	Alkali olivine basalt to nephelinite, minor tuff: dark grey; fine-grained; rarely vesicular; secondary calcite and magnesite in vesicles and joints	basalt (major [proportion]); tuff (minor [proportion])	Paleocene to Eocene (lava flow [process] - eruption centre [environment]; explosive eruption - eruption centre [environment])	22.59	0.07%
Pxb	Bacchus Marsh Formation (Pxb): generic	Tillite, diamictite, sandstone, mudstone, conglomerate: tillite and diamictite grey; massive to slump-folded; conglomerates range from pebble to boulder size; generally well-rounded; of highly varied lithology; mudstone dark grey to black; thinly bedded	mudstone (significant); diamictite (significant); tillite (significant); conglomerate (significant); sandstone (significant)	Carboniferous to Permian (glacial deposition - glaciofluvial; channelled stream flow - fluvial [environment]; mudflow [process] - lacustrine; turbidity current - lacustrine; channelled stream flow - shallow clastic sea; water [process] - lacustrine)	251.35	0.73%
-Pxe	Werribee Formation (-Pxe): generic	Sand, silt, clay, gravel in variable proportions: generally white to pale grey; in part carbonaceous, pyritic; ferruginous bands common; contains Cinnamomum flora	gravel [material] (significant); clay [lithology] (significant); sand (significant); silt [material] (significant)	Eocene to Miocene (channelled stream flow - fluvial [environment])	2496.04	7.23%
-Pxh	White Hills Gravel (-Pxh): generic	Vein quartz conglomerate, sand, silt, clay in fluvial braid plain, outwash fan and colluvial deposits; typically compositionally mature, with ubiquitous well-rounded pebbles and cobbles of reef quartz, lesser more angular vein quartz and bedrock clasts;	conglomerate (dominant); silt [material] (significant); clay [lithology] (significant); sand (significant)	Paleocene to Oligocene (channelled stream flow - fluvial [environment])	1327.79	3.85%
Qa1	Alluvium (Qa1): generic	Gravel, sand, silt: variably sorted and rounded; generally unconsolidated; includes deposits of low terraces; alluvial floodplain deposits	silt [material] (significant); sand (significant); gravel [material] (significant)	Pleistocene to Holocene (channelled stream flow-fluvial [environment])	2311.78	6.70%
Qc1	Colluvium (Qc1): generic	Diamictite, gravel, sand, silt, clay, rubble: sorting variable, usually poor; generally poorly rounded; clasts locally sourced; includes channel deposits with better rounding and sorting	diamictite (dominant); rubble (significant); clay [lithology] (significant); silt [material] (significant); sand (significant); gravel [material] (significant)	Pliocene to Holocene (sheet flow - colluvial)	1078.53	3.12%

ID	Geological Unit	Description	Lithology	Geological History	Area (ha)	Area (%)
Qm1	Swamp and lake deposits (Qm1): generic	Grey to black carbonaceous mud, silt, clay, minor peat: generally unconsolidated; rare dolomite	mud (major [proportion]); silt [material] (significant); clay [lithology] (significant); peat (minor [proportion]); dolostone (rare)	Pleistocene to Holocene (detrital deposition still water - swamp/marsh/bog)	162.77	0.47%
Total					**34524.20**	**100.00%**

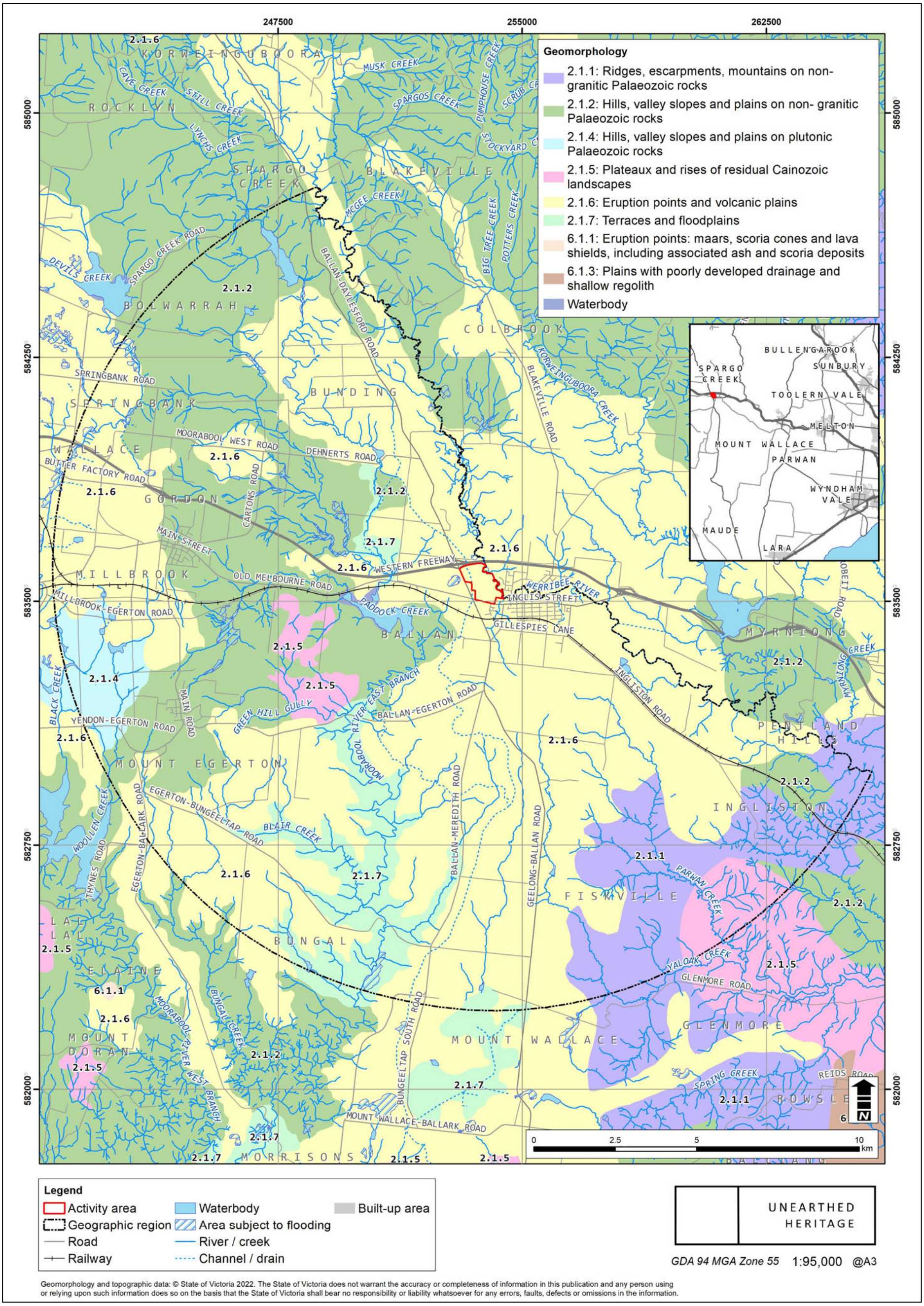
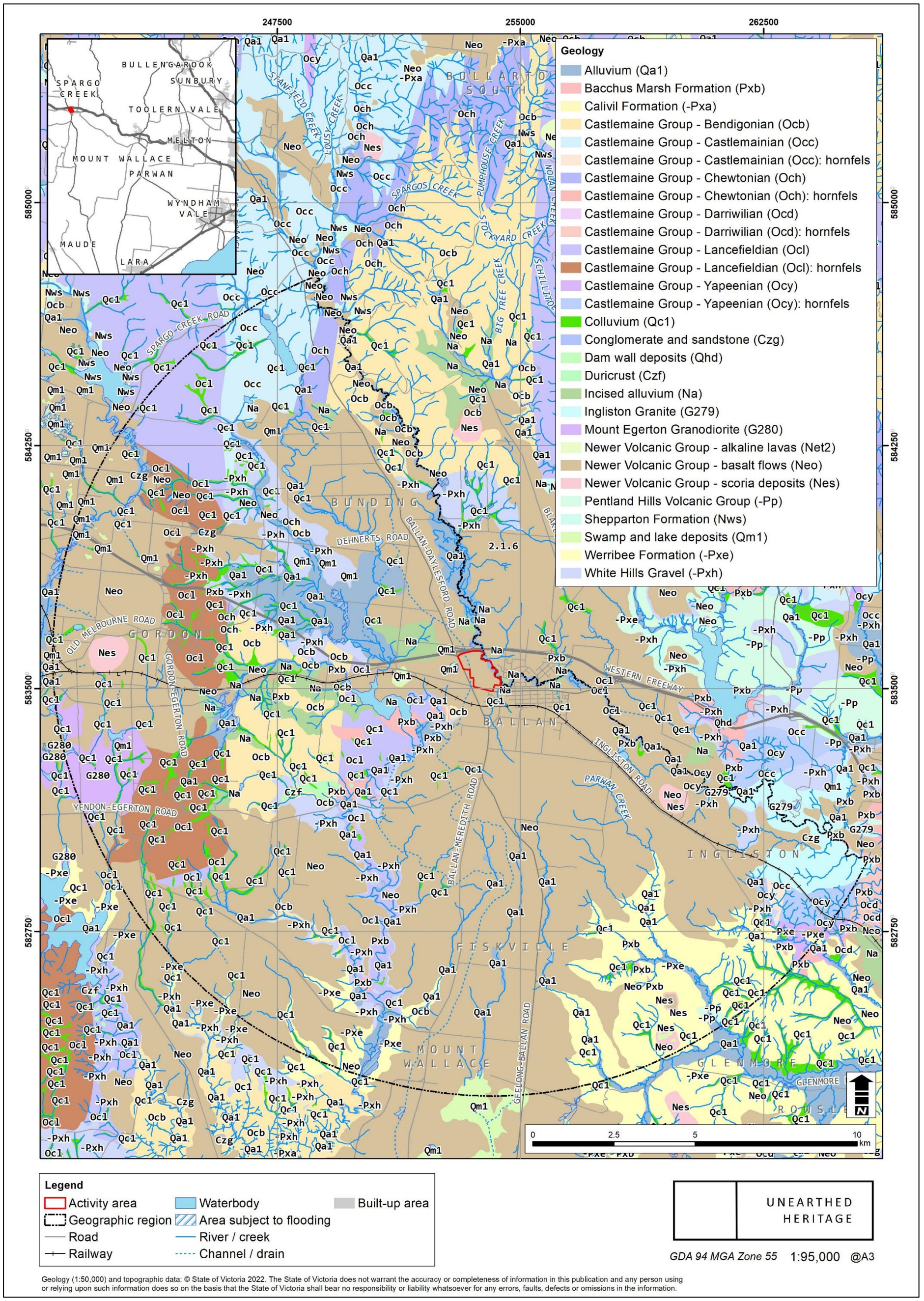


Figure 5-1 Geomorphology of the geographic region



Geology (1:50,000) and topographic data: © State of Victoria 2022. The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.

Figure 5-2 Geology within the geographic region

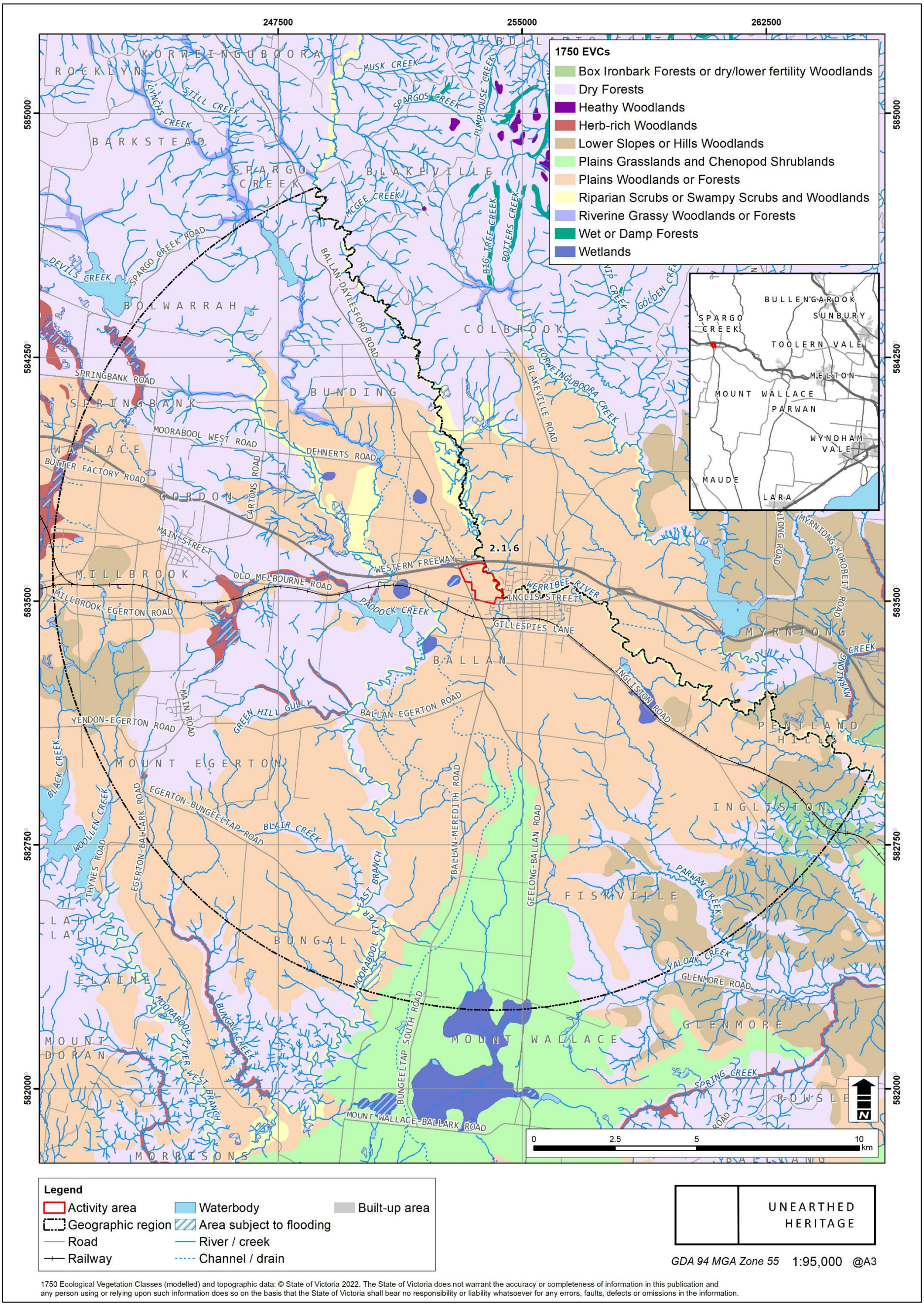


Figure 5-3 Pre-1750 EVCs within the geographic region

5.1.1.2 Flora and fauna

Prior to European settlement and land-use, most the activity area would have comprised Plains Grassy Woodland (EVC 0055) and smaller portions of Riparian Scrubs or Swampy Scrubs and Woodlands (EVC 0641) (Table 5-5, Figure 5-3). The geographic region contained a wide range of EVCs, with the most of the geographic region dominated Plains Woodlands or Forests vegetation (EVC 0055) (Table 5-6).

The natural landforms and range of vegetation communities within the geographic region would have supported fauna of that would have been utilised by Aboriginal populations for food and raw materials such as meat, bones, skins and furs. The vegetation of the region would have also provided resources to Aboriginal people, such as timber, bark, reeds and grasses for tools, utensils, weapons, nets, mats and baskets, plant material for medicinal purposes, and native vegetable foods, such as nuts, fruits, tubers, and seeds. On the grassland plains west from Geelong to the Grampians including the geographic region, Aboriginal people caught wallabies, kangaroos, emu and bush turkeys. Fish and eels were a plentiful resource in the nearby rivers and lakes and root crops were also utilised by Aboriginal people (Zola and Gott 1992, 41).

Table 5-5 EVC's within the activity area (DELWP 2022)

EVC Code	EVC Group Name	Description	Sub-Group	Area (ha)	Area (%)
0055	Plains Grassy Woodland	Freely-draining	Plains Woodlands or Forests	81.84	89.62%
0641	Riparian Scrubs or Swampy Scrubs an Woodlands	Riparian Woodland		9.47	10.38%
Total				**91.31**	**100.00%**

Table 5-6 EVC's within the geographic region (DELWP 2022)

EVC Code	EVC Group Name	Description	Sub-Group	Area (ha)	Area (%)
0003	Herb-rich Woodlands	Damp Sands Herb-rich Woodland	Damp Sands	2.84	0.01%
0018	Riparian Scrubs or Swampy Scrubs and Woodlands	Riparian Forest		57.51	0.17%
0021	Dry Forests	Shrubby Dry Forest	Sheltered and/or higher altitude	31.47	0.09%
0022	Dry Forests	Grassy Dry Forest	Exposed and/or lower altitude	1438.88	4.17%
0023	Dry Forests	Herb-rich Foothill Forest	Sheltered and/or higher altitude	6135.71	17.77%
0045	Dry Forests	Shrubby Foothill Forest	Sheltered and/or higher altitude	835.87	2.42%
0047	Dry Forests	Valley Grassy Forest	Sheltered and/or higher altitude	1469.86	4.26%
0055	Plains Woodlands or Forests	Plains Grassy Woodland	Freely-draining	16705.88	48.39%
0061	Box Ironbark Forests or dry/lower fertility Woodlands	Box Ironbark Forest		292.74	0.85%
0083	Riparian Scrubs or Swampy Scrubs and Woodlands	Swampy Riparian Woodland		664.75	1.93%
0125	Wetlands	Plains Grassy Wetland	Freshwater	219.06	0.63%
0132	Plains Grasslands and Chenopod Shrublands	Plains Grassland	Clay soils	2263.21	6.56%
0164	Herb-rich Woodlands	Creekline Herb-rich Woodland	Alluvial terraces and/or creeklines	431.86	1.25%
0175	Lower Slopes or Hills Woodlands	Grassy Woodland	Grassy	1893.20	5.48%
0178	Dry Forests	Herb-rich Foothill Forest/Shrubby Foothill Forest Complex	Sheltered and/or higher altitude	885.74	2.57%

EVC Code	EVC Group Name	Description	Sub-Group	Area (ha)	Area (%)
0198	Riverine Grassy Woodlands or Forests	Sedgy Riparian Woodland	Creekline and/or swampy	169.27	0.49%
0641	Riparian Scrubs or Swampy Scrubs and Woodlands	Riparian Woodland		193.53	0.56%
0851	Riparian Scrubs or Swampy Scrubs and Woodlands	Stream Bank Shrubland		258.52	0.75%
0894	Lower Slopes or Hills Woodlands	Scoria Cone Woodland	Grassy	182.91	0.53%
0895	Plains Woodlands or Forests	Escarpment Shrubland	Freely-draining	391.37	1.13%
Total				**34524.20**	**100.00%**

5.1.1.3 Climate

The climate of the region is temperate with warm dry summers and cool wet winters. The climate data in the region (taken from the Ballarat Aerodrome weather station) suggests average maximum winter temperatures range from 10.1°C to 11.4°C, whilst average minimum winter temperatures range from 3.2°C to 4.0°C, and average maximum summer temperatures range from 22.7°C to 25.2°C and average minimum summer temperatures range from 9.5°C to 11.5°C (BOM 2022). The average annual rainfall is 686.9 ml, with August generally having the highest average monthly rainfall of 74.0ml and January being the month of lowest average rainfall of 40.1 ml (BOM 2022).

While these climatic conditions would have placed no strictures on Aboriginal occupation, they would have clearly led to differential seasonal occupation between different parts of the landscape. Additionally, during the long period of Aboriginal occupation of this region (at least c. 37,000 years), climatic conditions have varied significantly. This would have included colder and drier conditions during the last ice age that would have seen the drying up of Nerm/Port Phillip Bay, to warmer and wetter periods (in the mid-late Holocene, c. 3,000-4,000 years ago) that would have provided different challenges (e.g. more extensive swampland) and opportunities (e.g. more water and resources) for occupation (Mulvaney & Kamminga 1999).

5.1.2 Land-use history

The activity area is located on the midland plains at Ballan and the area has primarily been utilised for agricultural and pastoral purposes, including stock and cattle grazing, and growing of agricultural crops, since European settlement of the region in the 1830s.

It is likely that the current activity area was situated within the Ballan pastoral run (Spreadborough and Anderson 1983, Settled District Map). The Ballan pastoral run adjoined the Morockdong pastoral run also called the Upper Weiriby or Gray's Old Run (Billis and Kenyon 1974, 246) which was located on the Werribee River and held in 1838 by John Gray.

The presence of permanent fresh water attracted people into the area and ensured the fertility and pastoral and agricultural prosperity of the region, encouraging the growth of townships including Ballan (Ballan Shire Historical Society 1989: 1).

The Ballan run was held in April 1838 to March 1853 by Rob. William von Stieglitz (Billis and Kenyon 1974, 144-145) and then in March 1853 to February 1854 and January 1857 to August 1864 by Jas. Hy. Belcher, son of Jos. Wm, attorney of Melbourne, who arrived in Port Phillip in 1842. From February 1854 to 1857, William Atkinson and John H. Pepper held the run (Billis and Kenyon 1974, 170). After acquiring 5000 acres (2024 ha) at Ballan and 192,000 acres (77,700 ha) at Lake Hindmarsh in the Wimmera, Robert von Stieglitz sold out and returned to Ireland. An article on the "Stieglitz" family in The Age, Thursday 23 April 1896 gave the following account about the activity area:

"…After a short stay here several members of the family became occupiers of the run formerly held by their uncles, Charles A. and Robert von Steiglitz, then bounded by the Werribee River on the east and the Eastern Moorabool on the west. On a portion of this holding overlooking the Werribee the deceased gentleman had since resided until a few years ago, when he assigned his land to his nephew, Mr. John Atkinson… The deceased used to delight in relating early reminiscences, more especially relative to his many narrow escapes from the spears of the blacks, whose favorite ambush in awaiting the approach of the intruding white man appeared to be in the dense ti-tree scrub which then fringed the Werribee stream. Mr. Atkinson attained the age of 68 years, and remained a bachelor" (The Age, Thursday 23 April 1896 in Trove)

An account by Jas. H Walsh tell s of a visit to von Stieglitz in Ireland and the purchase of the Ballan land which includes the activity area:

"On a visit to a gentleman in Ireland (Portadon), with whom I stayed a few days, I met Robert Steiglitz for the first time since his return home. We were sitting at breakfast when the post arrived with letters to my address from Australia, one from my brother informing me that the Flagstaff block of 2½ acres had been sold to one man for cash at my reserved price (£300 a lot), and that the money was then lying to my credit at the bank of New South Wales. I felt disappointed. 'Any news from Melbourne ?' said Steiglitz. 'Oh, nothing very particular, save that the yield of gold was falling and matters commercial were somewhat depressed.' .'That does not trouble me much, thank goodnoss,' he remarked. 'I hold little interest now in Australia. The only property I can call my own is old Ballan, and that is let on lease to a good tenant.' 'What rent are you getting for it ?' I asked. 'One hundred and twenty pounds a year.' 'Well, will yon clear out altogether and sell the place to me ?' 'I would at a price.' 'What do you want for it ?' 'I'll take fifteen hundred pounds.' 'It's a bargain,' I said, 'if you will take my cheque on a Melbourne bank for the purchase money.' 'All right, the place is yours.'…(Reported in The Ballan Times, October 25 1917: Trove)

The Ballan Homestead was the name of the homestead established by von Steiglitz upon the Ballan pastoral run, within the current activity area. The homestead itself is no longer standing, with little physical evidence to show its location. There are some plantings that indicate that it may have been situated on the west in an area where there is a pit and a mound and 'platform' at the top of a rise (Victorian Heritage Database Report for H7722-0059: Ballan Homestead Site).

Agricultural settlement of the area rapidly commenced in the late 1830s once the area had opened up to European settlement. One of the first European settlers to the east section of the activity area near Ballan was Robert von Steiglitz who held the Ballan run in 1838 (Billis and Kenyon 1974, 144-145). The name Ballan came from Ballan in Ireland, where Robert von Stieglitz had been born (Victorian Places – Ballan 2022). In 1848, the Werribee Hut Inn was built near the site of the township of Ballan, and in 1850 the township of Ballan itself was surveyed. In 1851, gold was found in the Ballarat region, and areas such as Ballan that were on the road to the gold diggings received travellers and trade from traffic as well as settlement resulting from movement to and from the diggings. A school and Anglican church opened at Ballan in the mid-1850s, with a Catholic Church in 1856 (Victorian Places – Ballan 2021). From the township of Ballan, ridge-roads extended north to Trentham where the Blackwood, Barry's Reef and Newbury diggings were situated, and in the 1860s, the Jim Crow Diggings Road linked Ballan to what is now the Daylesford region (Ballan Shire Historical Society 1989: 3). By the 1860s, there were shops, a flour mill, a mechanics institute and several churches within Ballan. In 1886, the Warrenheip railway line was extended to the east, making Ballan one of the major loading stations for Wombat Forest timber. The mineral springs within the Shire of Ballan were also the first to be commercialised in the Spargo Creek region (Ballan Shire Historical Society 1989: 3).

The township of Gordon was another locality that flourished due to the discovery of gold in the region. Gordon was named after George Gordon who settled in the area in 1838 (Victorian Places-Gordon 2021). In 1853, Robert Evans, known as Kangaroo Bob, a kangaroo trapper on Borambeta station found gold at Gordon, and a mine near the present state school was named Kangaroo Bob (Brief History of Ballan 1981). The numerous mines around areas such as Creswick, Ballarat and towns including Gordon used enormous amounts of timber. In 1860, it was estimated that Ballarat in one year used 180,000 tonnes of fuel wood, 850,000 mining props, 3 million laths and over 3,000 cubic metres of sawn timber (Moulds 1933: 130). Sawmills were opened in various towns and localities, including Barkstead in the mid-1860s, and also at Gordon. The Gordon sawmill provided

timber to build town structures and farm buildings, a Catholic church was opened, and in 1973 a school opened, with a Catholic school opening in 1884 (Victorian Places- Gordon 2021). Gordon was a terminus for the railway from Ballarat. In 1889, the railway connection from Melbourne to Ballarat was completed.

Agricultural crops cultivated in Gordon include potatoes, with stock and cattle being primary industries with the Ballan area.

The activity area itself has likely been utilised for pastoral purposes, such as crop growing and stock grazing. The area would have contained vegetation that would have been previously cleared prior to the agricultural uses of the land.

Overall, historical impacts to the land within the activity area are likely to have focused on agricultural industries and included:

- Vegetation clearance of the former native vegetation likely in the mid to latter half of the 19th century;
- Agricultural uses of the region including stock and cattle grazing, and the growing of agricultural crops.

5.1.3 Cultural context

Information about the early inhabitants of the region around the activity area is predominantly derived from observations made by Europeans in the nineteenth century at a time when traditional life had already been severely disrupted so this must be taken into consideration when utilising these resources. European settlement from the 1830s and the consequent urban development of towns around Victoria, resulted in the loss of traditional lands, foods and resources for Aboriginal people (Thomas 1840 in Gaughwin and Sullivan 1984: 83).

This proved to be devastating for Aboriginal people, particularly coupled with the spread of European introduced diseases and social turmoil and breakdown due to the relocation of individuals and groups to reserves and mission stations (Clark & Heydon 1998). To add to this, Aboriginal people from various clans and language groups from great distances away were moved to reserves and stations. In this situation, it would have been extremely difficult for the European colonists to differentiate between clans and/or tribes. Currently, information about Aboriginal occupation of the study region is predominantly derived from observations made by Europeans in the early years of contact once Aboriginal life had already been disrupted.

Two important factors need to be taken into account when considering this. Firstly, Aboriginal culture is an oral tradition with only certain members of groups holding particular stories and information and with the arrival of European explorers and settlers, disease and displacement meant disruption to this system with groups having to leave country or information holders succumbing to disease or European weapons. Secondly, in order to trust in the ethnographic records, those that recorded the information must be relied upon to have been told, and transcribed, correct information, to have no bias stemming from their own educations or colonial desires or from negative interactions – to be wholly neutral. Information recorded by ethnographers about particular groups often came from members of another group. Boucher (in Clark & Heydon 1998: 225) describes the foggy lens through which we must now view ethnographic records as being because *'the frontier was always an exercise in narrating and imagining colonisation rather than a reflection of its material progress…the stories explorers told about their frontier crossings could not help but reverberate with these politics'* with narratives around exploration used to support colonialism '*at the expense of other forms of knowledge*'. Further, Pascoe (2018: 4-5) refers to

imperialism as more than an 'economic and military exercise' but as an ideological act that requires otherness and reformation to colonial will. This is how, Pascoe (2018: 4) argues, European assumptions selectively filtered the information to create the required narrative that perpetuates today.

This does not mean that information from these sources should be disregarded, just treated with caution and the knowledge of all that came before the recording of the information, both for the informant and the recorder.

5.1.3.1 Ethno-historic background

Introduction

The discovery of the region around Nerm/Port Phillip Bay occurred at least 40,000 years ago. But the Kulin Nation Peoples who moved into the area would have seen a very different landscape from that of today. Instead of a broad, shallow bay with seawater there would have been a gently rolling basin intersected by an ancestral Birrarung Marr/Yarra River and its tributaries. The climate generally would have been cooler and drier than today, and the area would have been grassland, perhaps lightly wooded in some areas, with an extensive sand dune belt covering the present entrance to Nerm/Port Phillip Bay. The Bay's grassland basin would have been a hunter's paradise, along with many types of plant food and readily available fresh water.

To the northwest, around the area from present-day Pullerbopulloke/Bacchus Marsh to Yarram Yarram/Beaufort, there would have been a rich combination of woodlands and grasslands, watered by streams and creeks such as the Werribi Yulluk/Werribee River, the Mooroobull/Moorabool, and Yarowee Rivers, and Barringayaluk/Mount Emu Creek. While the tributary streams to these rivers are seasonal or ephemeral, many had permanent waterholes along them that would have been the major source of freshwater for the Wadawurrung people of the region. For example, in the Yarram Yarram/Beaufort region there were the Trawalla and Yam Holes Creeks, which also provided much of the good quality water that fed into Barringayaluk/Mount Emu Creek.

Some 1,600 generations after Kulin Nation People settled the Nerm/Port Phillip Bay region, it was 'discovered' by invading Europeans. The impact on the lifeways, languages, and traditional knowledge of the Kulin Nation People in the region – and on the People themselves – was immediate and devastating.

It is difficult to estimate the population size of Aboriginal Australia at the time of European invasion, but most recent estimates range from about 500,000 to 1,000,000. By 1901 there were only about 650 Aboriginal people in all of Victoria (Presland 2010: 90). Only now, over 200 years after the first European settlement, is the Aboriginal population of Victoria getting back to its pre-contact level. The catastrophic reduction of Indigenous populations in the face of European colonizers has been shared all over the world. It is due to the multiple effects of disease, warfare and massacres, loss of habitat and culture, and feelings of spiritual hopelessness.

Ethnohistorical Background

At the time of the European invasion, the Yarram Yarram/Beaufort region and the area stretching through Ballaarat/Ballarat to Djilang/Geelong and the Bella-wein/Bellarine Peninsula were occupied by the Wadawurrung People. The northern boundary of Wadawurrung Country at the time of European contact extended from Mount Misery and Yarram Yarram/Beaufort in the northwest to the Werribi Yulluk/Werribee River in the northeast. The western boundaries were Fiery Creek and Barringayaluk/Mount Emu Creek. The southernmost boundary was at Mangowak/Airey's Inlet, and in the east was the Bella-wein/Bellarine Peninsula (Barwick 1984: 118; Clark 1990: 310-312). The

boundaries appear largely to be determined by features of the landscape but were probably not fixed immutably over time: the boundaries described here are the ones that appear to have been in place at the time of contact with Europeans in the early 19th century and as recognised as comprising Wadawurrung Country under the *Aboriginal Heritage Act 2006* (Vic) at present.

In the following sections, ethno-historical and historical information relating to the Wadawurrung People in general, and in particular those groups living in the Pullerbopulloke/Bacchus Marsh and Ballan region, is briefly reviewed. This information will assist in understanding Wadawurrung subsistence and occupation patterns across the region. It also helps inform the documented archaeological record of the region and assists in the interpretation of archaeological sites in the wider area, as well as helping to predict the potential location of archaeological site types within the Activity Area. Some of our information comes from early European travellers and settlers in the region, as well as government officials, and therefore must be viewed through a filter of bias and misunderstanding that these writers often had. On the European side there were problems due to the lack of understanding of Aboriginal languages, customs, and social systems. On the Aboriginal side was an extremely rapid loss of much of their traditional culture in the face of loss of lands, disease, and societal breakdown. The removal of Aboriginal groups to reserves and mission stations added to problems associated with early European accounts of the Aboriginal people of Victoria (Barwick 1984: 103). As Barwick pointed out, "… their [nineteenth century European writer's] jealousies, ambitions, loyalties and roles in colonial society shaped their inquiries and the content of their publications" (Barwick 1984: 103). These nineteenth century authors were writing from an Anglo-centric and gender-biased viewpoint for a colonial audience who had a very limited and generally negative view on Aboriginal life, heritage, and culture. Despite these shortcomings, nineteenth century ethnographical accounts are a useful resource (and in some cases the only resource); the information has often been provided to the various authors by Aboriginal informants or by their first-hand observations and experience.

There is a relative wealth of information concerning Wadawurrung People in general because their lands were among the first visited and settled by European explorers and colonizers in Victoria. Also, there is a unique source of information about Wadawurrung People of the early 18th century. In 1803 the convict William Buckley escaped from a short-lived penal settlement at Sullivan Bay, near Sorrento, and ultimately made his way around Nerm/Port Phillip Bay to Wadawurrung Country, where he was befriended and adopted by a Wadawurrung clan whose estate was the area around modern-day Djilang/Geelong. He lived with them for over 31 years, until he revealed himself to a small group of Europeans and Sydney Aboriginal people at Indented Head in 1835. Buckley later recounted his life story while living in Tasmania, at the age of 72. The Wadawurrung People of the Pullerbopulloke/Bacchus Marsh and Yarram Yarram/Beaufort areas were impacted slightly later than their fellow Wadawurrung People to the south, but that impact was no less sudden and severe.

Language Group and Social Organisation

Wadawurrung Country was part of a broad area of central and northern Victoria occupied by the Kulin Nation Peoples. The Kulin Nation Peoples were divided into different but linguistically related 'language groups'. Precisely how the groups should be categorized in linguistic terms is still a matter of some dispute. Some scholars have proposed as many as eight 'Western Kulin' People languages and four 'Eastern Kulin' People languages, along with the Wadawurrung Language, which has been considered a less closely related Kulin Nation language; others have proposed as few as three Kulin Nation languages: Western Kulin Nation (with six to ten dialects), Eastern Kulin Nation (with three dialects), and Wadawurrung People (Blake 2011).

The speakers of the four Eastern Kulin Nation language groups of central and northern Victoria formed the core of what has been called the Kulin 'Nation' or 'confederacy': Woi wurrung (today known as the Wurundjeri Woi Wurrung), Boon wurrung (Boon wurrung/Bunurong), Daung wurrung (Taungurung), and Ngurai-illam wurrung. Two other groups were considered 'honorary' members of the Kulin Nation: Wadawurrung and Djadja wurrung (Dja Dja Wurrung) (Barwick 1984: 105; Presland 2010: 12-16).

At the time of contact with Europeans the Wadawurrung People comprised some 25 or 26 clans (Clark 1990: 307, 311, 312-335; Clark 1995: 169). Each of these clans was responsible for a particular area of land (called their 'estate' by Barwick [1984: 106] and Presland [2010: 22]), and each shared a common identity in terms of history, genealogy and religion (Clark 1990: 379-386; Barwick 1984: 107-113).

The clan was the most important social group in Aboriginal society. It was the clan that owned the land, and it was the clan with which the individual would identify himself or herself. But all the members of a clan did not permanently live together. Smaller groups, comprising extended families made up the basic economic group. These are generally called 'bands' and would typically number 15 to 20 individuals – usually one or two families: men, their wives, sons, unmarried daughters and a shifting population of other relatives (Presland 2010: 18). The band is the group that is most relevant to archaeological investigations, since it is most commonly their activities (hunting, fishing, gathering, camping) that are represented in the rather ephemeral archaeological record. While band membership could be rather fluid, clan membership was established at birth. Both one's moiety (discussed below) and one's clan affiliation were inherited from the father; this inheritance was retained for life (Barwick 1984: 106). Once born, a clan member identified deeply and spiritually with his or her land. The clan members' connection to the lands and waters defined their very existence: it was theirs since the Dreaming: "Wherever one is born, that is his or her country" (William Thomas, cited in Cannon 1983: 624). And it was the land, tragically, that was taken away from the Aboriginal people: their suffering on this account cannot be overemphasized.

Perhaps the best known of the Wadawurrung clans is the Watha wurrung bulluc, partly because their estate is centred around the relatively well-documented Djilang/Geelong area and the Barrabuls/Barrabool Hills to its west, and partly because they were the clan that adopted William Buckley.

The current activity rea comprises land near Ballan which is probably part of the estate of the Marpeang bulluk clan (Clark 1990: 322-323). The Marpeang bulluk clan is reported to have occupied the country to the west of the Werribi Yulluk/Werribee River and their Woi wurrung/Wurundgeri neighbours, the Kurnung Willam balug clan. It is not known for certain if the estate of the Marpeang bulluk clan stretched all the way to the north-central tip of Wadawurrung country: they are documented as having lived in the Bacchus Marsh, Mt Blackwood and Myrniong areas (Clark 1990: 323). A second, but less likely, candidate for the estate owners of the Eastern Section of the current Activity Area is the Tolloora bulluk clan (Clark 1990: 327-329). This appears to have been one of the largest of the Wadawurung clans, at least in the extent of their estate, which is reported to have extended from Warrengeep/Mt Warrenheip (about 8 km southeast of the Eastern Section) south to Mt Hesse, east to Mt Pollock, and north to near Pullerbopulloke/Bacchus Marsh. Most of their northern boundary was the Werribi Yulluk/Werribee River; this was also the border of the Wadawurrung, shared with their northern neighbours the Djadja wurrung. The Tolloora bulluk clan are known from accounts by various European settlers from about 1840 on, but most accounts are quite sketchy.

For most of the year, the individual bands making up the Marpeang bulluk clans would have moved around their estate exploiting the various local resources (plant and animal) as they became available for harvesting. At various times of the year, when resources were more widely abundant, larger gatherings – often involving other clans and even other language groups – would be possible. At these times initiations, marriage contracts, trade, and other ceremonies, as well as corroborees, would be conducted.

All the Kulin Nations had a patrilineal descent system (rare among Australian Aboriginal people) and an exogamous moiety system. Each clan belonged to either the *Bundjil* ('Eaglehawk', or 'Wedge-tailed Eagle') or *Waa* ('Crow') moiety; marriage had to be with someone from the other moiety. The Marpeang bulluk clan belonged to the Bundjil moiety. William Thomas, the Assistant Protector of Aborigines for the Central Protectorate District of Westernport, said the Kulin Nation Peoples could marry only outside their *tribe* (Thomas, cited in Gaughwin and Sullivan 1984: 94-95). Presland says Eastern Kulin Nation men sought "marriage partners from within the confederacy but outside of their own *clan*", and that the Wadawurrung People were included in this practice (Presland 2010: 15; author's emphasis). There seems to have been a preference to marry a member of a distant clan; such marriages would often involve partners from different ecological regions, which among other things would expand the possibilities for resource exploitation. Such marriages could cement alliances between far-flung groups of the confederacy (and beyond) – but they could also cause tensions and enmities.

Wadawurrung clans intermarried with those of the Gulidjan, Djargurd wurrung, Djab wurrung, and Djadja wurrung Peoples to their south, west, and north (Clark 1995: 169). Wadawurrung clans reportedly also took part in Kawirr/emu hunts at Mirraewuae Swamp west of Caramut, in Dhauwurd wurrung country, along with Djab wurrung, and Girai wurrung clans (Dawson 1881: 3; Clark 1995: 169). And certainly they participated in multi-group Buniya/eel-catching in the lakes and rivers of western Victoria: the most prominent of these places was the area around Lake Bolac, in Djab wurrung country. Near Lake Terang in Girai wurrung country was a traditional meeting place for trading objects such as adhesive gum and stone axes (Clark 1995: 169). William Thomas, Assistant Protector of the Aborigines for the district between 1839 and 1849 and later Guardian of Aborigines said:

> *Most tribes have intercourse or hold a kind of alliance with three or four neighbouring ones, with whom they barter for lubras, &c. They generally once a year at least unitedly assemble. There are many disputes, imaginary or real, to settle which cannot be done without some fighting. When all is settled they will corrobboree night after night till they separate. All the tribes beyond the district of their friends are termed wild blackfellows, and when found within the district are immediately killed* (Thomas [1854], in Bride [ed.] 1898: 68).

The Wadawurrung People would also regularly meet with the Kulin Nations to their east, the Wurundjeri Woi wurrung and Boon wurrung/Bunurong, to renew family ties, as well as for trade and ceremonial purposes. William Thomas noted in 1840 that:

> *By what I can learn, long ere the settlement was formed the spot where Melbourne now stands and the flat on which we are now camped* [on the banks of the Yarra River] *was the regular rendezvous for the tribes known as* Warorongs [Woi wurrung], Boonurongs [Boon wurrung], Barrabools [a name for the Watha wurrung bulluc clan of the Wadawurrung, but in this context for the Wadawurrung more generally], Nilunguons*, Goulbourns* [Daung wurrung] *twice a year or as often as circumstances and emergences*

> *required to settle their grievances, revenge, deaths etc* (Thomas, quoted in Gaughwin and Sullivan 1984: 96).

Thomas also noted that:

> *When they* [clans] *go in large bodies, two or three seniors direct their movements from encampment to encampment, giving instructions overnight or early in the morning the directions each is to take, and where to encamp the coming night* (Thomas, quoted in Cannon 1983: 624).

Some of these senior men achieved the status of *Arweet*, clan-head or 'chief' (Barwick 1984: 107). The position of *Arweet* was not hereditary nor elected, but rather was in recognition of a man's achievements and authority; it required endorsement from the group and even clan-heads from other Kulin Nation clans (Barwick 1984: 107-108; Presland 2010: 18). In the years following the Invasion the head of the Marpeang bulluk clan was Worope/Mane.ne.tee.rare.rer/Yam mer boke, alias Malcolm, Mr. Malcolm, or Capt. Malcolm, who in 1841 was estimated to have been between 40 and 45 years old (Clark 1990: 323).

George Augustus Robinson, the Chief Protector of Aborigines in Victoria from 1839 to 1849, wrote in 1840 that the Wadawurrung were in a state of hostility with some clans of their neighbours to the south, the Djargurd wurrung and the Gulidjan (Robinson, Journal entry for 7 April 1840, cited in Clark 1990: 275).
Early reports indicate that the Wadawurrung People were on good terms with the Wurundjeri Woi wurrung and Boon wurrung/Bunurong (William Thomas, for example, stated that "the Bunurong had closer relationships with the Wathaurung of both [*Bundjil* and *Waa*] clans than with other groups" [Gaughwin and Sullivan 1984: 96]).

Post-contact History

The earliest Europeans to encounter Wadawurrung Country were sealers. They began a horrific pattern for what was to follow: the introduction of diseases, the seizing of local resources, and the kidnapping and raping of Aboriginal women (Cotter 2001: 19). They operated (as did whalers slightly later) on the Bass Strait coast from 1798 until the 1830s, and probably made occasional incursions into Nerm/Port Phillip Bay.

William Buckley's Aboriginal friends related a story to him about European visitors to the Bella-wein/Bellarine Peninsula before his arrival among them in 1803. A vessel landed near Indented Head and six or seven men came ashore. Two of the men were tied to trees and shot, at which point the others returned to their ship (Morgan [Sayers, ed. 1967]: 81). Buckley also told a story about being shown an iron tomahawk, left by some European men who had rowed up Parwan/Barwon River in search of fresh water (Cannon, ed. 1982: 184). Buckley said that this occurred around 1808.

'Matilda', a Tasmanian Palawa woman who had been kidnapped by sealers and brought to their Nerm/Port Phillip Bay encampments, reported to George Augustus Robinson a story that two white men had their throats cut by other white men on the Mud Islands off Bella-wein/Bellarine Peninsula (Plomley, ed. 1966: 405).

The first European known to have seen the entrance of Nerm/Port Phillip Bay was Lieutenant John Murray, commanding the *Lady Nelson*, on 4 January 1802. On 14 February 1802 he returned from surveying islands in Bass Strait and entered Nerm/Port Phillip Bay. Murray named the bay 'Port King', after the Governor of New South Wales (NSW), Philip King (the bay was on the southern shore of the colony of NSW; King subsequently renamed it 'Port Phillip Bay', after the first governor of the colony). It only took three days for the first violent encounter with the [Boon wurrung/Bunerong]

Aboriginal owners of the eastern shore of Nerm/Port Phillip Bay. On 17 February, there was a near-spearing of one of the ship's company during a foraging expedition for water. The “unprovoked attack” by the Boon wurrung/Bunerong may well have been a warning: if they had wanted to spear the English sailor, it is likely that they would not have “missed”. The Europeans fired on the Boon wurrung/Bunerong group and almost certainly killed one, possibly two, of them. In 1839 one of the Boon wurrung/Bunerong men involved in the battle, Bunja Logan, showed William Thomas the gunshot scars from the wounds he received in the encounter (Cotter 2001: 72).

On 8 March 1802 Murray took possession of the Bay and surrounding lands in the name of King George III. On 11 March the *Lady Nelson* left Nerm/Port Phillip Bay bound for Sydney, which he reached on 24 March.

On 25 April 1802 the French Commander Jacques Félix Hamelin, commanding the *Naturaliste*, entered Sydney Harbour. He had been separated from his companion ship, the *Géographe*, commanded by Captain Nicolas Baudin in Bass Strait, and his provisions had run out and his men were sick. Even though France and England were at war, Governor King received him well.

While Hamelin and his men were recovering in hospital and his stores were being replenished, Captain Matthew Flinders arrived in Sydney in the *Investigator*, on 9 May. Flinders (sailing east) had met Baudin (sailing west) a month earlier in what he named Encounter Bay, off what is now Victor Harbor in South Australia. After the encounter Flinders continued his voyage, and on 26 April 1802 entered Nerm/Port Phillip Bay. The following day he climbed Wonga/Arthur's Seat, and on 1 May climbed Station Peak (now Flinders Peak) in Wurdi Youang/You Yangs. Flinders had a few peaceful interactions with the Wadawurrung People – almost certainly of the Bengalat balug clan. For example, returning to Indented Head from Wurdi Youang/You Yangs on 1 May, Flinders and his party arrived after dark:

> *Fires had been seen moving along the shore, but the people seemed to have fled; though we found two newly erected huts with fires in them, and utensils, which must have belonged to some of the people before seen, since there was boiled rice in one of the baskets. We took up our quarters here for the night, keeping a good watch; but nothing was seen of the Indians till we pushed off from the shore in the morning, when seven showed themselves upon a hill behind the huts. They ran down to examine their habitations, and finding every thing as they had left it, a little water excepted of which we were in want, they seemed satisfied; and for a short time three of them followed the boat* (Flinders 1814, I, Journal entries for 1-2 May 1802).

On 3 May 1802 Flinders left Nerm/Port Phillip Bay and set sail for Sydney. Although he had been in Nerm/Port Phillip Bay for only a week, and had found no good sources of fresh water, Flinders had a very favourable view of the region:

> *The country surrounding Port Phillip has a pleasing, and in many parts a fertile appearance; and the sides of some of the hills and several of the vallies are fit for agricultural purposes. It is in great measure a grassy country, and capable of supporting much cattle, though better calculated for sheep. … Were a settlement to be made at Port Phillip, as doubtless there will be some time hereafter, the entrance could be easily defended; and it would not be difficult to establish a friendly intercourse with the natives, for they are acquainted with the effect of fire-arms and desirous of possessing many of our conveniences* (Flinders 1814, I, Journal entry for 2 May 1802).

In November 1802 Charles Grimes, the Acting Surveyor-General of NSW, was sent to survey King Island in Bass Strait and Nerm/Port Phillip Bay. He sailed in the *Cumberland*, commanded by Charles

Robbins. A convict gardener, James Flemming, was included in the expedition: he was sent to report on the soils and vegetation of lands adjacent to Nerm/Port Phillip Bay, and he kept a journal of the journey. On 20 January 1803 the *Cumberland* entered Nerm/Port Phillip Bay. On 22 January Grimes and Flemming, accompanied by several others, began a series of daily surveys around Nerm/Port Phillip Bay. Flemming climbed Wonga/Arthur's Seat and got a good view of Warn-Mar-In/Western Port. In his journal Flemming diligently recorded the soils, vegetation, and fresh water that they encountered. On 2 February Robbins, Grimes, and Flemming and two sailors came across the Birrarung Marr/Yarra River, and by 14 February the surveyors had reached Wadawurrung Country at the mouth of Werribi Yulluk/Werribee River. They continued surveying the western shore of Nerm/Port Phillip Bay and by 17 February they had reached the area of Djilang/Geelong. On 18 February, on the Bella-wein/Bellarine Peninsula, they met a group of 11 Wadawurrung people, almost certainly of the Bengalat balug clan:

> *… they were very civil. I gave one of them a biscuit; he looked at it; I took it again, eat of it, when he did the same; whatever we said they said it after us. There was one who appeared to be their chief. They handed us their spears to look at; one of them was barbed and one with two prongs. … Two of them appeared to be marked with the smallpox* (Flemming 1802-1803, Journal entry for 18 February 1803).

On 27 February 1803 the *Cumberland* left Nerm/Port Phillip Bay, sailing for Sydney. Flemming summarised the lands around Nerm/Port Phillip Bay (he called it 'Port King') in glowing terms:

> *The most eligible place for a settlement that I have seen is on the Freshwater River* [Yarra]. *In several places there are small tracts of good land, but they are without wood and water. I have every reason to think that there is not often so great a scarcity of water as at present from the appearance of the herbage. The country in general is excellent pasture and thin of timber, which is mostly low and crooked. In most places there is fine clay for bricks, and abundance of stone. I am of opinion that the timber is better both in quality and size further up the country, as I saw some what is called ash on the banks of the Freshwater River, and the hills appear to be clothed with wood. As to the quantity of good land at the different places, I shall be better able to describe when I am favored with a sight of a chart, as I have not been permitted to see one since I came out. There is great plenty of fish in Port King. The country in general is newly burnt* (Flemming 1802-1803, Journal entry for 26 February 1803).

<u>British and New South Wales policies on Port Phillip settlement / Victoria</u>

By early 1803 the authorities in England were discussing the possibility of a settlement in Nerm/Port Phillip Bay (Cotter 2001: 11). While some have argued that the reason for a settlement was to thwart French colonization (which King himself believed was likely), the main reason for a settlement seems to have been simply to create another convict colony.

On 24 April 1803, the *Calcutta* and the *Ocean* set sail from Portsmouth in the United Kingdom, under the command of Lieutenant Colonel David Collins, with orders to found a new antipodean colony in Nerm/Port Phillip Bay. By early October, Collins entered Nerm/Port Phillip Heads, 'settling' in Boon wurrung/Bunerong Country, at Sullivan Bay, near what is now Sorrento.

Shortly after the establishment of the settlement at Sullivan Bay, Lieutenant James Tuckey and several men left the camp (16 October 1803) and in two boats spent ten days exploring and surveying Nerm/Port Phillip Bay. In part Tuckey was looking for the possibility of a better site for the settlement than Sullivan Bay. He saw the mouth of the Birrarung Marr/Yarra River, but did not

investigate it closely. Tuckey's expedition encountered Aboriginal groups at various points around Nerm/Port Phillip Bay. Mostly they were peaceful meetings, but one, on 23 October 1803, was not. In the northwest of the Port, in what was almost certainly Wadawurrung Country (but possibly was the western extremity of Boon wurrung/Bunerong Country), Tuckey and his men met a group of Aboriginal people whose numbers ultimately grew to more than 200. Feeling threatened when the large number of Aboriginal men brandished their spears and grabbed one of the sailors, the Englishmen fired their guns at one of the leading Aboriginal men; he was killed on the spot. In all, one or two Aboriginal men were killed, and several wounded. The remaining Aboriginal men fled. Tuckey ended his survey soon afterwards. He has left behind a description both of the landscape around Nerm/Port Phillip Bay and of the Aboriginal people – Boon wurrung/Bunurong and Wadawurrung – who inhabited its shores (Tuckey 1805: 156-190). After reporting back to Collins, the settlement was doomed, for Collins, as unimpressed as Tuckey, decided it would be better to move to another location outside Nerm/Port Phillip Bay. Collins asked Governor King of New South Wales for permission to abandon the Sullivan Bay settlement, and on 30 January 1804 Collins sailed to Van Diemen's Land (now Tasmania).

During the late 1830s, the Aboriginal Protectorate of the Port Phillip District was created (Clark 1995: 3). The first objective of the Protectorate was to shield Aboriginal people from the encroachment on their lands, and Protectors were to attach themselves to the Aboriginal groups in their district, guard the interests and rights of the Aboriginal people, try to get Aboriginal people to settle in a particular location, instruct in Christianity, teach agriculture and carpentry, educate the children, learn the language(s) in their district, and conduct a census of the Aboriginal people in their district: name, gender, and age (Clark and Cahir, eds. 2016: 1). In order to be able to assert their authority, the Protectors were also appointed magistrates (Clark 1995: 3).

George Augustus Robinson was appointed Chief Protector. The assistant protectors were William Thomas, Charles Wightman Sievwright, Edward Stone Parker, and James Dredge. Parker and Dredge were Methodist preachers, Thomas a Methodist educator, and Sievwright a British Army Officer. In March 1839, Robinson allocated regions of the Port Phillip District to his assistants: Thomas was given the Central Protectorate District of Western Port, Sievwright the Western District (which included Geelong and stretched west to Portland), Parker was given the Loddon and Northwest District, and Dredge the Goulburn District. *Wadawurrung* country was divided between two Protectorate districts. The northern *Wadawurrung* lands around Beaufort were overseen by Edward Stone Parker, although most of his district, the Loddon district was in *Djadja wurrung* country. In the south, and covering most of *Wadawurrung* country, was the jurisdiction of the Western district, overseen by Charles Sievwright. Initially Charles Sievwright based himself near Fyansford, later relocating to Lake Keilambete near Terang in *Girai wurrung* country. In 1839 a Methodist missionary, Francis Tuckfield, had established the Buntingdale Mission, near Birregurra. The mission was in *Gulidjan* country, very near their borders with the *Wadawurrung* and *Gadubanud*. However, Tuckfield completely misunderstood the spiritual power of country to Aboriginal people, and the *Wadawurrung* and *Gulidjan* continually fought with each other. George Robinson, the Chief Protector, in his annual report for 1841, noted that the *Wadawurrung* had declined to occupy the Wesleyan mission station at Birregurra in *Gulidjan* country, and suggested a tract of their own land should be reserved. By 1842 it was decided that the Buntingdale Mission would be for the *Gulidjan* only.

In 1849 the Protectorate was abolished, and a period of government inaction and neglect followed. This situation was exacerbated when gold was found throughout much of Victoria, which marginalized the Aboriginal people even more. Their traditional hunting and plant harvesting estates

had been taken over by sheep, and they survived as best they could. In 1860 the 'Central Board Appointed to Watch Over the Interests of Aborigines' was established, and three reserves were listed for the *Wadawurrung*. The three reserves were at Stieglitz (259 ha) near Werribee, Karngun (1.2 ha) in Winchelsea, and Mount Duneed (1 acre [0.4 ha]) south of Geelong. At Mount Duneed a hut was built for the *Wada wurrung*; they were not allowed to remain in Geelong after dusk. A depot was created at Geelong for the distribution of rations. By the late 1860s many *Wadawurrung* were being encouraged to move to Coranderrk, in *Woi wurrung* country near Healesville. In 1893 almost half the remaining Coranderrk land was reclaimed by the government, and the reserve was formally closed in 1924. Most of the surviving residents were forcibly moved to Lake Tyers in Gippsland, in what used to be *Gunai Kurnai* territory.

The 'last' of the *Watha wurrung bulluc* was *Willem Baa Nip*, who died in 1885, aged about 48. Known as King Billy, or William Gore, he was often called the last of the Barrabool Aborigines (i.e. the *Watha wurrung bulluc* clan). His contemporary, Billy Leigh, also called King Bill, died around the same time and was called 'the last of the *Yaawangi* clan'. But the Aboriginal people of Victoria did manage, remarkably and heroically, to survive – although only just. In the 1921 census the count of Aboriginal people was only 586 (though likely many Aboriginal people were hiding their heritage at that time). Even as late as 1961 the count was less than 2,000. By the 2001 census, however, the count was almost 30,000.

Today the Wadawurrung are the descendants of their apical ancestor John Robertson (1846-1919). With two wives, Esther and then Margaret, John had seven children, and the subsequent seven family groups descended from John comprise the Wadawurrung. In 1997 these descendants were recognised as Traditional Owners, and the Wadawurrung Traditional Owners Aboriginal Corporation (WTOAC) was incorporated under the Aboriginal Councils and Associations Act 1976. As such, the WTOAC acts on behalf of all Wadawurrung people and represents their interests. The WTOAC was appinted to Registered Aboriginal Party (RAP) status in 2009 for part of its application area, and on 20 March 2013 the whole of its application area was awarded RAP status (Anonymous 2019).

5.1.4 Archaeological background

The findings of previous cultural heritage assessments in the geographic region can help inform the current study by improving our understanding of the distribution of Aboriginal places in the region and the factors that have led others to their discovery. Therefore, a review of previous assessments in the wider geographic region on similar landforms, as well as in a more local context, is pertinent.

As stated earlier, the geographic region for this assessment is a 10 km radius buffer on the activity area clipped to the WTOAC RAP boundary.

Table 5-7 Review of reports about Aboriginal cultural heritage – regional studies

Report Name	Report Number
Predictive Archaeological assessment of Melbourne to Adelaide Telecom Optical Fibre Cable Route: The Victorian Section (Webb 1991a)	415
An archaeological survey of the Melbourne to Adelaide Telecom Optical Fibre Cable Route – Melbourne to Ballarat (Webb 1991b)	416

5.1.4.1 Regional studies

Two regional Aboriginal archaeological studies been undertaken that have relevance to the current geographic region and provide a foundation for predictive modelling, and these are summarised below.

Predictive Archaeological assessment of Melbourne to Adelaide Telecom Optical Fibre Cable Route: The Victorian Section (Webb 1991a)

Webb (1991a – AV Report 415) prepared a predictive archaeological assessment of the Melbourne to Adelaide Telecom Optical Fibre Cable Route for the Victorian section of the project, taking in parts of the current geographic region around Ballan and Ballarat, the study area for which included the proposed cable route from Deer Park to Ballarat. The geology for this section of the route comprises flat basalt plain in places overlain by Quaternary alluvium extending to the Brisbane Ranges. West of the Brisbane Ranges through to Ballarat are the midland plains comprised of basalt with more recent alluvial sediments containing some older granite outcropping. The midland plains are generally dominated by open forest flora of messmate stringybark, and animals of dry open forest and grassy woodlands live in the region including echidna, wombat, koala, brush-tailed possum and eastern grey kangaroo. Permanent European settlement of the area occurred by the late 1830s to early 1840s, and with the discovery of gold in 1851, the area around Ballarat was heavily exploited until at least the 1870s when the land became increasingly selected for pastoralism. Land clearance occurred and timber was at high demand (Webb 1991a, 7). Aboriginal place types in the region include artefact scatters, scarred trees, quarries, ceremonial earth rings and rock arrangements, and Aboriginal ancestral remains (burials). Webb was unable to sample survey this section of the proposed route, and the route was looked at via moving vehicle. Webb concluded that most of the land between Deer Park and Ballarat is farmland that is heavily grassed with little visibility present. Webb recommended that the area be subject to sample survey.

Archaeological Survey Melbourne to Adelaide Telecom Optical Fibre Cable Route: Melbourne to Ballarat (Webb 1991b)

Webb (1991b– AV Report 415) completed an archaeological survey of the Melbourne to Ballarat section of the Melbourne to Adelaide Telecom Optical Fibre Cable Route. The main aims of the survey were to systematically survey the proposed cable route and concentrate on areas of high impact and assess the significance of any Aboriginal places encountered as well as to consult with relevant Aboriginal communities. Much of the proposed route followed existing road and rail reserves as well as gas and electricity easements, with much of the route also traversing private land adjacent to road reserves. The survey generally targeted the private land. Most of the study area consists of farmland that has been cultivated over a long period of time, and any Aboriginal cultural heritage material located within areas would have likely been disturbed by pastoral activities such as ploughing. A total of two Aboriginal places were identified at Parwan Creek near Rowsley (VAHR 7722-0156 and 7722-0157), one a surface scatter eroding from the bank and the second two isolated artefacts on the surface of cultivated land. Webb stated that the areas that are most likely to contain subsurface Aboriginal places were adjacent to creeks and rivers specifically areas such as Werribee River crossing. Webb recommended that a representative of the relevant Aboriginal communities responsible for these areas be employed at times when the cable is being laid in sensitive areas and should check the ground disturbed by the plough for any subsurface Aboriginal cultural heritage material. To avoid damage to Werribee River/Toolern Creek areas, Telecom had decided to pass the proposed cable through conduit attached to the bridges (Webb 1991b, 8).

5.1.4.2 Local-scale assessments

Numerous local-scale Aboriginal cultural heritage investigations have previously been undertaken within the geographic region; with one (Matic 2006, Report 3668) undertaken in the activity area. The information some of these reports provide creates a broad view of Aboriginal occupation of the midland plains region as a whole, and several of the more relevant reports have been summarised below.

Table 5-8 Review of reports about Aboriginal cultural heritage – local-scale assessments

Report Name	Report Number	Approximate Distance to activity area
Ballarat Fast Rail Project Deviations (Murphy and Amorosi 2003)	2650	The closest section c. 3.8 km west of the current activity area
VicTrack Optic Fibre Cable Project Aboriginal Heritage SEMP (Rhodes 2003)	2762	c. 8.5 KM south west from the current activity area
Ballarat Fast Rail Project Deviations Cultural Heritage Assessment (Murphy and Amorosi 2004)	2779	The closest section c. 3.8 km west of the current activity area
Archaeological survey of a parcel of land on the Werribee River at Ballan (Matic 2006)	3668	Includes the current activity area
Proposed upgrade of amenities at Caledonian Park, Blackwood Street, Ballan (Mitchell and Szydzik 2009)	10788	c 1.4 KM east of the current activity area
81 Simpson Street Ballan (Young and Barker 2016)	14258	c 738 m east of the current activity area
Ballarat Line Upgrade – Ballan (Dalla-Vecchia et al. 2018b)	15211	c 493 m south of the current activity area.
Ballarat Line Upgrade – Millbrook and Ballan (Dalla-Vecchia et al. 2018c)	15848	c 493 m south of the current activity area.
Proposed residential development 56 Inglis Street Ballan (Mitchell and Davis 2017)	15231	c 1.7 KM east of the current activity area
Residential subdivision 166 Old Melbourne Road Ballan (Young and Barker 2020)	16257	c 2.1 KM east of the current activity area
Proposed Wind Energy Facility, Ballan, Victoria (Di Fazio, Brown, Rymer, Thomson 2019)	14372	c 4.0 Km south west of the activity area
Proposed Wind Energy Facility, Ballan (Di Fazio and Prossor)	10832	c 4.0 Km south west of the activity area
Ballan-Egerton Road Widening and Native Vegetation Removal, Mount Egerton, Victoria (Slavin 2009)	10818	c 6.0 KM south west of the activity area
Proposed Moorabool Transmission Line (Falvey et al. 2018)	14638	c 6.5 Km south west of the activity area
Moorabool Wind Farm Additional Works (Murphy et al. 2019)	15592	c. 3.9 KM south west from the current activity area

Ballarat Fast Rail Project Deviations. Cultural Heritage Assessment (Murphy and Amorosi 2003)

Murphy and Amorosi (2003 – Report 2650) completed a cultural heritage assessment and archaeological survey for the Ballarat Fast Rail Project study area which comprised six deviations including areas near Melton, Bacchus Marsh, Ballan, Bungaree and two locations at Gordon. The latter locations are situated within the geographic region, the closest being located approximately 3.8 km west of the current activity area. During the archaeological survey, no Aboriginal cultural heritage places were identified in the current geographic region (there was one isolated artefact was

found in the Bacchus Marsh deviation area and registered). There was generally poor ground surface visibility at the time of the survey and limited access particularly to the Bungaree deviation. There were several archaeologically sensitive areas noted, and these generally related to water sources such as creeks and rivers. Several of these areas of sensitivity area located in the geographic region are situated in the Bungaree area, and these included the Bridge across West Moorabool River assessed to be of medium-high potential sensitivity, and the bridge across Lal Lal Creek also assessed to be of medium-high potential sensitivity. Recommendations for further archaeological investigation of these areas included subsurface testing by shovel probes around the bridge pylons and cuttings within 100 m of the creek and also for Lal Lal Creek within 200 m on the east side up the undulating hill slope. There was an area at Portland Flat Road, Gordon, also assessed to be archaeologically sensitive which was the area 500 m either side of creek line. Monitoring of this area was recommended.

Ballarat Fast Rail Project Deviations. Cultural Heritage Assessment Addendum Report (Murphy and Amorosi 2004)

Murphy and Amorosi (2004 – AV Report 2779) prepared an addendum report for the Ballarat Fast Rail Project study area, outlining the results of additional survey areas to be impacted by the proposed works. These five survey areas were located within the Bungaree deviation and comprised a series of properties, with the areas located approximately 11 KM west of the current activity area. Landforms of these areas generally consisted of plains, with lower hill slope and gently sloping land present at two of the areas. Prior disturbances noted included rail construction and land clearance, dam construction, grazing and at one property recent house and tree removal. Most of the areas contained very poor ground surface visibility with thick weeds and grass present. Most of the areas contained pasture grasses. One Aboriginal place, VAHR 7622-0038 was identified at one of the areas, and one area of potential sensitivity was identified immediately to the east of this Aboriginal place. This Aboriginal place was identified on a low rise and flat land in a paddock 50 m west of a small drainage line north of Old Melbourne Road. A total of 16 Aboriginal stone artefacts were scattered over an area 300 x 50 m. The artefacts comprised 13 quartz (flakes, cores, angular fragments), 2 silcrete (flake, core), and one fine grained silcrete (broken flake). Some recent disturbance had occurred with the removal of a collapsed house to the west of the Aboriginal place. Several historic artefacts were also noted such as bottle fragments likely associated with the former house (Murphy and Amorosi 2004, 10). Collection of the artefacts prior to the works and monitoring of the area was recommended during initial earth disturbance.

VicTrack Optic Fibre Cable Project (Rhodes 2003)

Rhodes (2003- AV Report 2762) completed a draft environmental management plan for four railway reserves including the one that is most relevant to the current CHMP, Melbourne to Ballarat, as it passes through the current geographic region, with a potentially culturally sensitive section at Gordon situated approximately at its closest is situated approximately 8.5 KM south west from the current activity area. The results of previous background studies had indicated that registered Aboriginal places in the Melbourne to Ballarat section of the rail corridor area were found within 500 m of major or minor watercourses, and generally within 100 m of a waterway or water source (Rhodes 2003, 24). The railway from Ballarat to Melbourne was constructed in 1889 and there was much cut and fill extensive disturbance undertaken during this construction. Significant disturbance also occurred on some of the watercourses along the rail route such as the Werribee River Gorge where fill has been placed from 384 mm to 13.44 m and cuttings at depths of 400 mm to 4.88 m over a 600 m distance on either side of the viaduct (Rhodes 2003, 24). Rhodes also states that in the

goldfields areas the railway was constructed across terrain that had already been substantially disturbed and altered by the 1850s goldrushes with tailings heaps often used as fill on the banks of watercourses. These modifications and disturbances have likely significantly impacted upon Aboriginal cultural heritage within this section of the rail corridor, particularly in the goldfields areas where extensive land altering activities had occurred even prior to the construction of the railway. Rhodes stated that on the volcanic plains landform, away from the goldfields areas, Aboriginal places are likely to occur within 200 m of waterways and swamps. An area of potential archaeological sensitivity was noted south of Gordon at the Gordon Meredith Road rail crossing which generally had less soil disturbance than most other areas, and this area was recommended for monitoring.

An archaeological survey of a parcel of land on the Werribee River at Ballan (Matic 2006)

Matic (2006 – AV Report 3668) completed a cultural heritage assessment and archaeological survey of a parcel of land on the west side of the Werribee River at Ballan, which includes the current activity area. The landform of the study area included an escarpment of the river. During the survey four new Aboriginal places were identified including two artefact scatters and two isolated artefact occurrences. These places were registered as VAHR 7722-0597 (assessed to be of high scientific significance – test excavation recommended if place is to be impacted), VAHR 7921-0598, -0599 and -0600 (assessed to be of moderate scientific significance). Matic concluded that the Aboriginal places identified back from the escarpment in the farmland were most likely deposited by the movement of materials by ploughing activities, and probably originated from sites closer to the river. However it was also possible that they were evidence of sites that were located further back from the river that had been disturbed and dispersed by ploughing (Matic 2006: 19). Matic also stated that given the amount of cultural material identified on the ground surface it was likely that these were associated with significant subsurface cultural deposits both beneath the plough zone and in areas closer to the edge of the escarpment that have not been subject to ploughing.

The area of escarpment was identified as having high potential for Aboriginal archaeological places, the flat land on both sides of the creek was identified as having moderate archaeological potential and the remainder of the study area west of the escarpment was identified as having low archaeological potential (see Figure 5-4). There was also one new historical archaeological site identified, a former homestead site. Matic recommended that impacts should be avoided to all known Aboriginal archaeological sites and landforms with highest potential to contain significant Aboriginal archaeological sites, and that the escarpment has the highest potential to contain significant archaeological deposits including Aboriginal ancestral remains (burials). Matic recommended that in the areas identified as of high archaeological potential a programme of archaeological monitoring during works being undertaken. In areas of medium and low archaeological potential, a representative of the Traditional Owner Group should be present to undertaken monitoring. If any Aboriginal places cannot be avoided and will be impacted by the development, then a Consent to Disturb would need to be sought, and further archaeological investigation should be undertaken prior any Consent to Disturb being sought.

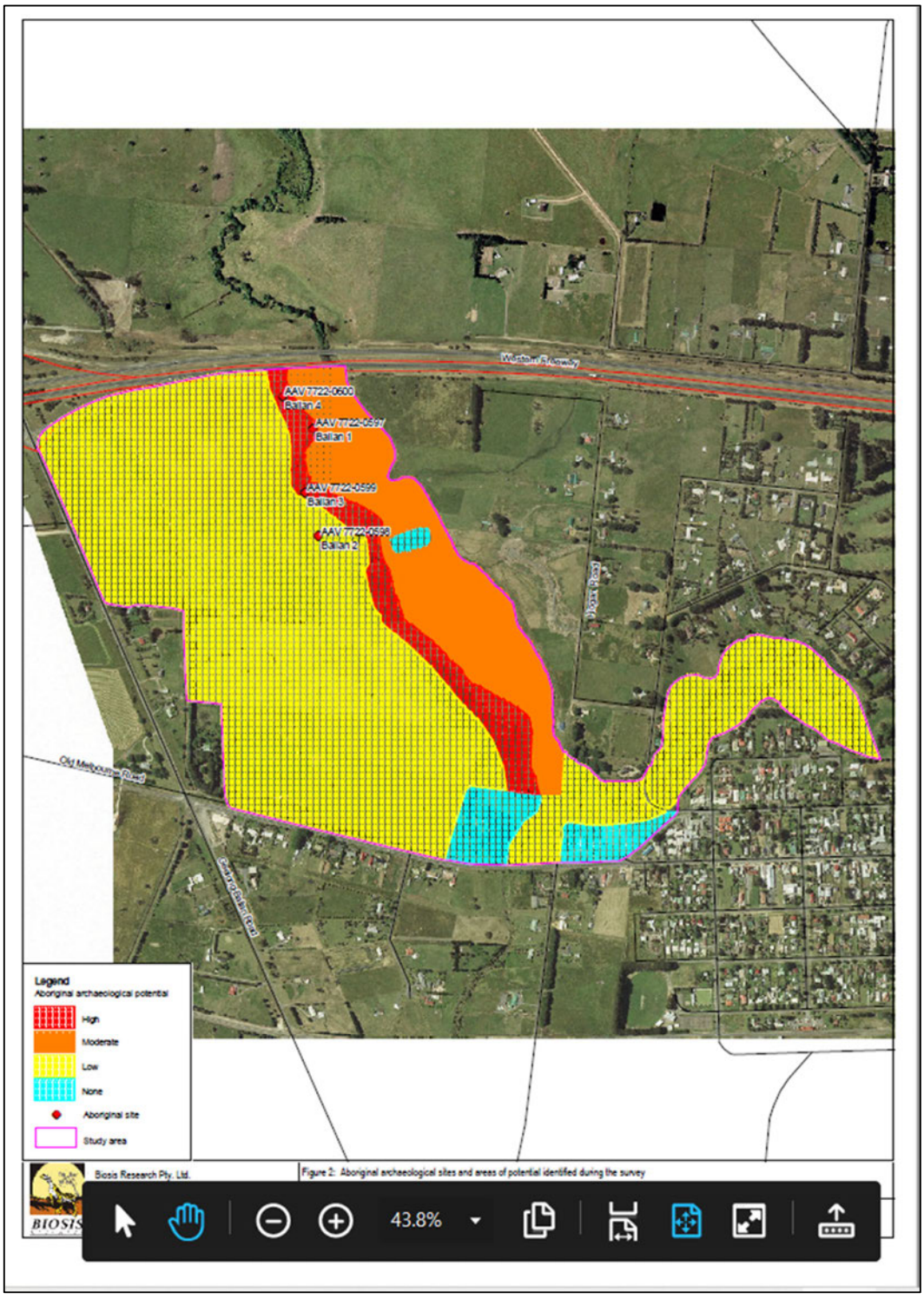


Figure 5-4 Area of archaeological potential identified in Matic 2006 survey

Caledonian Park, Blackwood Street, Ballan (Mitchell and Szydzik 2009)

Mitchell and Szydzik prepared CHMP 10788 on behalf of Moorabool Shire Council for the proposed upgrade of amenities at Caledonian Park, Blackwood Street, Ballan. The study area is located

approximately 1.4 KM east of the current activity area and is situated directly adjacent to the Werribee River. An archaeological survey of the study area took place and one Aboriginal place was identified, an isolated quartz flake artefact that was registered as VAHR 7722-0689. The artefact was found on a walking track that had previously been graded and included introduced gravel and road base. The provenance of the Aboriginal cultural heritage was unknown and it may have either been introduced the area with the gravel or washed down from a site higher upslope to the north from a residential area (Mitchell and Szydzik 2009, 41). Due to a high level of disturbance in the area the activity area was assessed to have very low potential to contain any further Aboriginal cultural heritage.

81 Simpson Street Ballan – Proposed Residential Subdivision and Unit Development (Young and Barker 2016)

Young and Barker (2016) prepared CHMP 14258 for a proposed residential subdivision and unit development at 81 Simpson Street Ballan, the study area for which is located approximately 738 m east of the current activity area. The landform of the study area was assessed to be plain above flood level located approximately 185 m northwest of the Werribee River. The activity area had been subject to agricultural land uses in the past, including vegetation clearance. There had also been recent vegetation removal undertaken. The soils of the study area were shallow volcanic soils with basalt, and Aboriginal cultural heritage is likely to have been highly disturbed by past land uses. A standard assessment took place and flat level ground was noted with no specific areas of sensitivity assessed to be present. Due to the proximity of Werribee River, it was deemed possible that Aboriginal cultural heritage may be present and a complex assessment was conducted with a 1x1m test pit and 8 shovel test pits excavated. The 1x1m test pit was excavated to a depth of 450 mm and soils comprised fill to 100mm overlying natural dark grey loam containing construction debris and refuse to 250 mm overlying light grey to white silt to 400 mm overlying orange clay with ironstone inclusions. No Aboriginal cultural heritage was identified, and it is likely that the ground disturbance evidenced within the soil profile may have displaced any Aboriginal heritage that was present in the study area.

Ballarat Line Upgrade – Ballan (Dalla-Vecchia et al. 2018b)

Dalla-Vecchia (et al. 2018b) completed CHMP 15211 for the Ballan section of the Ballarat Line Upgrade. The Ballan study area is situated approximately 493 m south of the current activity area. The standard assessment identified areas of disturbance associated with the installation and maintenance of rail infrastructure as well as road crossings. Lower lying areas associated with waterways have been modified and built up or cuts have been made to allow for drainage under rail infrastructure. Several areas of archaeological potential were identified, including an area with a good aspect over the Moorabool River East Branch and complex assessment was conducted. In this area within the 1x1m test pit excavated , disturbed cut soils were present across half the excavation with some natural soils also still remaining which included reddish brown silt overlying sandy yellow brown silty overlying yellow brown clay to a depth of approximately 330 mm. No Aboriginal cultural heritage was identified during the assessment.

Ballarat Line Upgrade – Millbrook and Ballan (Dalla-Vecchia et al. 2018c)

Dalla-Vecchia (et al. 2018c) completed CHMP 15848 for the Millbrook and Ballan section of the Ballarat Line Upgrade. The Millbrook and Ballan study area is situated approximately 493 m south of the current activity area. Most of the study area lies on the volcanic plains landform and is relatively flat or contains gentle slopes. Water courses such as Lal Lal Creek and Moorabool River also traverse

the area. There were two previously registered Aboriginal places within the study area prior to the commencement of the assessment, VAHR 7722-1159 and VAHR 7622-0038. During the standard assessment, both of these places were inspected. It was noted that it was likely for further Aboriginal cultural heritage to occur at VAHR 7722-1159 on the western escarpment of the Moorabool River West Branch, however VAHR 7622-0038 has been completely destroyed by the installation of rail track and no further Aboriginal heritage is likely to exist. No new Aboriginal places were identified during the standard assessment however areas of archaeological potential were assessed including high aspects, areas close to fresh water and areas and landforms associated with major water ways such as Lal Lal Creek and Moorabool River West Branch. A complex assessment took place with six separate transects excavated and a 1x1 m test pit excavated on each new landform. Landforms comprised a stony rise, the volcanic plains, and the interfluvial escarpments. Soils on the stony rise comprised brown friable silt with degrading basalt overlying compact brown silt with inclusions of degrading gravels and basalt overlying clayey brown silt with gravely inclusions overlying compact brown clay with degrading basalt onto a clay base. The soils on the remaining landforms comprised friable dark grey silt overlying compact brown friable silt overlying brown clayey silt overlying dry brown clay. Some of the test pits also contained a slightly different stratigraphic profile with reddish brown clay silt (200-300 mm) overlying compact reddish brown clay silt containing buckshot inclusions (400-500 mm) overlying dark reddish grey to reddish brown silty clay with dense buckshot to approx. 420-560 mm. Aboriginal stone artefacts were identified in transects excavated near Bostock Reservoir (n=16 artefacts) and Lal Lal Creek (n=34 artefacts), with a total of 50 artefacts identified in two 1x1m test pits and 30 shovel test pits. The 16 artefacts identified near Bostock Reservoir were registered as the LDAD, VAHR 7722-1192. The Aboriginal stone artefacts were found at various depth ranges including 0-380 mm in silt and silty clay soils, and at the area west of Moorabool River East Branch/Bostock Reservoir, generally at 0-200mm depth in reddish brown clay silt topsoil, with one artefact found at 200- 300 mm. The 34 artefacts identified near Lal Lal Creek were registered as the LDAD, VAHR 7722-1191. Aboriginal stone artefacts were found at various depth ranges from 0-400mm in reddish brown silt and silty clay soils. Raw materials for both Aboriginal places comprised quartz (78% of the assemblage), silcrete (10%), other (6%), crystal quartz (4%), and quartzite (2%). Management conditions included compliance inspection for VAHR 7722-1192 and VAHR 7722-1191, no go zones, and capping the maximum depth of excavation to 300 mm at VAHR 7722-1159.

Proposed residential development at 56 Inglis Street, Ballan (Mitchell and Davis 2017)

Mitchell and Davis (2017) prepared CHMP 15231 for a proposed residential development at 56 Inglis Street, Ballan, located approximately 1.7 KM east of the current activity area. Werribee River is situated to the north of the study area and the region would have been well utilised by Aboriginal people being resource rich. As a complex assessment would be carried out, no standard assessment of the study area took place. The study area contains existing structures and a residence along with trees and garden beds. The complex assessment involved the excavation of a 1x1m test pit a five shovel test pits excavated to a maximum depth of 290 mm. Soils comprised dark brown clayey loam to approximately 40 mm overlying dark clayey loam with orange clay clumps and modern inclusions to approximately 130 mm overlying compact black clay. The shovel test pits contained a similar soil profile. Modern inclusions were identified within all the pits (context two within the 1x1 at a depth range of approximately 40-130 mm) suggesting that ground disturbance from modern land uses has taken place. No Aboriginal cultural heritage was identified.

Proposed residential subdivision at 166 Old Melbourne Road Ballan (Young and Barker 2020)

Young and Barker (2020) prepared CHMP 16257 for a proposed residential subdivision at 166 Old Melbourne Road Ballan, located approximately 2.1 KM east of the current activity area. The landforms of the study area include the floodplain of the Werribee River, an escarpment overlooking the River and its floodplain and an elevated plain to the south of the escarpment. A standard assessment of the study area took place and low ground surface visibility was noted. The standard assessment assessed one area of archaeological potential in the study area – the upper slope and crest of the escarpment elevated above and overlooking the Werribee River floodplain. During the standard assessment, 12 surface artefacts were identified on a farm track on this landform. Very little ground disturbance of the study area was noted. A complex assessment took place and four 1x1 m test pits and forty five 50x50 cm shovel test pits were excavated. These test pits targeted the following landforms: the Werribee River floodplain, the escarpment, the elevated plain. Soils generally comprised those that are characteristic of the Newer Volcanic Group geological formation such as the profile of the 1x1m test pit, TP 1 with mid to dark brown silt to approximately 80 mm overlying conglomerate mix of mid brown silt, yellow clay and orange ochre with quartz inclusions to 180 mm overlying compact yellow clay with mid brown silt, orange ochre and quartz pebbles to approximately 350 mm overlying compact yellow clay with quartz pebbles (Young and Barker 2020, 88). The main evidence of previous disturbance within the test pits excavated was evidence of a plough zone in a small number of test pits. Subsurface Aboriginal cultural heritage was identified on the escarpment landform, particularly the crest and upper slopes, as well as the elevated plain. The Aboriginal cultural heritage was later registered as two Aboriginal places, VAHR 7722-1210 (LDAD) represented by 17 subsurface Aboriginal stone artefacts and an artefact scatter, VAHR 7722-1206 represented by 111 Aboriginal surface and subsurface stone artefacts. Subsurface artefacts representing VAHR 7722-1206 were identified at various depths from 0-400 mm and included silcrete, quartz, basalt, chert and crystal quartz raw materials. Subsurface artefacts representing VAHR 7722-1210 were identified at a depth range of 0-300 mm and included quartz, silcrete and quartzite raw materials. Harm can be minimised to part of VAHR 7722-1206 through the retention of part of the site extent in public open space (approximately 10 % of the site extent), and an archaeological salvage excavation of a sample of the remaining site extent is a management condition of the CHMP.

Proposed Wind Energy Facility, Ballan, Victoria (Di Fazio, Brown, Rymer, Thomson 2019; Di Fazio and Prossor 2010)

Di Fazio et al. 2019 prepared the amended CHMP 14372 for a proposed wind energy facility at Ballan, located c. 4.0 Km south west of the activity area. This CHMP was based on the initial findings for CHMP 10832 (Di Fazio and Prossor), which comprised almost the same study area as that of CHMP 14372. During CHMP 10832, a total of six surface Aboriginal places were identified during the standard assessment found in exposures made by vehicles or stock. Di Fazio and Prossor (2010) concluded that as the study area contained a major watercourse, the Moorabool River East Branch, there was high archaeological potential for Aboriginal cultural heritage to be located within the area. Aboriginal cultural heritage was likely to be found on higher ground particularly higher ground overlooking a watercourse or swamp. The stony rises within the study area were also assessed to be sensitive for Aboriginal cultural heritage. During the complex assessment for CHMP 10832, a total of 80 Aboriginal places were identified, with evidence of disturbance noted in subsurface contexts due to agricultural practices within the study area. Some of the Aboriginal places identified, including VAHR 777-0873 which was found below the plough zone, was largely undisturbed. A standard and complex assessment were also undertaken as part of CHMP 14372. During the standard assessment,

no Aboriginal cultural heritage was identified. CHMP 10832 had identified areas of high and low archaeological potential including riverbanks, high and flat plains landforms, rocky escarpments and rolling hills. Areas with low archaeological potential included former swamp floodplains. The study area for CHMP 14372 was identified as being located on low lying poorly drained floodplain, and was assessed to be of extremely low probability for Aboriginal cultural heritage. Disturbances from continuous repeated ploughing were also a factor within the study area and would have impacted any Aboriginal heritage if present. Soils within the study area were shallow and reached a maximum depth of 190 mm, comprising firm silty clay overlying clay which was consistent with the results for CHMP 10832. Management conditions included harm avoidance for most of the Aboriginal places identified during CHMP 10832, harm avoidance and harm minimisation for several of the Aboriginal places, and harm minimisation for several of the Aboriginal places with salvage proposed.

Ballan-Egerton Road Widening and Native Vegetation Removal, Mount Egerton, Victoria (Slavin 2009)

Slavin (2009) prepared CHMP 10818 for road widening and vegetation removal along Ballan-Egerton Road, c. 6.0 KM south west from the current activity area. The geology of the area comprises alluvium, land and swamp sediments, colluvium as well as fill deposits. The results of the desktop assessment indicated that the study area had been subject to extensive disturbance from mining, timber cutting, road construction and agricultural land uses. The study area was assessed to have some archaeological potential and a standard assessment took place. The standard assessment confirmed that high levels of previous disturbance had occurred across the study area, and a complex assessment was not deemed necessary.

Proposed Moorabool Transmission Line (Falvey et al. 2018)

Falvey et al (2018) completed CHMP 14638 for a proposed transmission line to service the Moorabool wind farm, located c. 6.5 KM south west from the activity area . The results of the desktop assessment indicated that the stony rises within the study area were any area of archaeological potential. A standard assessment took place, and a total of 50 Aboriginal stone artefacts were recorded, identified on open paddock landforms, on road reserves and on elevated rises. Complex assessment was carried out with 25 test pits, 199 shovel test pits and 343 radial test pits excavated. There were a total of 425 Aboriginal stone artefacts identified with 338 of these clustered over seven distinct locations and the Aboriginal cultural heritage was registered as 11 Aboriginal places comprising seven artefact scatters, two LDADs and two quarries. Soils across the volcanic plains landform were typically shallow with the most sensitive landform within the study area being Ballark Gully east of Moorabool River which contains standing water and high vantage points, and outcrops of silcrete. Most of the Aboriginal places identified will not be impacted by the proposed development with harm to be avoided or minimised to 80 of the 86 registered Aboriginal places within the Moorabool Wind Farm area.

Moorabool Wind Farm Additional Works (Murphy et al. 2019)

Murphy et al (2019) prepared CHMP 15592 for the Moorabool Wind Farm additional works, the closest sections of the study area for which are situated approximately c. 3.9 KM south west from the current activity area. The results of the desktop assessment indicated that the Moorabool River and its surrounds would have provided Aboriginal people with a supply of potable water throughout the year and would have been a central point of focus. Nearby swamps would also have supplied important resource bases. Landforms such as escarpments overlooking water courses, the river banks and flats and areas of high ground were identified as areas of archaeological potential for artefacts scatters or LDADs. Complex assessment took place with 184 shovel test pits, 8 test pits, 63

radial shovel test pits and 50 auger holes excavated across the volcanic plains landform and floodplains landform present in the study area. There were four surface artefacts found and 20 subsurface artefacts found all on the volcanic plains landform with the highest density of artefacts recorded in close proximity to Moorabool River East Branch escarpment edge. Subsurface artefacts were found in sandy loam A-horizon up to a maximum depth of 300 mm with the majority found up to a maximum depth of 200 mm. Agricultural ploughing was the main disturbance recorded in the artefact bearing test pits and was generally limited to a depth of 120 mm. Soil profiles within the road reserves were typically disturbed, with road gravels often present. A total of three Aboriginal places were registered including a scarred tree (VAHR 7722-1154) and two LDADs (VAHR 7722-1147 and 7722-1148). Harm could not be avoided to the two LDADs, VAHR 7722-1147 and 7722-1148, and salvage works would take place.

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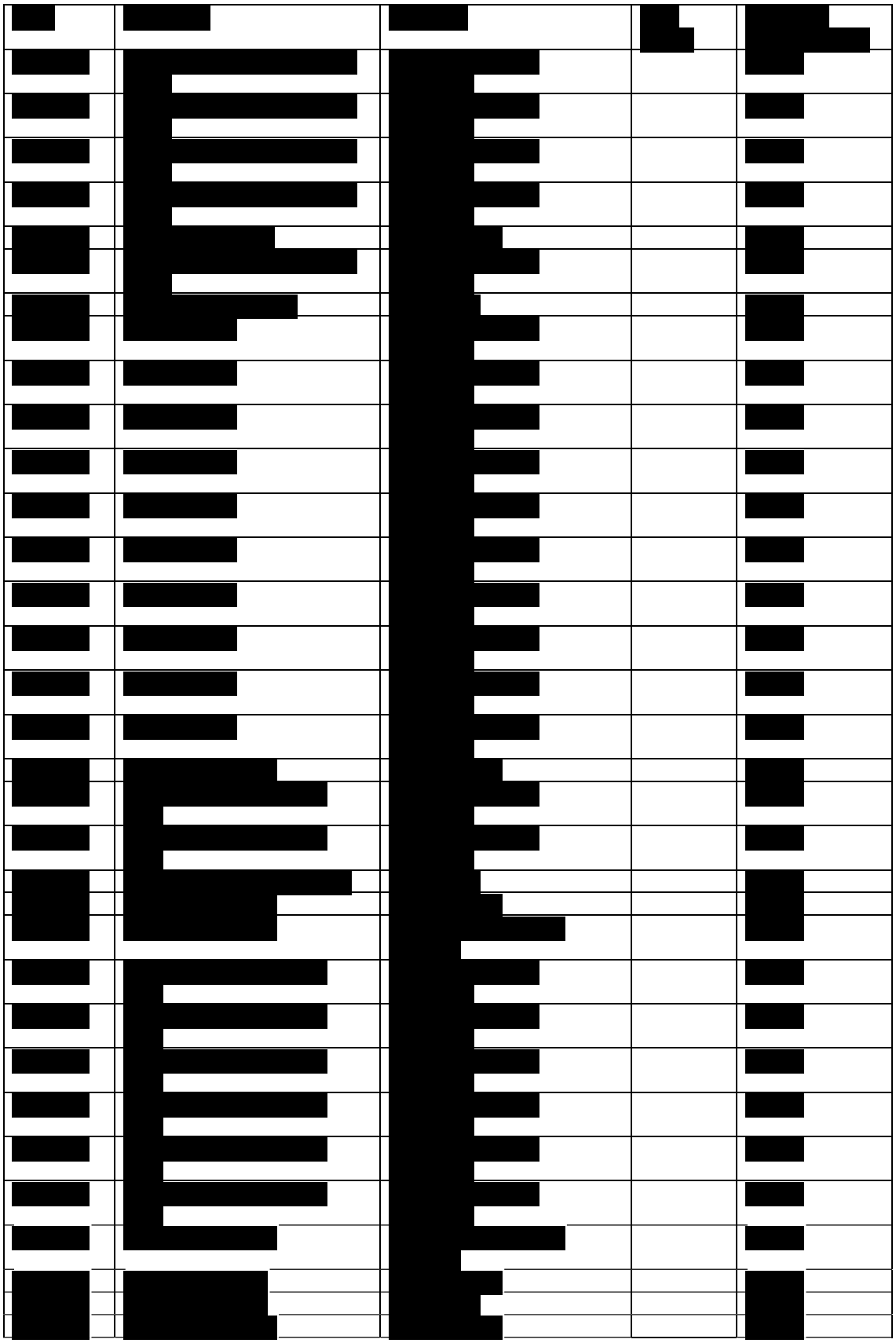

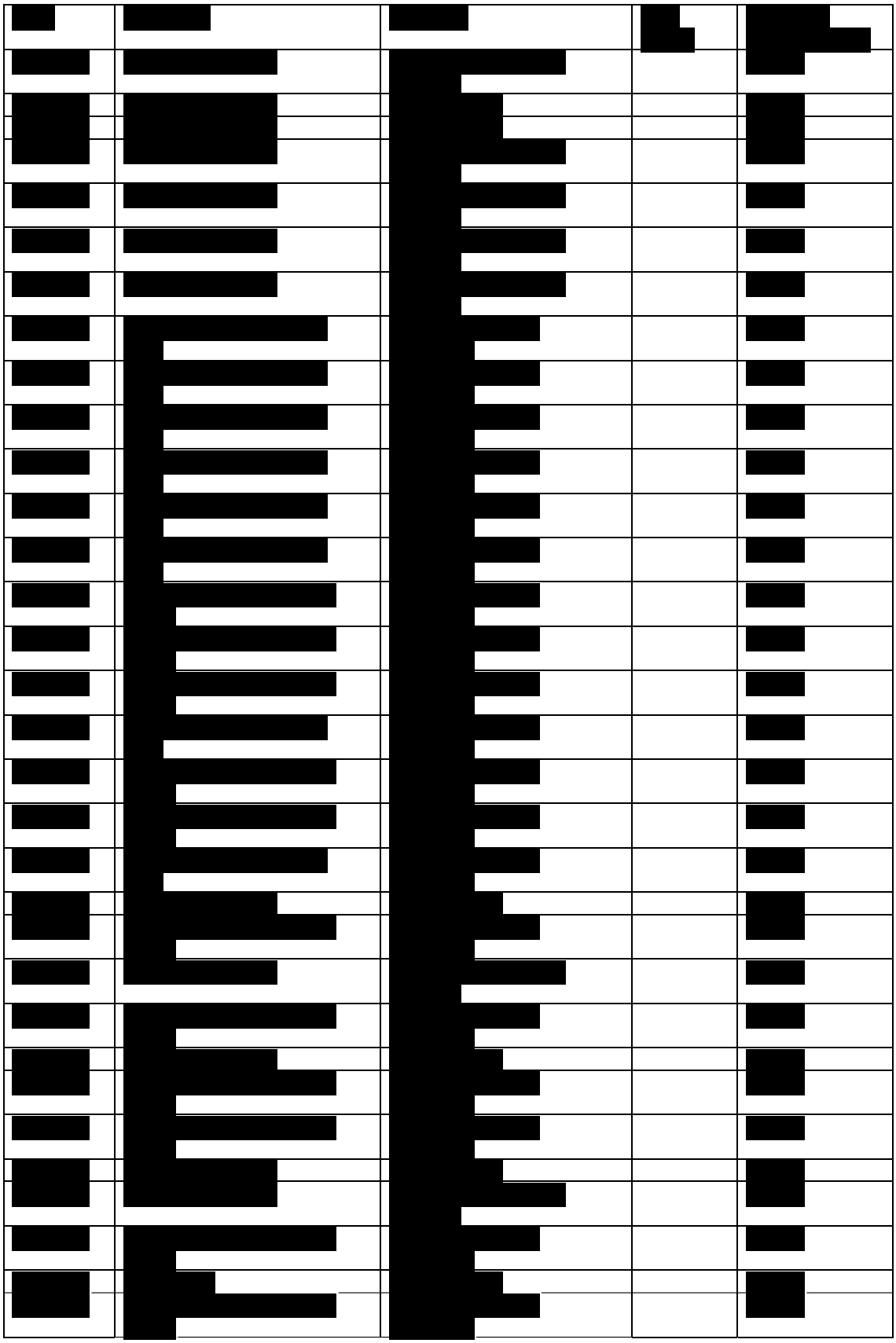

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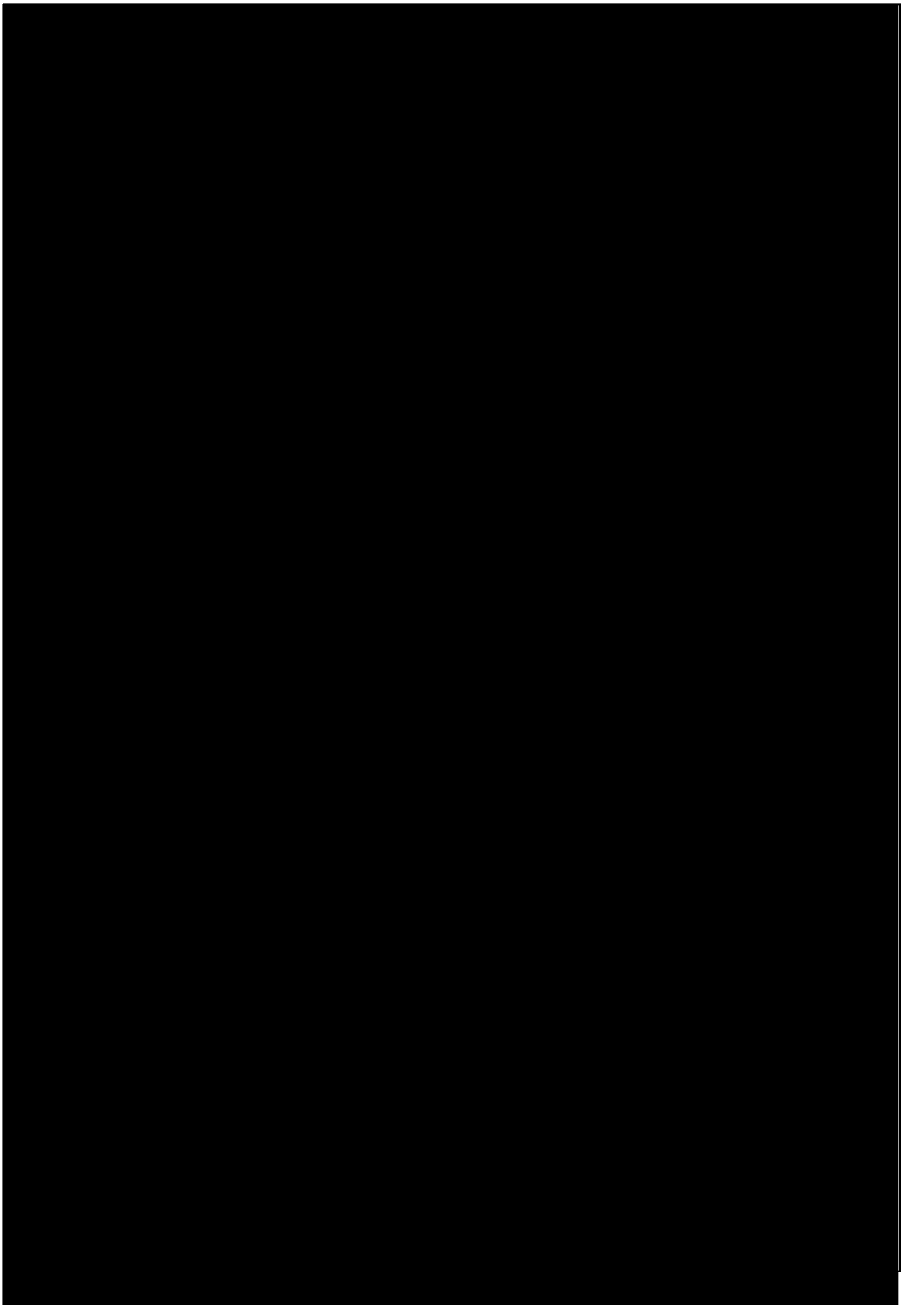

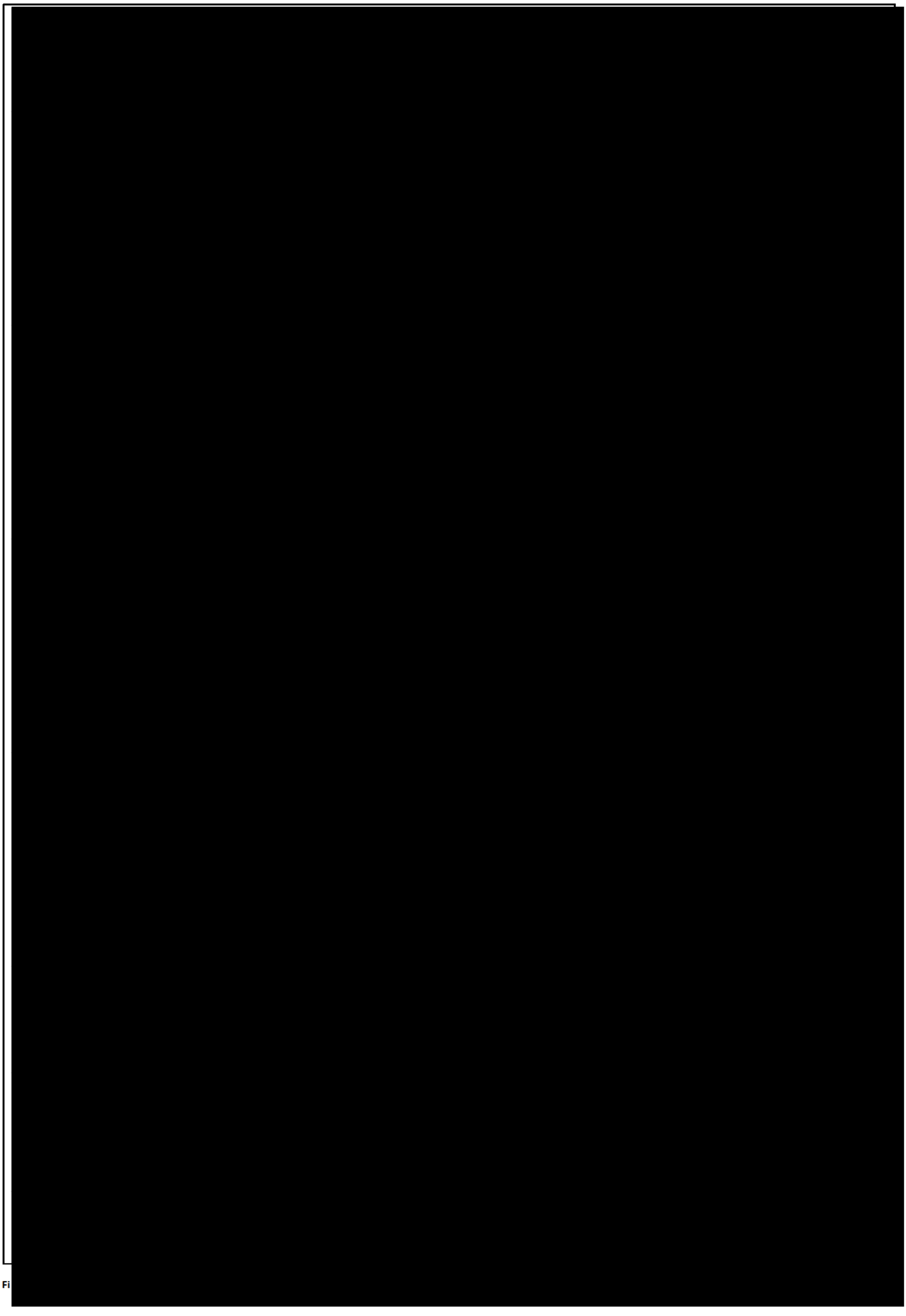

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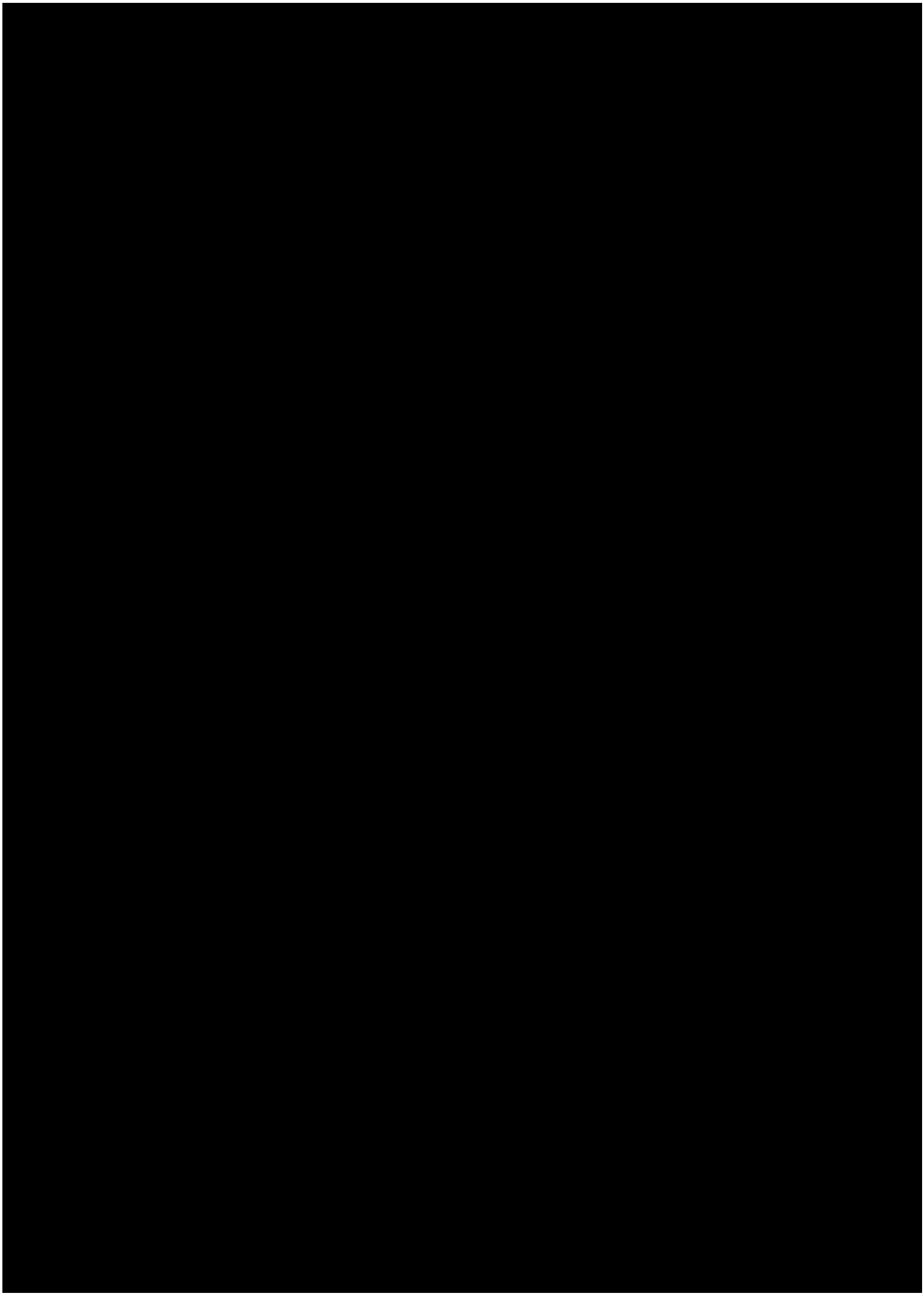

5.1.6 Desktop assessment conclusions

The following key points can be made as a result of the desktop assessment:

- The activity area is situated within Western Uplands, Dissected Uplands;
- The activity area is located within the traditional *Wathaurung* country;
- There are four previously registered Aboriginal places within the activity area, VAHR 7722-0597, VAHR 7722-0598, VAHR 7722-0599 and VAHR 7722-0600 (these are all registered as artefact scatters but three of these Aboriginal places, VAHR 7722--0598, VAHR 7722-0599 and VAHR 7722-0600 would meet the current definition of LDAD), which are situated on agricultural land adjacent to the Werribee River;
- There are 71 registered Aboriginal cultural places located within the geographic region with the most common being artefact scatters, as well as smaller quantities of scarred trees, artefact scatter/object collections, LDADs, object collections, stone features (grinding grooves), and one historical reference.
- Many of these previously registered places have been identified in association with water sources in the region, including the Werribee River, and Moorabool River East Branch and its tributaries.
- The results of previous archaeological investigations indicate that elevated landforms, including low rises and landforms associated with major water sources such as escarpments were more likely to contain Aboriginal cultural heritage.
- Previous and current land uses including agricultural and rural activities such as ploughing have impacted on and disturbed Aboriginal cultural heritage within the activity area and geographic region.

Based on the above conclusions, it is possible that Aboriginal cultural heritage exists within the activity area, most likely as Aboriginal stone artefacts dispersed, both on the surface and in the subsurface deposits.

As it is possible that Aboriginal heritage occurs within the activity area, a standard assessment (field survey) will be undertaken to explore the presence, nature, extent, and significance of any potential Aboriginal heritage within the activity area.

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