Greater Penrith to Eastern Creek (GPEC) Investigation Area

Desktop Aboriginal cultural heritage assessment

Prepared for Department of Planning, Industry and Environment
June 2021

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T 07 3648 1200

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Perth WA 6000
T 02 9339 3184

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PO Box 9148
Deakin ACT 2600

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EMM Sydney
Ground floor, 20 Chandos Street
St Leonards NSW 2065

T 02 9493 9500
E info@emmconsulting.com.au

www.emmconsulting.com.au

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Report Number

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Client

Department of Planning, Industry and Environment

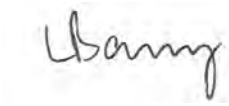
Date

30 June 2021

Version

v1 Final

Prepared by



Laressa Barry
Senior Archaeologist
30 June 2021

Approved by

Dr Alan Williams FSA FRSA MAACAI
National Technical Leader, Aboriginal Heritage
30 June 2021

Executive Summary

The Greater Penrith to Eastern Creek (GPEC) Growth Investigation Area has been identified as a key area for future development in the *Greater Sydney Region Plan 2018* (GSRP), the *Western City District Plan 2018* (WCDP) and the *Central City District Plan 2018* (CCDP). The NSW Government is therefore leading the preparation of a Place Strategy for the GPEC area, to guide future strategic planning on a regional scale by identifying areas for change. The GPEC Place Strategy will build upon significant work undertaken as part of Penrith and Blacktown Councils' Local Strategic Planning Statements, NSW Government's Place-based Infrastructure Compact (PIC) and other strategic planning documents.

To inform the Place Strategy, the Department of Planning, Industry and Environment (DPIE) is seeking an improved understanding of the Aboriginal archaeological and cultural heritage resource that is present across the GPEC area. EMM Consulting Pty Ltd (EMM) has been engaged by DPIE to prepare a desktop-based Aboriginal cultural heritage assessment (ACHA) for the GPEC area, with Aboriginal community consultation constrained to two brief cultural workshops to provide a high-level overview of the cultural values of the place.

As part of this report, EMM undertook a detailed review of the existing environmental data, liaised with key Aboriginal community knowledge-holders, reviewed an extensive list of previous academic papers and available grey literature reports on the archaeology of the region, and interrogated primary and secondary resources including explorers and colonial diaries, recollections of Aboriginal people and thematic histories of the region. Based on the environmental, historical and archaeological research undertaken for this project, and based on brief consultation with key knowledge holders of the local Aboriginal community, parts of the GPEC area have important archaeological and cultural value. These values are integral to understanding the archaeological and cultural significance of the landscape. Therefore, consideration of these important values should be at the forefront of any decision-making process with regards to future strategic planning of the GPEC area.

The NSW National Parks & Wildlife Act 1974 provides blanket protection for all Aboriginal AHIMS sites, objects and registered Aboriginal Places whether they have been previously identified or not. Any future development activities are obligated to ensure that suitable investigation of the archaeological and cultural values of a given area are appropriately identified, assessed and managed in accordance with Heritage NSW guidelines and procedures. Adequate consultation with local Aboriginal knowledge holders may also be required to ensure that the area's cultural values are given due consideration in development and planning decision making.

Based on the above, the following guiding principles have been developed for incorporation into the Place Strategy and future planning activities:

- Future development activities in Cranebrook terrace formation areas should be minimised and/or constrained to shallow activities (<4 m) to ensure the conservation of these significant deep-time deposits. Where development is proposed, suitable investigation of the archaeological deposit must be recommended.

- Major river corridors should be maximised in planning designs, and maintained as natural bushland environments, rather than modified drainage channels. Improved access to these corridors is recommended following consultation with Aboriginal community knowledge holders. Further investigation of any proposed development activities <300 m of these corridors must be recommended.

- Main road corridors identified as Aboriginal tracks or pathways should be maintained in their current alignments, with future planning and design considering interpretive opportunities that could be applied to these important past corridors.

- Planning and development design should seek to maintain any major view-lines and/or viewsheds to ridgelines and elevated areas, including elevations in the southwest around the Northern Road (and to a lesser extent, Mulgoa Road), and extending beyond the investigation area.

- Post-contact places identified within or near the GPEC area must be maintained in their current form, and any development activities in their vicinity must ensure suitable heritage consideration, as well as Aboriginal consultation on their potential cultural impacts, prior to implementation.

- A formal interpretation strategy for the GPEC area or subsequent development precincts is recommended to ensure these ideas and concepts can be explored and suitably integrated.

- Further Aboriginal consultation is recommended to identify and understand specific elements and/or locations of value within or near the GPEC area relating to areas and places of contemporary value to Aboriginal community knowledge holders. This is to ensure suitable integration into future development design.

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1 Introduction

1.1 Overview

The Greater Penrith to Eastern Creek (GPEC) Growth Investigation Area (Plate 1.1) has been identified as a key area for future development in the *Greater Sydney Region Plan 2018* (GSRP), the *Western City District Plan 2018* (WCDP) and the *Central City District Plan 2018* (CCDP). The NSW Government is therefore leading the preparation of a Place Strategy for the GPEC area, to guide future strategic planning on a regional scale by identifying areas for change. The GPEC Place Strategy will build upon significant work undertaken as part of Penrith and Blacktown Councils' Local Strategic Planning Statements, NSW Government's Place-based Infrastructure Compact (PIC) and other strategic planning documents.

To inform the Place Strategy, the Department of Planning, Industry and Environment (DPIE) is seeking an improved understanding of the Aboriginal archaeological and cultural heritage resource that is present across the GPEC area. EMM Consulting Pty Ltd (EMM) has been engaged by DPIE to prepare a desktop-based Aboriginal cultural heritage assessment (ACHA) for the GPEC area, with Aboriginal community consultation constrained to two brief cultural workshops to provide a high-level overview of the cultural values of the place. The report presents a detailed review of the available environmental, ethnographic, archaeological and cultural information of the region, and of the impact that urbanisation has had on the investigation area. It identifies areas of high archaeological and cultural value, as well as gaps in our existing knowledge of where future work is required, and sets out clear recommendations for the integration of Aboriginal heritage constraints and opportunities into the Place Strategy – including areas to be retained for conservation, areas where development may occur, and future on-site heritage assessment requirements.

The principal objectives of the report are to:

- identify and document Aboriginal cultural heritage places and landscapes within the GPEC area;
- identify prospective conservation areas based on their heritage values;
- consult with Aboriginal stakeholder communities; and
- provide foundational information for future studies in the event that approvals under the National Parks and Wildlife Act 1974 (NPW Act) are required.

These aims were achieved through the following tasks:

- liaison and consultation with key local Aboriginal community knowledge holders, to identify Aboriginal cultural heritage places and landscapes within or in the vicinity of the GPEC area;
- compilation of existing environmental, historical and archaeological information for the GPEC area, by identifying and summarising known and previously recorded Aboriginal heritage places, cultural values areas and landforms of archaeological interest;
- documentation, where possible, of the levels of past disturbance and urbanisation, to inform the survivability of cultural materials within the GPEC area;
- undertaking a brief site familiarisation of the GPEC investigation area;
- mapping of the locations of known and potential Aboriginal sites, objects and deposits and cultural values areas identified; and

- assessing and identifying heritage constraints and opportunities to inform the Place Strategy, including prospective conservation areas based on their heritage values, and identify any gaps in our understanding of the archaeological and cultural resource.

1.2 Study area

The GPEC area comprises 19,200 hectares (Figure 1.1) and incorporates fourteen smaller precincts, broken down specifically into the Australian Defence, Cranebrook, Jordan Springs, Kingswood and Werrington, Luxford, Mount Druitt Centre and Rooty Hill, Orchard Hills, Penrith Centre, Penrith Lakes, Penrith West, Ropes Crossing, South Penrith and Glenmore Park, St Clair and St Marys precincts (Figure 1.2). It is bounded by the Nepean River and The Northern Road to the west, Castlereagh Connection to the north, the M7 Motorway to the east and the Warragamba to Prospect water pipeline to the south. It sits within the Blacktown and Penrith Local Government Areas (LGAs), and falls within the administrative boundaries of the Deerubbin Local Aboriginal Land Council (LALC). The GPEC area spans six Parish areas, including Castlereagh, Londonderry, Rooty Hill, Mulgoa, Claremont and Melville. The GPEC area is part of the wider Metropolitan Cluster which includes Western Sydney Aerotropolis, Liverpool and Campbelltown-Macarthur.

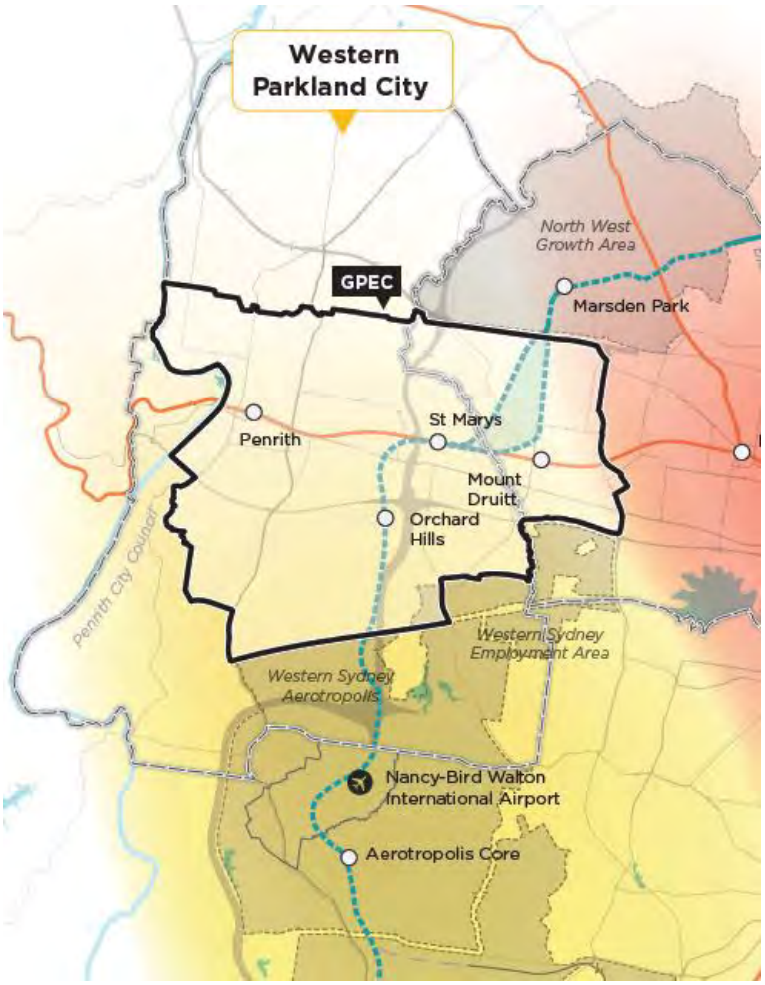
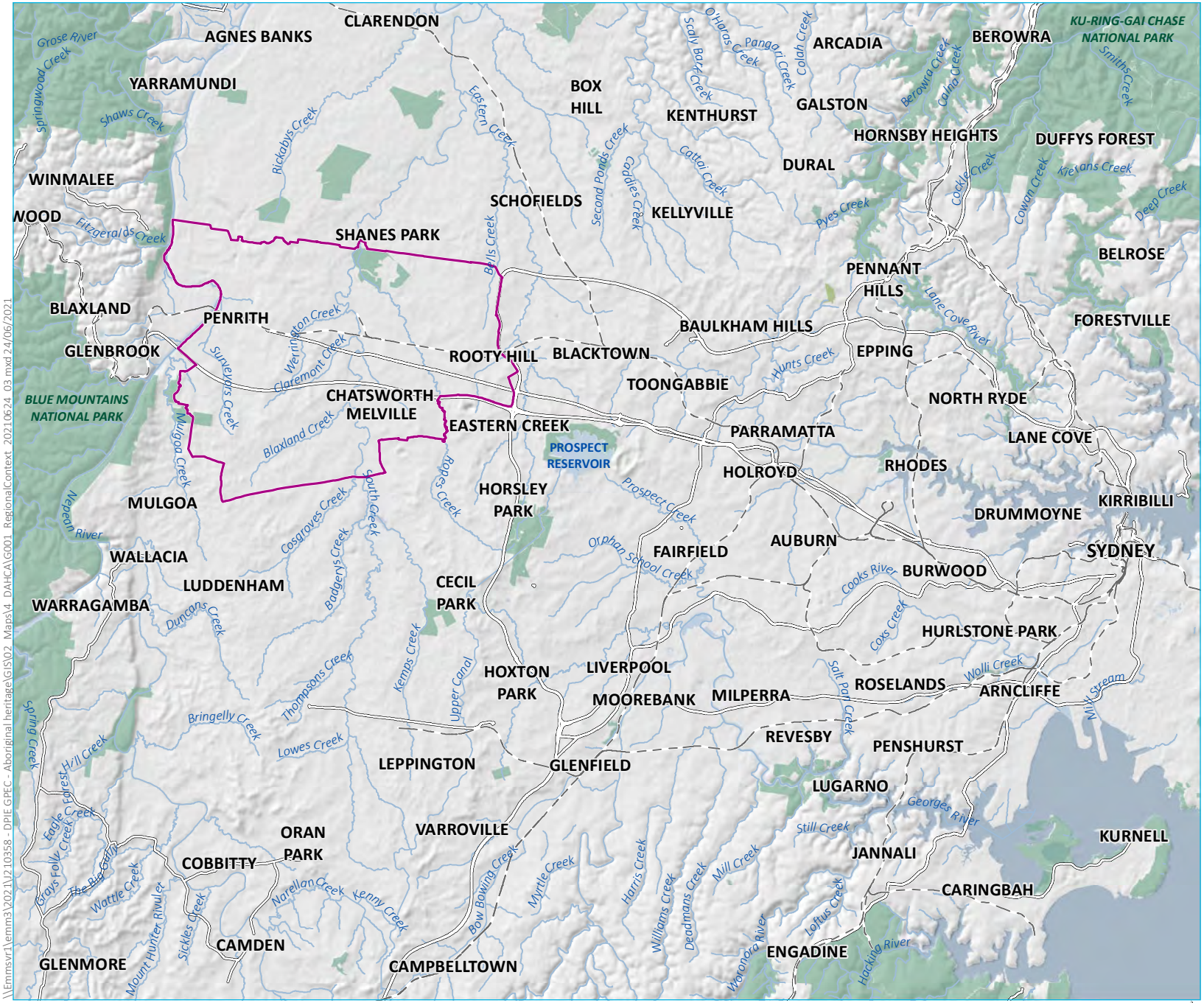
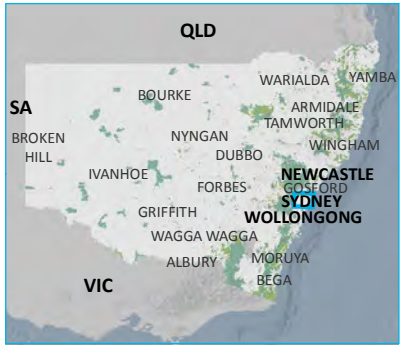


Plate 1.1 The GPEC area, within the Western Parkland City zone (Source: DPIE 2021).





KEY

- Greater Penrith to Eastern Creek (GPEC) project
- Rail line
- Major road
- Named watercourse
- Named waterbody
- NPWS reserve
- State forest

Source: EMM (2021); DFSI (2017); GA (2011); ASGC (2006)

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Regional context

Greater Penrith to Eastern Creek (GPEC)
Desktop Aboriginal cultural heritage assessment
Figure 1.1

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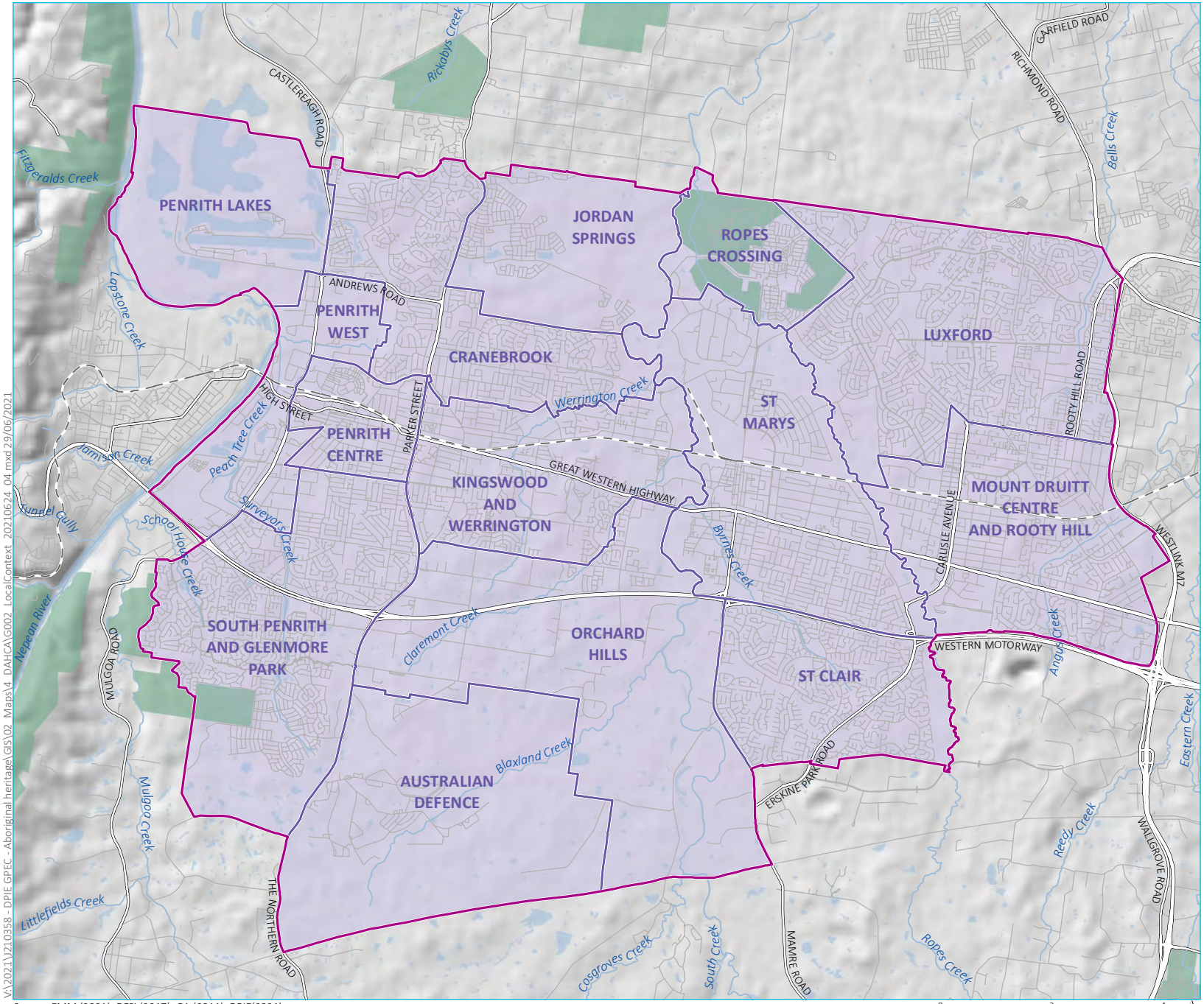

KEY

- Greater Penrith to Eastern Creek (GPEC) project
- GPEC precincts

Existing environment

- Rail line
- Major road
- Minor road
- Watercourse
- Waterbody
- NPWS reserve

Source: EMM (2021); DFSI (2017); GA (2011); DPIE(2021)

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Precincts within the GPEC investigation area

Greater Penrith to Eastern Creek (GPEC)
Desktop Aboriginal cultural heritage assessment
Figure 1.2

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2 Environmental context

Understanding environmental context assists with predictions of archaeological potential, such as the likelihood of archaeological material being present in the landscape, its spatial distribution and its preservation. Landscape features were an important factor for the choice of camping and transitory and ceremonial areas used by Aboriginal people. Similarly, these landscape features and historical land-use plays a role in the level of preservation and the integrity of archaeological sites.

A landscape consisting of suitable topography, hydrology, geology and soils has strong links with natural resources that would have been available to, and sought after, by Aboriginal people. Flora and fauna would have provided food, tools and ceremony (culturally modified trees); proximity to fresh water was necessary for life and growing crops, as well as gathering fish and eels. Landscape features, such as sandstone overhangs, were useful for shelter; stone artefacts were manufactured from raw stone material that was collected from quarry sites; and stone arrangements relied on the landscape.

2.1 The GPEC area

The GPEC area is located on the western edge of the Cumberland Plain, a vast and generally flat to gently undulating physiographic region bounded by steeply dissected sandstone plateaux to the north, west and south. The GPEC area is underlain by sediments that were laid down in the late Permian-Middle Triassic age (~275 to 237 million years ago [Mya]). The parent material is dominated by sediments of the Wianamatta Group, which includes Hawkesbury Sandstone, Ashfield Shale, Bringelly Shale and Minchinbury Sandstone. The Cumberland Plain began subsiding early in the Cenozoic period (~66 Mya) while the neighbouring areas were uplifting, and over this period the Penrith Basin acted as the focus of drainage across the Cumberland region. This resulted in the gradual accumulation of complex but interrupted alluvial sediments along large, braided rivers of the region; spanning from the Jurassic period to the present day (Gale 2019, p.299; NPWS 2003, p.186).

The geological formations that underlie the GPEC area are important from an archaeological perspective since they are (a), typically of great antiquity, and/or (b) contain gravels and rock outcrops that were favoured for the manufacture of stone implements by local Aboriginal people (Figure 2.1). Those of note include the 'deep-time' deposits of the Cranebrook Formation and Quaternary alluvium along the Hawkesbury-Nepean River and major watercourses (South, Ropes, Eastern, Bells Creek) in the region, as well as the Rickabys Creek Gravel, St Marys Formation and volcanic diatremes dotted throughout the landscape (eg Clark and Jones 1991; Gobert 1978; Mitchell 2010; Smith 1979; 1995; 1996; Walker & Hawkins 1957; Walker 1960; Walker & Coventry 1976). These geological formations and landscape factors also hint at the types of Aboriginal sites that are likely to be preserved in the GPEC area - suggesting a pre-dominance of open artefact scatter sites and isolated finds and a low likelihood for the identification of rock shelters, pigmented or engraved art sites and grinding grooves owing to a lack of outcropping sandstone.

The Cranebrook Formation is a significant sand body or terrace on the banks of the Nepean River with a complex geomorphological history spanning the last 110 ka (thousand years). Importantly, it demonstrates that only part of the terrace – the Richmond Unit – has the potential for archaeological material to be present. The Richmond Unit is a ~20 m deep sedimentological body composed of a basal gravel bed, overlain by a sandy clay overburden, dating to ~40-50 ka and ~15-20 ka, respectively (Stockton & Nanson 2004; Mitchell 2010), with all other parts of the terrace >50 ka and generally beyond the accepted colonisation age of Australia (O'Connell & Allen 2015) (Plate 2.1). Based on past mapping of the formation and recent archaeological findings, the Richmond Unit is considered to extend between Castlereagh (in the north) and Mulgoa (in the south) – effectively a ~20k m stretch of the river. The Richmond Unit at Cranebrook is generally found only a few hundred metres from the river's edge, whereas at Penrith, the deposit extends to at least 800 m from the Nepean River (Walker & Hawkins 1957; Williams et al. 2017). The Richmond unit of the Cranebrook Terrace has been described variously as a "sandy-clay orange and orange

mottled overburden", a "sandy clay" and a "brown (7.5YR 4/3) or dark brown (10YR 3/4) silty clay loam to fine sandy loam that is often bedded at depth" (Nanson et al. 1987, p.72; Stockton & Nanson 2004; Mitchell 2010).

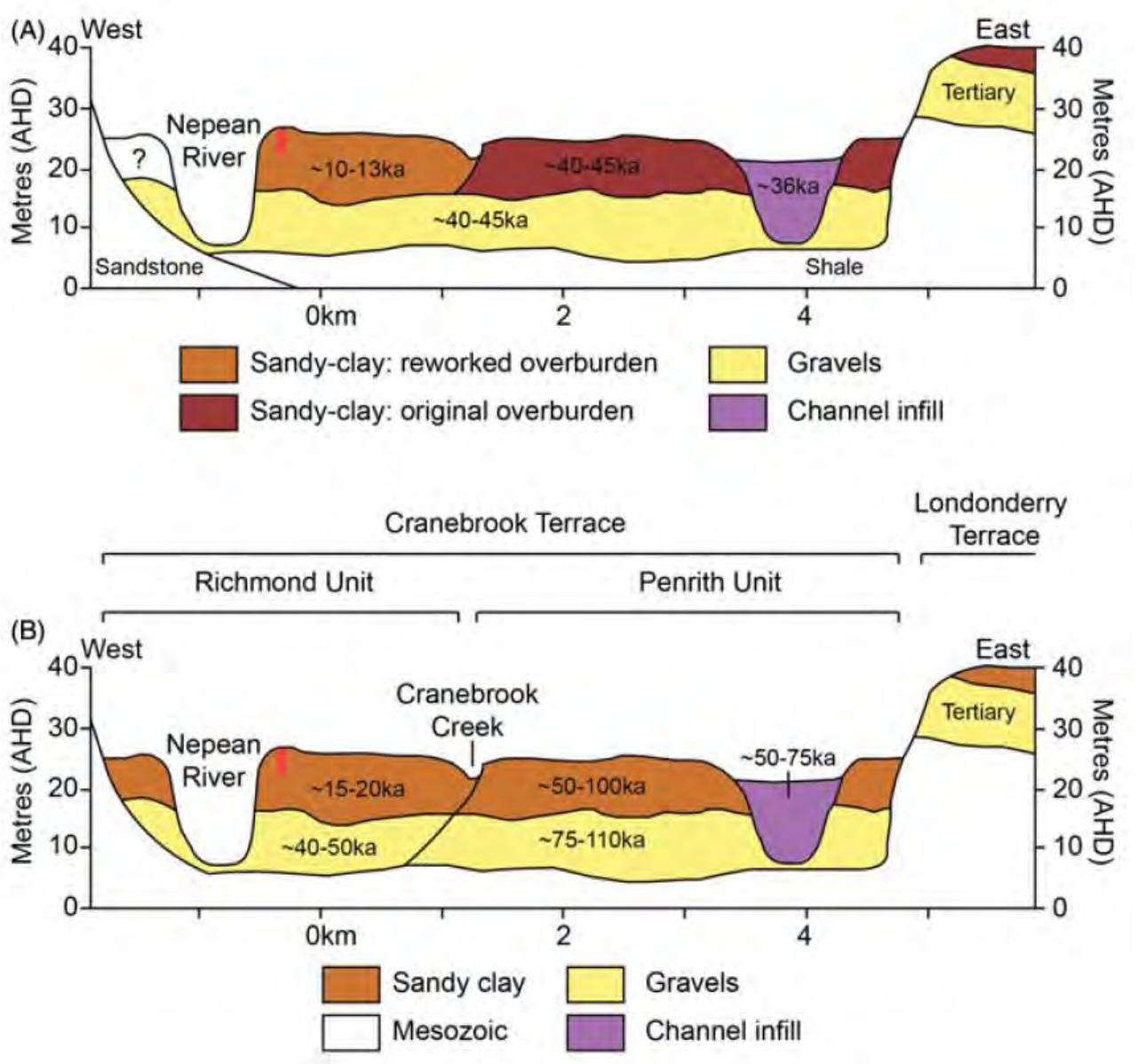


Plate 2.1 **(A) A cross-section of the sedimentary units of the Cranebrook Terrace as they were understood in the late 1980s (adapted from Nanson et al. 1987); and (B) the same cross-section following two decades of research in the region (adapted from Stockton and Nanson 2004). Recent understanding indicates that only the Richmond Unit has the potential to contain archaeological material (Williams et al. 2017).**

The active floodplain of the region's drainage networks also has a complex formation history beginning in the Quaternary period (~2.5Mya-present) and can potentially contain archaeological deposits of both Holocene (<10 ka) and Pleistocene (>10 ka) age (Figure 2.2). These deposits are found along the margins of South Creek, Ropes Creek Eastern Creek and Bells Creek and their tributaries, and are made up of fine-grained sand, silt and clay (Clark and Jones 1991; Bannerman and Hazelton 1990). Elevated terrace and levee landforms above the flood extent of these rivers have been demonstrated to contain deep (~90 cm) deposits formed in the Last Glacial Maximum

(approximately 26,000 years ago) and containing up to 50 cm of stratified archaeological material that is indicative of the exploitation of resources and occupation of these resource zones betweek~16-5 ka, and between ~5-0.3 ka (JMCHM 2002; 2005; AHMS 2016b; Extent Heritage 2020).

Scattered across the GPEC area are several small outcrops of river gravels formed during the Miocene and Oligocene period (~34-5 Mya), as well as older Jurassic (200-145 Mya) volcanics. These outcrops were routinely used in the manufacture of flaked stone tools by Aboriginal people. Rickabys Creek gravels are associated with a relict Pliocene (5-2 Mya) terrace marking a former course of the Hawkesbury-Nepean River and commonly contain quartzite, vein quartz, indurated mudstone, porphyry and hornfels. St Marys Formation gravels are irregularly distributed along ridgelines, and contain red or yellow silcrete, silicified wood, quartzite and quartz. The geological site type for the St Mary formation is located at St Marys Railway station, though outcrops are known to occur along the Mulgoa Creek valley, along South Creek and Eastern Creek at St Marys, Ropes Crossing and Riverstone, and at Plumpton Ridge near the confluence of Eastern and Bells Creek. Plumpton Ridge was initially identified as a silcrete quarry by James Kohen in 1980 and was subsequently found to have been extensively exploited by Aboriginal people as a raw material source for stone artefact manufacture, but that only a fraction of the deposit remains post twentieth-century development (Doelman et al. 2015; JMCHM 2006, p.125).

Topographically, the GPEC area is characterised by level to gently undulating topography with a series of low, broad ridges and spurs and alternating river valleys that run in a broadly north-south alignment (Figure 2.3). The local relief is up to 120m, and slope gradients range from 5-20%. Few ridgelines of note occur in the southern half of the GPEC area. This includes a broad ridgeline along the approximate alignment of The Northern Road and into Orchard Hills, and a second broad ridgeline along Mulgoa Road (that is largely outside of the GPEC area).

2.1.1 Previous development and urbanisation

At a broad regional level, the GPEC area has been subjected to varying levels of historical development since 1803. Early explorers described the virgin landscape as being “thickly forested” with little to no undergrowth and also noted the presence of “freshwater lagoons and wetlands” edging the Nepean River (Proudfoot 1990, p.4; Tench 1793). The first European settlers in the region were emancipists, veteran soldiers and free settlers, who were granted large allotments running in parallel lines from the Nepean River and later, along South Creek. Typically, land grants of this time required that at least a proportion of each grant was cleared and planted with crops, or improved with structures, and thus widescale clearing of these properties began. Settlement was focussed on these alluvial banks because the adjacent land was considered unsuitable for cultivation and became quickly infertile once ploughed and cropped (Proudfoot 1990, p.5).

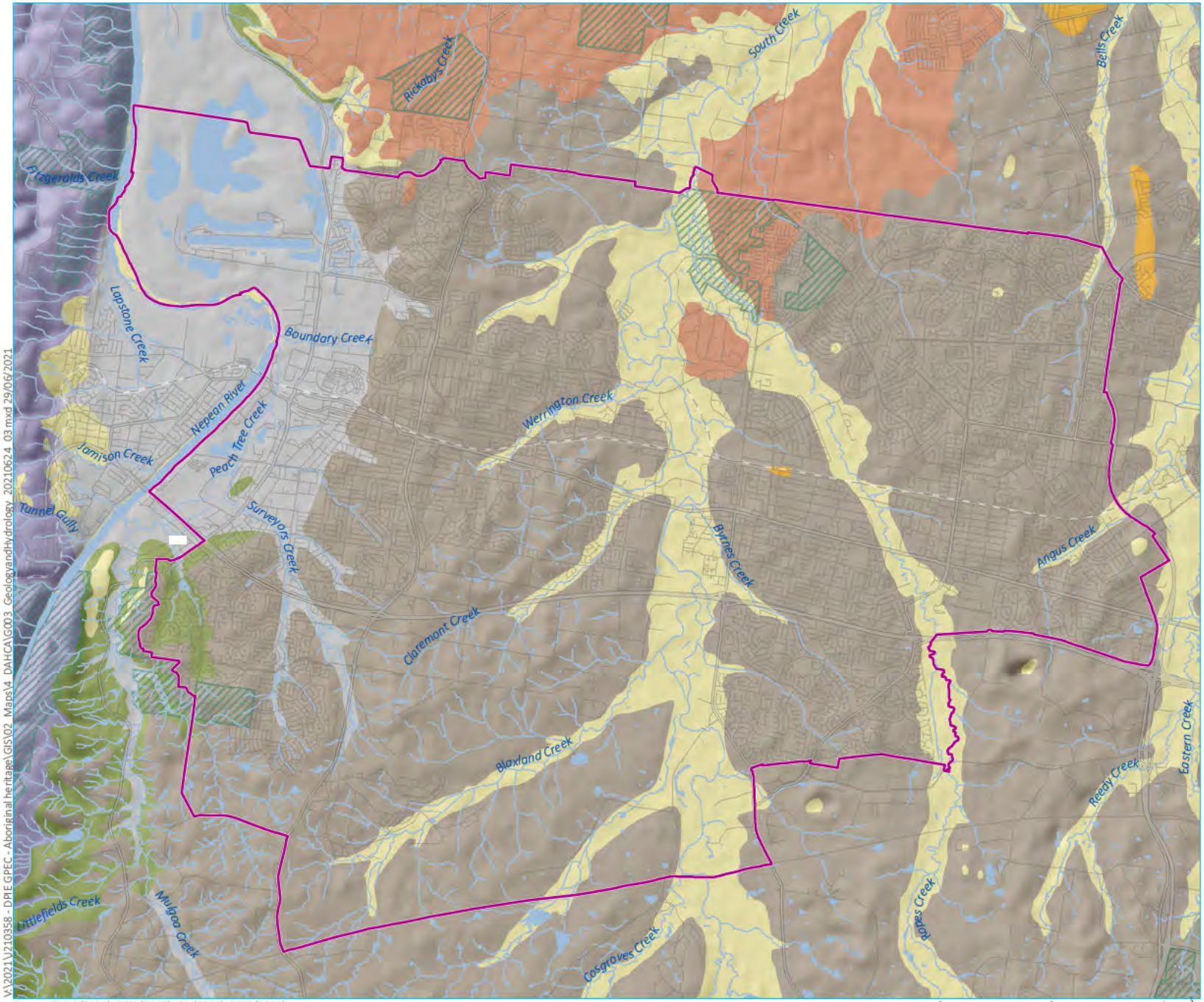
At a broad scale, the regional character of the GPEC area in the first half of the 19th Century was dominated by large rural and pastoral estates with timber slab huts and cottages, and small-scale farms fanning out along the region’s permanent and ephemeral watercourses. Common activities included cropping for wheat, maize, oats and barley, as well as dairying, orcharding and grazing cattle, sheep, goats and pigs. The establishment of the Main Western Road from Parramatta westwards over the Blue Mountains shortly after 1814 brought about an exponential increase in travel through the region; and it was here that the small township of Penrith was established to service travellers with inns, public houses, shops, and other government facilities (Godden Mackay Logan 2010, p.17). Some of the larger land grants, especially “Colyton” along Ropes Creek, were subdivided and offered for sale from as early as the 1840s. However, speculative development of the GPEC area excelled between the 1860s and 1890s with the coming of the Main Western Railway and the establishment of railway stations at Rooty Hill (1861), South Creek/St Marys (1862), Penrith (1863), Parkes/Werrington (1878), Mt Druitt (1881), and Kingswood (1887). Development accelerated again in the pre-war and post-war period.

A review of aerial photographs of the GPEC area dating from 1943 CE to the present show how extensively the landscape has been cleared of native vegetation for cropland and agricultural pursuits, leaving only narrow riparian corridors along the Nepean River, South Creek, Ropes Creek, Werrington Creek and Blaxland Creek. Much of

Orchard Hills and Mulgoa, and parts of Claremont Meadows and Jamisontown have been heavily ploughed to facilitate cropping and market gardening up until the present day. In Castlereagh, historical mining activities and subsequent works for the Penrith Lakes redevelopment has resulted in significant areas of disturbance (Plate 2.2).

More recent disturbance has included the construction of major roadways, railways and urban and industrial infrastructure; as the area sees a dramatic shift in the predominant land use from rural to urban, with housing and industrial development encroaching into the area at Penrith, St Marys, Mt Druitt and surrounding Kingswood, Jordan Springs and Glenmore Park. Large patches of vegetation appear to have been preserved in three key locales within the GPEC area – notably at Mulgoa Reserve, Wianamatta Regional Park and the Orchard Hills Defence Establishment, though these may reflect areas of regrowth vegetation and may not necessarily reflect undisturbed landscapes. A high-level overview of residential and industrial development in the GPEC area suggests that up to 61% of the area, or 118 km^2, has been subjected to past historical development, are likely disturbed, and may have limited potential to retain cultural material or archaeological deposits (Figure 2.4).

Plate 2.2 **Flat featureless landscape to the west of the Penrith International Regatta Centre, containing Cranebrook terrace alluvium. The area was mined previously but now features several vast lakes (view northwest).**



KEY

- Greater Penrith to Eastern Creek (GPEC) project

Existing environment

- Rail line
- Major road
- Minor road
- Watercourse
- Waterbody
- NPWS reserve

Regional geology

- Ashfield shale
- Bringelly shale
- Cranebrook formation
- Hawkesbury sandstone
- Londonderry clay
- Minchinbury sandstone
- Quaternary alluvium
- St Marys formation (including Plumpton Ridge)

Source: EMM (2021); DFSI (2017); GA (2011); DPIE (2021)

0 2 4 km

GDA 1994 MGA Zone 56

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Geology and hydrology of the GPEC area

Greater Penrith to Eastern Creek (GPEC)
Desktop Aboriginal cultural heritage assessment
Figure 2.1

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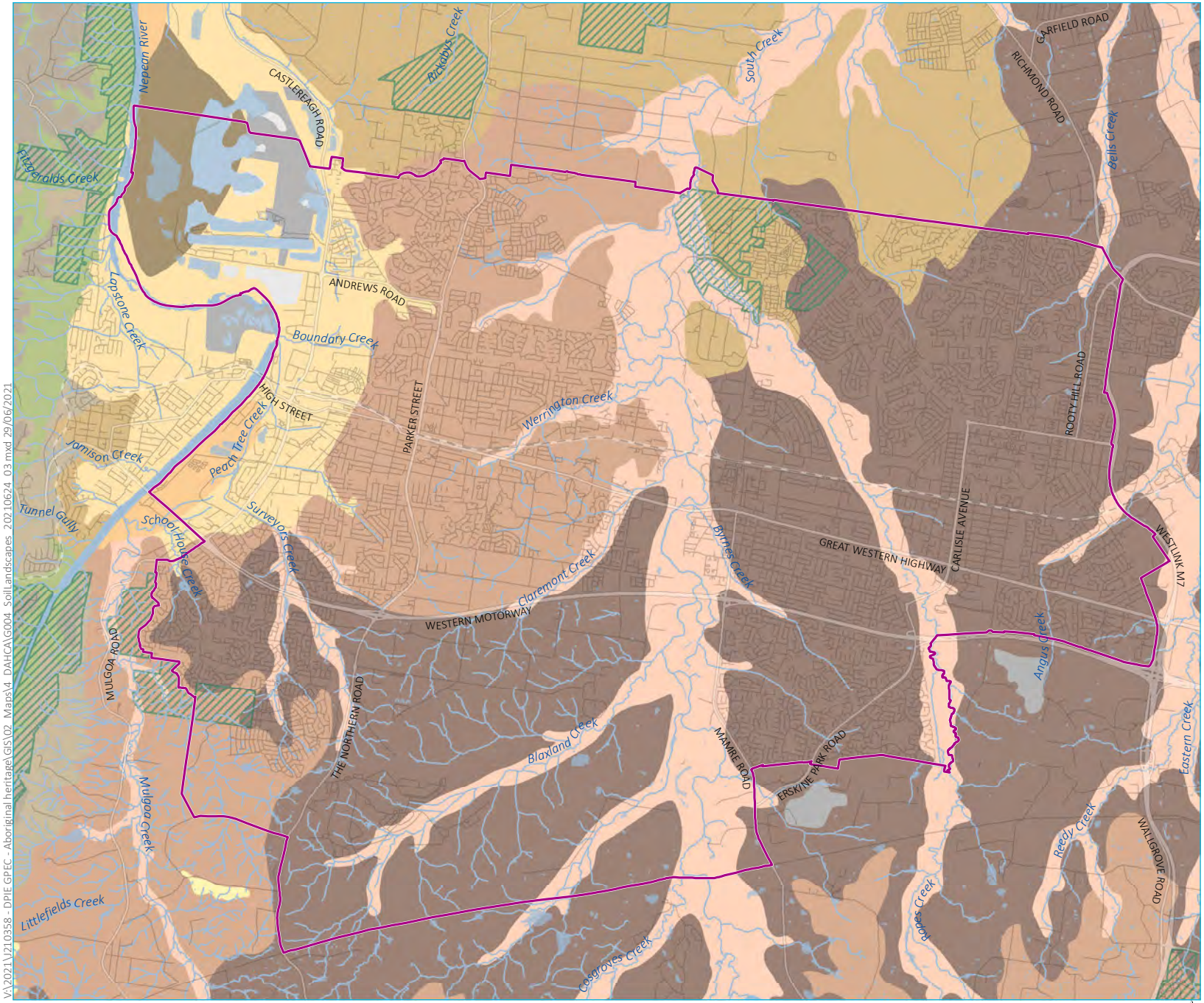

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Source: EMM (2021); DFSI (2017); GA (2011); DECC (2012)

Soil landscapes of the GPEC area

Greater Penrith to Eastern Creek (GPEC)
Desktop Aboriginal cultural heritage assessment
Figure 2.2

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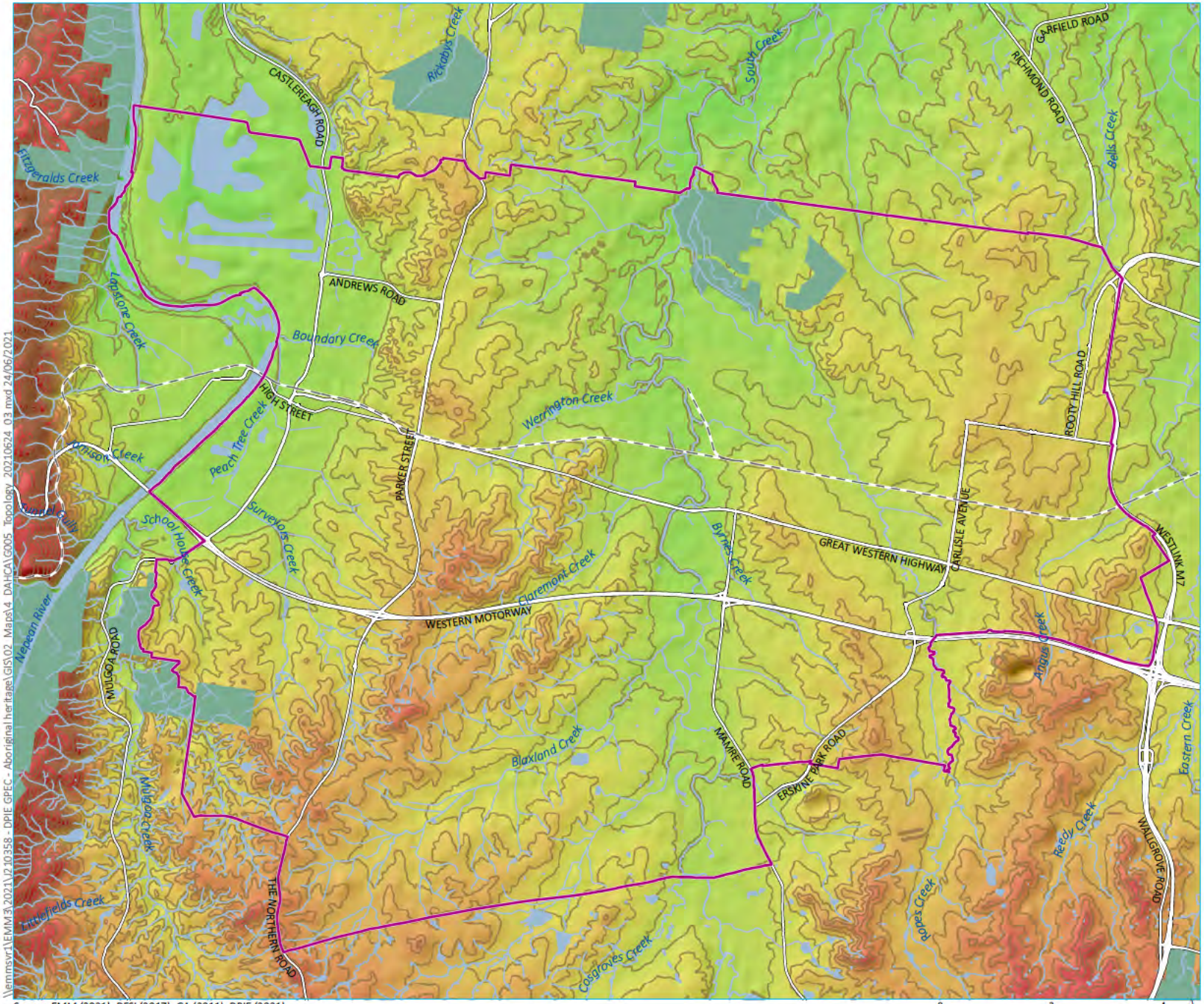

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Source: EMM (2021); DFSI (2017); GA (2011); DPIE (2021)

Topography of the GPEC area

Greater Penrith to Eastern Creek (GPEC)
Desktop Aboriginal cultural heritage assessment
Figure 2.3

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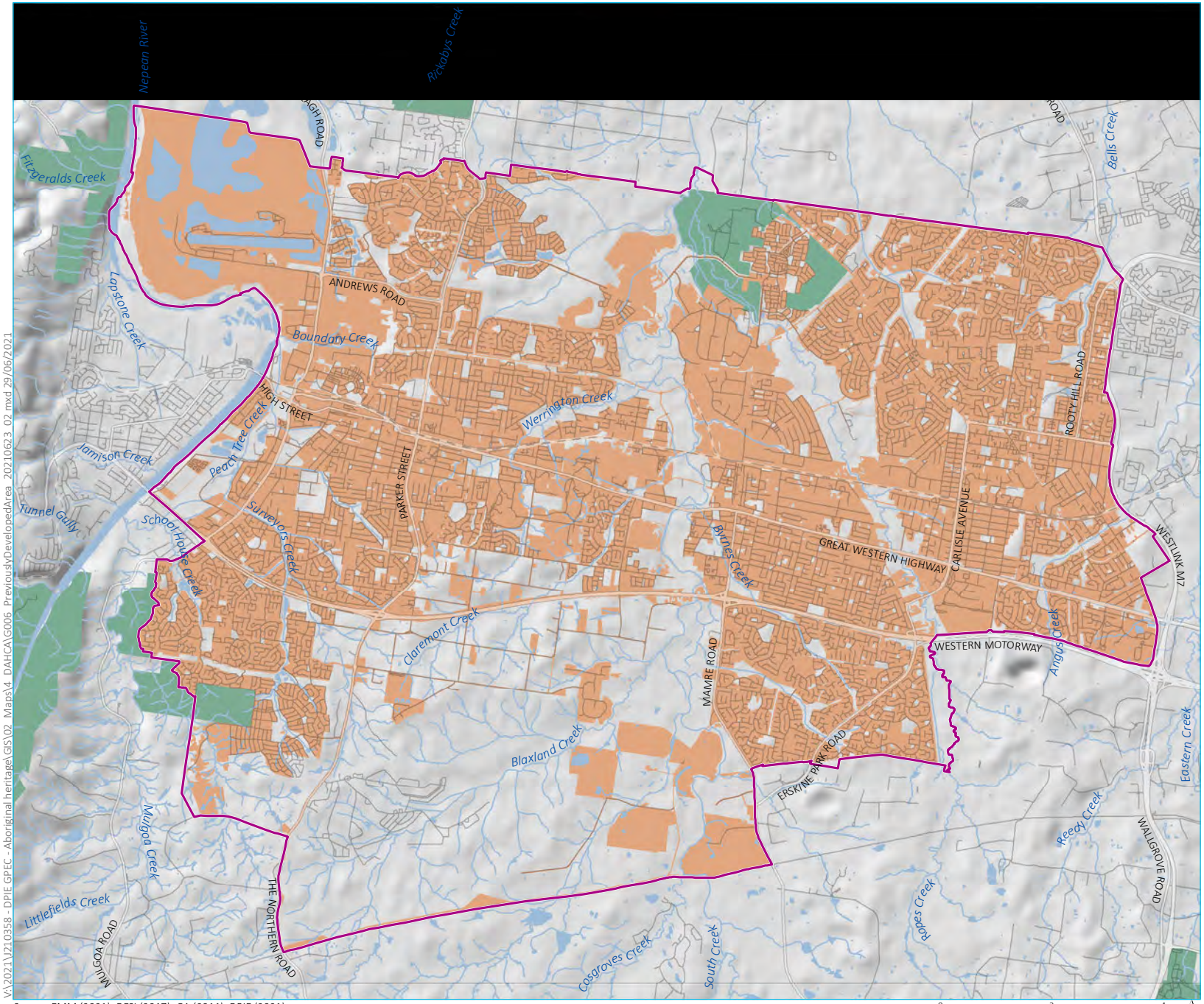

KEY

- Greater Penrith to Eastern Creek (GPEC) project
- Areas subject to historical development, likely disturbed

Existing environment

- Rail line
- Major road
- Minor road
- Watercourse
- Waterbody
- NPWS reserve

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Source: EMM (2021); DFSI (2017); GA (2011); DPIE (2021)

0 2 4 km

GDA 1994 MGA Zone 56

N

Previously developed areas within the GPEC investigation area

Greater Penrith to Eastern Creek (GPEC)
Desktop Aboriginal cultural heritage assessment
Figure 2.4

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3 Archaeological context

Archaeologists examine regional and local trends in the distribution of known sites in relation to environment and topography for the purposes of determining settlement and site location patterns. This provides evidence about the economic and social systems in the past, and also assists archaeologists in predicting likely site types, site locations and the nature of the archaeological resource in any given area.

This section provides a concise summary of the regional and local archaeological context of the GPEC area and a summary of known sites.

3.1 Regional archaeological context

Without discounting that many contemporary Aboriginal cultures note their custodianship of the landscape since time immemorial, from an archaeological perspective the first peopling of Australia by reasonably large groups of hunter-gatherers occurred ~50 ka (Bradshaw et al. 2019; O'Connell et al. 2018). The peopling of the continent was rapid, with sites such as Devil's Lair (WA), Warratyi (SA), and Lake Mungo (NSW) all occupied within a few thousand years of arrival (Bowler et al. 2003; Hamm et al. 2016; Turney et al. 2001). Genomic research has shown that following these initial explorations of the continent, regional populations or nomadic sedentism, was established by ~40 ka (Tobler et al. 2017). These small populations were highly mobile, but remained within a broad spatial geographic area, dictated in general by the nature of resources and water availability. In the case of some of the arid parts of the continent, mobility encompassed thousands of square kilometres (Gould 1977), while major riverine corridors such as the Murray River had near permanent settlements (Pardoe 1993).

In NSW, the earliest evidence of Aboriginal people are human remains recovered from the lunette in Lake Mungo and dating to ~42 ka (Bowler et al. 2003; O'Connell et al. 2018). The presence of red ochre covering the remains representing a society with significant cultural and symbolic complexity (Langley et al. 2011). Near the coastal edge, the earliest populations were found at Cranebrook Terrace, near Penrith. Here a handful of rudimentary stone tools were found in an alluvial unit, some 8 m below the current surface, which were dated to ~40-45 ka (Williams et al. 2017). However, it is not until ~35 ka, that regional populations appear to have become established in the Sydney Basin, and which appeared to consist of small bands of people focussed mainly along major river systems, including the Hawkesbury-Nepean, Parramatta, Georges and Hunter Rivers (Hughes et al. 2014; Williams et al. 2012; 2014). These rivers formed key ecological refuges that hunter-gatherer groups used to survive major climatic events such as the Last Glacial Maximum (21±3 ka) – a cool and arid climatic period. Well-established archaeological models suggest populations experienced a major reduction in size (by as much as 60%), and settlement contraction and abandonment across much of the continent during this time (Veth 1993; Williams et al. 2013). Although, recent research suggests that the story may be more complex than this (eg Tobler et al. 2017).

The terminal Pleistocene and early Holocene (~18-8 ka) was characterized by significant environmental change, notably the rapid inundation of much of the coastal shelf, resulting in the reduction of the continent by ~21% (~2 million km^2) (Williams et al. 2018), in tandem with improving climatic conditions – the Holocene climatic optimum (Williams et al. 2015a; 2015b). More broadly, these conditions resulted in increasing population growth, expansion of ranging territories, increasing sedentism (longer patch residence time) and the beginnings of low-level food production (eg aquaculture), and ultimately the initiation of social and cultural groupings observed in the late Holocene (Williams et al. 2015b). Within the Sydney Basin, a large number of sites are first initiated during this time, including Burrill Lake (~20 ka), Bass Point (~17 ka), and Loggers Shelter in Mangrove Creek (~11 ka) (Bowdler 1970; Lampert 1971; Attenbrow 2004; AMBS 2006, p.87). More broadly, we see a much broader range of archaeological site types occurring, such as the Roonka Flat burial ground on the banks of the Murray River within which some 147 individuals were interred through the Holocene (Pate et al. 1998), and the increasing use of marine resources. Many of the previous refuges were subject to abandonment or a re-structuring of land use (Dortch 1979; Fitzsimmons et al., 2019). These activities suggest the ability to undertake large-scale movements to mitigate environmental

distress was becoming increasingly difficult and was addressed through diversification of hunter-gathering behaviours and, at least in part, technological advances and investment (Williams et al. 2015b).

The late Holocene saw significant population increase, with hunter-gatherers reaching their zenith of ~1.2million at 0.5 ka, a tenfold increase on Pleistocene levels (Williams, 2013). Data suggests that the highest populations during this time were in the southeast of Australia. Williams et al. (2015b) suggest that this increase was likely a result of intensification of earlier technological advancements, including hafting-technology, plant and seed processing, and localised landscape management (using fire), allowing climatic downturns to be successfully weathered. These included strong arid El Nino Southern Oscillation (ENSO) conditions between 4-2 ka, and increasingly turbulent climatic conditions during the Medieval Climatic Anomaly (1.3-1 ka) (generally wetter) and Little Ice Age (0.3-0.5 ka) (generally drier) (Williams et al. 2010; 2015a). A result of these denser populations was decreasing freedom of movement and the formation of strong classificatory kinship systems, complex cultural and symbolic landscapes based on geographic totemism (the 'Dreaming'), distinctive graphic art systems, land rights in the form of ritual property, and formalized exchange networks (Williams et al. 2015a). For the Sydney Basin, these conditions resulted in a significant increase in the archaeological visibility of past Aboriginal populations, with sites occurring in a much wider range of locations, and generally indicative of a more intensive use of the landscape.

3.2 An overview of research in the GPEC area

The western edge of the Cumberland Plain has been subject to extensive archaeological investigation since the 1940s, first as the basis for academic research and more recently for development-focussed compliance-based Cultural Resource Management projects. Despite some perceived gaps in the regional data[1] (Figure 3.1), we have developed a clear understanding of the local archaeological site patterning and general trends of the GPEC area.

Notably, the banks of the Hawkesbury-Nepean River formed a key focus of Aboriginal occupation in the region, and some of the earliest evidence for occupation in the Sydney region is preserved within deep sand deposits of the Cranebrook terrace. This sand unit was first investigated archaeologically by Stockton and Holland (1974) during a quarrying operation at Castlereagh (now, part of the Penrith Lakes area). There, they alluded to the recovery of a 'dozen' core and pebble tools at the base of the terrace in a gravel bed dating to >31,800 Before Present (BP) (Gak-3445), and in stratigraphic association with an embedded wooden log dated to 26,700+1,700/-1,500 BP (35,432–27,767 calibrated BP; Gak-2014). The terrace gained greater archaeological attention when Nanson et al. (1987) re-dated the gravel bed using a large number of radiocarbon and thermo-luminescence samples (n=20), which ultimately indicated deposition of the gravels between ~>40–45ka. However, the artefactual status of the pebbles, their provenance (several were in an eroded context rather than in situ) and the association between the dates (which ranged from 10 to 42ka) and the artefacts have been sources of controversy ever since.

Archaeological investigations also demonstrate that the River was a focus of Aboriginal activity during the LGM, and continued to be utilised throughout the terminal Pleistocene and Holocene periods. Archaeological excavation at Peach Tree Creek in Penrith recovered six artefacts at a depth of 3.5-3.9 m below ground surface dating to 9.4ka (Williams et al. 2017), and excavations of a site at Regentville between Mulgoa Creek and the Nepean River contained artefacts that were dated to 3-12ka (McDonald 1995). Frederick McCarthy (1978) also identified several 'surface workshops' along the banks of the river between Castlereagh and Emu Plains. These were large surface artefact scatters that were dominated by early reduction of pebbles derived from the Hawkesbury River. The sites were dominated by uniface pebble blanks, edge-ground implements, and percussions stones, with minor representations of microliths, and were considered to be of late Holocene age. During these times, people were using the abundant resources of the river, which included the exploitation of exposed alluvial gravel beds for lithic

[1] The spatial data has been supplied by Heritage NSW to EMM in May 2021.Please note that this reflects only those investigations that have been reported to Heritage NSW, and there are likely several other investigations completed that have been omitted from Heritage NSW's database (eg some assessments undertaken under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, and assessments for Critical State Significant Infrastructure (CSSI), State Significant Infrastructure (SSI) and State Significant Development (SSD) projects under Division 4.7 and 5 2 of the NSW *Environmental Planning and Assessment Act 1979*.

raw materials, and the seasonal freshwater flowing out of the Blue Mountains from summer ice melt (Williams et al. 2013).

Plate 3.1 The Hawkesbury-Nepean River and Victoria Bridge at Penrith. The sloping terrace landform to the left of the image is the Cranebrook Formation terrace.

As well as utilising the resources of the Hawkesbury-Nepean River, archaeological investigations have demonstrated that Aboriginal populations focussed on the resources available along the banks of South Creek, Ropes Creek, Bells Creek and Eastern Creek, and that the majority of sites in the region were occupied within the last 5,000 years (Kohen 1986; Smith 1986; McDonald et al. 1994; JMCHM 1999; 2002; 2005; McDonald 2008; White & McDonald 2010; AHMS 2015; Extent Heritage 2020). Overall, proximity to water has been an important factor in Aboriginal site patterning, and that open artefact scatters are larger, more complex and more densely clustered along permanent creek and river lines than ephemeral drainage lines (Kohen 1986). Flood inundation also played a factor in site patterning, with there being a preference for occupation sites being located on slightly elevated terraces and slopes within ~100 m of water, but above the flood zone (Extent Heritage 2020). Building upon several decades of research, Beth White and Jo McDonald (2010, p.29) summarised that:

> Topographic and stream order variables correlate with artefact density and distribution. High artefact density concentrations may have resulted from large number of artefact discard activities and/or from intensive stone flaking. Highest artefact densities occur on terraces and lower slopes associated with 4th and 2nd order streams, especially 50–100 metres from 4th order streams. Upper slopes have sparse discontinuous artefact distributions but artefacts are still found in these landscape settings.

The archaeology of the western Cumberland Plain therefore is characterised by a cultural landscape consisting of foci of activity on slightly elevated terraces along major watercourses, against which a background low density spread of Aboriginal objects found in all undisturbed locations. This background of cultural material is generally in the order of <6/m^2. Areas of extensive occupation or repeated use contained densities >45/m^2 and frequently higher, with densities of >150/m^2 being not uncommon for the largest sites (JMCHM 1999; 2002). The cultural

assemblages recovered from sites in proximity to higher order streams and drainage lines tend to show evidence of both a variety of tool types and repeated occupation over time. Some of these high-density sites show evidence of knapping activities, which occur during the manufacture of stone tools. In contrast, the cultural assemblages from sites near low order drainage lines are less varied (as well as fewer in number) and appear to indicate more transient and casual occupation. However, low-density artefact scatters have been found on the surface of all landforms, including creek banks, creek terraces, flats, elevated spurs, crests ridge tops and lower and upper slopes. These results are indicative of a 'background scatter' of occupation occurring across the region with sporadic areas of intensive or repeat usage.

And finally, our analysis indicates that local availability of stone raw materials is also a key factor in Aboriginal occupation and site distribution within the GPEC area. Silcrete is irregularly distributed along ridgelines within gravel patches that represent paleochannel remnants. Thus, parts of the landscape, dictated by the geological history, were more likely to be targeted for stone procurement. The quality of silcrete differs between and within the sources due to variations in grain-size, degree of silicification, and presence of inclusions/fractures, as well as the destructive influence of bush fires on exposed cobbles, resulting in an overall low abundance of high-quality silcrete across the Cumberland Plain. Furthermore, a rind or chalky weathering cortex on many cobbles means that testing was required to assess the internal raw material quality. The difficulty in locating suitable raw material for artifact manufacture meant that when good silcrete sources were found, they were heavily targeted (Doelman et al. 2015, p. 495). This contextual information provides an essential backdrop in which to understand the archaeology of the Cumberland Plain and broader patterns of landscape use – whereby the Plumpton Ridge, St Marys Formation and Rickabys Creek Gravel outcrops were heavily utilised.

Sites range from a handful of artefacts on disturbed surfaces to buried occupation sites containing hundreds and thousands of artefacts, such as in the Colebee Release Area, former Australian Defence Industries (ADI) site at Jordan Springs/Wianamatta Regional Park, and the Grange residential development west of Bells Creek (JMCHM 1997a; 1997b; 1997c; 2006; 2008; AECOM 2015). The majority of the silcrete is thought to originate from the upper/middle slopes of Plumpton Ridge, and from major boulder and cobble outcrops along the margins of Ropes Creek. At one particular silcrete outcrop (site ADI-57) within the Wianamatta Regional Park, there is extensive evidence that this material was tested and flaked on-site (JMCHM 2006b; 2008). In addition to Aboriginal objects, there is a large quantity of natural silcrete gravels and angular fragments within and adjacent to the GPEC area. Some caution is required in the identification of silcrete artefacts due to the large quantity of naturally occurring silcrete (eg *Histollo Pty Ltd vs Director-General of National Parks and Wildlife Service 1997*). Other raw materials that are present in lesser quantities in artefact assemblages from the vicinity of the GPEC area are silicified tuff, chert, fine-grained volcanic, sandstone, fine grained siliceous, silicified wood and quartzite.

3.2.1 Registered Aboriginal sites (AHIMS database)

The Aboriginal Heritage Information Management System (AHIMS) database is managed by Heritage NSW and includes a location and description of Aboriginal objects and sites recorded through academic research and cultural resource management. DPIE provided a basic summary of the registered AHIMS sites to EMM on 3 May 2021[2]. The data identified registered Aboriginal sites or places registered within the project area; and aids predictions for the frequency and distribution of Aboriginal site types in the broader landscape.

The AHIMS data identified 478 Aboriginal sites within the region. Of these, one site (AHIMS 45-5-4478), a resource and gathering site with artefacts and archaeological potential, has been noted as not a site, likely as a result of further investigation. In addition, AHIMS 45-5-4490 is noted as a duplicate record of AHIMS 45-5-4438. As a result, neither of these sites are included in the discussion below, reducing the number of sites in the discussion to 476 registered sites. These sites are categorised in Table 3.1 and their locations presented in Figure 3.2.

[2] The AHIMS data provided by DPIE included the AHIMS number, site name, and basic site type information only. The data did not include other details such as the status of the site (ie valid, destroyed, or partially destroyed), or information pertaining to authorised impacts (ie AHIP information).

Overwhelmingly, the most common site type represented is stone artefactual sites. Of the 476 registered sites, 91% (n=435) are recorded as artefactual sites. When including other sites that include artefacts recorded, but record other site types as well, this increases to 98% (n=466). While the level of detail in the dataset does not specify the number of artefacts, it can be inferred from the site names that at least 23 (5%) of these sites are isolated or single stone artefacts. Relatively few sites (n=35, 7%) have been registered as featuring potential archaeological deposits (PADs) or indicative of subsurface cultural material; seven sites (1%) are registered as PADs, and 28 artefactual sites (6%) have been registered with PAD. The registered sites in the region also reflect lesser occurrences of rarer site types including stone quarry sites (n=3, 1%) and culturally modified trees (n=1, <1%). In the case of modified trees, the relative absence of these sites is likely related to the early pastoral use of the region, which often was preceded by vegetation clearing. There are two Aboriginal ceremony and Dreaming sites recorded: the Blacktown Native Institution (AHIMS 45-5-0398) and Cranebrook Creek (AHIMS 45-5-0281).

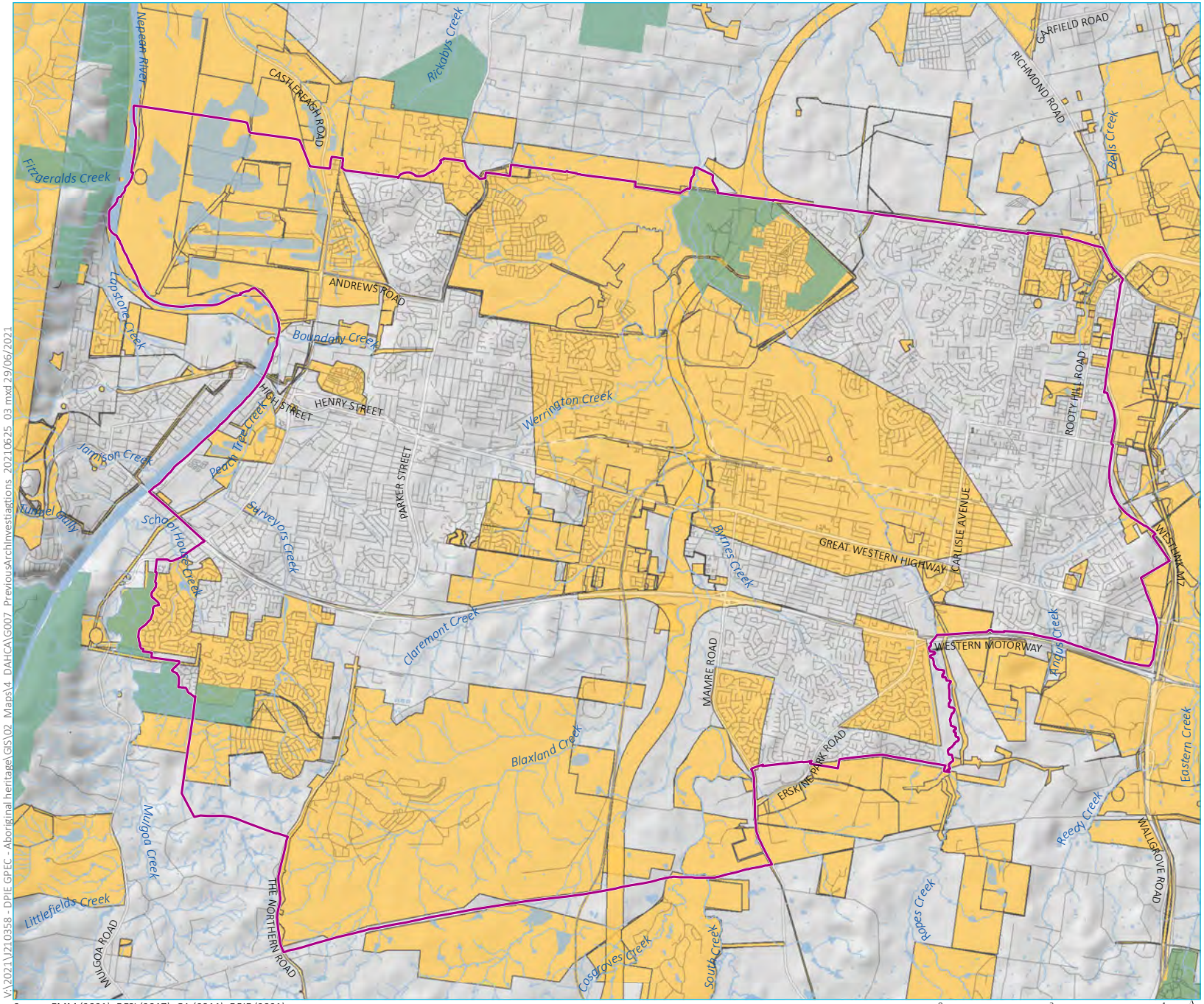
The Blacktown Native Institution is a post-contact site (est. CE1822 – 1829), comprising the site of a former residential school for Aboriginal children (discussed in detail in Section 4). For the Aboriginal community, the site symbolises dispossession, child removal and enduring links to the land. The site is listed on the State Heritage Register (#5051312). Cranebrook Creek, now diverted as a result of the Penrith Lakes Scheme, is both an archaeological significant locale, due to the old and archaeologically rich deposits associated with the waterway, and culturally important as a resource site for water, food and raw materials (discussed in detail in Section 4).

With respect to site distribution, the registered sites in the region appear to reflect primarily compliance-based assessments associated with areas of development. As evident in Figure 3.2, sites tend to cluster on the fringes of residential development hubs (eg Claremont Meadows) and major road infrastructure (eg the M4); and are more sparse in predominantly rural areas such as Orchard Hills and Mulgoa. In particular, the high-density clustering of sites registered around Jordon Springs, the former Australian Defence Industries (ADI) site, certainly add an element of recording bias to the registered sites in the region. Not only has this site been subject to multiple compliance-based assessments over the years, but it also has seen less development than other areas in the region, perhaps aiding in the survivability of sites in this locale.

However, despite this, some archaeological patterning might be discerned. Sites appear to cluster within 200 m of waterways, notably 3rd order and above. There are also a number of quarry sites located in and/or around the GPEC area. Three quarry sites are registered just east of the former ADI site at Jordon Springs, located along Ropes Creek. The availability of raw materials in this locale may play some role in the site distribution nearby. Similarly, the small but dense cluster of sites in the northeast corner of the GPEC area near Oakhurst may reflect the location's proximity to the Plumpton Ridge formation, an important and well-documented site for the procurement of silcrete for stone tool manufacture.

Table 3.1 Summary of AHIMS site types within the search area.

Site type	Number of sites	Percentage of total
Aboriginal ceremony and dreaming	1	0.21
Aboriginal ceremony and dreaming; artefactual site	1	0.21
Artefactual site	435	91.35
Artefactual site; potential archaeological deposit	1	0.21
Potential archaeological deposit	7	1.47
Stone quarry; artefactual site	3	0.63
TOTAL	**476**	**100**



KEY

- Greater Penrith to Eastern Creek (GPEC) project
- Previous archaeological investigations

Existing environment

- Rail line
- Major road
- Minor road
- Watercourse
- Waterbody
- NPWS reserve

Source: EMM (2021); DFSI (2017); GA (2011); DPIE (2021)

0 2 4 km

GDA 1994 MGA Zone 56

N

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Previous archaeological investigations within the GPEC investigation area

Greater Penrith to Eastern Creek (GPEC)
Desktop Aboriginal cultural heritage assessment
Figure 3.1

EMM
creating opportunities

KEY

- Greater Penrith to Eastern Creek (GPEC) project

Existing environment

- Rail line
- Major road
- Minor road
- Watercourse
- Waterbody
- NPWS reserve

Documented AHIMS Site

- Aboriginal Ceremony and Dreaming
- Aboriginal Ceremony and Dreaming: Undefined stone artefact
- Aboriginal Resource and Gathering; Undefined stone artefact; Potential Archaeological Deposit (PAD)
- Modified Tree (Carved or Scarred)
- Potential Archaeological Deposit (PAD)
- Stone Quarry; undefined stone artefact
- Undefined stone artefact
- Undefined stone artefact; Potential Archaeological Deposit (PAD)

Previously documented sites within the GPEC investigation area

Greater Penrith to Eastern Creek (GPEC)
Desktop Aboriginal cultural heritage assessment
Figure 3.2

Source: EMM (2021); DFSI (2017); GA (2011); DPIE (2021)

0 2 4 km

GDA 1994 MGA Zone 56

N

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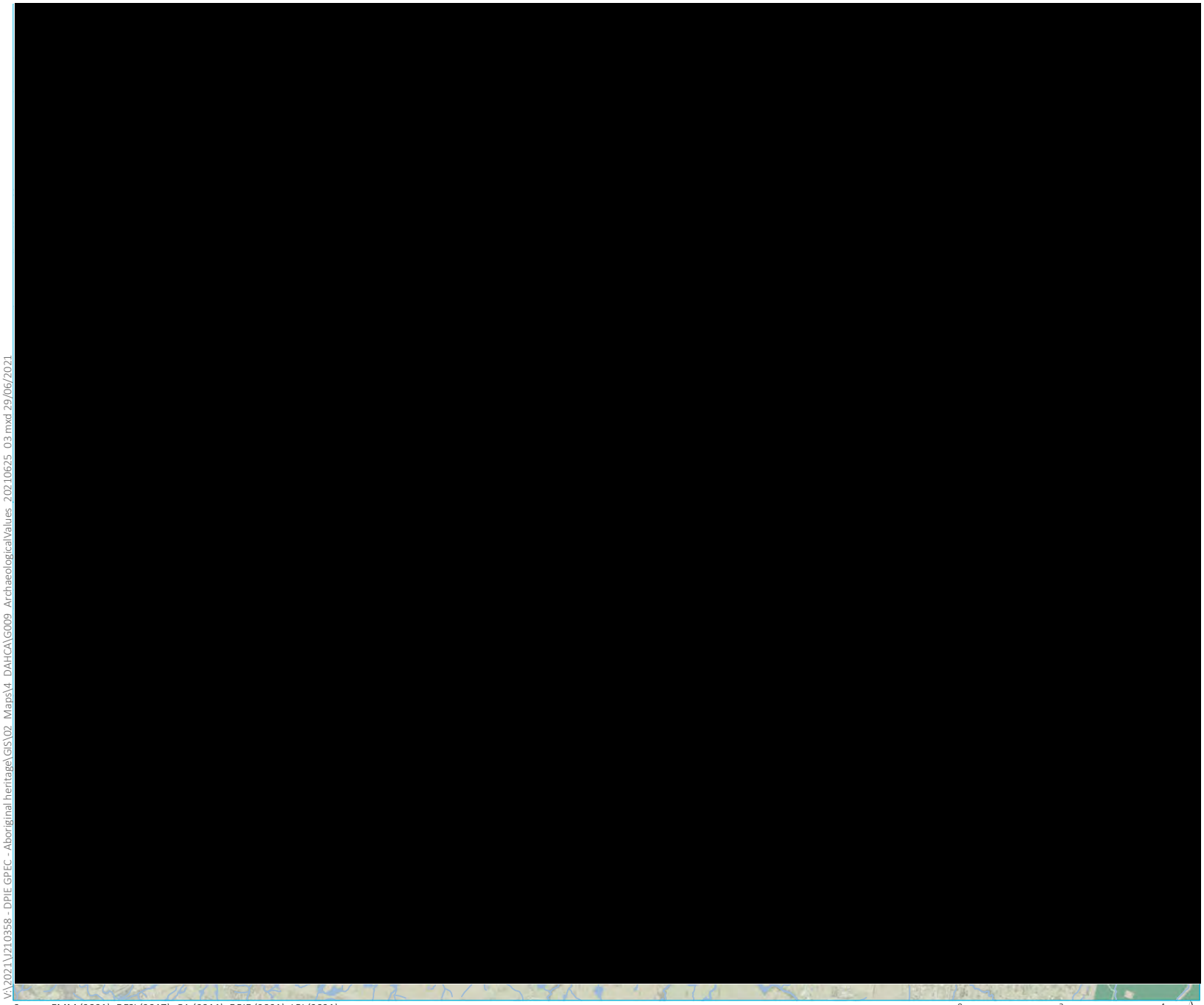
creating opportunities

3.3 Archaeological summary

Based on the archaeological research undertaken for this assessment, the archaeological resource of the GPEC area is typical of archaeological site patterning and distribution across the broader Cumberland Plain. Notably, the area's major watercourses (Hawkesbury-Nepean River, and South, Ropes, Blaxland and Eastern Creeks) served as foci of occupation and movement corridors; and sites are more densely clustered, and more complex along higher order watercourses than along ephemeral drainage lines, where intermitted occupation and isolated Aboriginal objects are more likely to occur. Equally as important are the deep alluvial deposits along the banks of the Hawkesbury River, specifically the Richmond Unit of the Cranebrook Formation, demonstrated to contain cultural material from ~36,000 years ago to the present (Figure 3.3).

Offset against these areas of archaeological potential is the degree to which the GPEC area has been subjected to development impacts from historical mining activities, road and rail infrastructure, and residential and industrial development. Although a comprehensive review of the GPEC area's former land use activities has not been completed for this study, a conservative estimate of the level of development – based on a review of historical aerial photographs and land use data – suggests that some 118 km^2, or 61% of the GPEC area, has likely been disturbed and may therefore have a low likelihood of preserving archaeological deposits and cultural material. This also means the cultural materials that remain are becoming increasingly lost, and the need to consider cumulative impacts and long term conservation are essential in future planning.

Importantly, parts of the deposits of the Cranebrook Formation and Quaternary alluvium may be preserved in undeveloped areas along the Hawkesbury-Nepean River at Castlereagh and Jamisontown near Peach Tree Creek, and along the undeveloped floodplain corridors of South Creek, Ropes Creek and Eastern Creek and their tributaries (Figure 3.3).



KEY

- Greater Penrith to Eastern Creek (GPEC) project
- AHIMS site
- Notable AHIMS site

Existing environment

- Watercourse
- Waterbody
- NPWS reserve

GPEC precincts (part)

- Orchard Hills
- St Marys

Areas of archaeological interest

- Cranebrook formation
- Volcanic, basaltic and doleritic diatremes
- St Marys formation
- Plumpton Ridge (St Marys formation)
- Hawkesbury River corridor
- South Creek corridor
- Ropes Creek corridor
- Blaxland Creek corridor
- The Northern Road ridgeline (70 m contour)

Source: EMM (2021); DFSI (2017); GA (2011); DPIE (2021); LPI (2021)

0 2 4 km

GDA 1994 MGA Zone 56

N

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Archaeological values for the GPEC investigation area

Greater Penrith to Eastern Creek (GPEC)
Desktop Aboriginal cultural heritage assessment
Figure 3.3

EMM
creating opportunities

4 Ethnographic information

Information about the socio-cultural structure of Aboriginal society prior to European contact largely comes from ethno-historical accounts made by colonial settlers. These accounts and observations were often made after significant social disruption due to disease and displacement. As a result, this information is often contentious, particularly in relation to language group boundaries. Therefore, it is likely that language group boundaries were far more diffuse and complex than the arbitrary demarcations drawn by colonial observers.

Darug people are the traditional owners of the GPEC area, and have lived in connection with this landscape for millennia. Contemporary Darug traditional owners have maintained close cultural and spiritual connections to *Ngurra*, or 'Country'. As cultural custodians of *Ngurra*, Darug traditional owners continue to exercise cultural responsibility to care for, manage and speak about the Country and its cultural and natural heritage values. This section provides a summary of the Aboriginal ethnohistorical record about Aboriginal life on the land prior to, at first contact, and life during the contact period when their land was invaded and occupied by European colonists, and of more recent contemporary connections to this landscape, despite 200 years of dispossession and loss.

Figure 4.1 below synthesises this information where possible, and illustrates the cultural values of the GPEC area.

4.1 Darug country

The GPEC area sits within Darug country, which extended from around Parramatta through to the Blue Mountains and from the Hawkesbury River in the north to Appin in the south. Over thirty separate Aboriginal groups populated the wider Sydney Basin in 1788 CE, each with their own country, practices, diets, dress, and dialects. Those within the GPEC area included the Mulgowi, Wandeandegal, Wawarrawarri, Gomerigal-Tongarra and Boorooberongal. The many rivers acted as natural demarcation of this area. Each clan comprised between 50-250 men, women and children, and often these were organised into hearth groups of no fewer than 15 people, who shared a cooking fire.

Captain Watkin Tench led a small expedition to the banks of the Nepean River in June of 1789 and recorded the first observations in the northwest of *Darug* Country (Plate 4.1) (Tench 1793, p.24). While Tench and his party did not meet with any Aboriginal people on their expedition, they noted traces of occupation over the landscape (Tench 1793, p.24). In April of 1791, Tench led a party of 21 individuals, including Colebee (also Coleby, Colbee, Colebe) and Boladeree (also Ballederry), into the land around the Nepean River to determine the relationship between the Hawksbury and Nepean Rivers. It was during this expedition that first contact was made with the members of the Boorooberongal clan (Tench 1793, pp.79-80). The men referred to the Boorooberongal as "bad", as there had been occasions of violence between the inland and coastal groups (Tench 1793, p.85). Even so, Colbee and Boladeree's knowledge of subsistence practices of the Nepean area, understanding of Yarramundi's healing ritual and generally friendly interactions between the men and members of the Boorooberongal show connections between the groups beyond conflict (eg Tench 1793, p.84).

Plate 4.1 A map of the hitherto explored country contiguous to Port Jackson 1793 (Source: State Library of New South Wales, D DL Q79/64).

During the 1789 Nepean expedition, Tench also noted the presence of "hunting-huts" dotted over the landscape (Tench 1793, p.24). The huts were made of "bark, bent in the middle, and open at both ends, exactly resembling two cards, set up to form an acute angle", and may have been places of short-term occupation since they were never occupied when mentioned in the records. On the evening of the 11th of April, a man named Bereewan met with Tench's camp while searching for his hunting dog (Tench 1793, pp.80-81; Hunter 1793, p.356). On the 13th or 14th of April, the party spotted a group in canoes on South Creek. Later, one of the men called Gombeeree, who

had been “marked with the small pox”, made contact with the party and, in the evening, Gombeeree, a man named Yellomundee and a boy called Deeimba joined the European’s camp while “their wives and several children” remained on the opposite bank of the river (Tench 1793, pp.80-81, 83; Hunter 1793, p.356).

Movement of people occurred throughout the landscape, in order to exploit hunting grounds and other food and animal resources, to escape the winter cold, to fulfil cultural ceremonial responsibilities and kinship responsibilities, and to allow country to regenerate. People followed watercourse valleys, and also created and maintained tracks by burning forest and scrub which promoted contact between local tribes and more distant groups, and to facilitate exchange, marriage, initiation and armed conflicts, share news, organise events and discuss traditional lore and law. Aboriginal people knew there were few viable options to attain the ridgetop pass through the Blue Mountains from the Hawkesbury-Nepean valley, and therefore the track westwards from the Sydney Basin beyond Rose Hill, which eventually became the Great Western Highway, likely followed an earlier Aboriginal trackway (Jack no date, p.1). Other unreferenced material suggests that the Great Western Highway also facilitated movement of people eastwards onto “saltwater/bitterwater Country (now Homebush)” for trade and ceremony purposes (Aspect Studios et al. 2021, p.54). Ridgelines were also important movement corridors and enabled good vantages of the surrounding landscape.

The coastline, foreshores, estuaries and creeks of the western Cumberland Plain were a focus for Aboriginal occupation. Aboriginal people of the GPEC area enjoyed a rich economy based on abundant and diverse food and fibre sources. The types of traditional foods consumed and the methods for their procurement are described in contemporary ethnographic sources and the later oral testimony of traditional Darug knowledge holders. When asked about the subsistence practices of the people west of Rose Hill, Colebee and Boladeree stated they had no fish so lived on animals and birds (Tench 1793, p.80). Colebee also called the Boorooberongal the “climbers of trees”, and trees notched from possum hunting were a common site during Tench’s expeditions (Hunter 1793, pp.359-60). Gombeeree demonstrated his tree climbing skills to the European observers during his visit to their camp, using a stone hatchet he:

> cut a small notch in the tree he intended to climb, about two feet and a half above the ground, in which he fixed the great toe of his left foot, and sprung upwards, at the same time embracing the tree with his left arm: in an instant he had cut a second notch for his right toe on the other side of the tree into which he sprung; and thus alternately cutting on each side, he mounted to the height of twenty feet, in nearly as short a space as if he had ascended by a ladder, although the bark of the tree, was quite smooth and slippery; and the trunk four feet in diameter, and perfectly strait (Tench 1793, p.86).

Trees were also a source of grubs, with the infected wood probed to remove the larvae (Hunter 1793, p.357; Collins 1798, p.450). In addition, Tench observed animal and bird traps across the landscape. The cone-like ground traps were constructed of reeds or small branches and covered in dirt. Small animals would wander into or be driven towards the large opening of the trap and pass through the body, only to be blocked at the tapered end by a grate of sticks where it was killed (Hunter 1793, pp.449-50). During his 1789 expedition Tench recorded that these traps “were full of feathers, chiefly those of quails, which shewed their utility” (Tench 1793, p.25). Simple covered hole traps were also dug near water sources to capture ground dwelling animals and birds (Hunter 1793, p.450).

Despite Colebee and Boladeree’s statement that the people west of Rose Hill did not fish, the rivers and creeks of the western Cumberland Plain offered abundant aquatic resources. On his first expedition to the Nepean, Tench noted the large number of ducks present, Hunter records that women of the Boorooberongal fished for mullet (Hunter 1793, p.361). Fish were either speared by men using barbed spears and reeds, or caught on lines by women in canoes with kurrajong bark fibres and occasionally, shell fish hooks. Women sometimes fished at night by aid of torch light, and with a fire resting on clay at the bottom of their canoes. Natural rock formations and sand banks were used to trap fish and eels in tidal creeks when the tide went out. Collins noted that eels were mostly hunted in the Autumn (Collins 1798, p.450).

In July of 1879, William Bradley (ca. 1802, 7 July 1789) noted in his journal that Tench’s 1789 expedition party observed the presence of wild yams along the riverbanks. The tribes who resided around the Nepean later became

known as “woods people”, reflecting the eucalypt woodland of the area which was exploited for plant resources (Collins 1798). Wild yams, berries, banksia, native honey and fern root mashed with ants and/or ant eggs were observed to be popular foods among the Aboriginal people west of Paramatta (Collins 1798, pp.449-450). Tubers, bulbs, roots and rhizomes were critical to the diet in the colder months. Often, complex food processing techniques were required before some species of yam (*Dioscorea bulbifera*) and seeds (eg *Macrozamia* spp.) could be consumed. Aboriginal people also collected and used plants for medicinal purposes. Clans managed not only the plants that they preferred, but also those that the animals they ate relied upon, providing food and shelter for them.

The first Australians were known to European settlers as ‘fire makers’ for their use of fire for a wide variety of activities. Fire was used to maintain and create paths, to rejuvenate the land by clearing weeds and germinating hard seeds and legumes, and to create open grassy meadows to attract kangaroo and other game. They also used fire to keep warm at night and carry as a torch the next day, treat wood, melt resin and crack stone for tools – hence, fire was a constant presence in the early Cumberland region. Regular and systematic burning over several generations created perennial grasslands out of forests (Proudfoot 1990). Patchwork landscapes of grasslands, open forest, dense scrub and rainforest enabled efficient travel through the landscape in search of food whilst limiting potential for wildfires and out of control burn offs that had a devastating impact on food sources and resulted in death of humans and animals.

Grace Karsken’s recent work with Darug traditional knowledge holders (Karskens 2020) has identified hundreds of occupation sites with rock art and grinding grooves along the Hawkesbury-Nepean River, known as Dyarubbin in local language. The art includes charcoal and ochre paintings, with spirit, animal, fish, bird and human motifs as well as tracks and hand stencils. Stencils were made by blowing a slurry of wet ochre over the hand, and occasionally beeswax or honey was used to fix the paint, along with birds eggs or fish oil. Highly valued ochre produced the colours of red, yellow, brown, orange and bluey-grey, but the most popular colours were red, black and white. Charcoal and coal were readily available for producing black pigment. Gypsum and kaolin clay gave a clear white colour that was most commonly worn for mourning.

There are few instances where the early European observers recorded the clothing and ornament of the people west of Rose Hill. Hunter (1793, p.356) states that Bereewan’s hair was ornamented “with the tails of several small animals” and Collins (1798, pp.449-450) noted the men of the area wore “lines” around their waist. In a later expedition into the Blue Mountains in 1802, Francis Barrallier met two Aboriginal men, Bungin and Wooglemai, in in the mountainous area in the vicinity of the Nepean River. Bungin wore a cloak “made of skins of various animals sewed together” (Barrallier 1802, p.749). The cloak was a highly valued winter garment as Bungin refused to trade it to Barrallier.

Recorded material culture indicates use of a wide range of plant and animal resources for fashioning weapons, ornaments, and utensils. As the expeditions travelled into the land west of the Sydney colony the party’s traded with the Aboriginal groups and tools and weapons highly prized by the European explorers. Upon meeting Tench’s party Bereewan only carried a fire stick but Gombeeree’s group presented Governor Phillip with two stone hatchets, two spears and a throwing stick (Tench 1793, pp.80- 88; Hunter 1793, p.359). The spears were described as having “a single barb of wood fixed on with gum, the other had two large barbs cut out of the solid wood” and the throwing stick was of particular interest as it “had a piece of hard stone fixed in gum instead of the shell which is commonly used by the natives who live on the sea coast” (Hunter 1793, p.359).

Stone hatchets, as well as ground stone axes, were clearly of importance to the people around the Nepean being used for a variety of subsistence practices. Colebee determined that Gombeeree’s group had been travelling to secure stone to make hatchets “from that part of the river near Richmond-Hill” (Dyarubbin) and it is likely that a manufacturing place was also in the vicinity of Richmond Hill (Hunter 1793, p.357). Hatchets were also used in the construction of canoes (Tench 1793, p.25). A well-known source of silcrete from St Marys was flaked to make tools, such as the scraper on the throwing stick given to Governor Phillip – this production occurred well into the post-contact period (Rhodes 1985). The importance of stone tools in the lives of Aboriginal people was acknowledged by Tench’s party (Hunter 1793, p.357). Few other tools were discussed by the early observers but Collins (1798, p.461) records nets and fishing lined that differed in material and/or weave from the coastal groups. More recently,

Rhodes noted that the material culture of Darug clans included possum skin rugs, paint on face, arms and thighs, tail and kangaroo incisor adornments, canoes, reeds, barbed spears and hafted ground stone tomahawks (Rhodes 1985).

The passage from childhood to adulthood was marked by traditional ceremonies that brought about greater spiritual awareness, knowledge and responsibility for men and women. The ethnographic record, however, offers only glimpses into the ceremonial life of these Aboriginal communities. Due to the secrecy surrounding ceremonial events, even the most richly described accounts only contain limited information about these ceremonies. Initiates were put through a series of ordeals or trials, and received instruction from initiated Elders regarding medicine, the healing arts, spiritual beliefs, traditional customs, and totemic responsibilities. People specialised in the knowledge appropriate to their totem, and while all people had responsibility for preserving, enhancing and transmitting some knowledge, there were different levels of knowledge that were accessed through initiations. Members of the opposite sex, and other uninitiated individuals were strictly forbidden from attending these ceremonies.

Initiates had their bodies marked with cuts and filled with ash to create raised scars, had their noses pierced or teeth removed. Tench attempted to have Colebee and Boladeree inquire why the Boorooberongal did not practice tooth avulsion but the men refused, suggesting this practice was an initiation practice of *their* clans and Boorooberongal practiced different initiation ceremonies— a point missed by Tench (Tench 1793, p.84). Some traditional customs changed following European invasion of cultural land; however, initiation ceremonies were still conducted in the GPEC study area, along the banks of the Nepean and South Creek. Historical and ethnographic accounts most often describe initiation ceremonies as taking place at Bora grounds, with a particular bora ground on or near "Wilsons Flat", hard by the Hawkesbury River being remembered by a local Penrith resident Mrs Barlow (*Nepean Times*, 23 May 1914). Bora ground ornamentation took several forms and were often accompanied by ground drawings or mouldings of people, animals or deities. Nearby trees were marked to warn others that a Bora ground was near, and different patterns were used for men's and women's sites.

Medicine men, or Koradji, were important clan members, and several local Koradji, including Yarramundi (referred to by Tench as Yellowmundee), and Gomeberri, were documented by Europeans. During their time at the European camp, Yellomundee performed a healing ritual on Colebee who had a barb remaining in his chest from an old wound (Tench 1793, p.85). Hunter (1793, p.360) recorded the ritual:

> He began the ceremony by taking a mouthful of water, which he squirted on the part affected, and then applying his mouth, he began to suck as long as he could without taking breath; this seemed to make him sick, and when he rose up, (for his patient was sitting on the ground) he walked about for a few minutes…this was repeated three times… and having picked up a bit of stick or stone, which he did with so little caution that several of the party saw him, he pretended to take something out of his mouth and throw it into the river… Before this business was finished, the doctor felt his patient's back below the shoulder, and seemed to apply his fingers as if he twitched something out; after which, he sat down by the patient, and put his right arm round his back; the old man, at the same time, sat down on the other side the patient, with his face the contrary way, and clasped him round the breast with his right arm; each of them had hold of one of the patient's hands, in which situation they remained a few minutes; thus ended the ceremony.

4.2 Early interactions and frontier conflict

The European settlement at Port Jackson was spiralling to failure within its first few months (Warren 2014, p.69). Failed crops, lost livestock and diminishing supplies pushed the British colonisers to look for better land beyond settlement and to exploit the available natural resources to ensure the survival of the colony. By the middle of 1788, local Aboriginal groups in Sydney began to express their dissatisfaction with the permanence of European settlement and colonial expansion. Numerous letters to England recorded violent encounters between convicts and Aboriginal people, as well as between Aboriginal groups, over access to food and land (Warren 2014, pp.69-70). By November of 1788, animosity between the convicts and Aboriginal people was at an all-time high.

In April of 1789, smallpox spread through the Aboriginal population around the Port Jackson settlement, causing catastrophic social impacts that lasted long after the disease came under control (Mear 2008, p.13). The disease spread quickly through the Sydney basin towards Port Hacking, Broken Bay and west to the Hawkesbury, blazing through the Cadigal, Gamaragal, Gayamagal, Borogegal and Birrabirragal clans (Mear 2008, p.13). European observers noted the horrific impacts of the disease on the coast, for example William Bradley recorded that;

> a great number of dead natives found in every part of the harbour […] scarce any had been seen lately except laying dead in and about their miserable habitations, whence it appears that they are deserted by their companions as soon as the disorder comes out on them, and those who are attacked with this disorder left to shift for themselves. We judge this from their having been found not buried, in every part of the harbour. Some have been found with a child laying dead close to them and some, who have apparently used their utmost exertions to get at water, having been found laying dead between a cave and a run of water. (Bradley, c. 1802, 9 May 1789)

As Aboriginal people fled from areas of known infection, the disease travelled with them. It did, however, take some time for the disease to reach Darug country; as Captain Tench (1793, p. 83) did not observe any signs of sickness or death during his first expedition to the Nepean in June of 1789 but he did note that Gomberee had pox scars in April of 1791. Nevertheless, the epidemic caused irreversible damage to the structure of family groups, tribes and clans. It is estimated smallpox wiped out around 50% of the adult population and deaths of children under five would have also been high (Mear 2008, p.2). Despite the impacts of European disease, the resistance to British settlement did not cease.

Frontier conflict was another facet of the contact period in the western Cumberland Plain. These acts were the result of the continued dispossession of traditional occupation and resource-gathering lands from Aboriginal people. From 1794, land grants began to be released around the Hawkesbury (near Richmond and Windsor), and it was here that the first instance of Aboriginal resistance, the Darug retaliation killing of five settlers, was recorded in 1795 (Connor 2002, p.38). Displays of resistance, retaliations attacks and raids were so fierce in the region that Lieutenant Governor William Patterson feared the new settlement would need to be abandoned. Patterson sent the New South Wales Corps into the areas with orders to kill and string up any "of the wood tribe" they came across (Collins 1798, p.347). The Corps did kill a number of Aboriginal people and took others as prisoners to Sydney, but the Darug continued to resist white settlement and so in June of 1795 a permanent garrison was established in the region. The military presence did little to hinder attacks and the Darug developed their own unique tactics in this frontier war (Gapps 2018). Large groups of up to 200 men women and children would raid the corn harvest— collecting enough food to live off— and raid and destroy farmhouses (Connor 2002, p.40-45). Further, the Darug learned English as well as the weaknesses of British military tactics to assist in their acts of resistance. For example, 150 individuals raided farms along South Creek in 1804 taking "not only their crops, but their whole stock of poultry, together with their bedding, wearing apparel, and every other moveable" (*The Sydney Gazette and New South Wales Advertiser*, 24 June 1804, p.2). This included the adjoining farms of Robert Crumby and William Cuddy – noted as being the last two farms in the row along South Creek at this time (Karskens et al. 2020). In 1809, *The Gazette* noted several accounts of depredations committed by the Natives, including an "unfortunate woman on the farm of Mr. Blaxland" [the estate of Gregory Blaxland in Orchard Hills] who "was stripped of her clothing, and left in a most deplorable condition" (*The Sydney Gazette and NSW Advertiser*, 10 September 1809, p.2).

Violence in the region reached its peak in April of 1816 when Macquarie ordered three detachments of soldiers through the colony sent to capture or kill all Aboriginal people they came across (Karskens 2015). Captain Schaw's Hawkesbury detachment was unsuccessful and Lieutenant Dawe's Cowpastures detachment killed two warriors and captured a boy on Macarthur's Estate (Karskens 2015). It is believed further casualties were avoided as the Aboriginal guides steered the detachments away from local camps. The third detachment, led by Captain Wallis, was sent to the Airds and Appin districts (Karskens 2015). At one in the morning on the 17th of April Wallis' detachment ambushed an Aboriginal camp at Appin and the soldiers pushed the fleeing individuals over Cataract Gorge and shot others attempting to escape. The detachment killed 14 and captured two women and three children (Karskens 2015). Macquarie addressed the Appin Massacre as unavoidable but necessary to "strike Terror amongst

the surviving Tribes, and deter them from the further Commission of such sanguinary Outrages and Barbarities" (*The Sydney Gazette and New South Wales Advertiser*, 4 May 1816, p.1).

In an effort to quell confrontation, Aboriginal people were increasingly marginalised to the edge of colonial society and subject to direct control. In 1816, Governor Macquarie issued a set of regulations controlling free movement of Aboriginal people across NSW, stating that "No Black Native, or body of Black Natives, shall ever appear at or within one mile of any Town, Village or Farm… armed with any warlike or offensive weapon", and "That no Number of Natives, exceeding in the Whole Six Persons, being entirely unarmed, shall ever come to lurk or loiter about any Farm in the Interior" (*The Sydney Gazette and NSW Advertiser*, 18 May 1816, p.1). The proclamation also declared that inter-tribe violence and retaliation was "a barbarous Custom, repugnant to the British Laws", and announced the establishment of the Native institution at Parramatta for "the Purpose of educating the Male and Female Children of those Natives who might be willing to place them in that Seminary" (*The Sydney Gazette and New South Wales Advertiser*, 4 May 1816, p.1).

The Native Institution at Parramatta was opened in December of 1814 and a total of 37 children attended the school between 1814 and 1821 (Watson 1919, pp.485-86; Norman 2015a). The Institution aimed to civilise students through a curriculum of reading, writing, Christian religious studies as well as manual labour for boys and needlework for girls (Norman 2015a). Missionary William Shelley was appointed superintendent of the school. Annual conference feasts were held to entice Aboriginal parents to place their children in the institution and despite large numbers of attendees, parents were reluctant to give their children over to the institution. There were growing fears amongst the Aboriginal community that Aboriginal children were being taken. This reluctance and fear was justified, as Macquarie declared;

> That no Child, after having been admitted into the Institution, shall be permitted to leave it, or be taken away by any Person whatever (whether Parents or other Relatives) until such time as the Boys shall have attained the Age of Sixteen Years, and the Girls Fourteen Years; at which Ages they shall be respectively discharged (*The Sydney Gazette and NSW Advertiser*, 17 December 1814, p.1).

The parents whose children were placed in the were allowed the privilege to observe their children through an open slat fence from 1815 (Norman 2015a). Maria Locke, of the Boorooberongal clan, daughter of Yarramundi, 'Chief of the Richmond Tribes', was admitted to the Native Institution in 1814. Maria's academic success is thought to have been reported in the results of the 1819 Anniversary School Examination where "a black girl of 14 years of age … bore away the chief prize" (*The Sydney Gazette and New South Wales Advertiser*, 17 April 1819, p.2).

Following several deaths in 1821, many of the children fled the institution and return to their families. In 1823, the Parramatta Institution was transferred to a new institution on the Richmond Road, on the former property of William Bell known as "Black Town" (Karskens 2020; Blacktown Native Institution Project 2015). A large mission house (Plate 4.2), chapel, and six small cottages were established on the lot. This site was immediately opposite to the first Aboriginal land grant made in the colony, to Colebee and Nurragingy (Plate 4.3). In 1824, Governor Brisbane sacked the Native Institution committee and the Children at Black Town were divided among the local missionaries to continue their education, but the children returned later in the same year. In 1825, the Aboriginal population at Black Town number 30 children and adults (Norman 2015a). Aboriginal couples, including Betty Fulton and Bobby Nurragingy, Betty Cox and Johnny Warrawandy, and Kitty and Colebee, farmed beside the Native Institution in the 1820s – some others, reportedly camping here to make contact with and watch over their children (Brook 2008; Karskens 2020). The Blacktown Native Institution was decommissioned in 1829 and abandoned in 1833 (Blacktown Native Institution Project 2015).

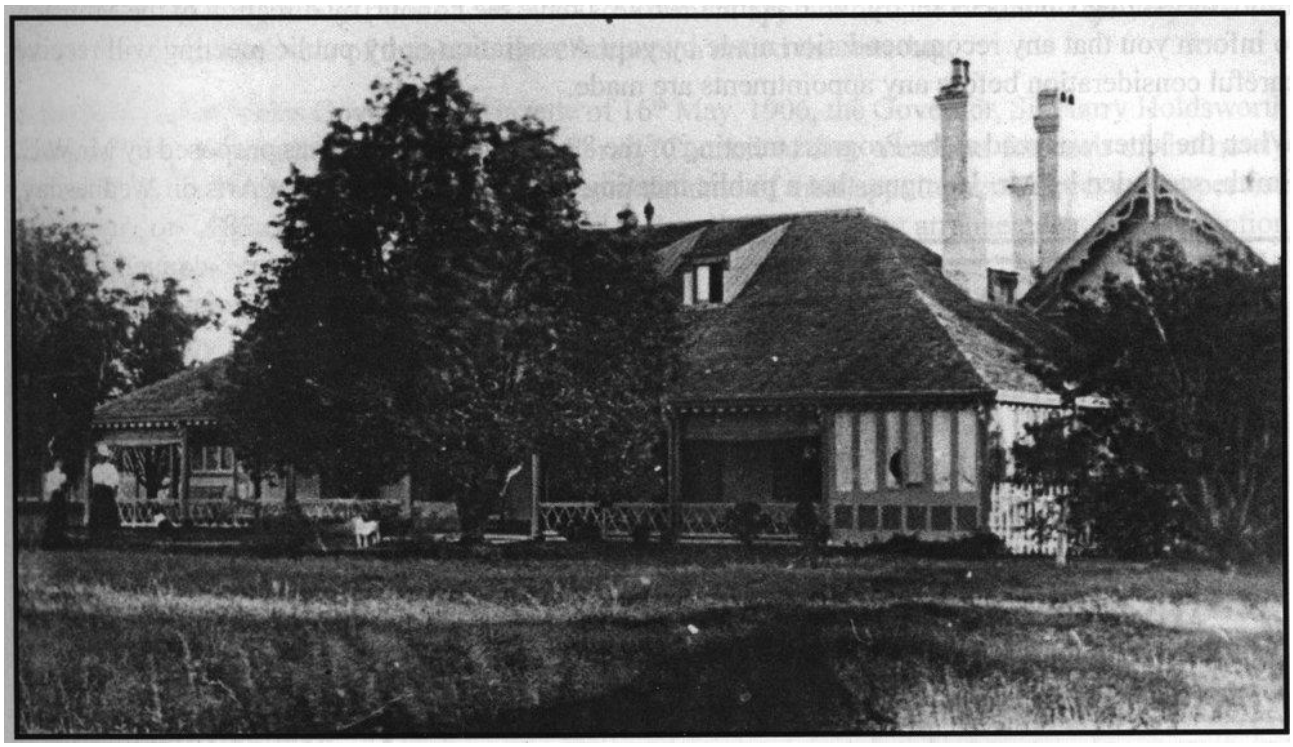


Plate 4.2 Blacktown Native Institution mission house c.1906 (Source: Blacktown Memories 012071, Blacktown City Council).

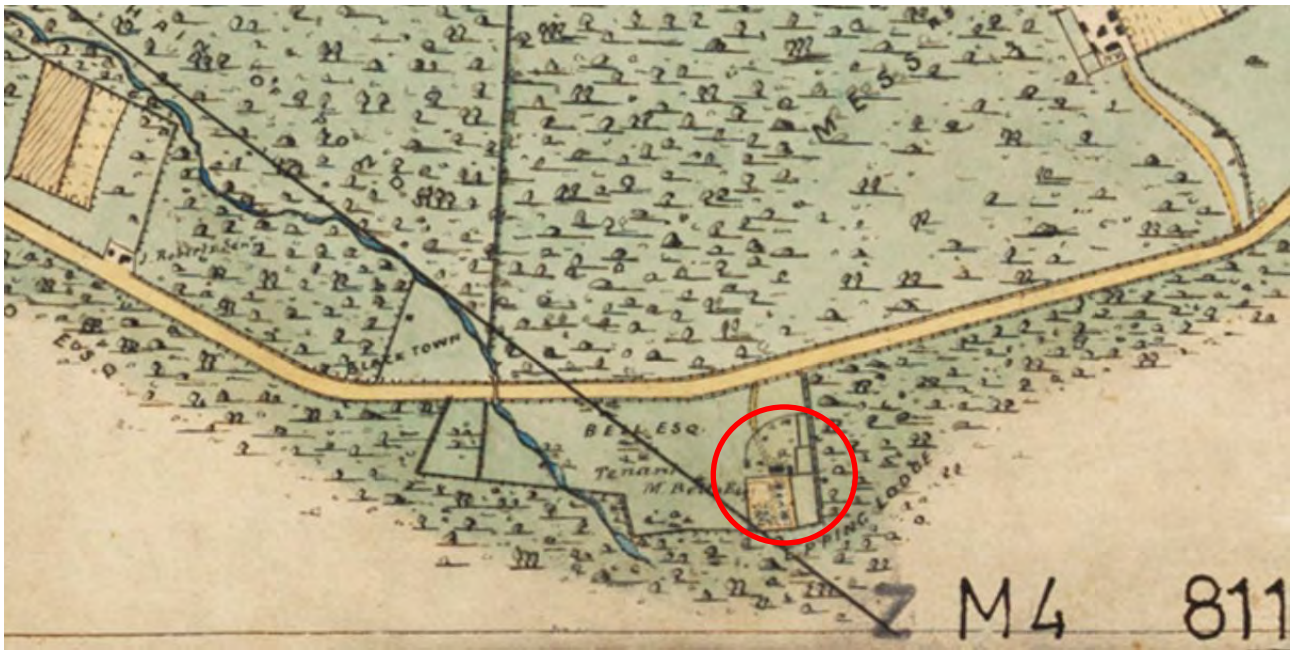


Plate 4.3 Plan of part of the Windsor District contained between the Old Richmond Road and the Road from Windsor, J. Musgrave, 1842. The map erroneously marks Colebee and Nurragingy's grant as "Black Town". The institution building, paddock and surrounding infrastructure on the actual Black Town site, are circled in red (Source: State Library of NSW Mitchell Library, Z/M4 811.1122/1842/1).

4.3 Surviving dispossession and loss in a European-dominated society

At the same time, Governor Macquarie's proclamations of 1816 also encouraged Aboriginal groups to give up their traditional lifeways for the European way of life. Macquarie invited:

> Natives to relinquish their wandering, idle, and predatory Habits of Life, and to become industrious and useful Members of a Community where they will find Protection and Encouragement. To such as do not like to cultivate Farms of their own, but would prefer working as Labourers for those Persons who may be disposed to employ them, there will always be found Masters among the Settlers who will hire them as Servants of this Description […] And the GOVERNOR desires it to be understood, that he will be happy to grant Lands to the Natives in such Situations as may be agreeable to themselves […] And whereas His EXCELLENCY the GOVERNOR, from an anxious Wish to civilize the Aborigines of this Country, so as to make them useful to themselves and the Community… (*The Sydney Gazette and New South Wales Advertiser*, 4 May 1816, p.1)

Governor Macquarie awarded Colebee and Nurragingy the first Aboriginal land grant in 1816 for their service to the colony (Blacktown Native Institution Project 2015). The grant was originally proposed to be along Eastern Creek, but Nurragingy instead chose a 30 acre grant on the Richmond Road, within his traditional land (Blacktown Native Institution Project 2015). Macquarie also honoured Nurragingy, who was also known as Creek Jemmy, as "'Chief of the South Creek Tribe" (Norman 2015b). Several local Aboriginal families camped on this property 'Niahlingin', and the adjacent Black Town site, in the period between 1820 and 1890. In 1843, the land was granted to Maria Lock, where it remained in the family until it was resumed by the Aboriginal Protection Board in 1920 (Kohen 1986, p.27).

Elsewhere in the western Cumberland Plain at this time, occasionally members of different clans banded together in mixed groups, and were encouraged to seek official gifts in the form of blankets and clothing, iron hatchets and fish hooks, bread, flour, sugar, tea, tobacco and alcohol. Traditional skills were also valued by the European settlers and Aboriginal people were employed as guides and trackers well into the twentieth century. In 1818, local explorer John Jamison, who lived at Regentville on the Hawkesbury River, employed Gilderoy, Millot and Nagga – three local Darug men – as guides on an expedition to trace the Cox's River. James Backhouse brought Simeon, a South Creek man, along on an expedition from Parramatta to the Blue Mountains, in 1835 (Backhouse 1843). Mrs Barlow, when reminiscing upon life in Penrith as a child, recalled that her father, a constable in the 1830s, was "ably assisted by Woolloboi, an Aboriginal tracker" (*Nepean Times*, 23 May 1914, p.8). Census records from 1828 listed 156 Aboriginal people living in Penrith, including 38 from the Nepean tribe, 15 from the Mulgoa Tribe and 30 from the Boorooberongal Tribe (Godden Mackay Logan 2010).

Several estates in the region were known safe places for Aboriginal people to camp on and practice ceremony, and to find seasonal or permanent work. William Cox was reported to have employed "members of the Mulgowie Tribe" on his Mulgoa estate in the 1830s (Karskens 2010). The Reverend Samuel Marsden's Mamre Farm at South Creek near Orchard Hills was another such location, where Marsden organised peace talks between settlers and Aboriginal groups in 1805 and allowed Darug clans to camp on his estate, on the river bank opposite the homestead (Yarwood 1967). Marsden later encouraged those camping on the estate to work in exchange for clothing or food. After a visit to Mamre in 1835, James Backhouse wrote that the "South Creek Natives… often assist in the agricultural operations of the settlers" (Backhouse 1843, p.304).

Despite this perceived reliance on the European community for daily subsistence requirements, at least in some places traditional practices continued on Darug country long after European settlement. Emily MacLaurin, who lived on the Mamre estate with her family after Marsden's departure, described an Aboriginal meeting place on South Creek at Mamre where ceremonies continued to be held "for some time", at a point where "the Creek takes in a small stream from the west" (NOHC 2015, p.49). Mrs Barlow of Penrith remembered witnessing "corroborees on the banks of the Nepean" in her youth (*Nepean Times*, 23 May 1914, p.8). Further, Mrs Barlow recalled the presence of a bora ground near "Wilson's Flat " by the river and the continuation of initiation rites (Nepean Times, 23 May 1914, p.8). Moreover, the Gomerrigal-Tongarra clan, who resided along the banks of South Creek continued to be allowed to source silcrete from the ridges at Plumpton and the gravels of Eastern Creek (Penrith Local History

online). Archaeological research at Joseph Pye's Waawaar Awaa Estate on Eastern Creek suggests that these safe estates allowed local Aboriginal families to work together on the farms periodically, which permitted them to balance European expectations with traditional ways of life on their traditional lands (Owen 2021).

The oral histories of Nah Doongh, or "Black Nellie", give an insight into the changing nature of Aboriginal life in the GPEC area throughout the nineteenth century. Nah Doongh was born c.1800 on land next to South Creek near Kingswood, at a time when the surrounding Plain was being taken up by European settlers. Grace Karsken's research reveals that Nah Doongh's clan was likely the Mulgoa Tribe, who were named after the "mulgo" or Black Swan of Dyarubbin (Karskens 2018, p.1). She remembered a time before the white men came along where tall, dense forests still covered river flats, and the lagoons were alive with ducks, geese and swans. She remembered "all this place bush long ago, dis place Penrith, blacks call Mooror Moorack, plenty of wallaby, kangaroo, plenty of blacks, not many whites (Karskens 2018, p.1). Shortly after her birth the land she was born on was granted to Mary Putland, who called it the Frogmore Estate; eventually, the land was subdivided and today forms part of the University of Western Sydney Kingswood campus. Nah Doongh's experiences in subsequent years were typical for Aboriginal people in the region; as the large estates were subdivided over the latter half of the nineteenth century and towns were developed, places for Aboriginal people to practice traditional lifeways on country diminished and they were pressured to move to dedicated reserves on the periphery of society, or settled on commons. The Commons were areas of reserved land for flood refuges and to support the economic activities of small farm holders, Aboriginal people often established settlements on these parcels of land (Karskens 2018, p.1). The Castlereagh Common was one such area where Aboriginal people on the fringes of society chose to settle; Nah Doongh moved between Camden Park, the Liverpool area and Penrith, before settling in to a "very shaky habitation" on the Castlereagh Common with her husband, Johnny Budbury, in the 1880s (Karskens 2018). At that time, Aboriginal people were also living at Yarramundi, the Black Town and up in The Gully in Katoomba. A parcel of land reserved from sale "for the use of Aborigines" along The Northern Road in Llandilo may also have been used to house Aboriginal people, though little else is known about the site. Today, it is owned by the Deerubbin Local Aboriginal Land Council.

Aboriginal movements between these fringe areas were not restricted, and in many instances Aboriginal people adapted their traditional practices for a new life amongst European society. An anonymous reminiscence from "Old Penrith" recalls the Aboriginal people from Castlereagh would visit Penrith fortnightly and go house to house collecting goods, trading and selling seasonal foods such as "native currants" (likely, *Leptomeria acida*) (*Nepean Times*, 25 October 1924, p.3). Traditional knowledge holder Phil Khan recalled that Aboriginal people kept fishing along the rivers until the 1950s, when the land was broken up and subdivided for European settlement.

4.4 Contemporary connections

The detrimental effect of European settlement on traditional lifestyles cannot be overstated. What had been a thriving local community was, in the span of several years, decimated by European colonisation. Colonisation brought disease and dispossession, which in turn engendered state-sanctioned acts of violence.

Governor Macquarie's decree of 1816, colonial retributions and the forceful removal of Aboriginal children from their traditional homes are still remembered in the local Aboriginal community, and these events have come to symbolise the violent nature of the European invasion of their lands, and of attempts to destroy the Aboriginal identity, and assimilate into the white community. The events also show that Aboriginal resistance to the invasion was effective, to the point that it forced the colonial government to acknowledge there was a frontier war that had to be dealt with directly by the military. The Blacktown Native Institution site on Richmond Road are poignant reminders of the forcible removal of Aboriginal children from their families, and a flannel flower sculpture by Sharon Egan, inscribed with the words "*da dunarang wingara ya gurung ngana wawu maniau angara ngil bubunna da mootang dyi*" is dedicated to the children who lived there (Plate 4.4). This site, together with the adjoining Black Town site, are important contemporary sites for Darug knowledge holders (Plate 4.5).

Plate 4.4 A contemporary art installation commemorating those children who were forcibly removed from their families and kept at the Blacktown Native Institution site. Little remains of the Institution today (in the background) apart from a few footings. The site is fenced (view west).

Plate 4.5 The site of Black Town where several Aboriginal families farmed land in the 1820s, and were camping until the 1890s (view north west).

Lastly, these events also demonstrate the strength of the local Aboriginal community in surviving and retaining their identity in the face of systematic attempts to remove them from their lands. Today the suburbs of Penrith, St Marys and Mount Druitt have thriving Aboriginal communities living and working in the area, and the community celebrates these suburbs as places with a strong Aboriginal identity. An Aboriginal man, Sydney "Doc" Cunningham of the Yuin language group, was a well-known local identity. He is best known for his tireless work in fundraising and filling food orders for needy families throughout Australia, and for delivering toys to disadvantaged Aboriginal children at Christmas time, becoming affectionately known as "Black Santa". In 1976 he established the Western Districts Foundation for Aboriginal Affairs in St Marys on Queen Street, and was a prominent figure at St Marys railway station, where he was often seen collecting donations from passers by.

Today, the contemporary traditional owners of the GPEC area maintain their cultural links to Darug country, family and aspects of traditional life. They fulfil their cultural responsibilities to care for country and for their cultural heritage places right across the western Cumberland Plain. The Muru Mittigar Aboriginal Cultural and Education Centre on Old Castlereagh Road in Penrith was for many years a well-known Aboriginal establishment run by community members as a place to share Aboriginal cultural knowledge, practices, and values with the broader community since 1998. Muru Mittigar has since moved from its Penrith premises to Rouse Hill and has established a native nursery in Llandilo and community services hub in Penrith. The organisation provides a range of services including cultural awareness training, bush tucker experiences, financial counselling services, Aboriginal contracting and consulting services, and land management services delivered using traditional practices.

4.4.1 Key stakeholder cultural values workshops

Aboriginal stakeholder cultural values workshops were held on Thursday 3 June 2021 with [redacted] and [redacted] (Darug Custodian Aboriginal Corporation [DCAC]), and on Monday 7 June 2021 with [redacted] (Deerubbin Local Aboriginal Land Council [DLALC]) and [redacted] (Kamilaroi Yankuntjatjara Working Group [KYWG]). The meetings were also attended by Dr Alan Williams, Laressa Barry and Georgia Burnett (EMM), as well as Neala Gautam, Ellen McCormack (Department of Planning, Industry and Environment [DPIE]) and Chloe Sullivan (GHD).

Invitations were also extended to [redacted] and [redacted] (Darug Aboriginal Cultural Heritage Assessments), [redacted] and [redacted] (Dharug Ngurra Aboriginal Corporation), although they were no longer participating in CHM, or not available within the timeframes of the investigation.

Minutes from each workshop are provided in Appendix A. Key points and feedback from the workshops are provided below:

- Dr Alan Williams and Laressa Barry (EMM) gave an acknowledgement to Country; and together with Neala Gautam and Ellen McCormack (DPIE) they gave attendees an overview of the GPEC area project and the objectives of the Place Strategy.

- Alan Williams gave an overview of the aims of the current study, and provided context around the archaeology of the western Cumberland Plain, noting the importance of the Cranebrook Terrace, Plumpton Ridge and St Marys Formation silcrete resources. Attendees were provided with a map showing known existing sites from the AHIMS database – the majority of which were designated as artefact scatters, and mostly clustered in areas subject to previous investigation.

- Feedback was requested from local Aboriginal knowledge holders present with regards to the tangible and intangible Aboriginal cultural values within the GPEC area. Extensive discussion followed regarding the existing sites and the importance of the waterways within the study area such as the Nepean River, Wianamatta/South Creek, Ropes Creek, and Blaxland Creek; and the potential for lithic resources, such as silcrete and other volcanics, to be present in the area;

- [redacted] (DCAC) drew attention to the significance of the creeks and their importance not only as occupation sites but also as transportation and movement corridors. Both [redacted] and [redacted] (DCAC) stressed the importance of these riparian corridors, especially those pristine landscapes that had not been subject to development, channelisation or de-vegetation, where deep deposits of archaeological material may be preserved *in situ*. The importance of these corridors was emphasised by [redacted] (KYWG), highlighting the potential for burials in these locales while also acknowledging that the environmental conditions of many soils of the Cumberland Plain were not conductive to the longevity of these site types;

- [redacted] highlighted that prior to urbanisation in the area, the Cumberland Plain would have had numerous historically unmapped) clay plans, waterholes, and lagoons, providing rich places for natural resource exploitation. [redacted] also noted that fishing was a common activity for Aboriginal people, and took place along all waterways in the area; however, this activity has slowly dropped off since the mid 1950s, as land was purchased, urbanised, and privatised over time.

- [redacted] and [redacted] (DCAC) agreed that ridgelines were also important movement corridors, and though the GPEC area seemed relatively flat from a topographical perspective, the ridgelines to the south along Northern Road and in Orchard Hills would have afforded localised views for clans in the area;

- [redacted] (DCAC) discussed her previous experience and knowledge of the former Australian Defence Industries (ADI) site, now Jordan Springs, in the north of the GPEC area where she thought a scarred tree had been identified, but did not appear to be recorded on the AHIMS register;

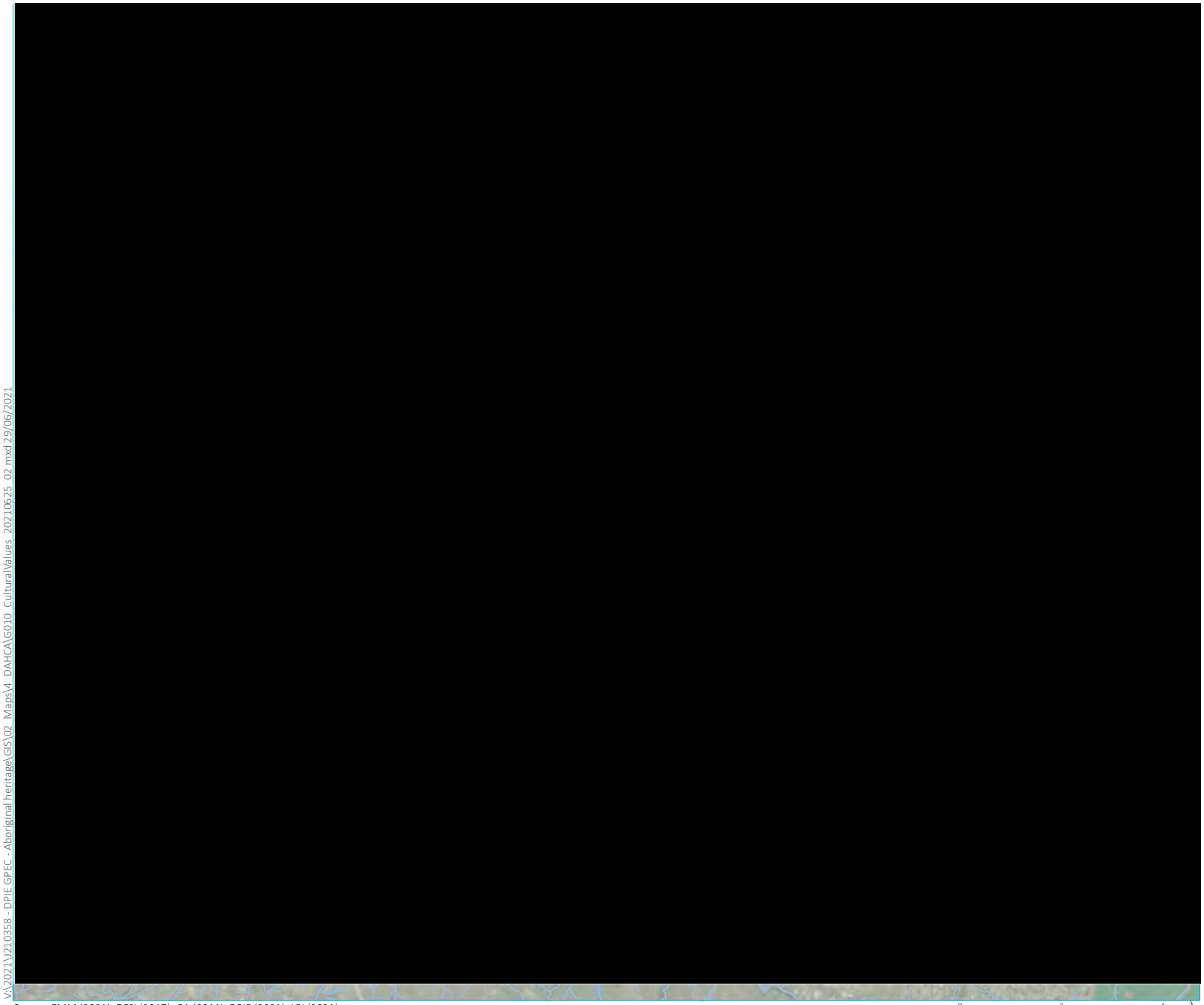
- [redacted] and [redacted] (DCAC) both stressed the importance of the Native Institution site (1823-1829), the Black Town and nearby Aboriginal land grants of 1816 to Colebee and Nurragingy – feeling strongly these sites should be retained in full, since part of the latter has been destroyed by recent housing redevelopments in Colebee. The site of the institution is fenced as private property, and there are several art installations commemorating this Aboriginal site nearby;

- All participants acknowledge the suburb of Mount Druitt as holding contemporary significance due to thriving Aboriginal communities living and working in this area. [redacted] (KYWG) noted an Aboriginal man named Doc "Black Santa" Cunningham of particular significance, being a local personality who frequented St Mary's Station and Elizabeth Street.

- Alan Williams (EMM) stressed that the Place Strategy would explore place-naming opportunities and provide the community with interpretive opportunities and encouraged everyone to consider possible locations and ideas for how this could be brought into the GPEC area planning. [redacted] proposed a shift away from Colonial-centric naming conventions and advocated for co-naming in local language. She argued that this was especially important for song lines, because these song lines were 'dead' unless they were spoken, and that speaking them kept these song lines alive;

- [redacted] proposed that public spaces in riparian corridors of South/Ropes Creek and Nepean River would be good places for interpretation, but stressed that the historical research and outcomes needed to be fed back to the community and taught in schools, to empower the community. [redacted] agreed, noting that a key outcome could be a 'plain English' history of the area, exploring key themes of kinship and family ties;

- [redacted] (DLALC) and [redacted] (KYWG) both noted that the Deerubbin Local Aboriginal Land Council owned a number of properties in the project area, and proposed the utilisation of these places through funding and programs, with a particular focus on engaging young people.



KEY

- Greater Penrith to Eastern Creek (GPEC) project

GPEC precincts (part)

- Orchard Hills
- St Marys

Cultural values areas

- Ethnographic encounter
- Recorded tribe
- Contemporary value
- Early European expedition path

Aboriginal travelling corridors

- Traditional travelling routes
- Blaxland Creek
- Ropes Creek
- South Creek
- Hawkesbury River
- The Northern Road ridgeline (70 m contour)

Existing environment

- Watercourse
- Waterbody
- NPWS reserve

Source: EMM (2021); DFSI (2017); GA (2011); DPIE (2021); LPI (2021)

0 2 4 km

GDA 1994 MGA Zone 56

N

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Aboriginal cultural values for the GPEC investigation area

Greater Penrith to Eastern Creek (GPEC)
Desktop Aboriginal cultural heritage assessment
Figure 4.1

EMM
creating opportunities

5 Archaeological and cultural synthesis

From an archaeological perspective, the GPEC area contains several landforms of archaeological interest. Notably, this includes the deep alluvial sediments of the Cranebrook Formation, found between ~300-800 m from the eastern bank of the Hawkesbury-Nepean River between Castlereagh and Mulgoa. This deposit, or more specifically the Richmond Unit within it, is known to contain cultural material at considerable depths – as much as 4 m below ground surface. It provides a rich resource of raw stone material that was exploited by Aboriginal people for many thousands of years and demonstrates tangible evidence for some of the earliest (~36,000 years) occupation in south-eastern Australia. Furthermore, historical archival records indicate that this important landscape continued to be utilised prior to, and immediately after, European dispossession of the land. Historical activities such as sand mining, and more recently from the Penrith Lakes redevelopment, have caused variable impacts to this deposit, though it is not possible to quantify the exact level of impacts to the archaeological deposits without detailed geotechnical investigation and a detailed interrogation of historical development. Where preserved, especially in undisturbed areas, the objects recovered within these deposits have the potential to provide an insight into local Aboriginal life, are of exceptional importance to contemporary Aboriginal people we consulted with, and may be of regional archaeological significance.

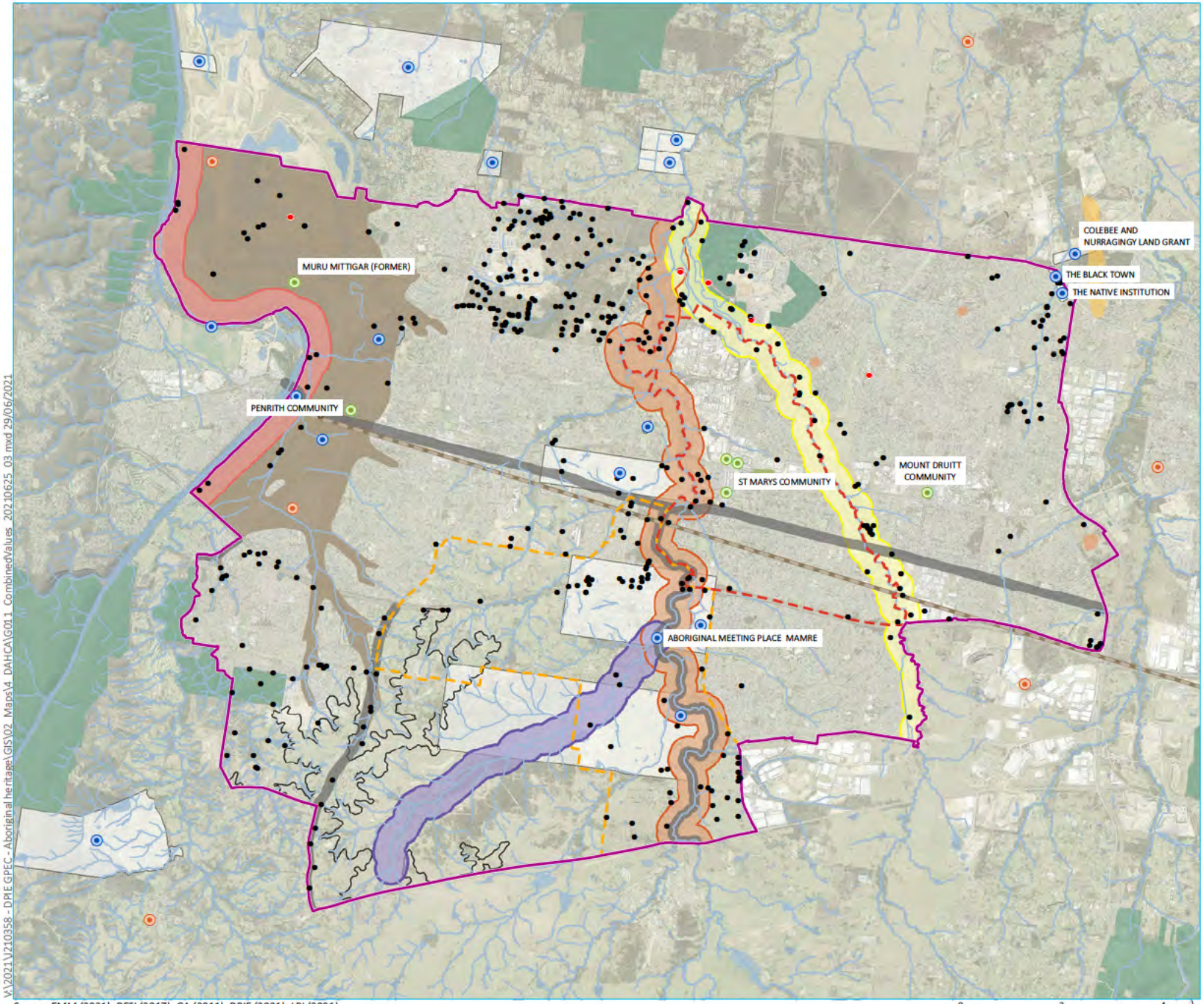
Similarly, deep alluvial sediments located along the banks of South Creek, Ropes Creek, Bells Creek and Blaxland Creek also have the potential to preserve tangible evidence for Aboriginal occupation. Regional archaeological models suggest that elevated terraces and ridges above the inundation zone may have been favourable campsite locations with complex and densely clustered artefact scatter sites falling within 100-200 m of these watercourses (with lower densities of cultural material found within 300 m, and as far as 500 m for the Hawkesbury Nepean), and that the gravels transported down these river systems formed suitable resources for manufacturing stone objects. Importantly, several stone quarry sites have been identified along the banks of Ropes Creek in the Wianamatta Regional Park, and the region is dotted with localised outcrops of St Marys Formation, Rickabys Creek Gravel and volcanic diatremes. Meanwhile, Plumpton Ridge, a well-known and extensively exploited silcrete outcrop, is located immediately north-east of the GPEC area. Again, historical activities ranging from infrastructure installation to more recent residential and urban development would have caused variable impacts to these alluvial deposits and stone outcrops, and therefore relatively undisturbed areas within the riparian corridor have the potential to preserve cultural material. From a cultural perspective, these watercourses facilitated easy movement of Aboriginal clans in a north-south direction by providing access to hunting grounds, promoting trade and enabling fulfilment of ceremonial and kinship responsibilities – and irrespective of the level of historical disturbance, these movement corridors have cultural value. The importance of preserving natural corridors along creek lines for public use was a key theme for the local Aboriginal community knowledge holders consulted with.

Ridgelines were also key movement corridors for Aboriginal people and enabled good visibility of the surrounding landscape. While this part of the Cumberland Plain is relatively flat and open; broad and low, north-south running ridgelines in the southern part of the GPEC area along The Northern Road (and to a lesser extent along Mulgoa Road, which is largely outside of the GPEC area) have been identified as being culturally significant. Regional archaeological models suggest that there may be stone artefact sites distributed along the “spines” of these ridgelines, but that these artefact sites would be more sparsely distributed and have a lower density than those sites clustered along watercourses, being evidence of transitory movement and random loss and/or discard through this landscape. Previous studies have referred to these ridgelines as Songlines or Dreaming tracks, but this was not corroborated by any of the community knowledge holders consulted with and were more likely used for socio-economic purposes.

From a cultural perspective, the GPEC area and its immediate surrounds has a rich cultural history spanning the pre- and post-contact period, and today there is a strong sense of community and contemporary connection to the urban landscape by the local Aboriginal knowledge holders we consulted with. In certain circumstances, it has been possible to link historical ethnographic encounters and cultural values areas to specific place-based locations within

the broader landscape of the GPEC area, with documented information and encounters being clustered along watercourses (eg Bradley's observation of canoes and yams along both banks of the Hawkesbury River), historical estates and early land grant properties (eg at Mamre House, Fernhill, Black Town and Colebee's grant), places of assimilation and loss (eg Castlereagh Common, Blacktown Native Institution and frontier conflict sites), and more recently places of cultural revival in the populated centres of Penrith, St Marys and Mt Druitt (eg Muru Mittigar, Western District Association for Aboriginal Affairs). However, it is important to note that this list is not exhaustive; Aboriginal people across Sydney had no control over the narratives and encounters that were transcribed, they were written from a Euro-centric point of view, and many more interactions and stories are likely to have been experienced but not documented at all or buried in private collections. Having access to, and being able to disseminate this untold Aboriginal story to the wider Aboriginal and non-Aboriginal community, was seen as a key goal for Aboriginal knowledge holders we consulted with.

At a more general level, however, these encounters relate back to important historical themes that investigate traditional Aboriginal subsistence strategies, utilising native foodstuffs, resistance to European settlement, frontier violence, working and thriving in a Euro-centric society and maintaining a contemporary connection through the landscape. They therefore represent good opportunities for broader interpretation, and for developing community-driven public outreach programs as part of the eventual redevelopment of the GPEC area.



KEY

- Greater Penrith to Eastern Creek (GPEC) project

GPEC precincts (part)

- Orchard Hills
- St Marys

- AHIMS site
- Notable AHIMS site

Cultural values areas

- Ethnographic encounter
- Contemporary value
- Recorded tribe
- Early European expedition path

Aboriginal travelling corridors

- Traditional travelling routes

Areas of archaeological interest

- Cranebrook formation
- Volcanic, basaltic and doleritic diatremes
- Rickabys Creek gravel
- St Marys formation
- Plumpton Ridge (St Marys formation)
- Blaxland Creek
- Ropes Creek
- Hawkesbury River
- South Creek
- The Northern Road ridgeline (70 m contour)

Existing environment

- Watercourse
- Waterbody
- NPWS reserve

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Source: EMM (2021); DFSI (2017); GA (2011); DPIE (2021); LPI (2021)

0 2 4 km

GDA 1994 MGA Zone 56

N

Archaeological and cultural values for the GPEC investigation area

Greater Penrith to Eastern Creek (GPEC)
Desktop Aboriginal cultural heritage assessment
Figure 5.1

EMM
creating opportunities

6 Conclusions and guiding principles

As part of this report, EMM undertook a detailed review of the existing environmental data, liaised with key Aboriginal community knowledge-holders, reviewed an extensive list of previous academic papers and available reports on the archaeology of the region, and interrogated primary and secondary resources including explorers and settler's diaries, written recollections of Aboriginal people and thematic histories of the region. Based on the environmental, historical and archaeological research undertaken for this project, and based on brief consultation with key knowledge holders of the local Aboriginal community, parts of the GPEC area have important archaeological and cultural value. These values are integral to understanding the archaeological and cultural significance of the landscape. Therefore, consideration of these important values should be at the forefront of any decision-making process with regards to future strategic planning of the GPEC area.

Archaeologically, the GPEC area is characterised by open stone artefact sites that are typical of the shale-based geology of the region. Notably, the area's major watercourses served as foci of occupation; as evidenced by the occurrence of densely clustered, more complex sites along higher order watercourses in contrast to ephemeral drainage lines, where small sites demonstrative of intermitted occupation and isolated Aboriginal objects are more likely to occur. Equally as important are the deep alluvial deposits along the banks of the Hawkesbury River, specifically the Richmond Unit of the Cranebrook Formation, demonstrated to contain cultural material in the form of stone artefacts from ~36,000 years ago to the present. Other Aboriginal site types, such as rock shelter sites and engraved art sites, are unlikely to be present within the GPEC area based on a lack of suitable sandstone geology.

Offset against these areas of archaeological potential is the degree to which the GPEC area has been subjected to historical impacts from mining activities, road and rail infrastructure, and residential and industrial development. The region is already well developed, and comprises a mix of residential, low density urban and industrial development centred around Penrith, St Marys, Mt Druitt and Glenmore Park, Jordan Springs, Luxford and St Clair. Castlereagh has been heavily altered for historical sand mining activities and more recently as part of the Penrith Lakes redevelopment. Based on a review of aerial photography and land use data, as much as 118 km^2 or ~61% of the GPEC area has been subjected to at least some form of disturbance.

Historically, the GPEC area has a rich pre- and post-contact history, and the Blacktown Native Institution, Black Town site and site of Colebee's 1816 land grant were flagged as particular places of cultural importance to the Aboriginal community knowledge holders that were consulted for this project. Other significant places included documented resource-gathering places (eg Hadley Park, Castlereagh Lagoon, Werrington Lagoon), frontier conflict sites (eg Cuddy and Crumby's Farms on South Creek, and Gregory Blaxland's farm in Orchard Hills), estates where Aboriginal people were born, camped or worked in the post-contact period (eg Frogmore Estate, Mamre Estate, Fernhill, Castlereagh Common), tribal locations (eg "Nepean Tribe" Wandeandegal, Mulgoa or Mulgowi, Wawarrawarri, Gomerigal), places of dispossession and loss, and contemporary places of cultural revival (eg Murru Mittagar, Western Districts Foundation for Aboriginal Affairs).

Consultation with Aboriginal knowledge holders has also identified key themes with regards to the GPEC area. Knowledge holders emphasised the importance of the area's major creek lines and ridgelines as being both occupation areas and movement corridors for socio-economic purposes (rather than as Songlines or Dreaming tracks). Pristine parts of these landscapes that had not been subject to development, channelisation or de-vegetation, where deep deposits of archaeological material may be preserved in situ, were highlighted as areas worthy of preservation.

The NSW National Parks & Wildlife Act 1974 provides blanket protection for all Aboriginal AHIMS sites, objects and registered Aboriginal Places whether they have been previously identified or not. Any future development activities are obligated to ensure that suitable investigation of the archaeological and cultural values of a given area are appropriately identified, assessed and managed in accordance with Heritage NSW guidelines and procedures.

Adequate consultation with local Aboriginal knowledge holders may also be required to ensure that the area's cultural values are given due consideration in development and planning decision making.

6.1 Guiding principles

Based on the above, the following guiding principles have been developed for incorporation into the Place Strategy and future planning activities:

- Future development activities in Cranebrook terrace formation areas should be minimised and/or constrained to shallow activities (<4 m) to ensure the conservation of these significant deep-time deposits. Where development is proposed, suitable investigation of the archaeological deposit must be recommended.

- Major river corridors should be maximised in planning designs, and maintained as natural bushland environments, rather than modified drainage channels. Improved access to these corridors is recommended following consultation with Aboriginal community knowledge holders. Further investigation of any proposed development activities <300 m of these corridors must be recommended.

- Main road corridors identified as Aboriginal tracks or pathways should be maintained in their current alignments, with future planning and design considering interpretive opportunities that could be applied to these important past corridors.

- Planning and development design should seek to maintain any major view-lines and/or viewsheds to ridgelines and elevated areas, including elevations in the southwest around the Northern Road (and to a lesser extent, Mulgoa Road), and extending beyond the investigation area.

- Post-contact places identified within or near the GPEC area must be maintained in their current form, and any development activities in their vicinity must ensure suitable heritage consideration, as well as Aboriginal consultation on their potential cultural impacts, prior to implementation.

- A formal interpretation strategy for the GPEC area or subsequent development precincts is recommended to ensure these ideas and concepts can be explored and suitably integrated.

- Further Aboriginal consultation is recommended to identify and understand specific elements and/or locations of value within or near the GPEC area relating to areas and places of contemporary value to Aboriginal community knowledge holders. This is to ensure suitable integration into future development design.

6.1.1 Cranebrook terrace formation

The Cranebrook terrace formation contains significant cultural deposits of considerable antiquity - some of the earliest in Australia – and parts have been subject to extensive sand mining impacts historically. Future development activities should be minimised in these areas and/or constrained to shallow activities (<4 m) to ensure the conservation of these significant deposits. Where development is proposed, suitable investigation of the archaeological deposit must be recommended.

The Cranebrook Formation is a regionally important alluvial terrace located within 300-800 m of the Hawkesbury-Nepean River, between Castlereagh and Mulgoa. This landform has the potential to contain intact and deep sediments with evidence for Aboriginal occupation in the form of cultural material from 36,000 years ago to the present – with material evident beneath 4 m of modern overburden material, and more likely to be preserved in areas that have not been subjected to development impact. The aim of strategic planning should be to minimise future development impact on these areas, or constrain impacts to <4 m below ground surface, and to retain this

landform in its current form. Any future development in these areas must ensure suitable investigation in accordance with Heritage NSW standards and procedures is undertaken prior to works commencing.

6.1.2 Major river corridors

Major river corridors including South Creek, Ropes Creek, Eastern Creek and Blaxland Creek have been identified as containing cultural material of scientific and cultural value. These corridors should be maximised in planning designs, and maintained as natural bushland environments, rather than modified drainage channels. Improved access to these corridors is recommended following consultation with Aboriginal community knowledge holders. Further investigation of any proposed development activities <300 m of these corridors must be recommended.

Quaternary alluvium found along the margins of South, Ropes, Eastern and Blaxland Creek have the potential to contain in-tact and deep sediments with evidence for Aboriginal occupation, as well as stone quarry sites for obtaining raw stone material. Cultural material in the Quaternary alluvium is typically concentrated within 100-200 m of the water's edge, especially focussed on elevated landforms such as terraces, and often at watercourse confluences, but has been recovered as far as 300 m from the water's edge, and up to 500 m from the Hawkesbury River in particular. Where possible, these landforms should be earmarked for conservation, or treated sympathetically as part of the strategic development of the GPEC area. Opportunities for opening up land-locked parcels and improving public access to these corridors, which are frequently in private ownership or inaccessible, should be considered. Any future development in these areas must ensure suitable investigation in accordance with Heritage NSW standards and procedures is undertaken prior to works commencing.

6.1.3 Main road corridors

Several of the established main road corridors were likely former Aboriginal tracks and pathways, including Mulgoa Road, the Northern Road and the Great Western Highway. They are sometimes erroneously identified as Songlines or Dreaming tracks but were more likely used for socio-economic purposes. These road corridors should be maintained in their current alignments, with future planning and design considering interpretive opportunities that could be applied to these important past corridors.

The Great Western Highway, Mulgoa Road and the Northern Road formed some of the earliest thoroughfares through the region and were used by early explorers, who probably followed established Aboriginal tracks. Future development along these major transport corridors should maintain these existing alignments and seek to incorporate public interpretation developed in consultation with Aboriginal community knowledge holders as part of any future planning and design consideration, where possible.

6.1.4 Ridgelines and elevated areas

More broadly, ridgelines and elevated areas across the Sydney Basin are considered by Aboriginal people to be important either as transport and communication corridors, or as major viewsheds. Much of the GPEC area is flat, however. Increasing elevations in the southwest around Mulgoa Road and the Northern Road, and extending beyond the investigation area, are likely to have been used for these activities in the past. Planning and development design should seek to maintain any major view-lines and/or viewsheds in these locales.

Ridgelines were seen as convenient movement corridors and both the Northern Road, and Mulgoa Road, are broadly located on the spines of two north-south running ridgelines in the region, where the rest of the GPEC area is relatively flat. These elevated corridors afforded localised views over the surrounding landscape, and any future development of these corridors should seek to maintain, or treat sympathetically, any significant views in the landscape.

6.1.5 Post-contact places

A number of important post-contact places have been identified within or near the GPEC area, including the Blacktown Native Institute, Black Town, and Mamre Estate sites. These sites must be maintained in their current form, and any development activities in their vicinity must ensure suitable consideration as well as Aboriginal consultation on their potential cultural impacts within these sites, prior to implementation.

Aboriginal community knowledge holders noted the importance of the Blacktown Native Institute site, Black Town Site and Mamre Estate sites as places of dispossession and loss and locations where Aboriginal people camped and worked in the historical period. They stressed that these places should be earmarked for conservation as some of the few remaining culturally significant places in the region, especially in the face of increasing development. Where possible, the landscape integrity and amenity of these sites should be retained, including appropriate set-backs where this is relevant. Adequate consultation should be undertaken with local Aboriginal knowledge holders to ensure the values of these places are given due consideration in the planning process.

6.1.6 Interpretation opportunities

Historical research and consultation revealed several important stories and events that occurred in the GPEC area, including early Aboriginal and European interactions, a rich 19th Century Aboriginal community, and contemporary people and locations. While many of these sites are already developed, and/or associated with intangible values and cannot be readily incorporated into the Place Strategy, they should be integrated into future planning activities through interpretive opportunities (eg dual-naming of places, local parks, public spaces), and in discussions with local Aboriginal community knowledge holders. A formal interpretation strategy for the GPEC area or subsequent development precincts is recommended to ensure these ideas and concepts can be explored and suitably integrated.

Several important events and encounters took place within the GPEC area. These encounters relate to important historical themes that investigate traditional Aboriginal subsistence strategies, utilising native foodstuffs, resistance to European settlement, frontier violence, working and thriving in a Euro-centric society and maintaining a contemporary connection through the landscape. Interpretation of these key historical themes, and of the people described in these events, should form the focus of future consultation with local Aboriginal community knowledge holders.

6.1.7 Further Aboriginal consultation and investigation

Several areas and places of contemporary value to local Aboriginal community knowledge holders are present within or near the GPEC area, including parts of the Penrith Lakes development, Mount Druitt, Penrith, St Marys Railway Station and the former Western Districts Foundation for Aboriginal Affairs on Queen Street, St Marys. These areas require further Aboriginal consultation to identify and understand specific elements and/or locations of value, and to ensure suitable integration into future development design.

Mount Druitt, St Marys and Penrith were identified as important places of cultural revival and contemporary connection, with a strong Aboriginal presence in the local community. Additional research and consultation should be undertaken to identify specific elements, places and values that are important to contemporary Aboriginal knowledge holders, to develop mechanisms for their incorporation into future designs.

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Appendix A

Stakeholder workshop meeting minutes

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