

2.1 DESIGNING WITH COUNTRY

Professionals working in the built environment need to have their own relationship with Country in order to respond to it in a respectful manner, and to ensure Country is cared for long into the future.

Country can inform the design of spaces through understanding and responding to the tangible and intangible aspects of Country. Tangible elements of Country include the natural environment, structures, buildings, geography, biodiversity, or resources, whereas intangible aspects of Country are the traditions, beliefs, ontologies, lifestyles, knowledges, ceremonies, beauty, or cultural memories that accompany a location. From a spatial design perspective this might be considered, for instance, through the materials used to construct (tangible) and the methods used to undertake the construction (intangible).

Designing with Country is a NSW Government Architect (GANSW) program that asks built environment professionals to work together with First Peoples to respect and protect sensitive sites of Country and to strengthen culture. Professionals working in the built environment need to have their own relationship with Country in order to respond to it in a respectful manner, and to ensure Country is cared for long into the future. GANSW's *Connecting with Country framework* provides guidance on how First Peoples' knowledges can be used in the design and planning of places. The framework stresses that "good design" in Australia be informed by Aboriginal ways of understanding Country through connections to Country and co-design practices. It recommends project life cycles be considered through four steps: Sensing, Imagining, Shaping and Caring for Country. This report specifically responds to the Sensing – Start with Country (project formation) and Imagining – Listen to Country (project design and conceptualisation) stages.

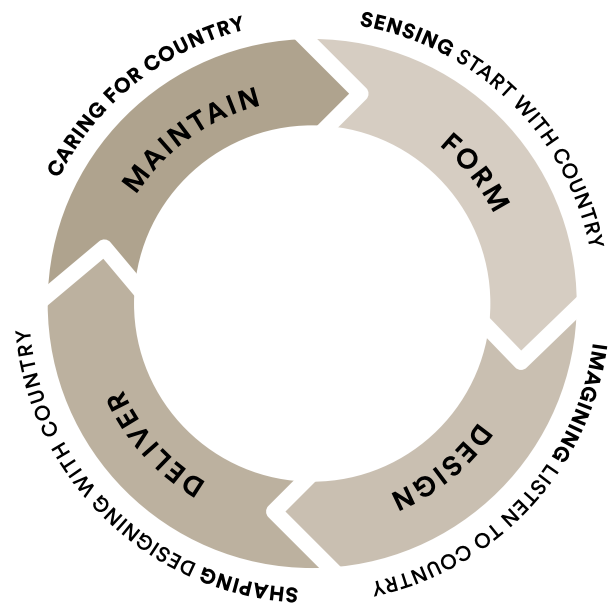


Figure 07: Excerpt, Project lifecycles through an Indigenous perspective, GANSW Draft Connecting with Country framework, p.27

The Context









2.2 INDIGENOUS CULTURAL MAPPING

There is an ongoing relationship between Indigenous people and Country within which Sydney is located. There are a number of places of cultural significance across Sydney, some of which have retained their indigenous language names. Shown to the right is a selection of these places.

Places of cultural significance are not only significant due to their names, but in the stories and knowledge they pass to future generations. These stories are outlined on the following pages.

Label Key

Category	Example
Country	DHARUG COUNTRY
Indigenous place name in western use	PARRAMATTA
Indigenous group	BURRAMATTAGAL
Meaning of place name	Burra - eels; matta - place (water)
Meaning under investigation	(?)
Indigenous place name	<i>Mar-ray-mah</i>

	Open space
	Waterway
	Roads
	Railway line
	Western Sydney Parklands
	Study area
	Key waterways
	Greater Western Highway/Parramatta Road Songline

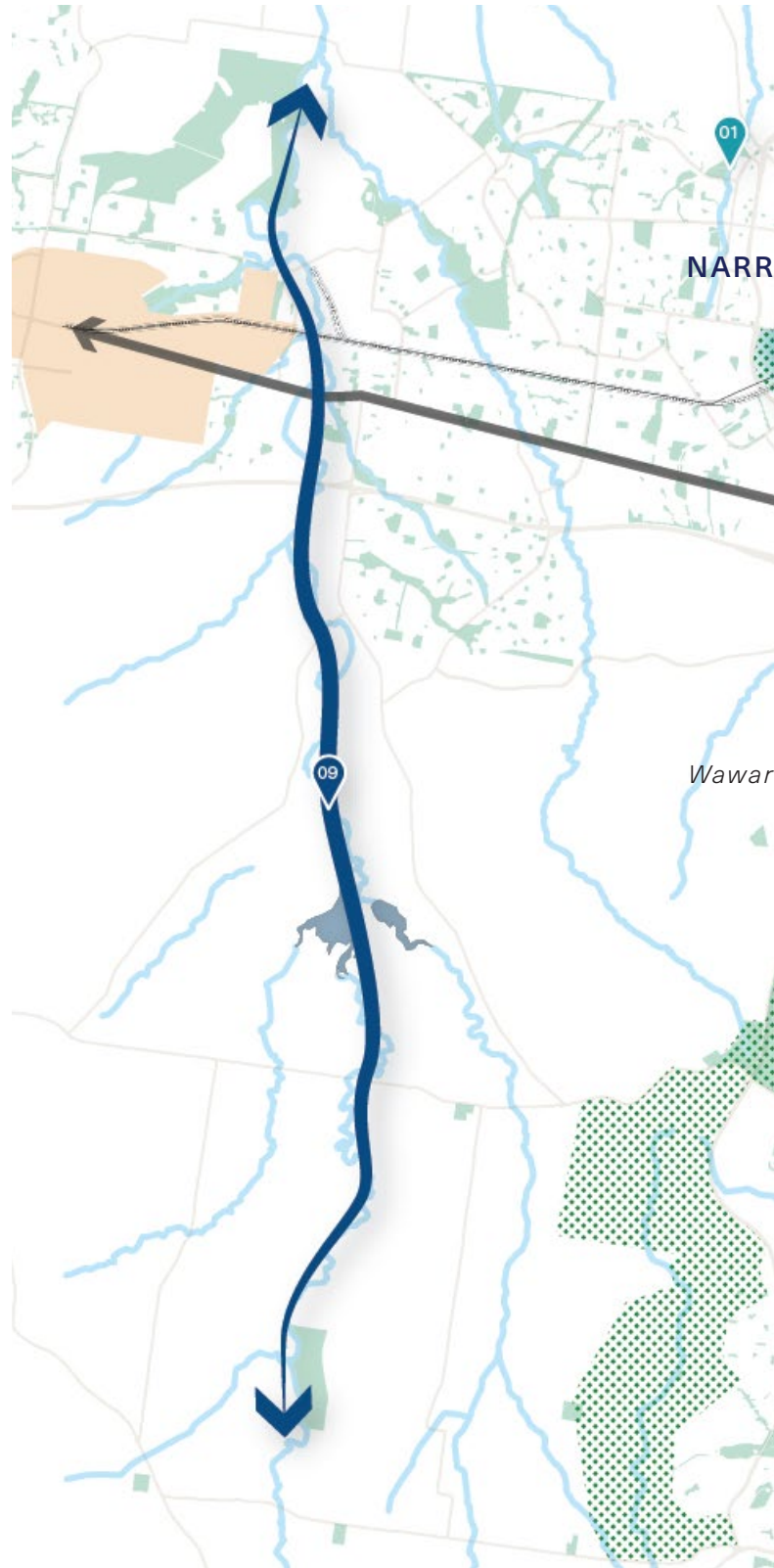
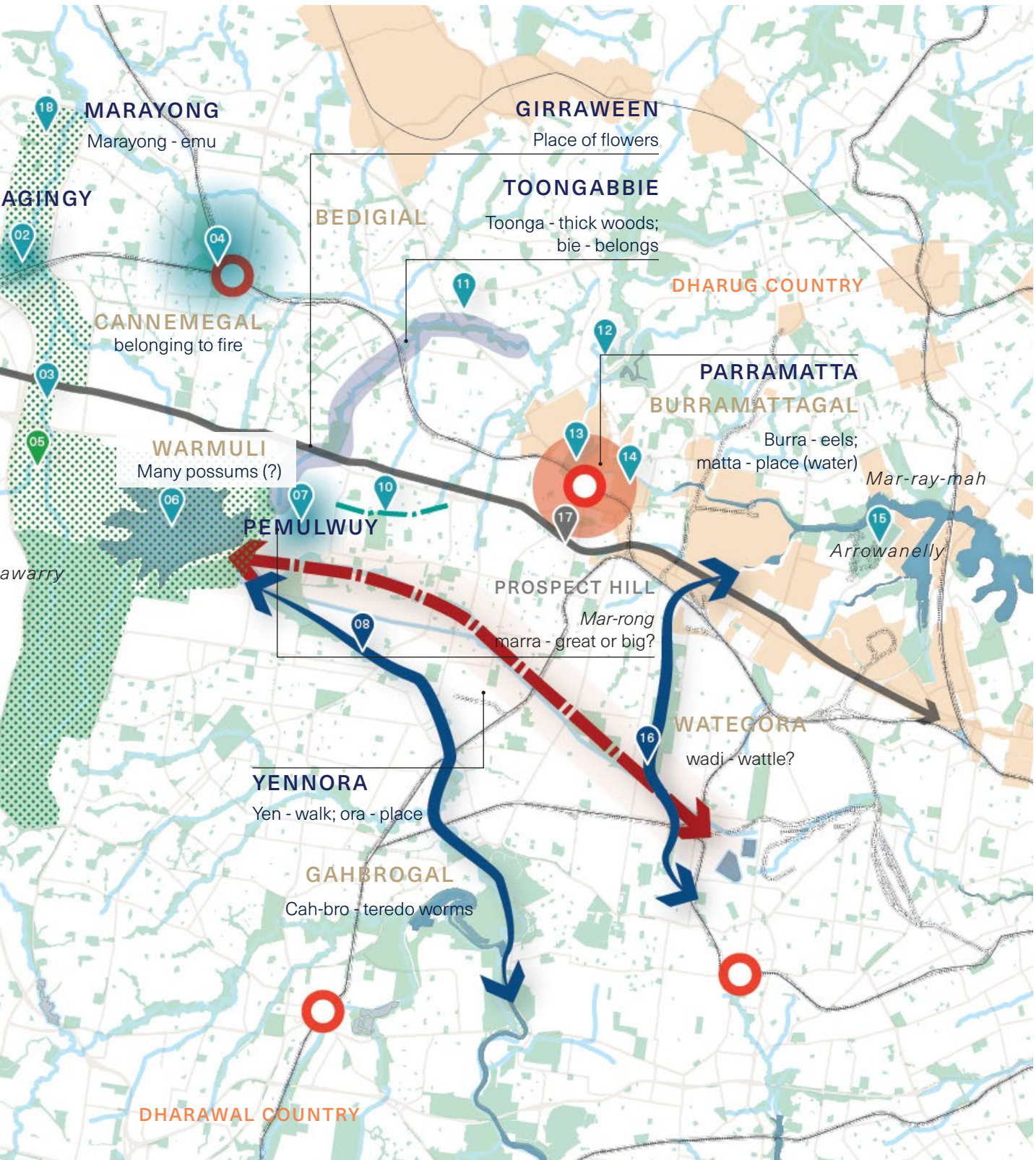


Figure 08: Cultural Mapping

The Context



The Context

Indigenous Cultural Mapping

01

Blacktown Native Institute

The Parramatta Native Institute was moved to the Black Town settlement in 1823. In 2018, the State government handed the land on which the Blacktown Native Institution was built back for the Dharug people.

02

Nurragingy Reserve

Colebee was one of two Aboriginal men captured and held at Government House in Sydney in 1789 until he escaped. In 1816, in return for working with the colonial government, he and a man named Nurragingy received one of the first-ever land grants to Aboriginal people. While Colebee did not remain long, Nurragingy stayed on to farm the land, and it became an important centre for Aboriginal life in the area. The Nurragingy Reserve was claimed by two of Nurragingy's sons and Colebee's younger sister, Maria Locke. The Locke family lived there until around 1917, when it was acquired by the Aborigines Protection Board.

03

Bungaribee Homestead

Within the Bungaribee Homestead Precinct are 52 recorded sites with a total of 5,535 artefacts and 1,083 cultural lithics consisting of mudstone artefacts including formalised tool types were recovered in the areas surrounding Bungaribee and Eastern Creek.

04

Blacktown

Blacktown earned its name during Governor Macquarie's time, as 'the Black Town'. Today, Blacktown is home to the largest Aboriginal population in the Greater Sydney region. Some of these people are descended from the original Darug occupants of the area.

05

Western Sydney Parklands

These parklands include important cultural and ceremonial places, hunting grounds and a significant stone artefact scatter at Rooty Hill. This was a camp and meeting place for people travelling over the Blue Mountains and into Parramatta and Sydney, even after colonial times.

06

Marrong (Prospect Hill)

Governor Phillip led an expedition in 1788 to Prospect Hill. During this journey, the party saw evidence of Aboriginal encampments in the form of huts, camp fires, burning trees and kangaroo carcasses. Subsequently the hill was associated with colonial conflict and Aboriginal resistance, and an important early place of reconciliation. On 3 May 1805, on the suggestion of local Aboriginal groups, mediated by a group of Aboriginal women and John Kennedy, a free settler, Reverend Samuel Marsden facilitated a meeting here. An agreement was reached which brought an end to this particular period of violence.

07

Pemulwuy

The suburb of Pemulwuy was created in 2004. Named in honour of the Bidjigal clan leader who fought against the European colonists for his people's right to live on their land. Pemulwuy carried out a guerilla war against settlers from 1790 to his death in 1802. In March 1797, Pemulwuy led 100 warriors on a raid causing the third settlement of Toongabbie to be evacuated. This concluded with the Battle of Parramatta, in which Pemulwuy was shot 7 times and captured. He later escaped and continued this way until his death in June 1802. His son Tedbury continued the struggle for their Country. Pemulwuy used Marrong (the area now called Marrong Reserve) in his struggles as it is the highest point in the Sydney basin.

The Context

08

Prospect Creek

Prospect Creek was a traditional travel route connecting the Dharug and Dharawal people. To highlight its significance, in 2005, a series of interpretive Indigenous artworks were installed along the banks of Prospect Creek as part of the Warali Wali Trail. The project consisted of 4 sets of artworks and path markers, showing the flora and fauna of Prospect Creek, as seen by the Dharug.

09

Wianamatta (South Creek)

Wiannamatta means place of the Mother Creek. It is an important birthing place for Aboriginal women and for campsites, tools and as a food resource area.

10

Old Prospect Road

For about 45 years after settlement, it was common for Aboriginal peoples to re-enact specific conflicts during rituals and Corroborees, near Old Prospect Road. These were recorded by Reverend James Hassell in 1833 and reflected in conflict records from the 1790s.

11

Third Settlement Reserve

This Reserve is all that remains of Australia's third European settlement. It became the site of the Battle of Parramatta when Aboriginal resistance leader Pemulwuy, a Bidjigal man, led an attack, backed by 100 fierce fighters.

12

Lake Parramatta

The Burrumatta people lived here well before the creek was dammed to become Lake Parramatta. There are hand stencilled paintings, cave shelters, stone flakings, scar trees and shell deposits.

13

Old Government House

Within this World Heritage listed Georgian house and surrounding parkland is evidence of Burrumatta culture; in the scarred trees, whose bark was removed to create canoes, shelters and containers, and in the mortar made from ground-down shell middens, that once lay in enormous heaps along the Parramatta River. This part of the river provided a rich source of food and is possibly the site of a ceremonial ground.

14

Parramatta Native Institute

The government policy of removal of Aboriginal children from their parents in order to assimilate them into white society began fairly early in the colony's history. It was epitomised by the development of the Native Institution in Parramatta in 1814, which housed Aboriginal children away from their families.

15

Scar Trees

Evidence of Aboriginal settlement, where four scar trees are preserved in Millenium Parklands, Sydney Olympic Park

16

Duck River

A site of ritual battles, ceremony and law, one bank was a special place for women giving birth. Skilled midwives practised in women's knowledge here, while the place for men was across the river. Marriages were arranged on islands. The Silverwater area of Duck River used to be a meeting place for trade between the forest people and the coastal people.

17

Great Western Highway

Original Aboriginal pathway from across the Blue Mountains to the coast.

18

Ironbark Range

A high campsite well above the flooding of Eastern Creek and a significant silcrete stone quarry.

2.3 CULTURAL CONTEXT

Cultural landscapes are recognised to be the collective works of environment and humankind expressing a lengthy and close relationship between peoples and the natural environment. In terms of understanding Country in relation to site, when considering it as part of a landscape understood culturally, the extent of a site is as far as you can see from the site. Despite the developed nature of the built environment of the Sydney Basin, it lies within a broad cultural landscape as understood by local First Peoples.

The Dharug people are the keepers of the Cumberland Plain.

Prospect Hill is a nodal point of the Cumberland Plain and Sydney's largest body of igneous rock of volcanic origin. The Cumberland Plain is structurally defined by a saucer-shaped tectonic depression that underlies most of western Sydney. The Cumberland Plain features gently undulating plains and low hills. Prospect Hill is described by First Peoples as being connected to many other parts of the landscape.

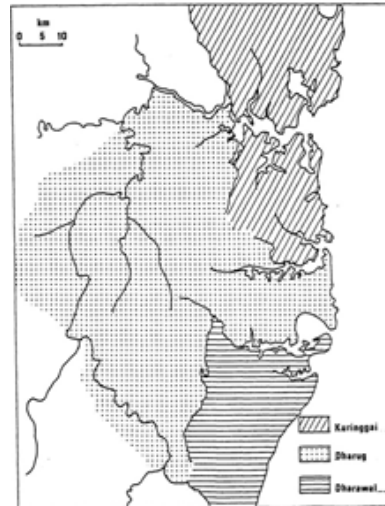


Figure 09: Aboriginal linguistic groups in 1788 according to James L. Kohen (Prehistoric settlement in the western Cumberland Plain, 1986)

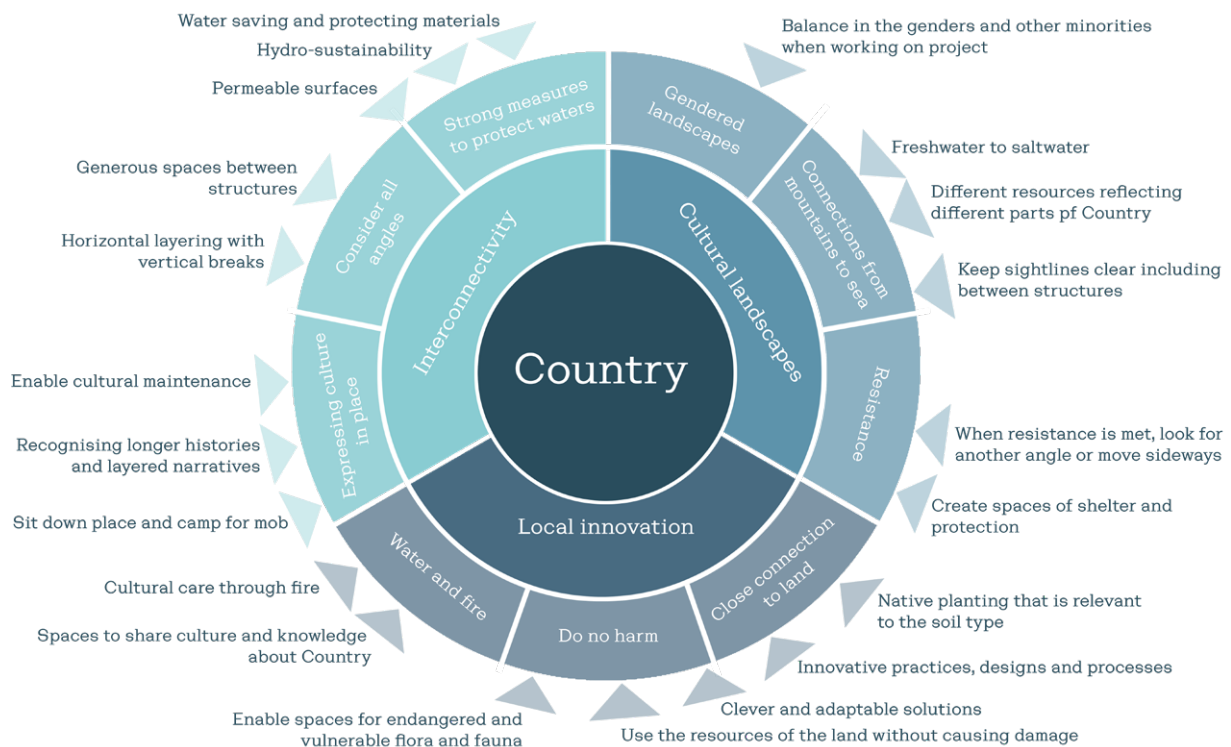


Figure 10: Prospect Pipeline Country Principles

2.4 THEMES AND NARRATIVES

It is evident this Country has always been well loved and the resources of the land utilised by Aboriginal peoples. According to early colonists (Attenbrow, 2010), the land between Rose Hill (Parramatta) and Prospect Hill is distinguished by eight different names, although the distance is only 6.4 kilometres:

In going to the Westward from Rose Hill [Burra-matta] you walk in ten minutes to War-mul [Wau-maille], in nineteen to Mal-gra-mattar [Malgray-matta], in seven to A-rar-woo-rung [Era-worrong], in eighteen to Car-rar-mattar [Carra-matta], in five to Bul-barn-mattar [Boolbane-matta], in twenty-nine to Kar-rar-wo-tong [Carro-wotong], and in seventeen to Mur-rong [Mararong] — Prospect Hill.

Aboriginal peoples are innovative, in particularly in their use of local resources. This enables them to become intimately connected to the landscape, and use the resources of the land without creating lasting damage. In the Prospect Pipeline Corridor it is important local innovations are used in any development. Part of First Peoples' innovation was the use of fire. Fire was used to manage the land, to ensure that the understorey did not develop into impenetrable jungle, and trees were widely spaced (Kohen, 1986). This points to a culturally managed landscape, a value this project should aspire towards.

Traditional stories

The cultural values of Prospect Pipeline Corridor can be found in the traditional stories of the area, many of them passed down through generations of Aboriginal peoples.

Uncle Dennis Foley (*Gai-mariagal/Guringah and Capertee/Turon River/Wiradjuri*) says if you look at an aerial photo of Sydney where the Nepean runs along the Blue Mountains, there is a shape that cuts around slightly to the east that looks like a person in the foetal position. This is the outline of the Cumberland Plain, and where Baiame slept when the world was created before life began, snuggled into the land. Foley describes how, when Baiame began to stir and roll around, the soil and rocks were pushed into a ridge to become the Blue Mountains, the flat land to the south was pushed into low hills and waterholes.

As Baiame was thrashing around her fingers found a digging stick, a gift from the land. Using the digging stick, she thrust up the sky and held it in place with the stick. When the stick was removed for the first time it was so hot that the blue stone bubbled up to form the first penis, a special men's site now called Prospect Hill. The stone continued to melt and joined up with a second place near Hornsby, a sacred women's place (Foley & Read, 2020).

As the highest point in the Sydney Basin, Prospect Hill has a unique contribution of being able to see a long way, and in every direction. It invites us to ensure we are seeing every angle of a project both literally and figuratively. Prospect Hill was a look out and also refuge during colonial times for people like warrior Pemulwuy.

Key opportunity:

- Consider how the corridor can remain a refuge, not only for people but non-humans as well.

The Context

Water

The waters of the Cumberland Plains are all interconnected, including those relating to the Prospect Pipeline Corridor. Rain falling on the southern slopes of Prospect Hills flows into Prospect Creek and then via the Georges River into Botany Bay. The northern slopes drain into Greystanes and Blacktown Creeks and eventually into the Parramatta River and Sydney Harbour. Close by to the west is Prospect Reservoir and beyond it, Eastern Creek which flows north-west into the Hawkesbury River, the mighty river that encircles Sydney forming the boundary of the Cumberland Plain and eventually flowing into Broken Bay. Duck River flows into Parramatta River, with tributaries such as Duck Creek and A'Becketts Creek.

Many entities of Country, including human and non-human, plant and animal rely on these interconnected waters. If one part of the system is damaged, they all become damaged. Therefore, it is imperative the waters and all systems related to the site are carefully considered and protected.

Key opportunity:

- Protect and consider the waters and all systems related to the Prospect Pipeline Corridor

References

Attenbrow, V. (2010). *Sydney's Aboriginal past: Investigating the archaeological and historical records*. Sydney: UNSW Press.

Foley, D., & Read, P. (2020). *What the Colonists Never Knew*. Canberra: National Museum of Australia Press.

Kohen, J. L. (1986). *Prehistoric Settlement in the Western Cumberland Plain: Resources, environment and technology*. (Doctor of Philosophy). Macquarie University, Sydney NSW.

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Office of Environment and Heritage. (2020b). *Sydney Turpentine-Ironbark Forest in the Sydney Basin Bioregion - profile*. Retrieved from <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10789>

Simms, G. (2021, 16 April). [Yarn with Uncle Greg Simms].

Ecology

Cumberland Plain Woodland (Office of Environment and Heritage, 2020a) and Turpentine Ironbark Forest (Office of Environment and Heritage, 2020b) are ecological communities found in the Cumberland Plain, including along the Lower Prospect Canal Reserve and Prospect Pipeline Corridor. The Cumberland Plain Woodland typically occurs on heavy clay soils derived from Wianamatta Shale. Well adapted to drought and fire, the understorey plants often rely on underground tubers or profuse annual seed production to survive adverse conditions. Cumberland Plain Woodland is habitat for threatened species such as the Cumberland land snail (*Meridolum corneovirens*). Turpentine Ironbark Forest occurs close to the shale/sandstone boundary on the more fertile shale influenced soils, in higher rainfall areas on the higher altitude margins of the Cumberland Plain, and on the shale ridge caps of sandstone plateaus. A transitional community, between Cumberland Plain Woodland in drier areas and Blue Gum High Forest on adjacent higher rainfall ridges. These ecological communities are both critically endangered due to colonial behaviour including land clearing, introduced weeds and other plants, grazing and run off. Both flora and fauna related to this site are now critically vulnerable due to the impacts of colonisation, and are susceptible to invasive species.

This implies that great care and sensitivity must be taken in regard to this place, especially not to perpetuate colonial ways of being, doing and thinking. There is a unique opportunity to re-establish clusters of these ecological communities and extend them further east.

Despite experiencing the first impacts of colonisation, Aboriginal peoples in Western Sydney still care for Country and express culture through cultural practices such as:

- application of appropriate fire regimes through the engagement of Aboriginal people to use cultural fire management, and
- allowing waterways to flow and be protected from pollutants and agricultural pressures.

Key opportunity:

- Incorporate cultural maintenance as an antidote to colonial practices and spaces to share culture and knowledge about Country.



View over Prospect Reservoir from George Mauder Lookout

The Context

2.5 HERITAGE





Lower Prospect Canal and later above-ground pipelines, which comprise the study area are a product of the broader system of water provision for the city.

The Lower Prospect Canal was finished in 1888 as a part of the Upper Nepean water scheme which collected water from a series of dams on the top of the Illawarra Escarpment, transmitted it to Prospect Reservoir and then eastwards via a system of channels and pipes to urban distribution reservoirs throughout Sydney. The Lower Prospect Canal was a notable feat of engineering because as it was designed to fall only 2 degrees over 7.7km which is approximately 1 in 10,000 (source WaterNSW).

As part of a broader renewal of Sydney's water system the Canal was de-commissioned in 1995 and was considered as potential saleable land by the government of the time. Local residents formed the Canal Reserve Action Group (CRAG) which promoted a series of plans to various government bodies. The former canal was successfully transformed into a shared bicycle and walking path which was opened between 2001 and 2003 (Source: OEH & CRAG).

The pipelines which extend along the corridor are themselves heritage items.

No.	Name	Heritage reference no.
1	Prospect Reservoir & Surrounds - Old Prospect Outlet Tower	SHR01370
2	Prospect Reservoir & Surrounds - Lower Valve House	SHR01370
3	Lower Prospect Canal	SHR01945
4	Boothtown Aqueduct	LEP152/A2
5	Pipehead Complex	SHR 01629
6	Potts Hill Reservoir	SHR 01333
7	Pipehead to Potts Hill Pipelines	4570097
8	Water supply pipelines, part of the Upper Nepean Scheme	4575806

-  Study area
-  Heritage item
-  Environmental heritage
-  Heritage conservation area

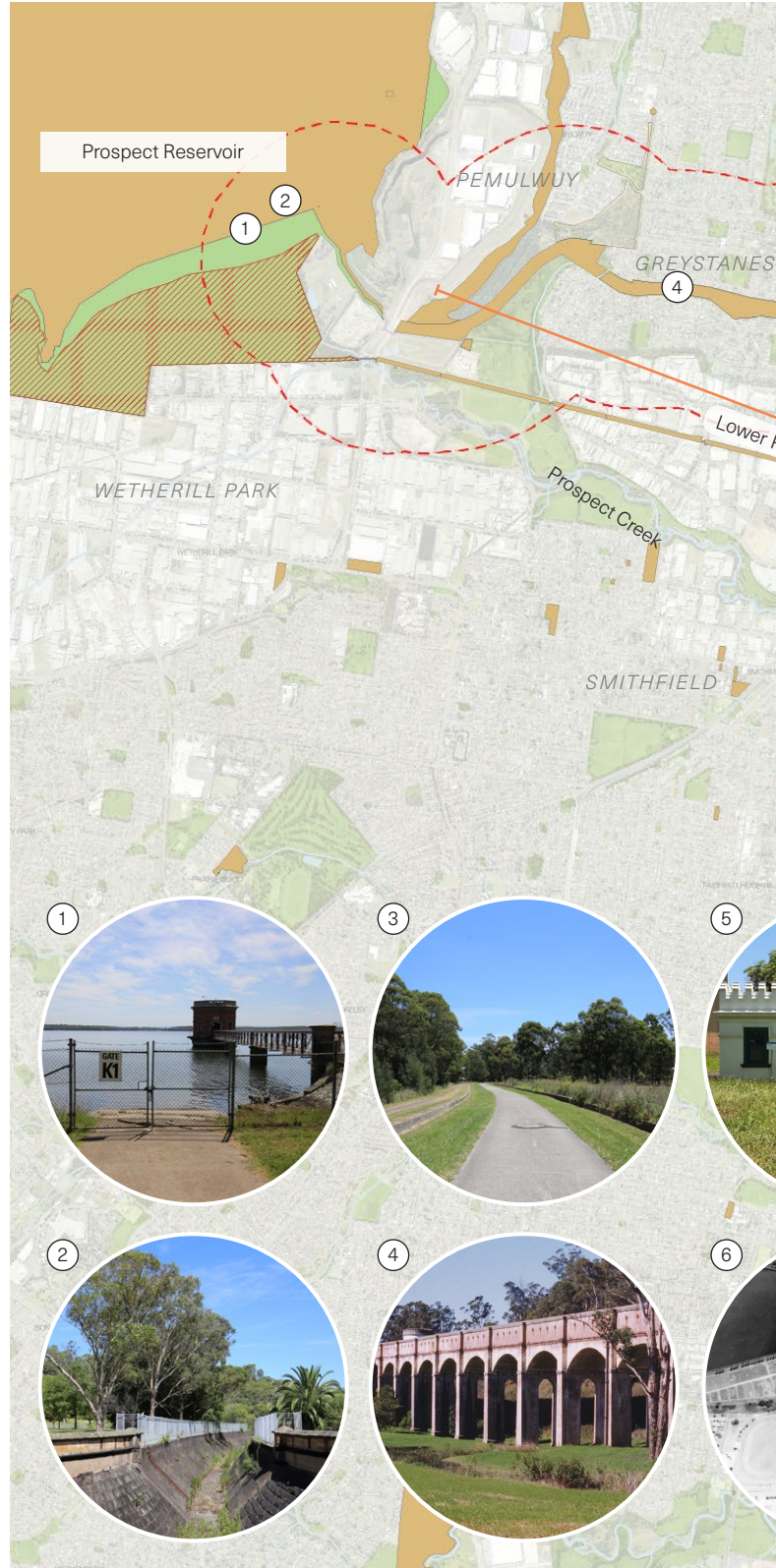
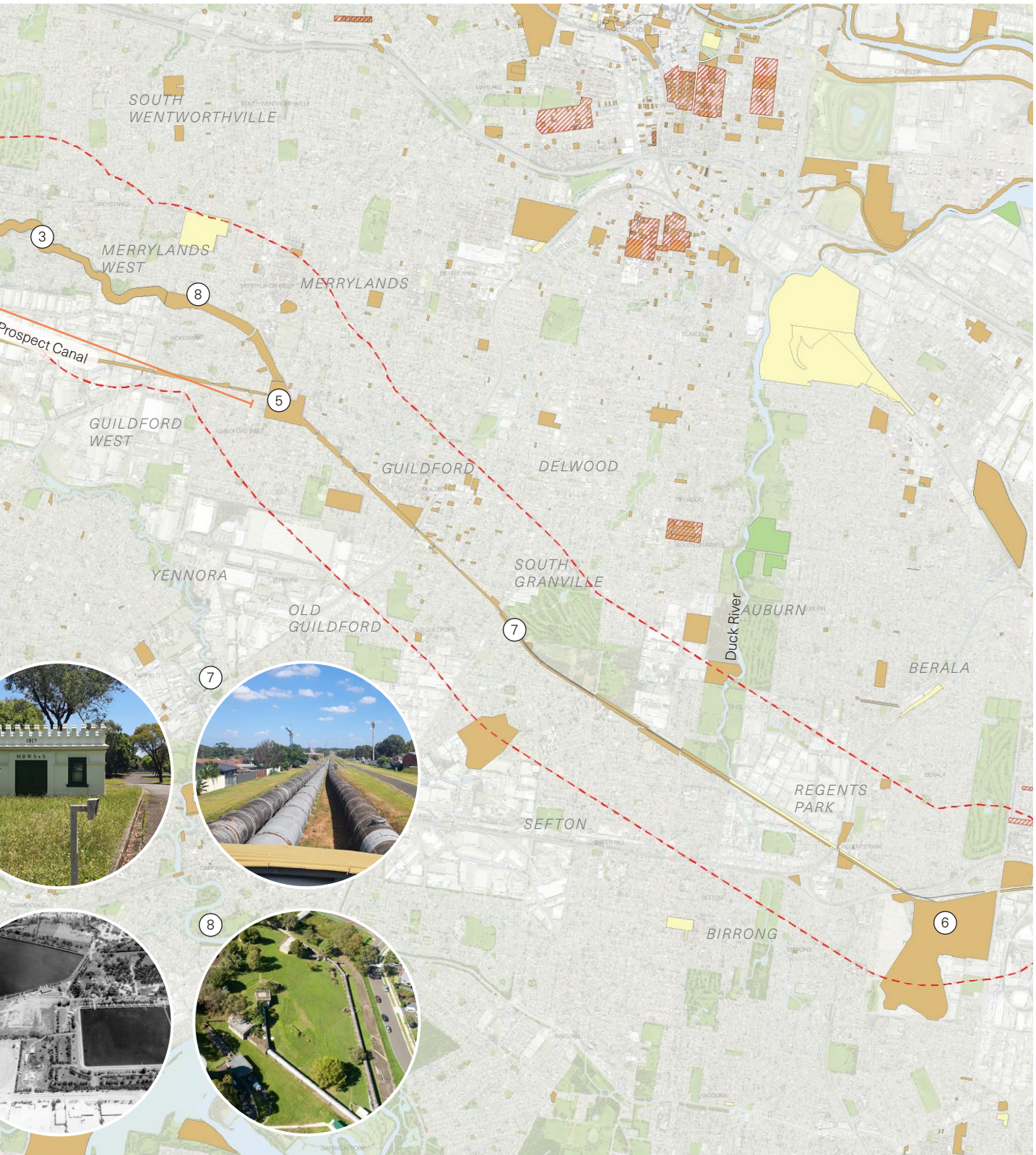


Figure 11: Heritage

The Context



2.6 PEOPLE

The Prospect Pipeline Corridor traverses the three Local Government Areas (LGAs) of Cumberland City Council, Fairfield City Council and City of Canterbury Bankstown, all of which are characterised by highly culturally diverse community and significant forecast population growth.

Public open space plays a critical role in creating liveable, productive, sustainable and resilient places. It can provide space for important social connections, allowing the community to meet each other and interact, come together to share and celebrate, as well as connect with the natural environment. The COVID-19 pandemic particularly highlighted the important role high quality public open spaces play in our communities.

The importance of quality and accessible public open space is well recognised across all levels of Government in Australia and internationally. At the Council level, open space and recreation planning has identified a lack of comfortable open space within the Study Area.

Population characteristics can provide an indication of open space and recreation needs. The following pages provide a summary of demographic indicators for open space needs, including Figure 21 - Spatial population characteristics - a map of demographic indicators (by suburb) within the Study Area.

The key aim of Cumberland's Council's strategic planning in relation to open space and recreation planning is ensuring that Cumberland is a great place to live that encourages healthy and active lifestyles, supported by a variety of high quality community facilities, public, green and open spaces, services and activities that are in line with community expectations, population growth and intended uses.

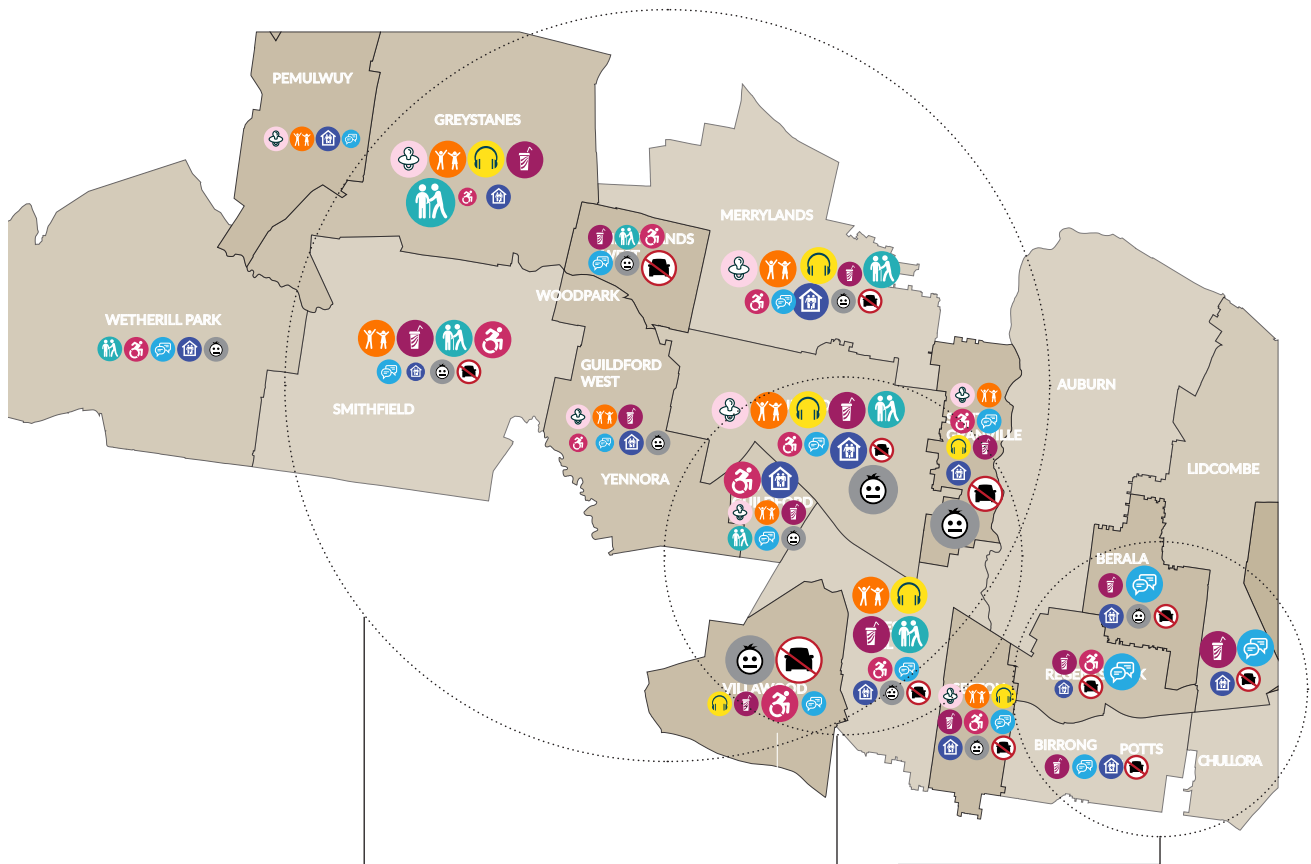
- Cumberland Open Space and Recreation Strategy
2019 - 2029

Universal open and recreation needs

Some open space needs are universal. All residents, visitors, pedestrians and cyclists around the Prospect Pipeline Corridor would benefit from the following:

- **Active, green, walkable streets** to better connect the residential and employment zones, local parks, train stations, schools and community destinations into the corridor, particularly high growth areas with low provision of open space.
- **Off-road walking routes** could be delivered along the Corridor to create a continuous, comfortable recreational corridor through upgraded comfort, amenity and quality of access along the length of the pipeline.
- **More places to exercise** such as attractive and safe walking circuits along streets and in open space areas and outdoor gyms.
- **Safe spaces for use throughout the day** and night to encourage higher levels of use and activity after dark (e.g. after dinner walks or post work exercise).
- **Shaded and comfortable spaces** through provision of increased tree canopy and places to stay along the Corridor.
- **More places to relax** - The Cumberland Parkscape Survey found that the community like using the parks for relaxing, meditation and mindfulness, and to enjoy the 'peace and quiet', as well as walking, jogging and cycling.
- **Increased permeability and visual corridors from surrounding areas into the corridor** to improve passive surveillance and access.
- **Improved access to and enjoyment of local destinations along the corridor**, including Boothtown Aqueduct (in Greystanes) is a State Heritage listed, hidden gem that is bikefriendly. There is an opportunity to better celebrate this asset and raise awareness about the recreational offer there.

The Context



Distinctive characteristics:

- High proportions and numbers of babies, children and teenagers and young workforce
- Higher proportion and numbers of seniors and elderly
- Higher proportions of people in need of assistance

Distinctive characteristics:

- Very high levels of youth disengagement (up to 20%)
- Higher proportion of households that don't own a car

Distinctive characteristics:

- Language other than English at home
- Students and young workforce (18 to 24)
- Larger household sizes
- Lower car ownership
- Less children, families and older people

Figure 12: Spatial population characteristics

	Babies and pre-schoolers (0 to 4) (Over 7.4% or over 1,000 people)		Need for assistance due to disability (Over 5.6%)
	Primary schoolers (5 to 11) (Over 9.8% or over 1,000 people)		Speak a language other than English at home (Over 43.6%)
	Secondary schoolers (12 to 17) (Over 7.8% or over 1,000 people)		Average household size (Over 3 people)
	Tertiary education and independence (18 to 24) (Over 9.6% or over 1,000 people)		Disengaged youth (over 9.9%)
	Seniors and Elderly (70+) (Over 8.1% or over 1,000 people)		Households without a car (over 7.8%)

The Context

Age profile

Infants

Suburbs like Pemulwuy, Sefton and Old Guildford have 10% more children (0-4 years) than Greater Sydney area. Suburbs with over 1,000 babies are Greystanes, Merrylands Central and Guildford East.

Priorities in these areas:

- Accessible pathways for prams, scooters
- Access to public toilets

Opportunities in these areas:

- For play and exploration in nature - which is important for children's growth and development

Children

Suburbs with the highest *proportion* of children (5 to 11) are Old Guildford (13.1%), Pemulwuy (12%), and Guildford West-Woodpark-Smithfield (10.9%).

Suburbs with the highest *number* of children are Greystanes and Merrylands Central, which are each home to over 2,000 children.

Priorities in these areas:

- Rich and layered play and learning experiences such as adventure or nature play, outdoor classrooms and bike trails

Young people

Suburbs with high *proportions* of young people (12 to 24) (more than 12%) include Guildford West-Woodpark-Smithfield, Guildford West-Yennora, Merrylands East, Guildford(East) and Villawood.

Suburbs with over 1,000 *number* of young people include Greystanes, Merrylands Central, Guildford East and Chester Hill.

In addition, all suburbs along the corridor have higher than WSROC average rates of disengaged youth (15-24yr olds, not employed or studying). Suburbs with particularly high proportions are Villawood, Guildford East and South Granville.

Priorities in these areas:

- Youth recreation spaces in locations with good passive surveillance, social seating areas, free public WiFi, creative lighting at night, connections to shops, public transport and community facilities

Older people

Areas with high proportions of older people (70+) (more than 10%) include:

- Greystanes - has almost twice as many people aged over 75 than any other suburb along the corridor
- Smithfield
- Merryland West

Priorities in these areas:

- Comfort and amenity upgrades such as places to sit, shade, toilets and accessible pathways

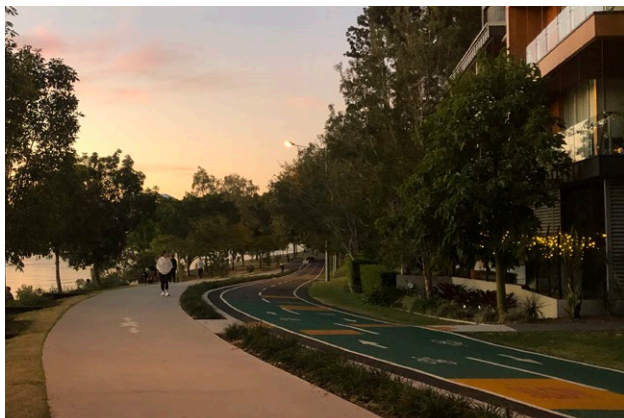


Figure 14: Active recreation corridor in Brisbane's West End - a linear park along the river overlooked by mid rise apartment blocks (Source: Cred Consulting)



Figure 13: Barbara Street Children's Playground is an example of a Local Level 2 park that services the needs of Children living in High Density (Source: Fairfield City Council)

The Context

Family size

A significant proportion of suburbs along the corridor have a higher than average proportion of larger families, particularly in Merrylands East, Guildford East, South Granville-Chester Hill, Guildford West-Woodpark- Smithfield, Lidcombe South-Rockwood, Sefton, Birrong-Regents Park-Potts Hill, Wetherill Park, Smithfield and Old Guildford.

Priorities in these areas:

- Places for larger group gatherings in open spaces supported with seating and BBQ areas to encourage socialisation and adoption of the corridor open space as extension of the backyard

Cultural diversity

All areas along the pipeline have more than 50% of residents who speak a language other than English at home. The main places of birth outside of Australia are Lebanon, Iraq, China, and India.

Berala, Regents Park, Lidcombe North and Lidcombe South-Rockwood have 70% or more population who speaks a language other than English at home. In areas like Guildford West-Yennora, Merrylands Central, Merrylands East, Berala, Regents Park, Lidcombe North, Lidcombe South-Rookwood there are over 10% of the population who arrived in Australia between 2011-2016.



Figure 15: Informal recreation along the Duck River corridor] (Source: Cumberland City Council)

Priorities in these areas:

- Design public spaces that reflect and welcome a range of different cultures
- Consideration of more frequent use of streets and public spaces at night by diverse cultural groups through the provision of creative lighting, after dark exercise opportunities, safety and passive surveillance
- Visual or multi language information signage

Socio-economics

There is socio-economic disadvantage for many households along the corridor, particularly in Cumberland LGA. Some areas are more significantly disadvantaged such as Villawood, Guildford East and West, Yennora, Merrylands West, and Chester Hill which have more than 25% of households earning less than \$650 per week.

Priorities in these areas:

- Free recreation and learning opportunities

People in need of assistance

The corridor has high proportions of people reporting a need for assistance. The suburbs of Merrylands West, Villawood, Chester Hill, Smithfield, Old Guildford have 8% or higher of the population with this need.

Priorities in these areas:

- Accessible pathways, walking loops, disabled toilets, pick up/drop off zones and universal play (children and adult)

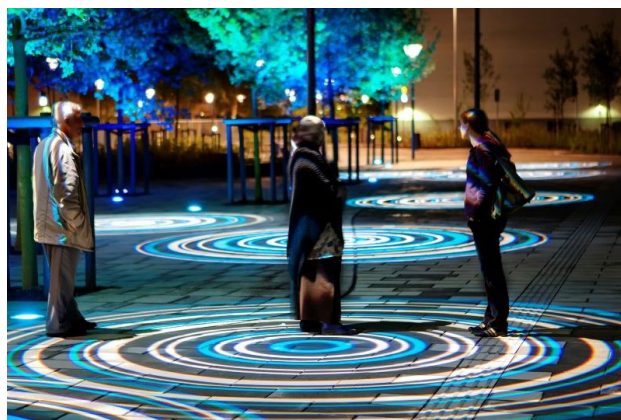


Figure 16: Creative lighting and wayfinding, Ishoj Station, Denmark

The Context

2.7 LANDSCAPE

Landscape Character

The landscape along the Prospect Pipeline Corridor varies markedly across its length.

The western portion of the pipeline largely follows the Lower Prospect Canal Reserve and is dominated by the vast Prospect Reservoir at its western end. It is typified by large established trees and the dramatic topography of Prospect Hill. The existing shared path, shaded by established tree canopy, weaves through suburban residential areas within Greystanes and Merrylands West. The corridor is generous, and adjoins public open spaces including Walder Park at Prospect Reservoir, Boothtown Reserve, Hopman Street Reserve and Canal Road Reserve.

This section of the corridor includes Boothtown Aqueduct, a unique local landmark. Constructed in 1883, this masonry arched structure stretches approximately 225m over the gully below with decorative valve houses at each end.

A dramatic shift in the landscape character occurs at the Guildford Pipehead Complex, around the centre of the corridor. It is at this point where the underground water supply pipes appear above ground. Access from the Guildford Pipehead Complex further east is highly restricted. Shared paths are diverted around the corridor, onto streets or adjacent to back fences. The path crosses multiple road crossings. Tree canopy cover is sparse, creating a hot and hostile environment for pedestrians and cyclists.









-  Corridor West
-  Corridor East
-  Study area
-  Waterways
-  Public recreation
-  Train line
-  Train station
-  LGA Boundaries



Figure 17: Image Reference Plan

The Context



The Context

The central area of the corridor has a high concentration of schools directly adjacent or near the Pipeline corridor. These include Sherwood Grange Public School, Merrylands High School, Cerdon College, St Patricks, Guildford, and Guildford Public School. The provision of safe, accessible, and active transport connections within this corridor would be highly beneficial for students and parents.

East of Guildford Town Centre, the corridor is dominated by the supply pipes that cut through the suburbs of Old Guildford, Chester Hill, Auburn, Sefton, and Regents Park. This portion of the corridor is not publicly accessible. There are several major roads which cross the corridor, posing a challenge to providing a continuous cycleway along the corridor's length.

Tree canopy is limited and occurs mainly within adjoining areas of green space including Woodville Golf Course (private land), Waddangalli Reserve, Campbell Hill Pioneer Reserve, at the intersection of Duck Creek.

Duck River, includes a series of public parks, trails, and nature reserves that extend from the northern edge of the pipeline corridor stretching north towards the Parramatta River. The future vision for Duck River developed by McGregor Coxall and Cumberland City Council, proposes enhanced recreational uses with an emphasis on improved linkages to the Pipeline Corridor. The future vision for Duck River proposes enhanced recreational uses with an emphasis on improved linkages to the Pipeline Corridor.

Key opportunities:

- Retain and enhance the existing landscape character where landscape has a significant presence
- Establish a complementary landscape character along the corridor itself

Vegetation

Originally the area would have been dominated by Cumberland Plain Woodland and its sub communities. Today, much of the original vegetation that has been cleared for mining and agriculture and only 9% of the original extent remains intact. This community is listed as a Critically Endangered Ecological Community in NSW.

Native vegetation communities are apparent in the western portion of the corridor, with patches along the existing pipeline corridor shared path, possibly planted during its construction around 2000. The eastern portion of the corridor around Regents Park features primarily industrial lands with limited vegetation.

Key areas of vegetation include:

- Re-establishing Cumberland Swamp Oak Riparian Forest, evident along Prospect Creek.
- Remnant Cumberland Shale Plains Woodland along the pipeline corridor in Greystanes and Merrylands West, Boothtown Reserve, Alpha Rd Park, Nemesis St Park and Cumberland Country Golf Club.
- Large patches of remnant Cumberland Plain Shale within Central Gardens Nature Reserve and Sherwood Grange Public School.

The Duck River offers an opportunity to enhance and connect vegetation communities that exist along this waterway. Key areas of vegetation within Corridor East include:

- Large areas of both Cumberland Shale Plains Woodland and Urban Exotic/Native species within Woodville Golf Course and Waddangalli Woodland Reserve
- Large patch of remnant Castlereagh Turpentine Ironbark Forest in Campbell Hill Pioneer Reserve along with patches of Cumberland Shale Plains Woodland.
- Potts Hill Reservoir consists of multiple vegetation communities including patches of Castlereagh Ironbark and Sydney Turpentine Ironbark Forest.

Key opportunities:

- Protect and enhance critically endangered vegetation and remove environmental weeds
- Enhance and connect vegetation communities along Duck River

The Context



Figure 18: Prospect Reservoir from George Mauder Lookout



Figure 21: Corridor West - Boothtown Aqueduct, Greystanes



Figure 19: Mature feature trees and undulating topography at Prospect Reservoir



Figure 22: Cumberland Shale Plain Woodland species planting alongside Lower Prospect Canal Reserve



Figure 20: District and city views from Prospect Hill



Figure 23: Supply pipes and road crossings at Regents Park

The Context

Canopy Cover

Urban heat and climate change are major issues that face Western Sydney. Increased tree canopy is an effective way to reduce the effects of urban heat. Urban tree cover not only cools the local environment, it also improves air quality, provides wildlife habitat and offers an attractive urban setting. Increasing tree canopy and green cover across Greater Sydney is a priority for the NSW State Government. The GANSW *Draft Urban Tree Canopy Guide* establishes a target of 40% tree canopy cover in suburban areas to combat urban heat.

Within the Prospect Pipeline Corridor, canopy cover varies greatly with a higher concentration of canopy cover evident towards the west and low canopy to the centre and east.

Generally, there are higher concentrations canopy cover (40% and above) within local parks, schools, nature reserves and golf courses adjoining the corridor. The surrounding residential areas also contribute to local canopy cover to a lesser scale, offering between 10-30% canopy cover. Industrial areas including Smithfield, Regents Park and Chester Hill, perform poorly delivering less than 10% canopy cover.

In the east, little to no canopy cover exists within the corridor itself with most trees occurring within adjoining streets and green spaces. Woodville Gold Course and Carnarvon Golf Club provide good canopy cover with more than 40%, although this land is privately owned and inaccessible to the general public. Waddangalli Reserve and Campbell Hill Reserve also provide over 40% canopy cover, as does areas around Duck Creek, highlighting the potential to create a linked canopy stretching to the north and south of the corridor.

Key opportunities:

- Provide tree canopy along the corridor to shade new cycle and pedestrian paths
- Connect to existing areas of tree canopy to extend canopy north and south of the corridor.

Amenity

Public amenity within the corridor is poor, with limited public seating on the shared path in the the western portion of the corridor. There is a dual opportunity for the corridor design; to not only provide more facilities in the corridor, but to improve connections between neighbouring parks and open spaces.

There is opportunity to substantially improve amenity by more closely associating adjacent parklands along the corridor, with wayfinding to rest stops, bicycle racks, drinking fountains, public toilets and outdoor fitness stations. The provision of targeted lighting at bridges and tunnels with sensor activation and fade out dimming will facilitate safety whilst also inhibiting disturbance to wildlife within the corridor.

New wayfinding and interpretive signage and outdoor learning spaces can make the corridor more accessible as well as provide diverse educational opportunities for residents and users.

A range of public facilities can be found within the adjoining parks and reserves including playgrounds at Boothtown Reserve, Greystanes Sports Ground, Central Gardens Nature Reserve and Jensen Park, sporting facilities at Greystanes Oval, Nemesia Street Park and along Duck Creek as well as recreational picnic spaces at Central Gardens Nature Reserve. Improved connections from these parks to the Pipeline Corridor will assist in providing a more accessible open space network for this community.

References

Source:
The Native Vegetation of the Sydney Metropolitan Area - Version 3.1
VIS_ID 4489, NSW Office of Environment and Heritage 2016

Key opportunity:

- Substantially improve amenity by introducing new rest stops, lighting, public toilets and outdoor fitness stations along the corridor

The Context



Figure 24: Cumberland Swamp Oak Riparian Forest



Figure 27: Native regeneration planting within Greystanes



Figure 25: Endemic Trees at George Maunder Lookout, Prospect Hill



Figure 28: Stands of mature specimen trees within Guildford Pipehead Complex

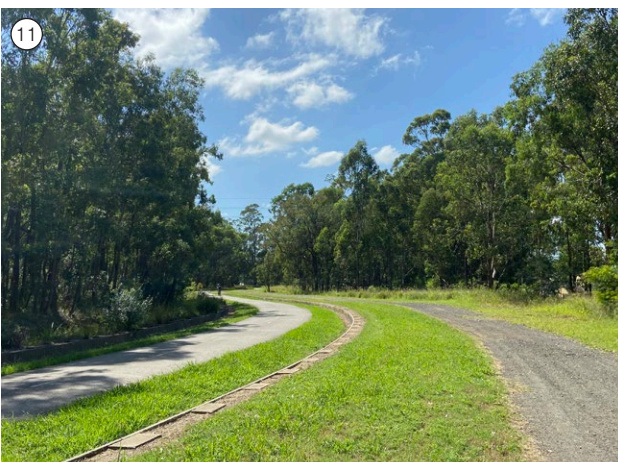


Figure 26: Endemic trees along existing shared path



Figure 29: Land is cleared around the corridor where there is only private access



Boothtown Aqueduct