JMD design

City Park

Landscape Analysis and Design Report August 2021

James Mather Delaney Design Pty Ltd Landscape Architects ABN 30 128 554 638

190 James Street Redfern NSW 2016 Australia



T +61 2 9310 5644 info@jmddesign.com.au www.jmddesign.com.au

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# Contents Site Analysis Utility Service Infrastructure Summary & Recommendations Site Analysis Opportunities Site Analysis Constraints Design Approach Key Principles Design Approach Spatial Arrangement Design Approach Entrance Statement & Connectivity Design Approach Activation Design Approach Roof & Cooling Design Approach Trees Design Approach Masterplan Strategies Parking and Traffic Circulation Strategies Cultural Interpretation and Public Art Strategies Lighting & ASP3 Strategies Wayfinding and Signage Strategies Stormwater Strategies Gas, Water & Sewer Strategies Furniture

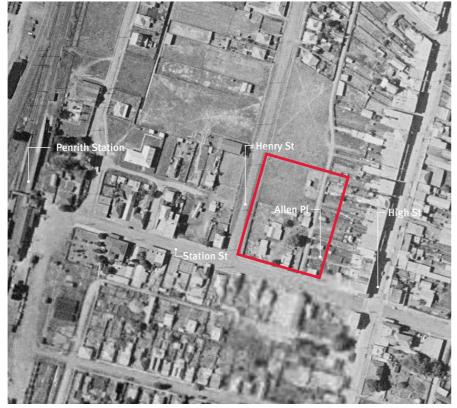
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The current site of City Park sits on the historical Parish of Castlereagh, County of Cumberland.

The land was originally owned by Captain Daniel Woodriff when Penrith began in 1815.

High Street was the major business district of Penrith from the late 1860s. Commerical businesses later spread along Station Street and Henry Street.

Currently the site is host to a portion of a large carpark and a handful of small businesses. Many of the businesses along High St back on to the adjacent Allen Place which is primarily used for parking and services.



1943 Aerial photo



1965 Aerial photo







1960 photo taken on High Street looking west.

Penrith Council

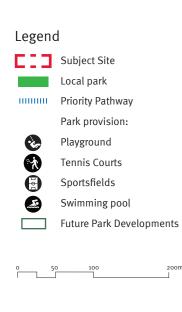


Surroundings, Open Space & Playgrounds

There is limited access to public open space within the Penrith City Centre. Memory Park & Triangle Park are the only 'green' open spaces, in the immediate surroundings however, they are of a smaller scale which limits the range of usage.

Providing green amenity to the business district of Penrith will improve pedestrian amenity and a recreational space for workers and shoppers within Penrith City.





1:5000 @ A3

Penrith Council

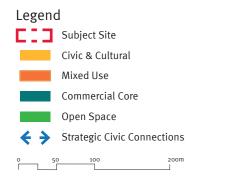
Character Areas

The Penrith City district is made up of a diverse range of businesses. High Street has a variety of mixed use, predominantly local businesses. This creates a cohesive street environment that is immediately recognisable as the 'main street'. To the North West of the site Westfield is a significant entity, it is internalised and mostly disconnected from its surrounding urban context.

The buildings along Station Street have predominantly commercial and community uses with limited business shop frontages.

To the north of the site along Henry Street is the old council chambers and NSW Tafe.





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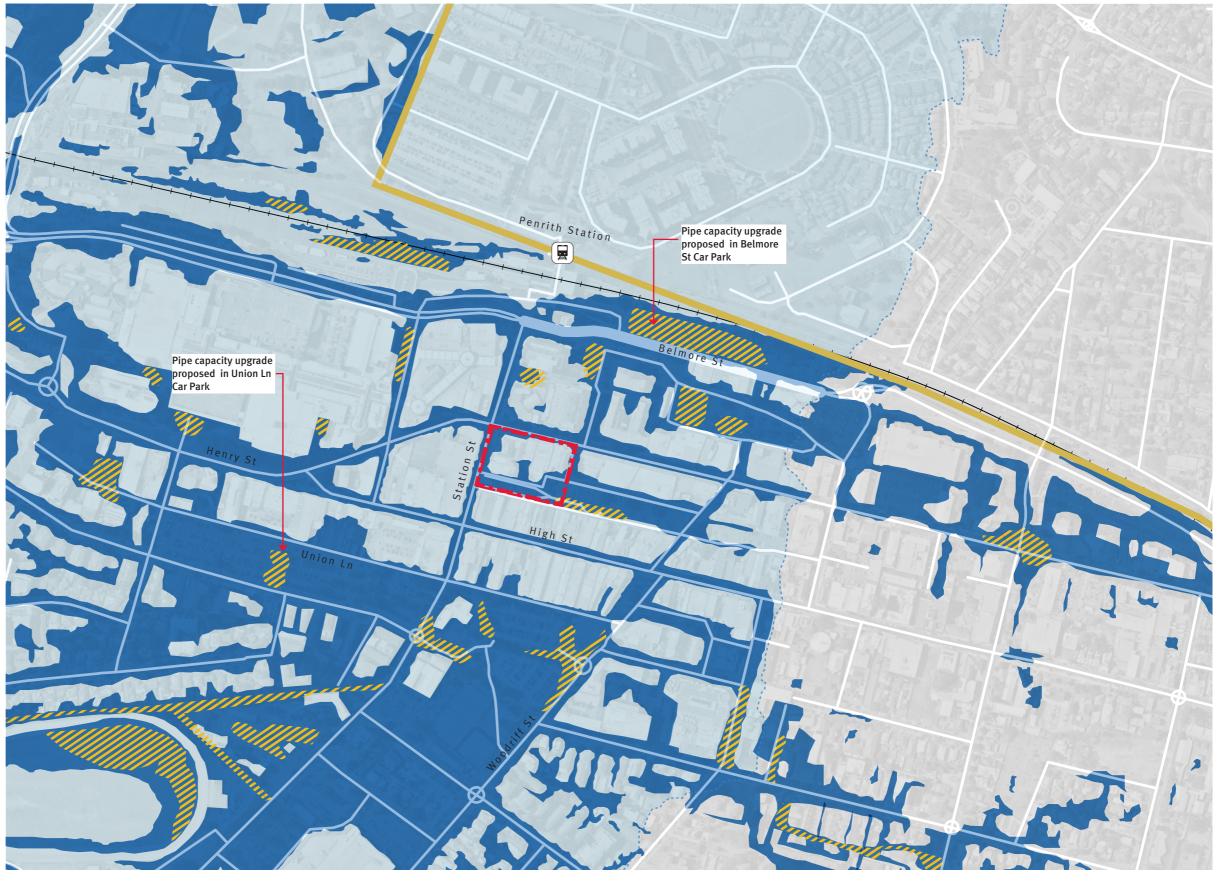
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Flood Analysis

Penrith City lies within the Hawkesbury -Nepean Catchment and is dominated by rivers, creeks, waterways and associated tributaries, the most significant being the Nepean River and South Creek. Both systems are accompanied by wide open floodplains.

The City Park site is subject to the 1:100 YFL and also possible local flooding in low-lying areas where water may pool.



# Legend Subject Site Extent of Study Area Local Flooding (PMF) Nepean River Flooding (PMF) 20% AEP Event Recommended Mitigation Works Source : Penrith CBD Floodplain Risk Management Study and Draft Plan (Oct 2019), Molino Stewart

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Penrith Council

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Existing Tree Analysis

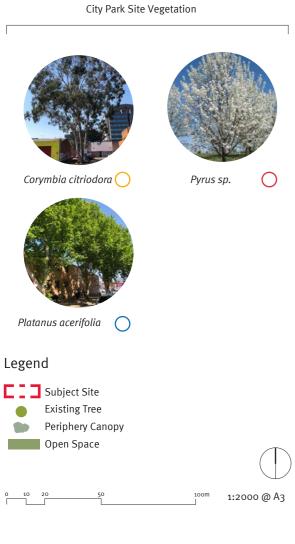
#### **Existing Environment**

Penrith's vegetation is associated with the critically endangered Cumberland Plain Woodland. Penrith City Centre has mix of street trees in varying conditions. There is minimal tree planting due to the substantial number of awnings along the street edges.

The subject site is home to a well established cluster of Corymbia citriodora whilst a Platanus acerifolia lines the eastern boundary.

There is a healthy row of Eucalyptus trees growing along Henry Street west toward the Joan Sutherland Centre.

Along Station Street there are some existing trees that have growth defects due to the existing awnings.





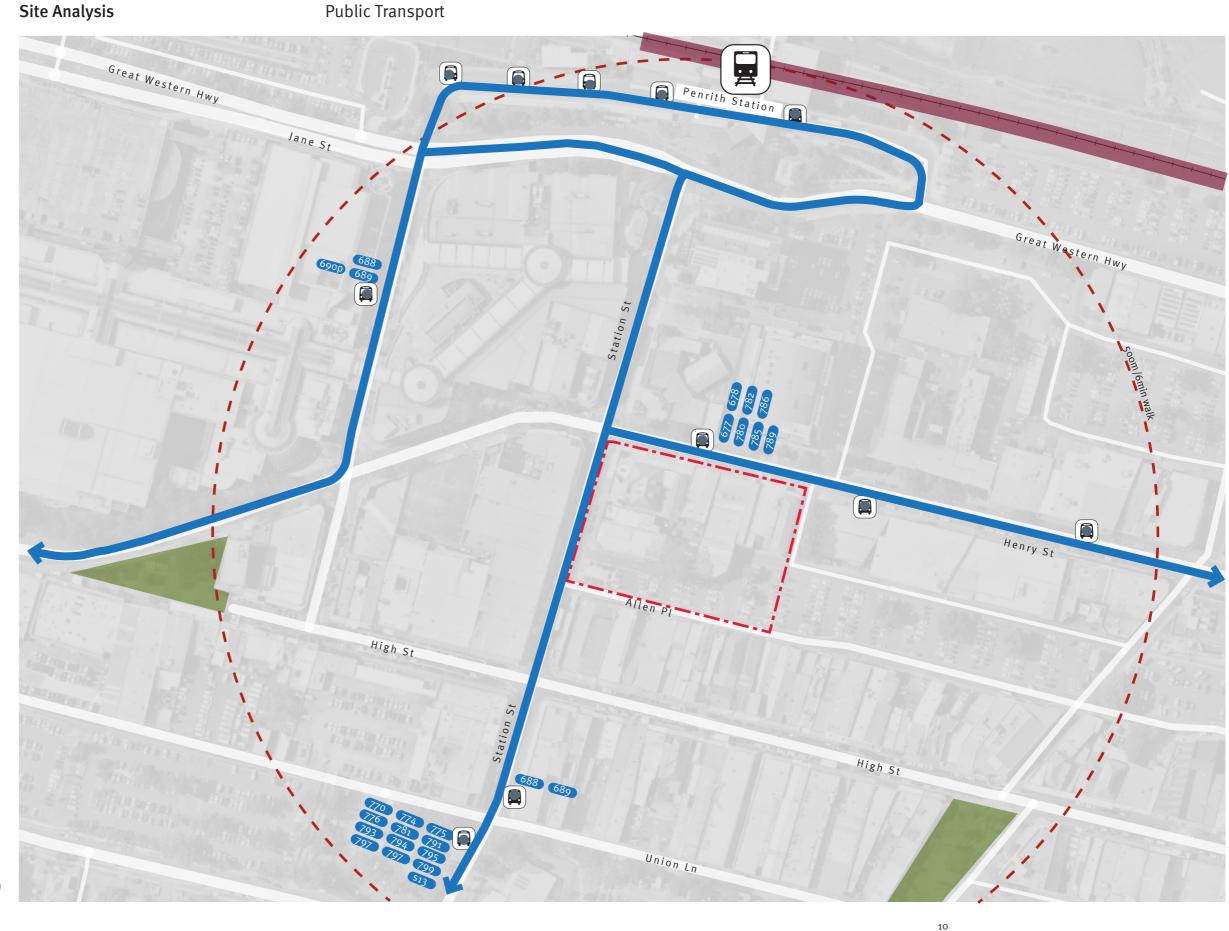
Penrith Council

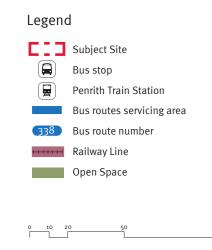
Penrith is located on the public transport rail network on the outer fringe of Sydney, 50km west of the City centre.

The station is serviced by trains running on the T1 Western line which runs east to the City and West to the Blue Mountains.

The Station is the major public transportation connection into Penrith. The Penrith bus interchange is co-located with the Railway Station.

A large number of bus routes operate out of Penrith to connect with the surrounding region. There is a bus stop opposite the subject site along Henry St that services a number of bus routes.





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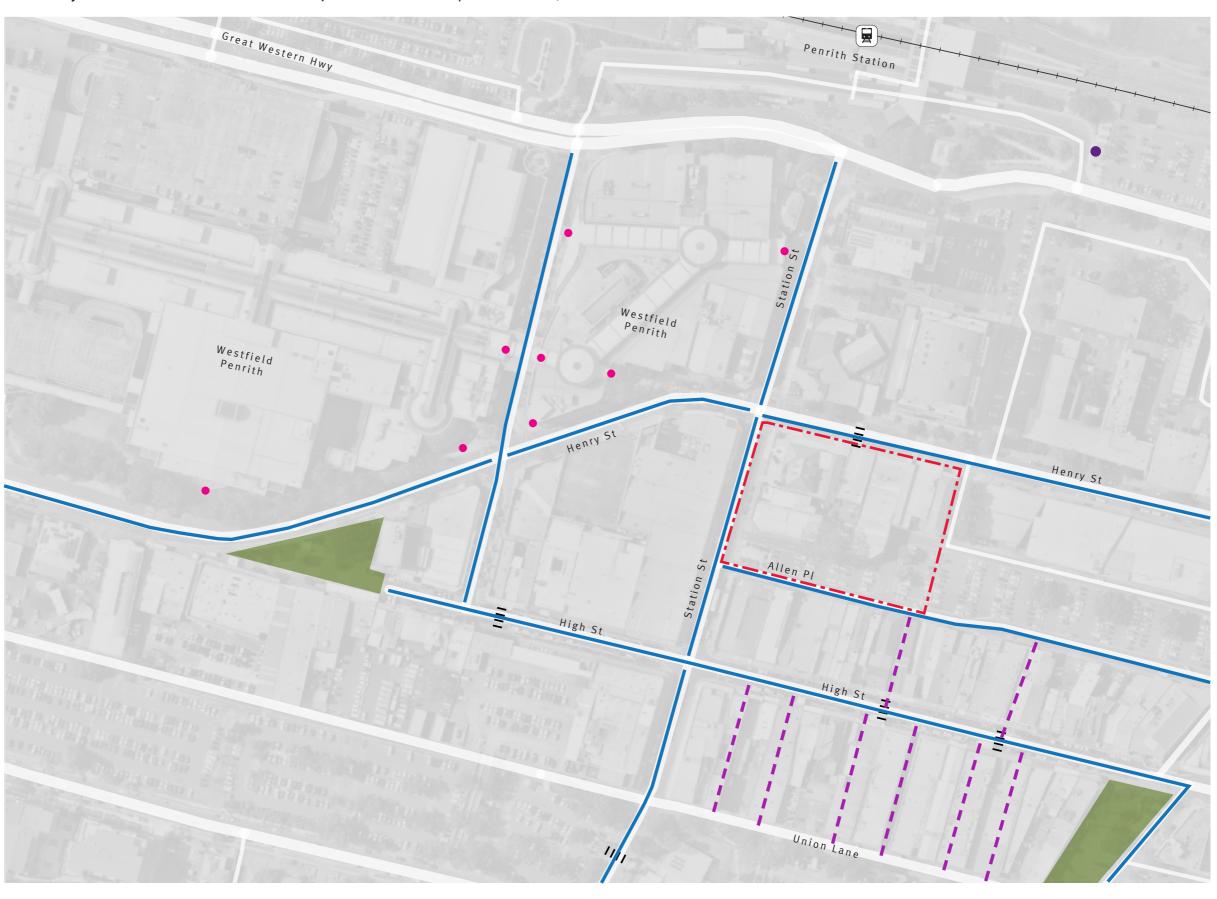
100M

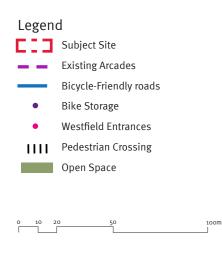
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Cycle & Active Transport Network / Civic Circulation

Currently the Penrith City area has not implemented major Cycle infrastructutre other than road markings to identify shared roadways. There is limited bike storage within the shopping district with the only major storage area at the Penrith station.

Civic circulation is made more effective through the multiple pedestrian arcades connecting High Street with adjacent blocks. Arcades make a valuable contribution to the public domain, they provide enhanced pedestrian amenity.





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Penrith Council

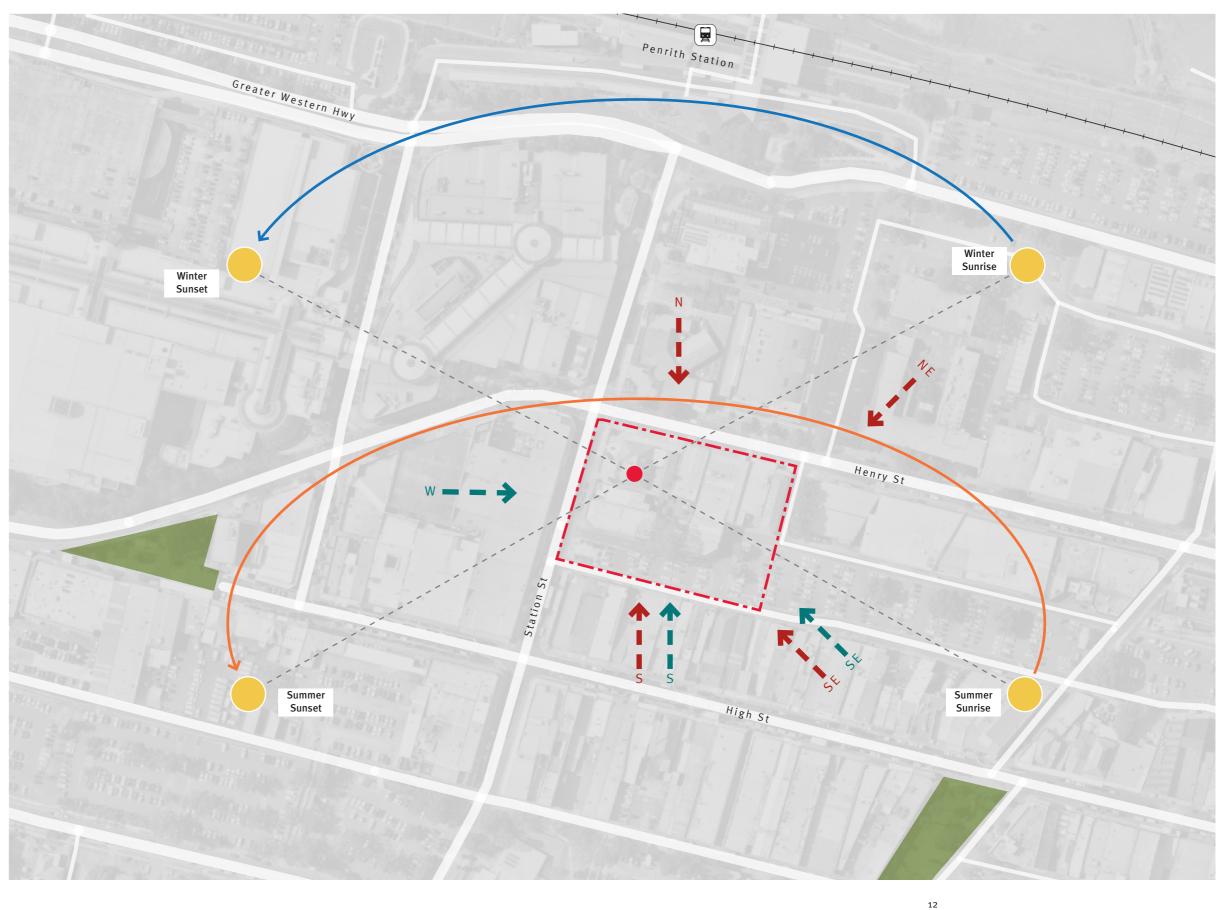
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Solar & Wind Analysis

Penrith has a humid subtropical climate with hot summers and mild to cool winters.

In recent years temperatures in summer have reached a high of 48.9 degrees with an average high temperature for Janurary of 31.2 degrees.

It is important the future park responds to the severe temperatures Penrith is subject to. Utilising prevailing winds and providing shade will mitigate the impact.





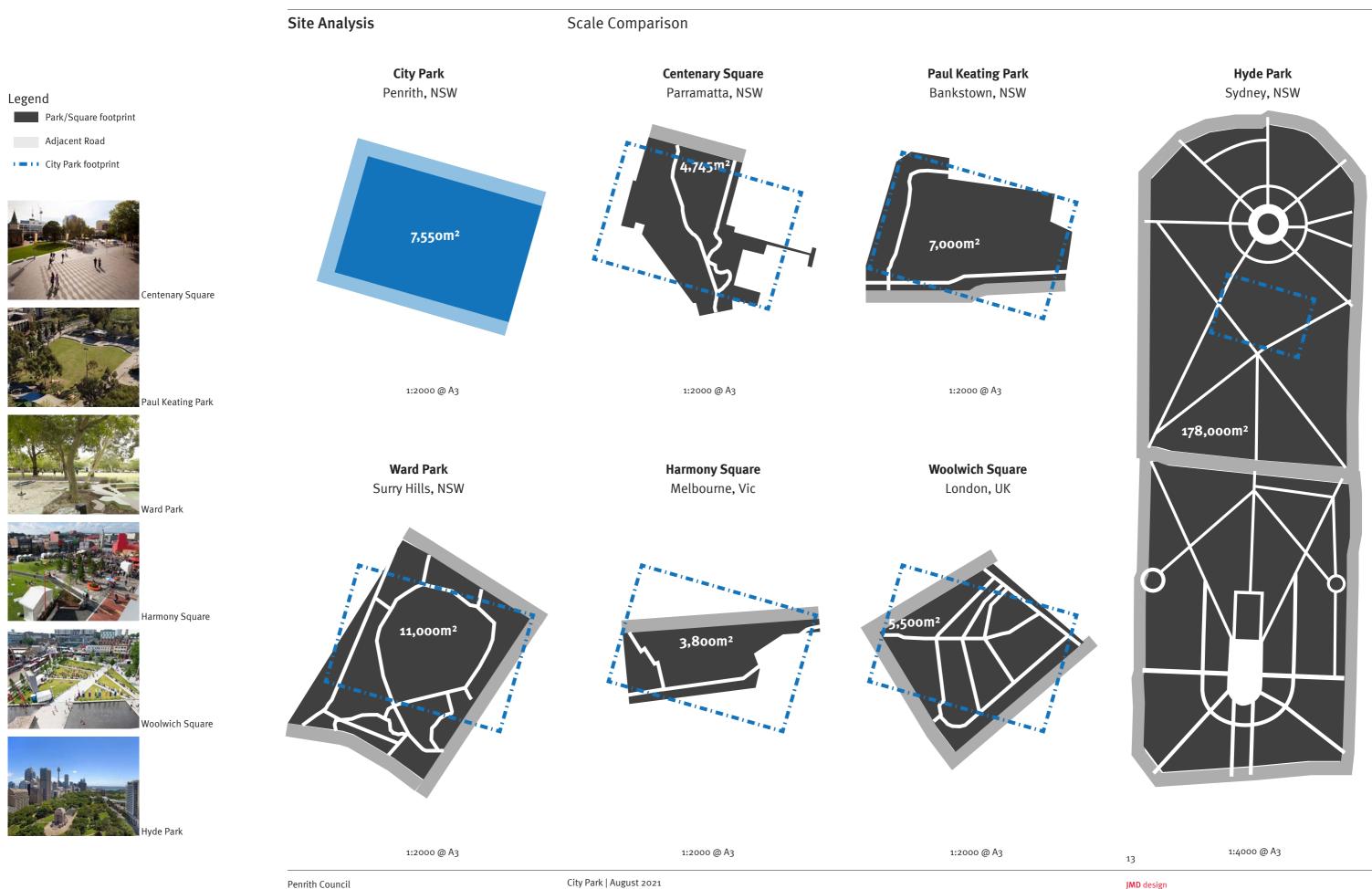
1. Windtech - Pedestrian Wind Environment Statement Henry Street, Penrith, 2017 2. Suncalc.org

0 10 20 <u>5</u>0 100m

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Penrith Council

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Event Capacity - Opportunities

#### 2 People per Square Metre

Legend

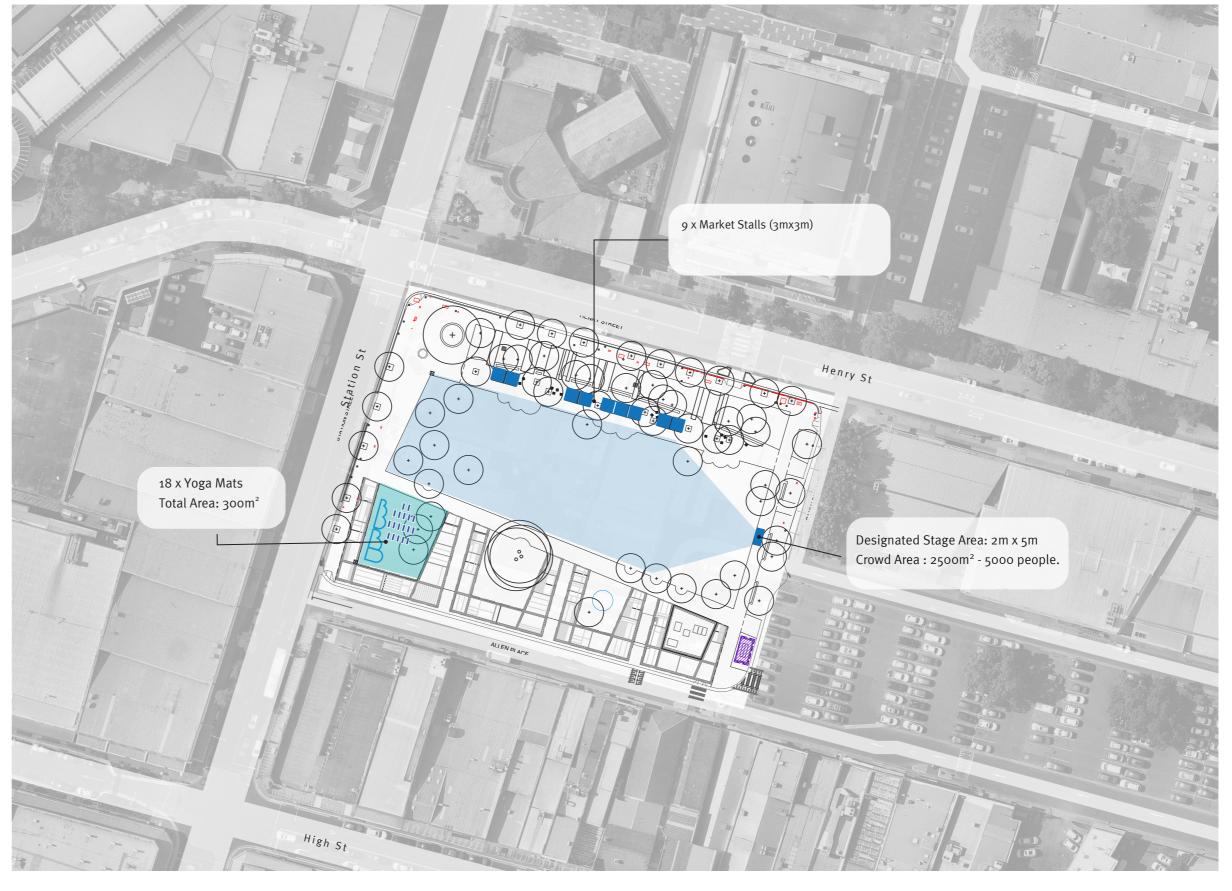
Subject Site

Small Scale Event

Market Stalls 3x3m

Yoga Mats (180cm x 61cm)

Source: Event Safety Guide (Second Edition), 1999, Health and Safety Executive, UK



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Penrith Council

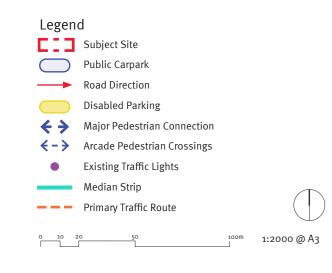
Existing Traffic Circulation & Parking

Within the Penrith City Centre there are a large number of off-street parking stations, and most of the streets have on street parallel parking bays which are timed.

The are 6 large open-air car parks within the City Centre while the Westfield also provides a large internal carpark that accommodates over 1000 vehicles. Time limits vary between two hours and unlimited.

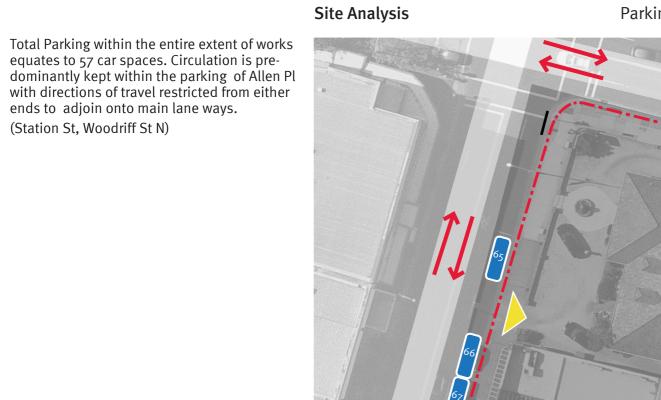
The City Centre experiences both local and through traffic. The primary traffic route is Henry St which is the continuation of the Great Western Highway.

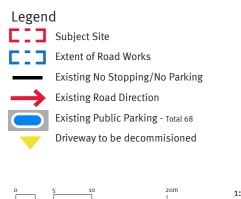
Station St provides the primary north-south traffic connection through the City Centre. It provides an important loop for vehicles moving around the centre.



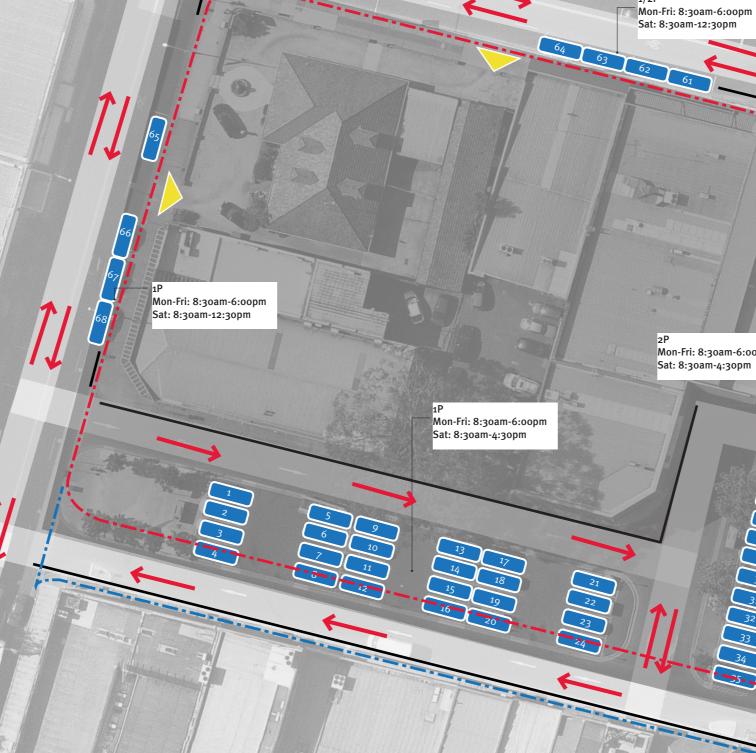


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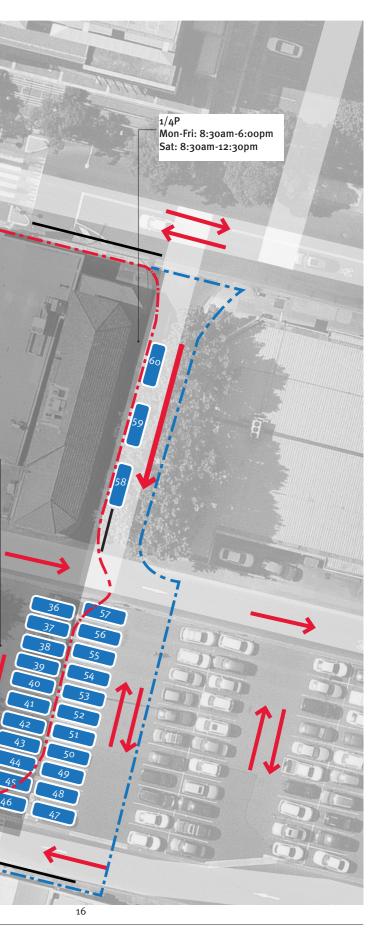
Parking and Traffic Circulation

1/2P

2P Mon-Fri: 8:30am-6:00pm Sat: 8:30am-4:30pm

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Penrith Council



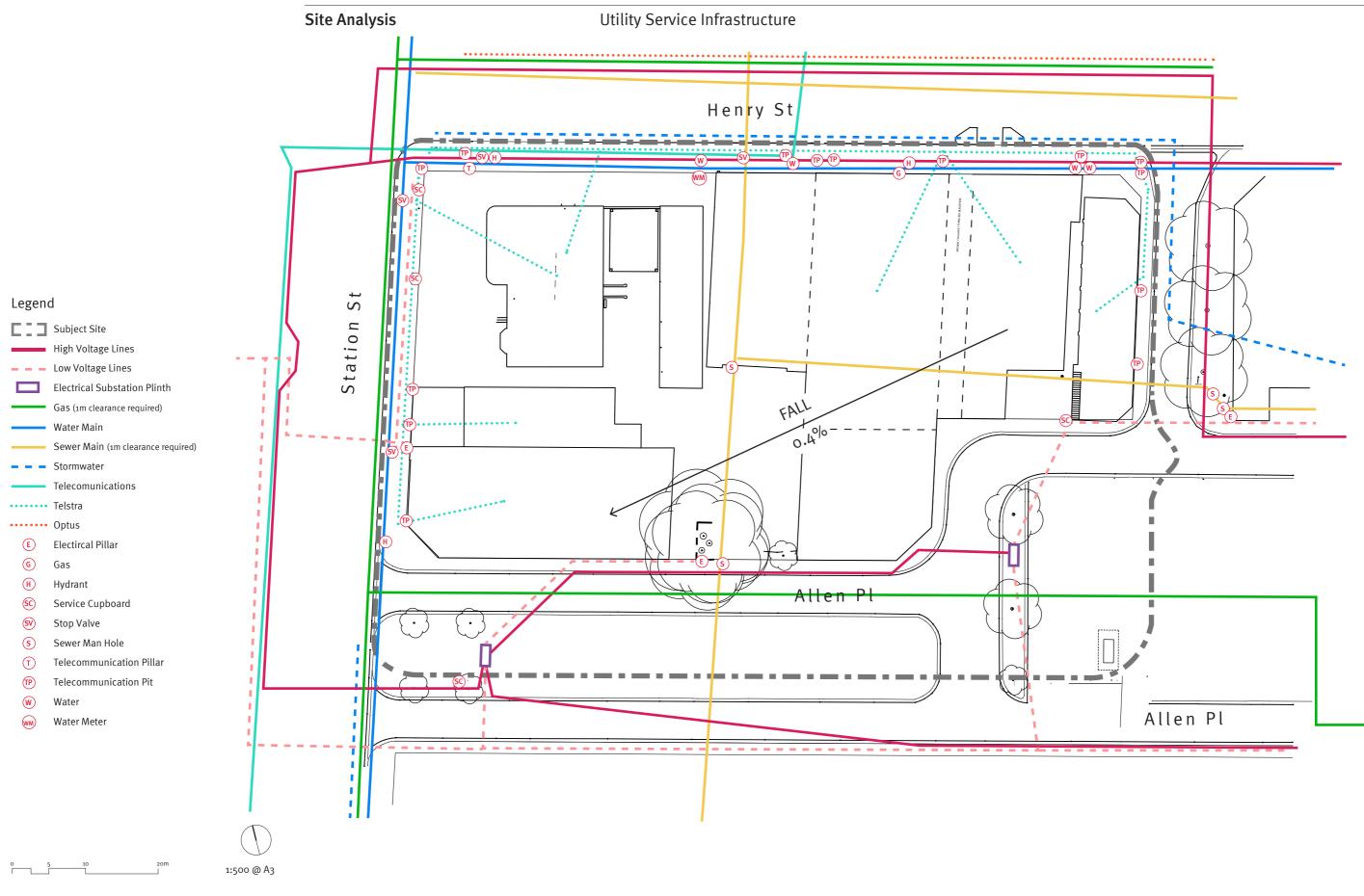




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Penrith Council

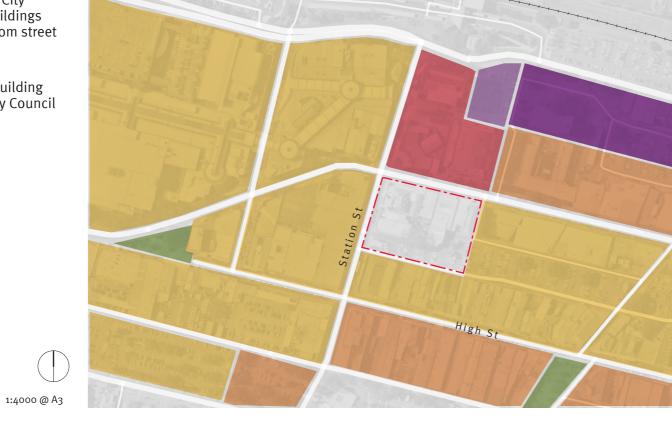


#### Maximum Street Frontage Heights

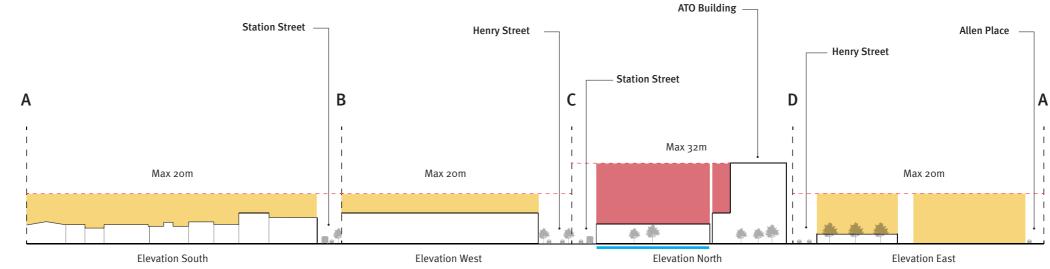
#### Elevation Key Plan

Building heights play a significant contribution to the character of the City Centre. The scale and use of the buildings throughout the City Centre varies from street to street as well as along streets.

This page analyses the maximum building heights permitted in the Penrith City Council DCP.







#### Legend

Legend

Subject Site Open Space

20M 24m 32m

56m

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Maximum Building Heights

---- Maximum Building Height

LEP Key Site - May exceed maximum allowable building height if mitigation of impacts can be demonstrated 1:1500 @ A3

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Lighting Analysis





Allen Place Carpark





Station Street

Station Street



Triangle Park

# Legend

C:3	Subject Site
	Substation to be upgraded
	Substation to be decomissioned
	Electrical cupboard to be decomissioned
	Existing Lightpoles -
•	Approx. 10.5m high

- Approx. 6m high
- Approx. 15m high
- P2 Lighting Level ( Monday to Thursday- dim to P3 level after 1am. Friday to Sunday - do not dim)

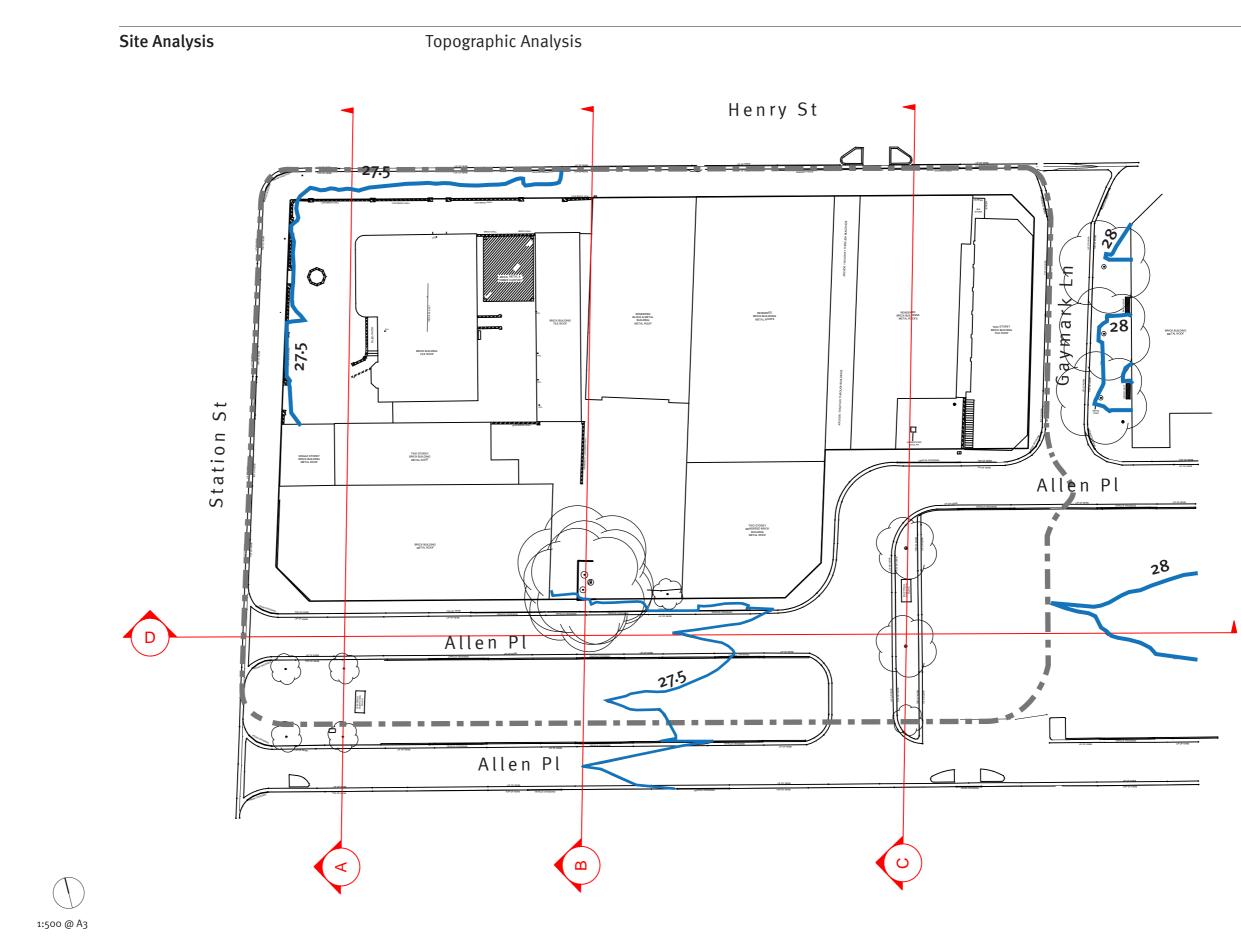


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Source : Penrith City Council Pedestrian Lighting Strategy 2017

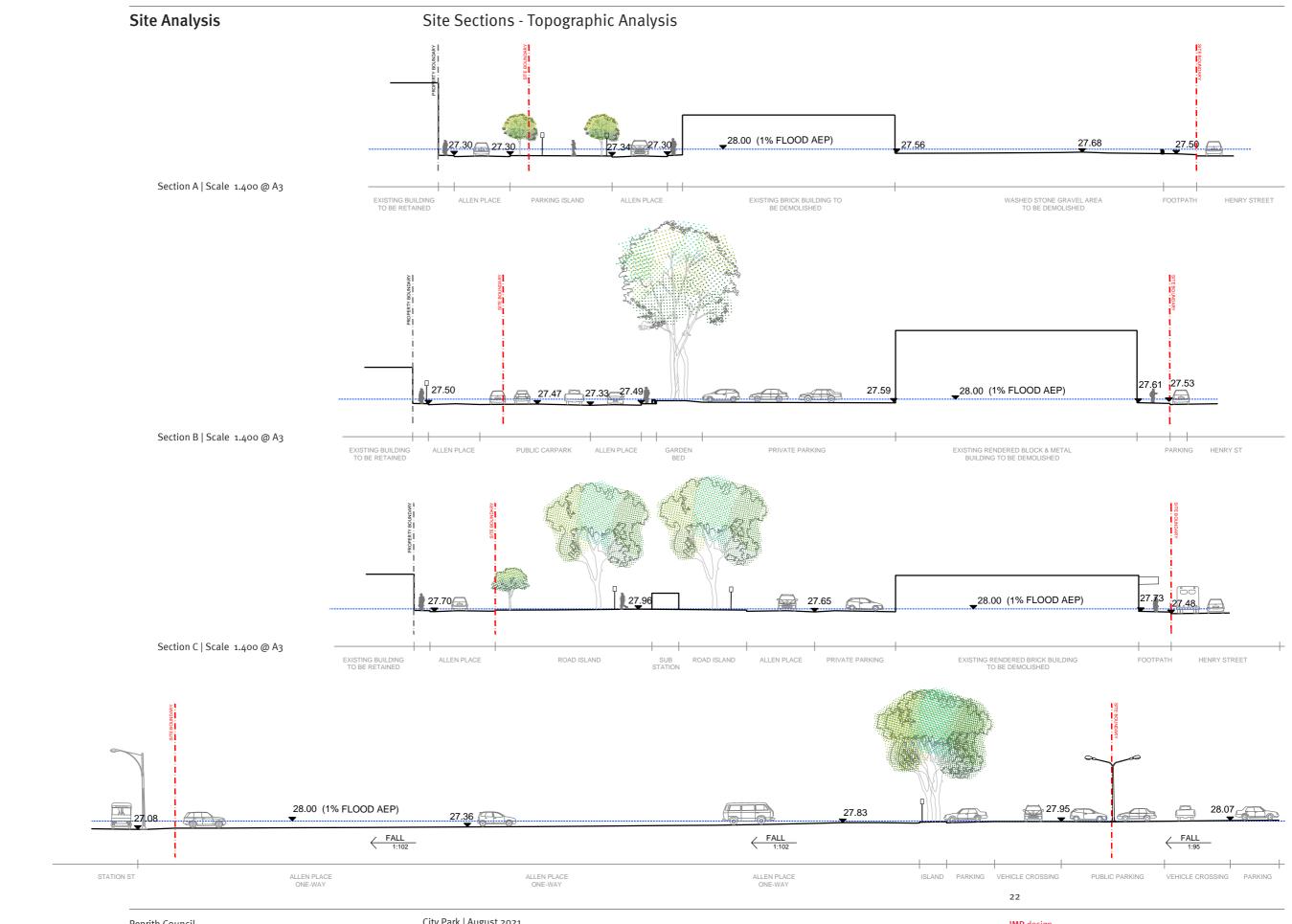
Penrith Council

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20m

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Section D | Scale 1.400 @ A3

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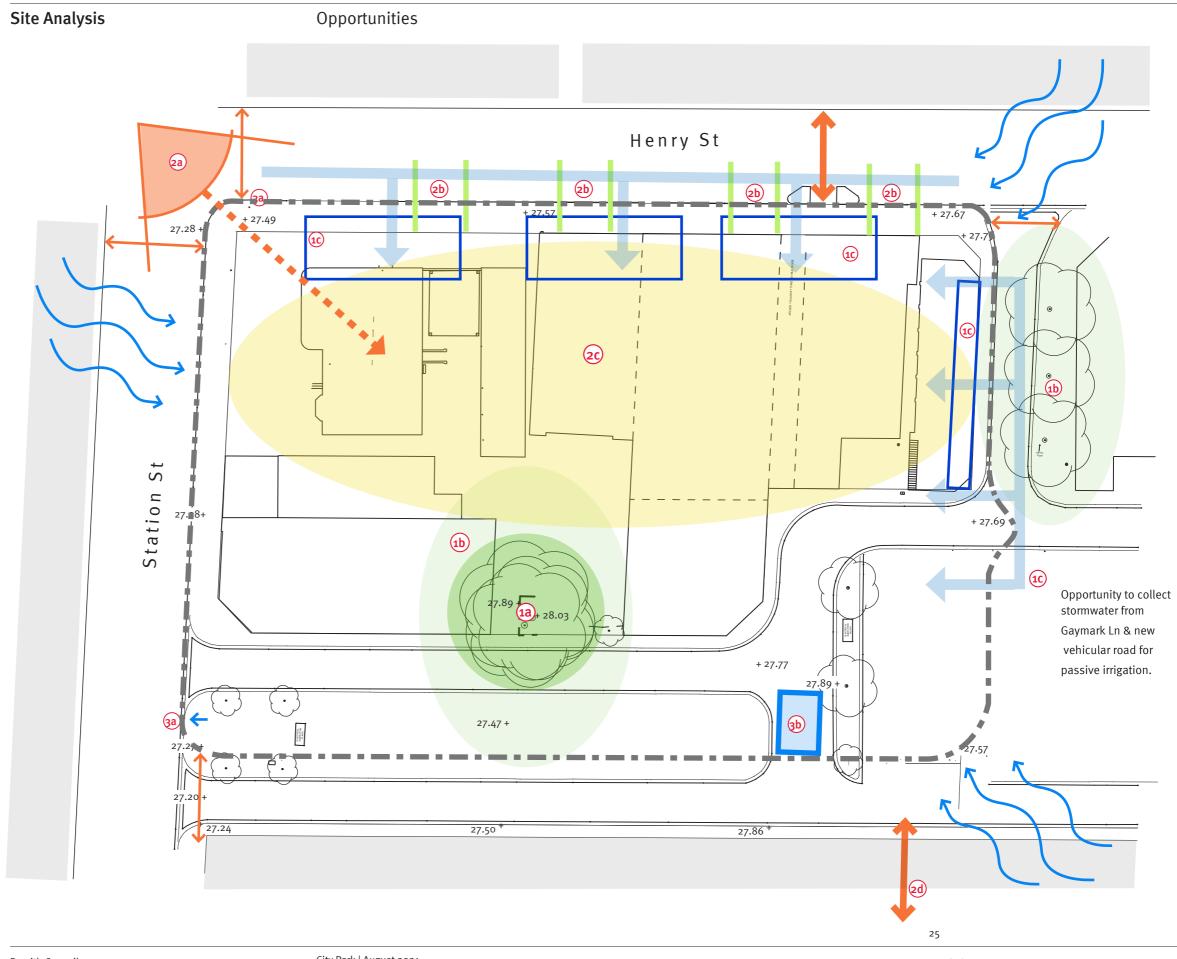
Site Analysis	Utility Service Infrastructure Summary & Recommendations
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Discipline	Finding	Constraints	Recommendation
Electrical	Two existing substations (5859 & 1992) are currently supplying approximately 21 shops on Henry St and High st.Substation Rated capacityUsed Capacity5859500kVA250kVA1992500kVA460kVA	If one substation is removed, the other will NOT have suf- ficient capacity to cover the load for the other substation and future City Park Amenities building.	Install one new 1000kVA substation and remove the two old substations in order to restore existing supply to current connection customers. New substation shall comply with endeavor energy stan- dards. Substation easement shall have a clear headroom (clear to sky), pergola or branches on top of substation won't be allowed. Structures within 3m of Substation needs to have 2 hour fire rating.
Gas	Traversing Jemena gas Main	Proposed amenities building is located on top of Gas main.	Relocate Gas Main into Allen Place's extension to meet Jemena requirements.
Sydney Water Sewer	Traversing DN150 Vitrified Clay Sewer Main	Avoid any new permanent structure above the existing and relocated DN150 Sydney Water Sewer. Relocate Sydney Water DN150 Sewer to allow for the fol- lowing constraints: Storage requirements of contamined materials. Lesser impact of Sydney Water maintenance on council assets. Possibility and ease of modification of park in the future due to no Sydney Water easements.	Engage a WSC to design sewer diversion as outlined by the PCC requirements.
Sydney Water Potable Water	Adjacent DN150 Potable Water Main	Avoid any bearing of any new structure on the Sydney water potable main.	It is not anticipated that there will be any impact on the water mai by the proposed development. However this will be confirmed by a Building Plan Approval with Sydney Water to confirm no assets will be impacted by the proposed development.

	Intent / Objective
5	Provide 1 substation only and provide additional capacity for City park Amenities building Locate substation close to the existing high voltage cable and current connections on Southern edge of City Park.
	Relocate existing Jemena gas main such that it meets Jemena access requirements. Allows amenities block and pergola to be built on existing location of Jemena gas main.
	Address concerns raised by PCC in regard to the park space: Storage requirements of contaminated materials. Lesser impact of Sydney Water maintenance on council assets. Possibility and ease of modification of park in the future due to no Sydney Water easements.
	Address potential encroachments on Sydney water potable water assets.

Site Analysis	Utility Service Infrastructure Summary & Recommendations
---------------	--

Discipline	Finding	Constraints	Recommendation	Intent / Objective
Stormwater	Site Fall	The general fall in the site is 0.4% which makes it difficult draining to the point of discharge. More than one point of discharge may be required.	Ensure minimum falls for drainage.	Drainage pipes rely on gravity and need to fall ideally 1% to the discharge pit. The system needs to achieve minimum cover, a flat site may cause difficulties in achieving minimum cover and minimum fall, unless the downstream drainage network is very deep.
	Point of discharge (point of connection to Council's stormwater system)	There are several pits that could be the point of dis- charge	Selection of point of discharge pending on confirmation of invert levels and proposed site levels, and analysis of existing connection points.	The point of discharge is generally at the closest pit to the low- est point of the site. It also depends on the invert level of the pit- there must be enough fall in the pipes to Council's pit. It also depends on where the existing catchments currently drain.
	Bio-retention location / Water harvesting	Site levels and invert level of discharge pit. Based on the IL of the pipes in Gaymark Lane (IL 25.73m), it is not viable to divert water to the proposed raingar- dens along Henry street due to the height difference and requirements for balustrades, therefore the raingarden would only be able to treat stormwater from the park and the section of Henry St. The raingarden should be generally 500mm lower than any pits draining to it.	Water Quality - on the basis that the development is improving water quality through the increase of pervious area we are not trying to achieve WSUD targets. Grade park towards raingarden.	Bio-retention and other stormwater treatment devices are generally located at the lowest point of the site to maximise the amount of water that is directed to the system and therefore treated. The system is also dependent on the invert levels of the discharge pit. The treatment objective determines the size of the bio-reten- tion. The usual treatment objectives don't apply to this case as we are increasing the pervious area of the site, which generally improves water quality in itself. The maximum reuse percentage achievable to supply the demand for irrigation and toilet flushing is approximately 25% with a 100kL tank to the size of the catchment. We are no longer proposing to reuse rainwater for irrigation due to the quality of water required (drinking level) and the areas available for harvesting being too small in comparison to the reuse demand for irrigation. we are proposing to harvest stormwater from the amenities building roof and 300 m <sup>2</sup> of lawn to achieve 80% of the demand for the 5 toilets in the amenities building
	Rain gardens (WSUD) Passive Irrigation	Levels to match existing stormwater system.	Locate along Henry Street and Gaymark Lane along planted area A raingarden was proposed at DA stage to meet Council's targets for onsite water detention and treat- ment and in order to achieve an adequate catchement, water collection was extended to a section of Henry street. During the DA assessment ,Council directed for the Rainwater to be removed due to maintenance concerns in collecting and treating water from Henry street and the site catchment be- ing too small otherwise.	Water quality improvement, recharging underground water/ passive irrigation of proposed vegetation, reduce water being diverted into stormwater system.
	Flooding	The site is affected in all flood events. Max. 1:100 YFL is 28.00 on Southern corners of City Park	Set building levels above 100 year flood level plus 150mm of freeboard for Floor Waste.	Mitigate risk of flooding to buildings.



# Legend

Subject Site

#### **Environmental Opportunities**

- (1a) Existing Eucalyptus tree
- (b) Shade from existing trees
- (c) Opportunities for WSUD/Passive irrigation

#### Spatial Opportunities

- 2a Focal point & access from Station Street
- (2b) Open the space to Henry Street
- (2c) Open sunny area with opportunity for small scale passive activation
- (2d) Temporary connection to High St via existing arcade

#### Infrastructure Opportunities

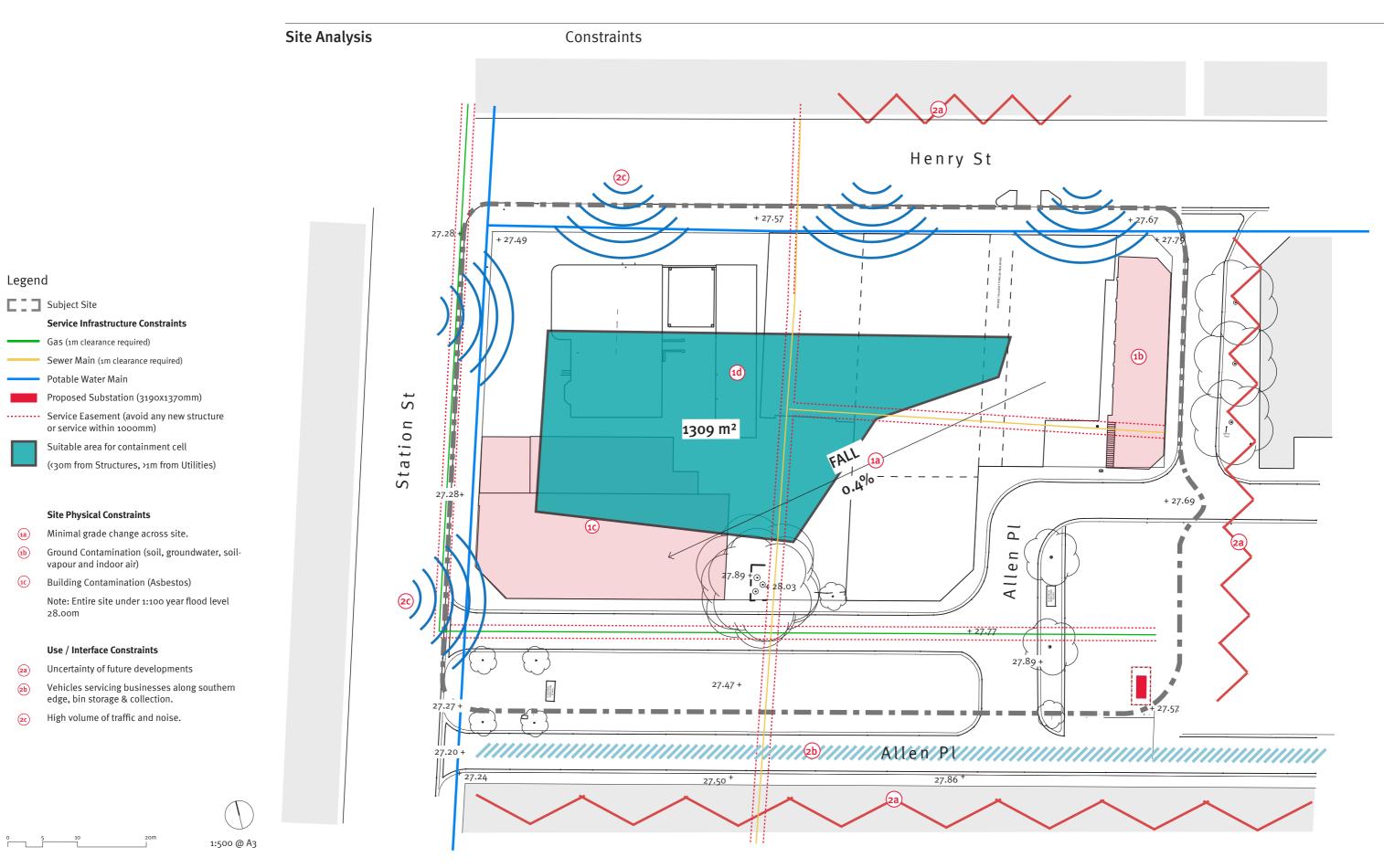
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- (3a) Possible Stormwater Connection Points
- (3b) Possible Location for Rainwater Reuse Tank

20m

1:500 @ A3

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Design Approach





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# 5 Aims - Create a City Park with

- A strong identity create a vibrant city Centre and celebrate the local landscape
- A variety of use opportunities flexibility for events and passive activation

#### A variety of spaces

respond to the aspirations & needs of a diverse community throughout the seasons

**Environmental benefits** mitigate heat island effect, permeable, incorporate passive irrigation and native vegetation

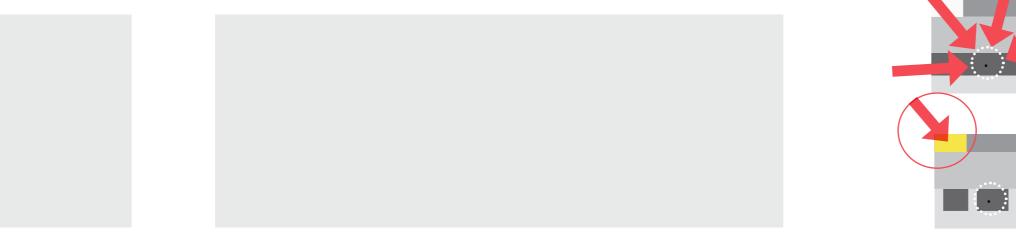
#### Social benefits

the park as a meeting point, building the community

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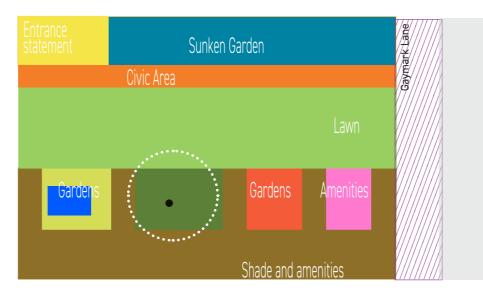
## Design Approach

## Spatial Arrangement

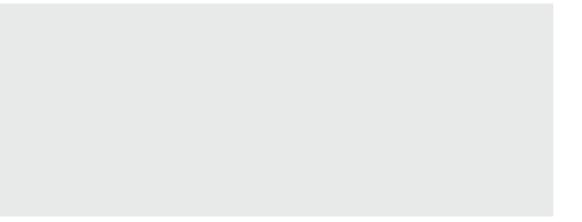


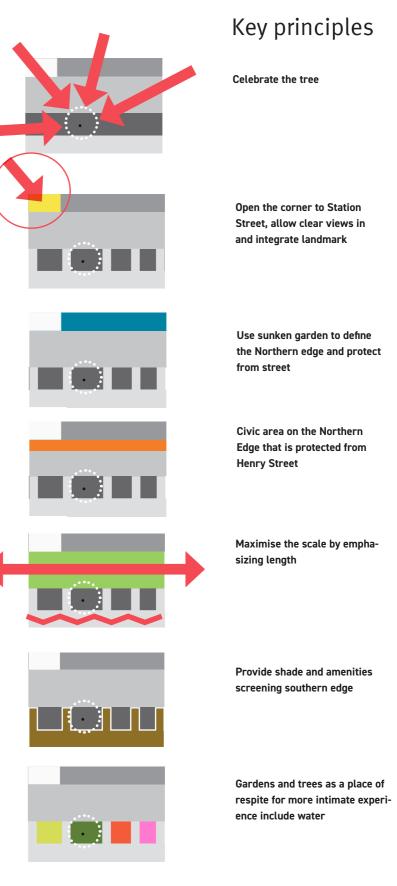
Henry St

Station St



Allen Place

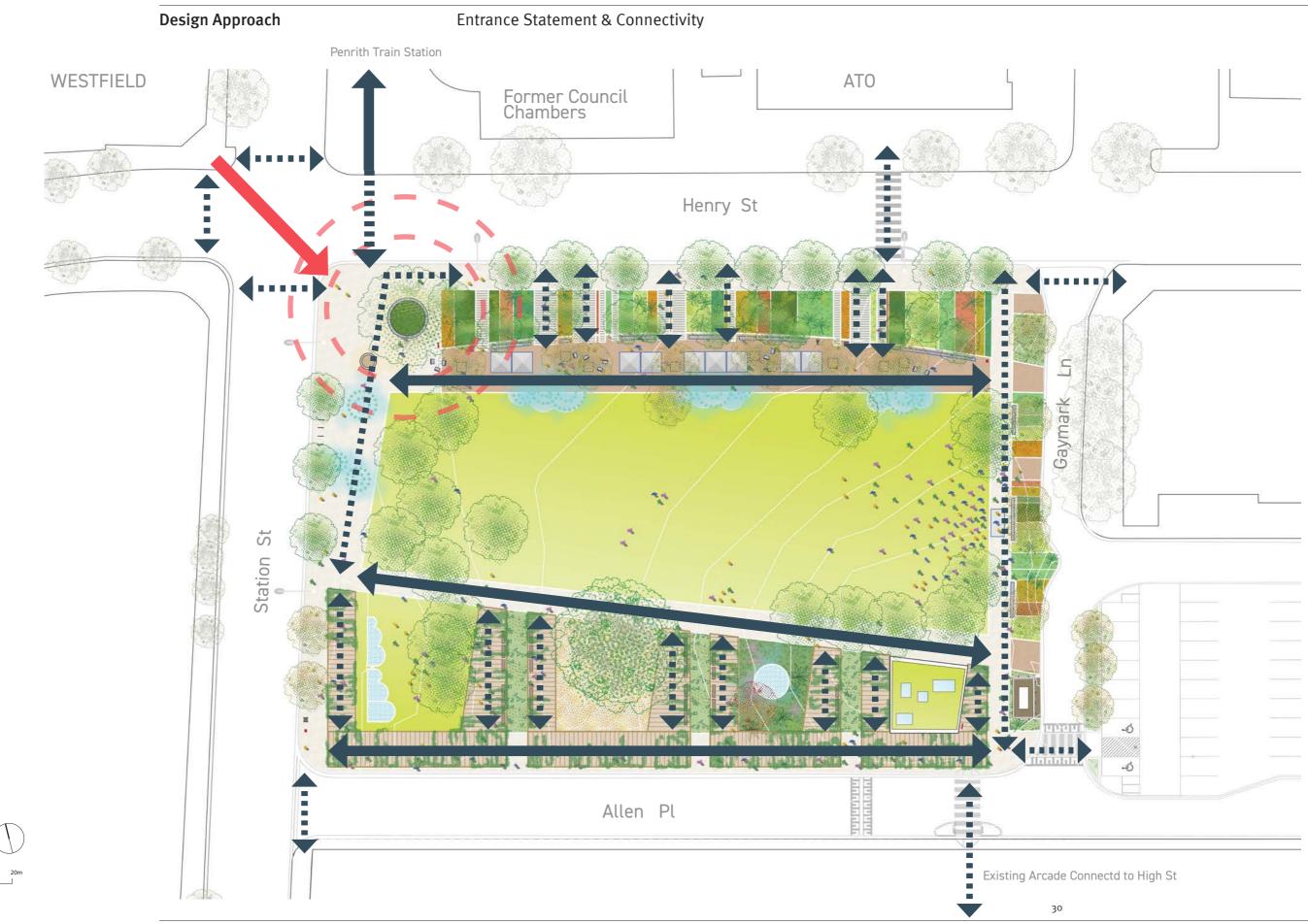




High St

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Legend

1:500 @ A3



Legend

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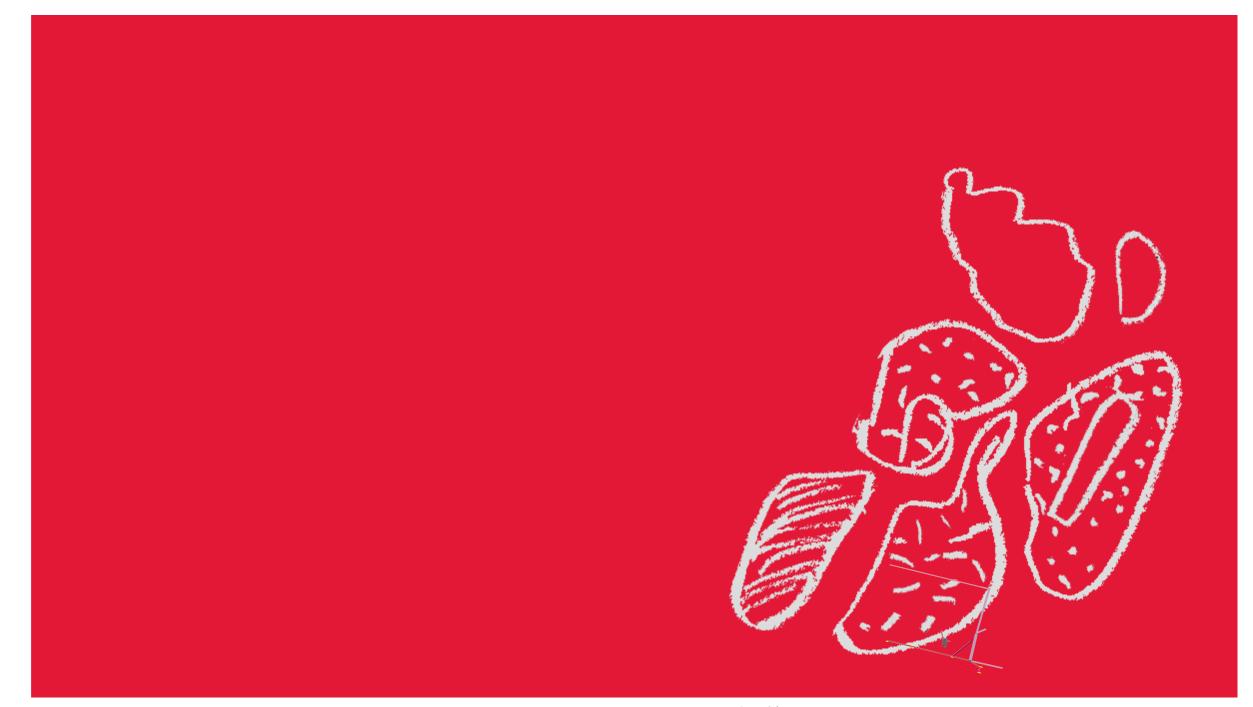


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Strategies



#### Strategies

The proposal keeps the current onstreet parking and identifies opportunity for additional parking on the location of the existing driveways to be decomissioned. (Station St, Woodriff St N).

On Gaymark Lane all car spaces are lost to allow access by a HRV as well as access into the Civic area by a LRV for both maintenance and assistance to the proposed market stalls.

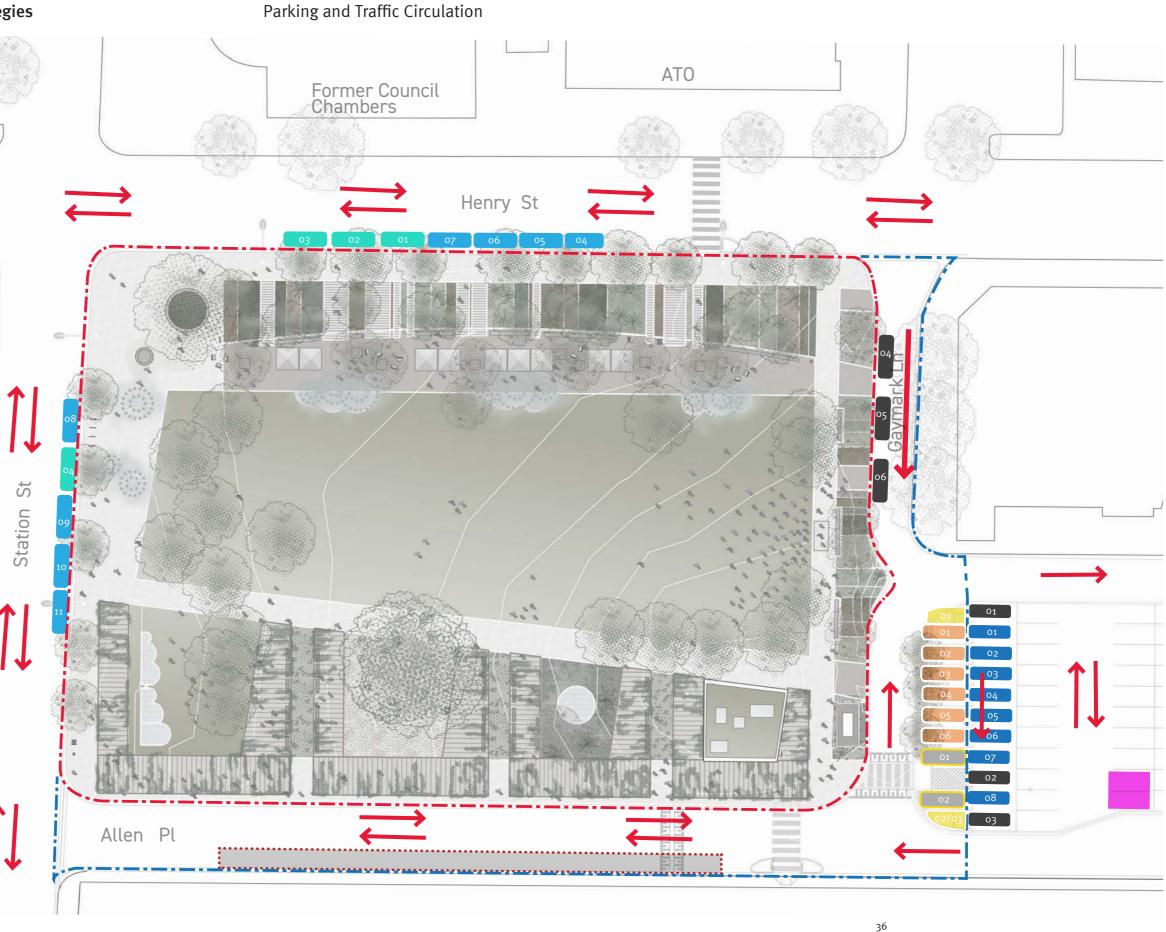
On Allen Place, a row of 10-11 car spaces is shifted West to acommodate vehicular movement with minimised loss car park spaces.

A bin collection point area is nominated in the Carpark area where the road is wider to facilitate pick-up.

Further clarification on existing interim (proposed) and future scenario in Alllen Place is provided in the next pages

Note: Proposed parking around City Park precinct being undertaken directly by Council





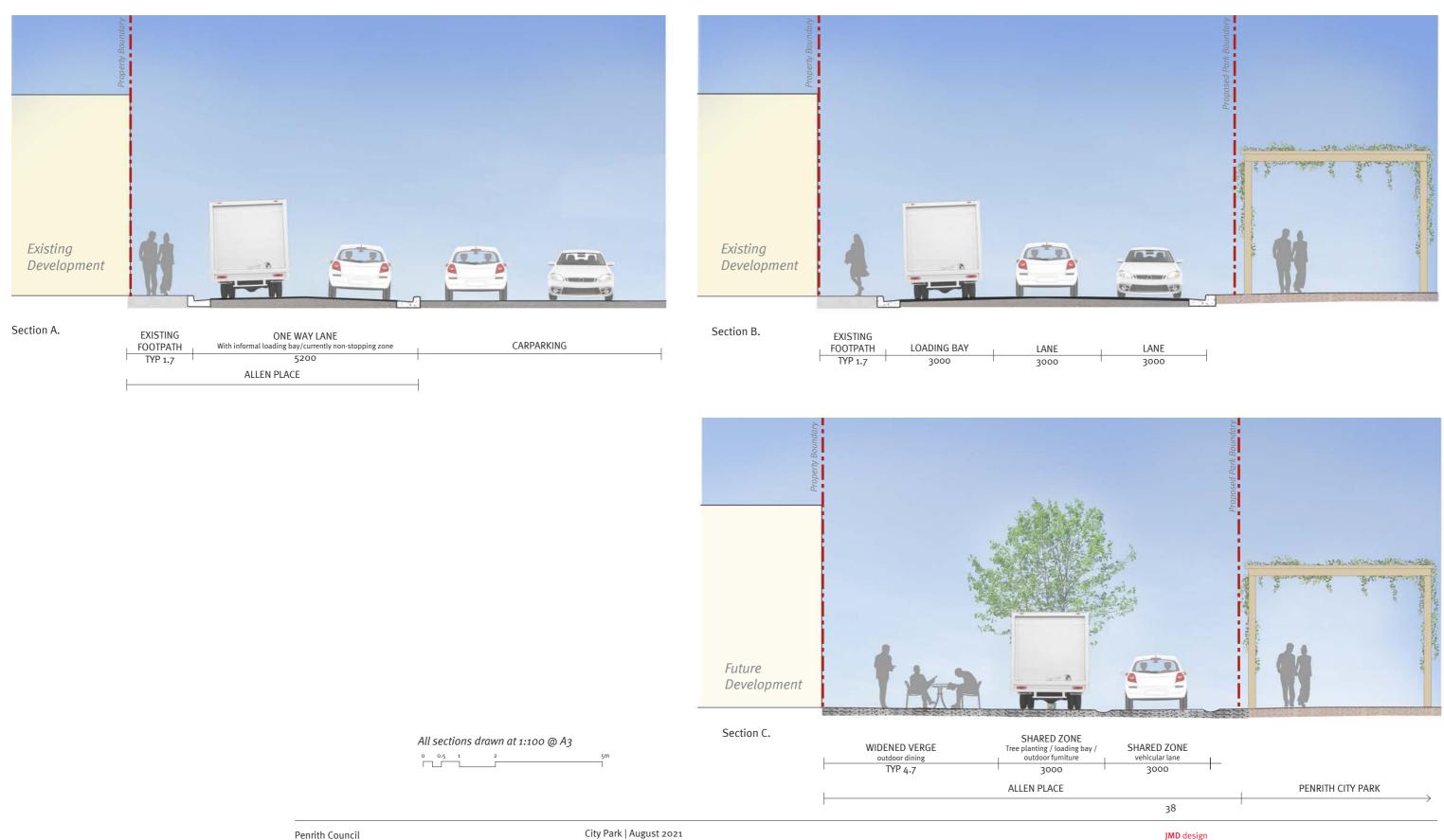
Penrith Council



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C. Future Scenario (to future detail)



## Cultural Interpretation and Public Art

Penrith City Park - Cultural	0.						
Main Theme PLACE PILLARS	Sub-Theme	Notes/Intention	What's missing	Opportunities for Cultural interpretation	Expression in City Park (Refer to attached plan)	Check with PCC Cultural Plans & Assessment of Aboriginal and Non- Aboriginal heritage assessment	Notes
Peopling Australia *	Aboriginal Cultures and interactions with other cultures * First Nations First - this place is country and first nations people are its guardians	Maintaining/remembering Aboriginal cultural identity.	1st Nations Stories	FIRST NATIONS FIRST -Park naming Elements: Public art (e.g. sculpture, mural), plaque Curation: Markets, concerts, festivals, events, performances	1 - Park naming 2 - Space for performances/Events (Stage) 3 - Public Art	Cultural Framework (2007-2011) - A magnetic Place / Culture and the Environment	Recognise natural he Multiculte backgroue
						Out and About Penrith	Cultural II Flexibility
						City Strategy - 5.10 Aboriginal and Torres Strait Islander people	Council ad Strait Isla
	Migration *	Activities and processes associated with the resettling of people from one place to another	Stories from sisters/partner cities popular culture Any specific elements/fauna/fantastic creatures from popular stories that could be interpreted and populate the park or themed garden, say little scupture elements)	Elements: A "themed" garden, feature tree, public art (e.g. sculpture, mural), plaque, poem, light projections during night time. Curation: Markets, concerts, festivals, events, performances Others: Incorporation of other languages in signage elements?	2 - Space for performances/Events (Stage) 3 - Public Art 4 - A themed garden by sister/partner city.	City Strategy - 5.11 Culturally and linguistically diverse people	According of our tot our popul (Sydney 3 at home i Hindi, Spa Penrith as
	Commerce *	Activities relating to buying, selling and exchanging goods and services	Any specific (manufactured) product that could be incorporated? Pavers, tiles, ceramics? A common element to all cities? The lantern?	Elements: Use of a product that is manufactured in one of the Sister/Partner Cities, traditional pattern in the mist clouds Curation: Markets, concerts, festivals, events, performances, reading	2 - Space for performances/Events (Stage) 3 - Public Art 5 - Pattern on pavement (water mist clouds) 6 - Space for (themed) Markets	Sister Cities and International Alliances	Fujieda Ci Hakusan G exchange Penrith, L Gangseo- agreemer signed be counterpa Xicheng D Kunshan,
Developing local, regional and national economies * FRIENDS & PARTNERS this is a place where partnerships are forged	Environment - Cultural landscape *	Activities associated with the interactions between humans, human societies and the shaping of their physical surroundings	5	Elements: A "themed" garden, feature tree, public art (e.g. sculpture, mural), plaque, poem, light projections during night time Curation: Markets, concerts, festivals, events, performances, ceremony Materiality: brickwork to tie with Post-war aesthetical character of surrounding area Partnership Space	6 - Space for (themed) Markets 7 - Brickwork on entry area pavement	City Park Penrith Aboriginal and Non- Aboriginal heritage assessment Draft report	sister sch

nise and support Penrith City's Aborignal (3%), European and l heritage

ulturalism in Penrith (linguistic, religious and ancestral ounds)

al Inclusiveness - UD principles and cultural dimension: lity in use/Accommodates diversity

adopted its Statement of Recognition of Aboriginal and Torres slander Cultural Heritage in 2006 (reconfirmed in 2007)

ling to the 2011 census residents born overseas comprise 21% total population (compared to Sydney with 34%) with 14.6% of pulation speaking a language other than English at home ey 32.5%). The top 10 non-English languages spoken by residents ne in Penrith City are Arabic, Filipino (Tagalog), Italian, Maltese, Spanish, Greek, Croatian and Cantonese/Mandarin, and Punjabi. n as a refugee friend City

a City, Japan, 1984 - Sister city; student and cultural exchanges an City, Japan, 1989 - Friendship city; student and cultural nges

h, UK, 1989 - Sister city; largely ceremonial relationship eo-gu, South Korea, 1994 - Economic mutual cooperation nent; business exchanges; staff visits and training. Also an MoU between Penrith Business Alliance and its Gangseo-gu rpart and between council and the South Korean consulate ng District, China, 1998 - Sister city; business exchanges an, China, 2003 - Friendship city; business exchanges; staff visits; schools arrangements. University and health links council's initial relationships were based on civic and cultural nges, more recently it has sought to concentrate on building mic ties.

oposal should take into consideration the Post-War ectural style of the surrounding area. New structures should be ale and set back from the street as to not impose upon view and from heritage items. In addition, brickwork should be ered in the proposal (i.e. brick paving) to tie in with the Postesthetic character of the surrounding area and heritage items. evelopment of the study area: Indicates previous shops on of Henry and station street

## Cultural Interpretation and Public Art

Penrith City Park - Cultural S	<b>.</b>	<b>A A A A A</b>					
Main Theme PLACE PILLARS	Sub-Theme	Notes/Intention	What's missing	Opportunities for Cultural interpretation	Expression in City Park (Refer to attached plan)	Check with PCC Cultural Plans & Assessment of Aboriginal and Non- Aboriginal heritage assessment	Notes
	Creative endeavour *	Activities associated with the production and expression of cultural phenomena. Create opportunities for all people to participate/use park Provide a number of flexible spaces that are not designated for one practice only. Cater for the broader catchment.		festivals, events, communal	2 - Space for performances/Events (Stage) 6 - Space for (themed) Markets	Cultural Framework (2007-2011) - A magnetic Place / Culture and the Environment	Recognise heritage Multicultu backgroun
						Multicultural Working Party meeting	Notes prin
Developing Australia's cultural life * EVERYBODY's PLACE This is a place for all and their stories are told/ shared here	WAVES OF MIGRATION - ACTIVE STORIES			Lighting: To promote night time activation & use by different groups. Light projections can be flexible and change throughout the year as well as pick up on multiple themes. Projections from the entry statement into the Civic area pavement?	3 - Public Art (entry statement) 7 - Brickwork on entry area pavement	Out and About Penrith	The "park as a possible park of Cultural Inclus diversity Don't go for si Principle of No the surroundin Reccomendati R 1.3 - That in misleading nol acknowladge t belong. R 1.6 - That as accommodate could support R 1.8 - That PC usable by peop R 1.12 - That PC usable by peop R 5 Promot R 2.8 - Commu R 2.9 - Promot
			Do Council have existing partnerships with surrounding Cultural equipment and is there opportunity for performances & instalations to extend to City Park?	Sutherland Performing Arts	2 - Space for performances/Events (Stage)	City Strategy - 5.2 Culture and Creativity	Partnershi
IMAGINING Tomorrow this is place is a wish for tomorrow and the best humanity can be	Sustainability		Do Council have a preferred smart pole that they would like to include			Cultural Framework (2007-2011) - Culture and Sustainanbility	Notes Sust sustainabi sustainabi are based
						City Strategy	Penrith Pri P 6 - Recog including t P 9 - Promo appropriat demand m

# Cultural Themes & Plans

se and support Penrith City's Aborignal, European and natural

lturalism in Penrith (linguistic, religious and ancestral unds)

#### rinciples of Multiculturalism (NSW Government)

as an event" idea: Designing for flexibility that supports diverse realisations of ark events

clusiveness - UD principles and cultural dimension: Flexibility in use/Accommodates

r site specific designs f Non-exclusion. Look at overall provision in the area, including what is provided in nding parks

dations:

t in view of the cultural complexity of the 21st Century soicieties, planners avoid the notion of an average user and a single unified Penrith 'community' and instead ge the many and diverse 'communities' to which Penrith's residents and visitors

t assumptions about parks and their uses be reviewed and expanded to late potential cultural and social uses, and the technologies and infrastructures that ort those uses

t PCC plan to provide toilets across more categories of parks and more toilets people who need two carers to assist.

at PCC review its open space planning objectives and policies to support more d flexible uses of park time, including time-sharing, temporary facilities,

gement of current and earlier place-making and memories of place and support of oark use

mote nocturnal use of parks (less hot, more comfortable) nmunity Consultation to incorporate "quiet knowlage"

mote "Local Park Days" activities

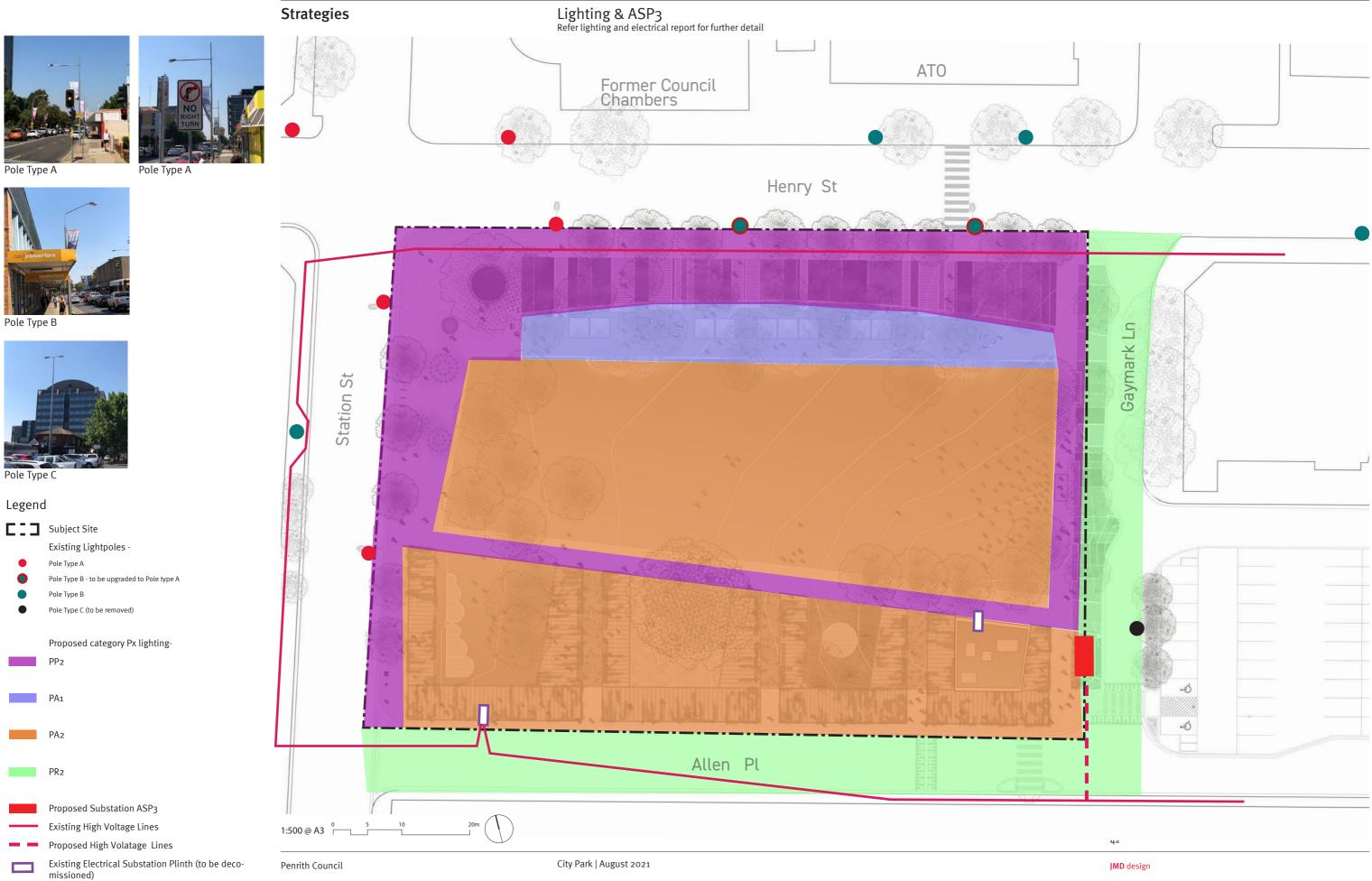
ships between the arts, culture and city renewal

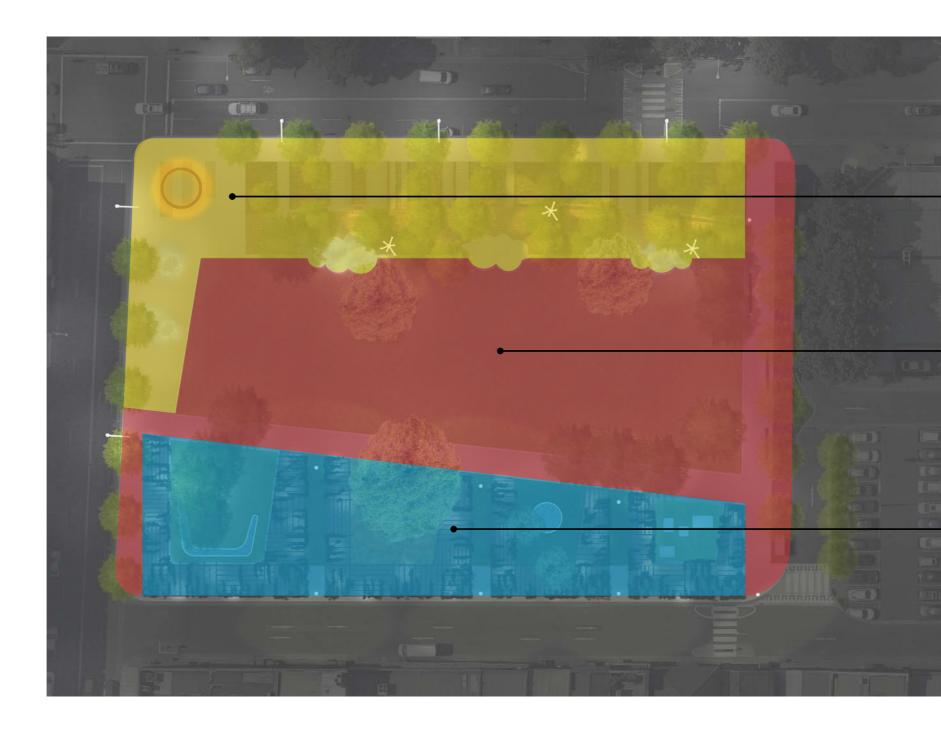
ustainable Penrith program (Feb 2000) for integrating bility principles into all Council operations and encourage ble practices among City's communities. The guiding principles ed on UNEP

#### Principles for a sustainable city:

cognise and build on distinctive characteristics of cities, g their human and cultural values, history and natural systems mote sustainable production and consumption through iate use of environmentally sound technologies and effective l management







# The Civic

Lighting typified by pools of light and a punctuated approach to highlight detail and sculptural features

**The Communal (lawn and path)** Broad lighting giving an uniform and pleasant lighgting level to allow circulation and gathering

### The Gardens

Structural edge defined by lit pergola with detail lighting to garden elements such as existing large tree, new water feature, amenities facades and textural plantings

Overall Night-time View



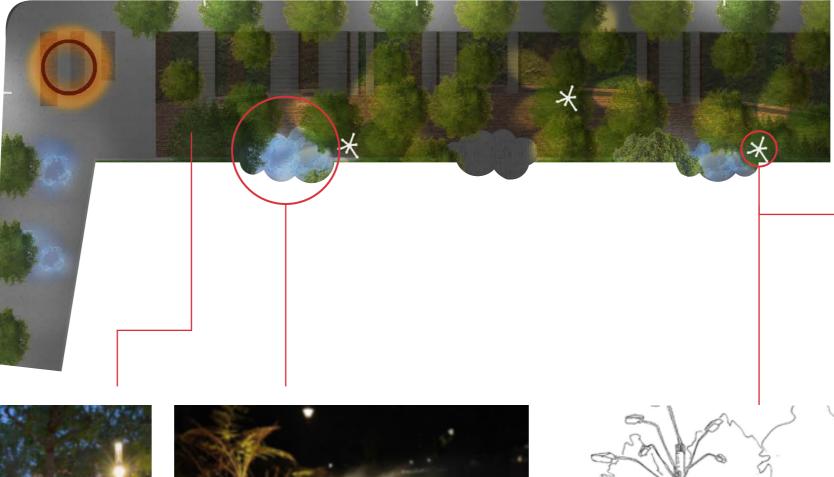
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## Lighting

#### The civic

As you approach city park, the users attention will be drawn to the entrance statement (feature tree, seat and fountain to be retained) marking the historical intersection of Henry and Station streets. These elements are to keep their presence during night time through the use of spotlights which will add depth and interest. Consideration will be given to public art in this location as part of the Cultural Strategy.

Inground lights will be incorporated under the mist fountains thus creating a diffused light effect which will give a unique atmosphere to the site, add to the daytime experience and provide some level of interactiveness with these elements.





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Concept sketches for customised light poles

Light poles within grove of trees

Key Plan

Mist fountains

City Park | August 2021

In the civic area, JMDd are proposing a customised light pole which would assist in defining its character. The proposed customised pole resulting of the integration of a plane smart pole with a multiple brackets, the final element to resemble a tree-like structure which will populate the civic area, adding to the proposed groove of trees. Pools of light will draw the eye into multiple elements making this a dinamic night space with opportunities for interpretation and activation.

The lighting elements can be activated in a sequence so there is continuous light movement throughout the space. This makes the space one that is dynamic and encourages engagement.



Light poles within grove of trees 45

Lighting

The Communal



Primary circulation access



Lawn Area

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The central lawn will be lit to promote a safe, secure environment, the lighting to be homogeneous and well spread across the space. The light poles shall be smart poles and will be set-out in between the pergola structures so they are not dominant. Dimable features will be considered to flexibility in the case of an event. The same poles to be replicated on the park boundary for height requirements in relation to lighting the surrounding streets.

In adition, a dedicated 3-phase power bollard will be set in proximity to the temporary stage location.

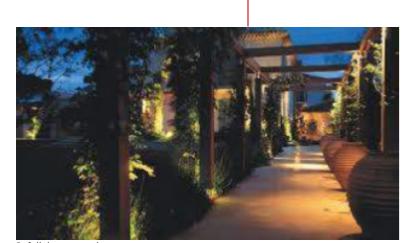


Opportunity for outdoor events with temporary stage 46

## Lighting

## The Gardens

On the Southern edge City Park, the design response accommodated a richer and more intimate atmosphere by introducing a number of smaller gardens and a pergola structure which delineates multiple spaces and provides a sense of enclosure, encouraging longer stay and recreation. During the day, the pergolas will be defined by the shadow provided by the pergola and bits of light penetrating the vegetation on its top beams. At nighttime, a reversal in this process will occur, resulting in the spatial form to be "built" by the use of a soft, warm downlight withing the pergola.



Soft light to pergola structure

Key Plan







Feature lighting to key horticultural elements

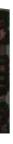
Wall wash light effect to amenities building side facade

Penrith Council

A relaxed atmosphere will provide greater intimacy to these spaces and create focus on feature elements in each of the gardens such as key vegetation elements.

The existing tree to be a focal element and its canopy to be lit from ground level, emphasising the umbrella effect of its canopy and exploring the natural form of the tree trunks.

Finally, a wall wash effect will celebrate the proposed façade treatment to the amenities building which uses recycled bricks and tiles from the existing buildings to be demolished. This will be used in combination with light spill from openings above 2.1m for a more vibrant effect.



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Precedent for use of recycled materials in amenities façade



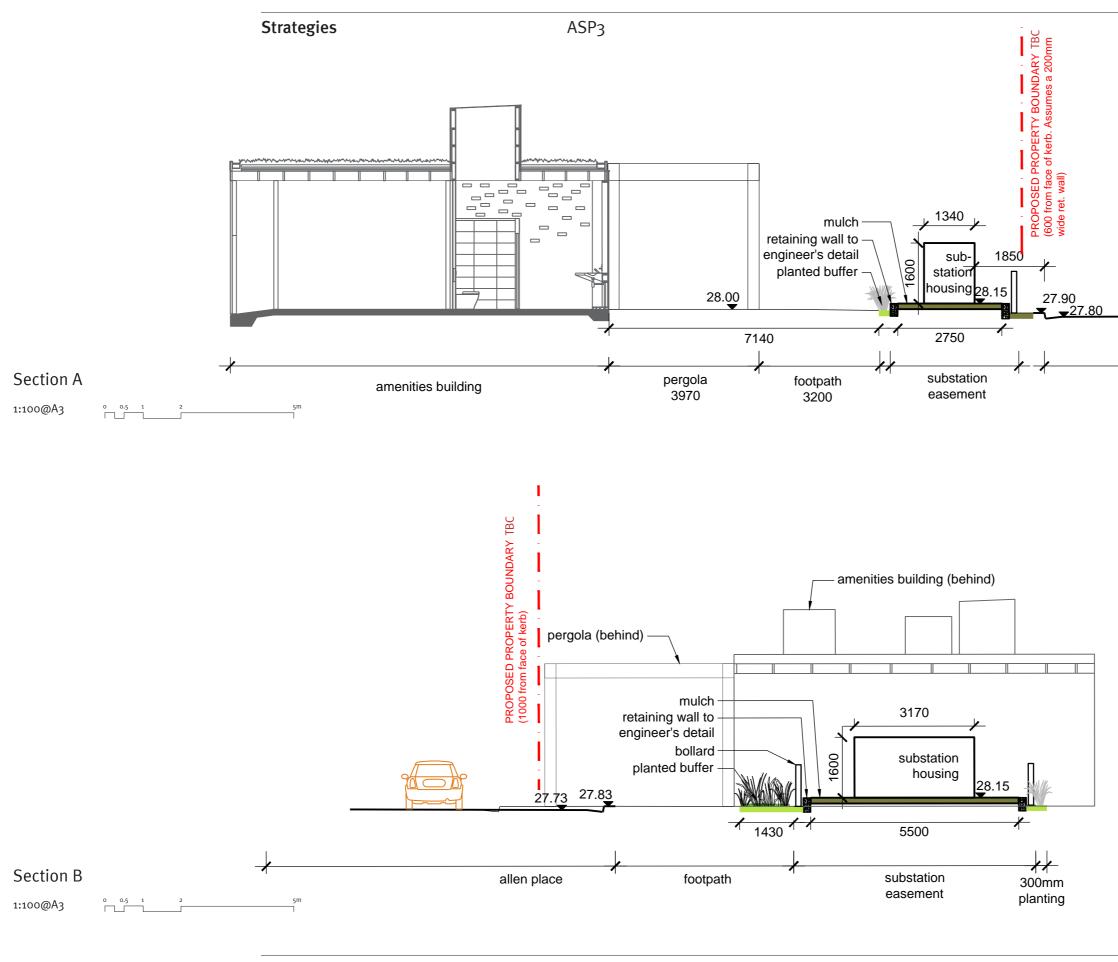
Artists impression of night time activation in City Park. Trees at 15-20 year maturity. Indicative lighting.

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gaymark lane

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