



MOUNT WAVERLEY RESERVE

INTEGRATED SITE PLAN

ADDRESS	CLIENT	PROJECT #	DATE	REVISION
8-26 CHARLES STREET, MOUNT WAVERLEY 3149	City of Monash	1495	07-06-2021	F



CONTENTS

1.0 OVERVIEW	1
1.01 INTRODUCTION & DESIGN PRINCIPLES	2
2.0 CONTEXT	3
2.01 CONTEXT PLANS	4
2.02 KEY SUPPORTING DOCUMENTS	5
2.03 POPULATION & DEMOGRAPHIC CHARACTERISTICS	12
2.04 CURRENT USE & PARTICIPATION	14
2.05 LAND TITLE	21
2.06 STATUTORY PLANNING	22
2.07 GEOLOGY	23
2.08 CULTURAL HERITAGE SENSITIVITY	24
2.09 HISTORIC CONTEXT	25
2.10 ECOLOGICAL VEGETATION COMMUNITIES	26
2.11 BIODIVERSITY	28
2.12 LANDSCAPE CHARACTER & CANOPY COVER	30
2.13 TRANSPORT CONTEXT	31
2.14 EXISTING SITE CONDITIONS PLAN	35
2.15 SPORT FACILITY SIZE ANALYSIS	36
2.16 EXISTING PAVILION	37
2.17 BUILDING CONDITION ASSESSMENTS	38
2.18 SERVICES	40
2.19 DRAINAGE & CATCHMENT ANALYSIS	45
2.20 EXISTING SITE TOPOGRAPHY	46
2.21 EXISTING VEGETATION	50
2.22 EXISTING CONDITIONS PHOTOGRAPHS	51
2.23 EXISTING FURNITURE & EQUIPMENT	53
2.24 PUBLIC TOILET ASSESSMENT	57
3.0 ANALYSIS	58
3.01 STRATEGIC SITE OPPORTUNITIES	59
3.02 SPATIAL ANALYSIS - REVIEW OF OPTIONS FOR KEY EXISTING ELEMENTS	61
3.03 FUNCTIONAL DESIGN OPTIONS ANALYSIS	68
4.0 DESIGN	69
4.01 PREFERRED FUNCTIONAL DESIGN OPTION	70

CONTENTS

1.0 OVERVIEW

SCALE

KEY

PROJECT
8-26 CHARLES STREET, MOUNT WAVERLEY 3149

CLIENT
City of Monash

PROJECT #
1495

DATE
07-06-2021

PAGE
1



PROJECT AREA

Mount Waverley Reserve is situated on City of Monash land located at 8-26 Charles Street (corner of St Albans and Charles Streets), Mount Waverley. The site is bounded by residential properties to the north, a Melbourne Water reservoir to the east, St Albans Street to the south, and Charles Street to the west.

USERS

Mount Waverley Reserve is home to a number of sporting clubs, being:

- Mount Waverley Tennis Club
- Mount Waverley Cricket Club, and
- Waverley Blues Football and Netball Club.

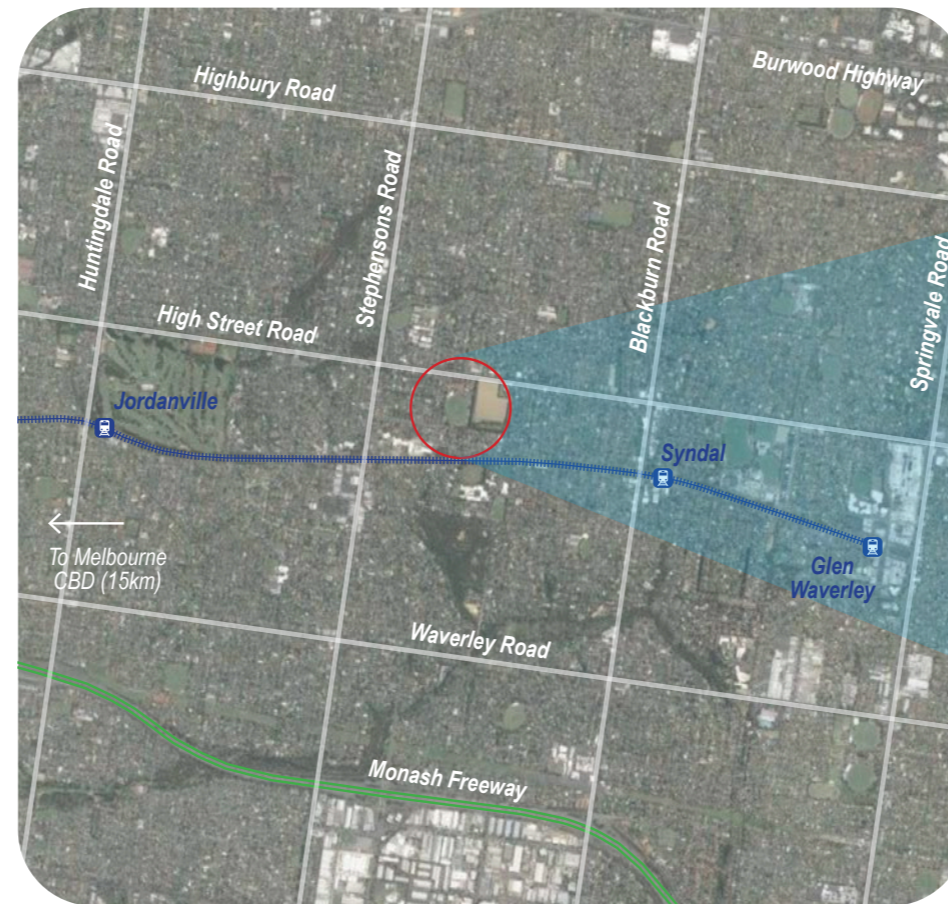
A number of groups, such as schools, sporting and professional groups also use the reserve on a casual basis.

The reserve also hosts the Waverley Community Learning Centre and Occasional Care (located in the 'neighbourhood house' on Fleet Street).

FACILITIES

Key facilities located at the reserve include:

- an oval with turf wicket, and an accompanying pavilion
- cricket nets (both synthetic and turf)
- 4 en tous cas tennis courts, and an accompanying pavilion
- an asphalt hard court, including a tennis hit-up wall
- a local play ground
- a public toilet
- sealed car parking



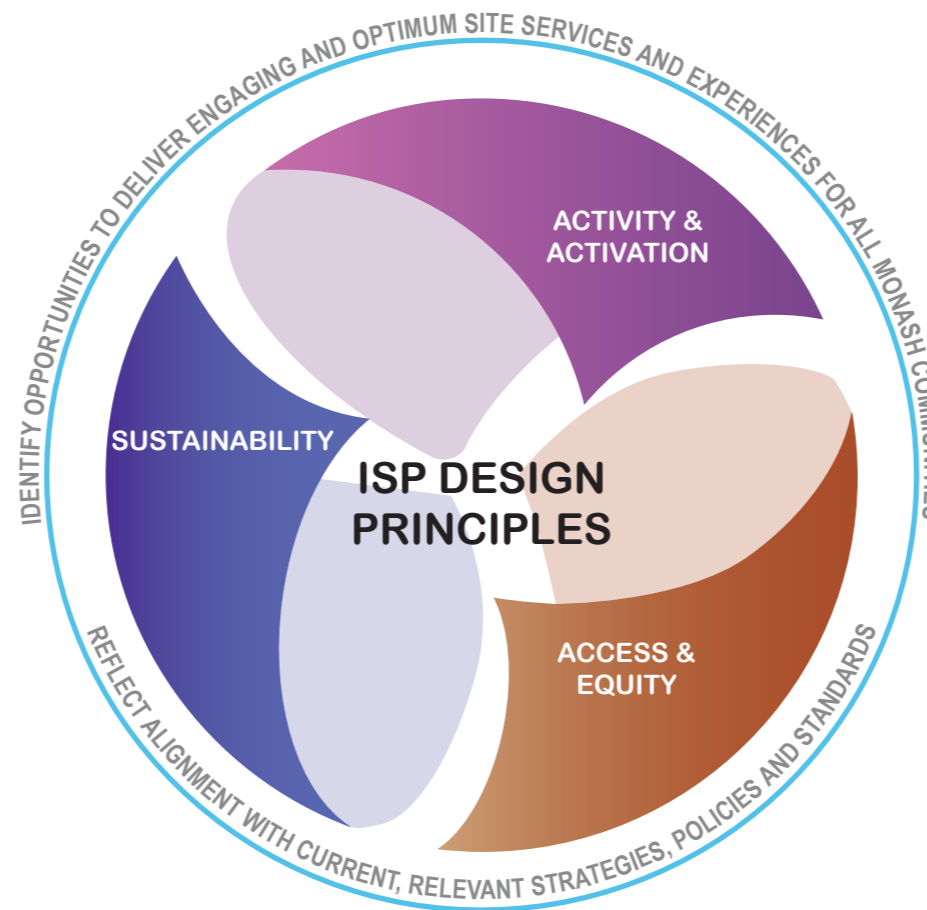
Mount Waverley Reserve location & project area



DESIGN PRINCIPLES

The diagram to the right illustrates the over-arching design principles that are central to the Integrated Planning process. These principles are based on the Monash Council Plan, which prioritises three areas:

- Activity and Activation;
- Access and Equity; and
- Sustainability.



ACTIVITY AND ACTIVATION (Inviting Open and Urban Spaces)

- Identify site activation opportunities and constraints;
- Identify creative opportunities for integrated site usage and activation and improved integration of built form and landscape;
- Investigate opportunities to optimize site activation and viability with regard to the local and regional context.

ACCESS AND EQUITY (An Inclusive Community)

- Provide equitable access to people of all ages, gender, physical abilities and cultural backgrounds;
- Adopt Crime Prevention through Environmental Design (CPTED) principles;
- Consider all transport modes while giving priority to active transport modes.

SUSTAINABILITY (A Liveable and Sustainable City)

- Proposals are to be in keeping with ESD principles and be of high level of quality and design excellence;
- Proposals are to be adaptable and flexible to respond to future changes in use, lifestyle and demographics;
- Provide for stormwater collection, storage and treatment where applicable.

1.01 INTRODUCTION & DESIGN PRINCIPLES



2.0 CONTEXT

SCALE

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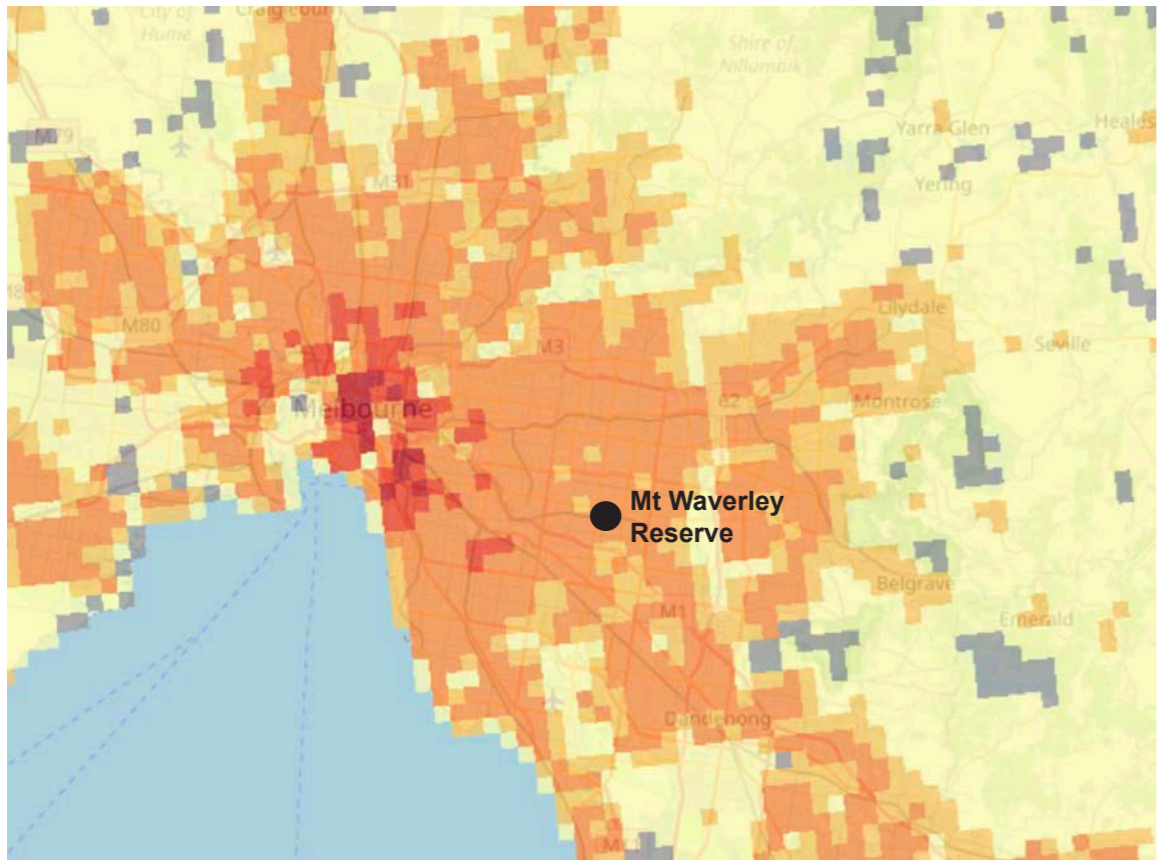
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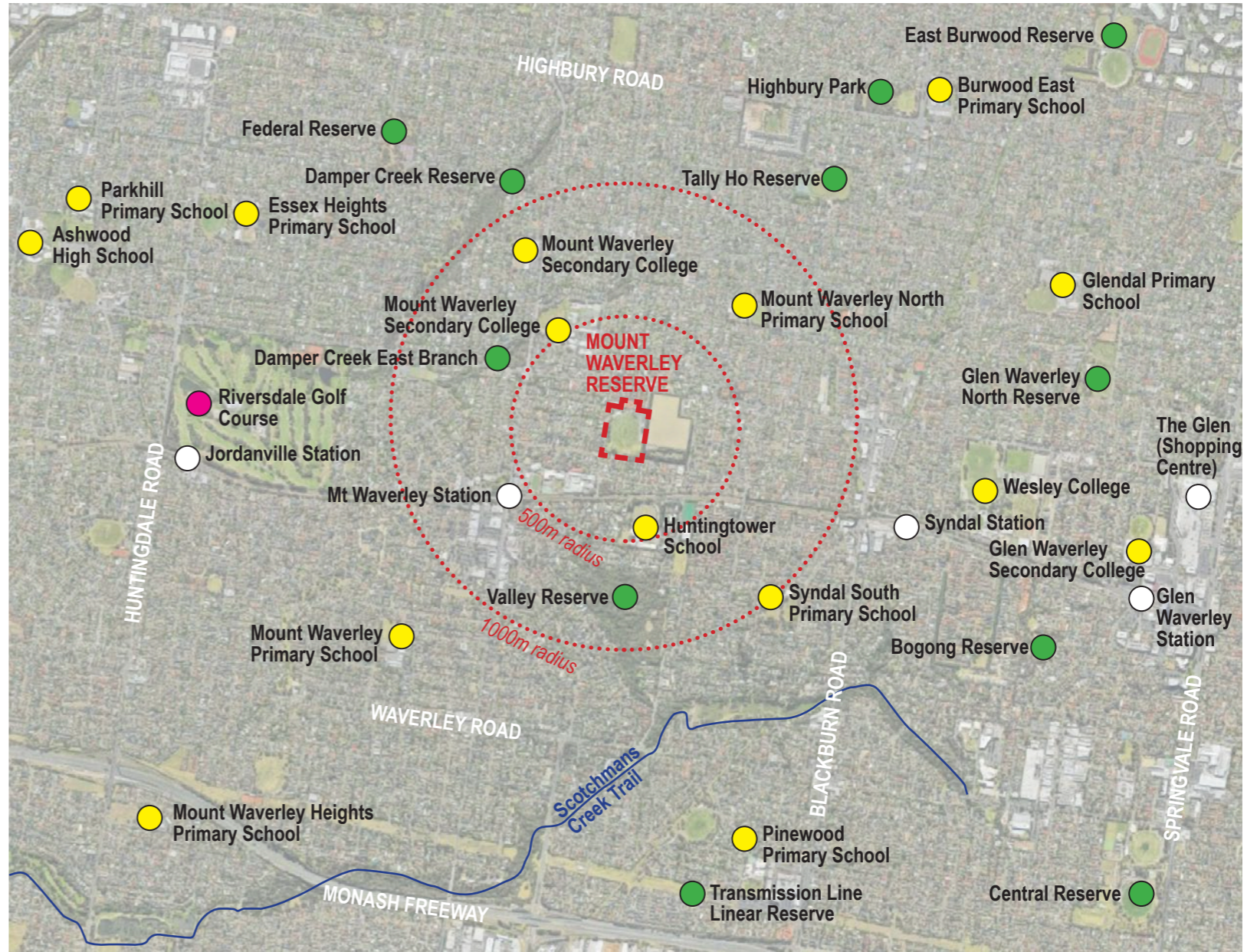




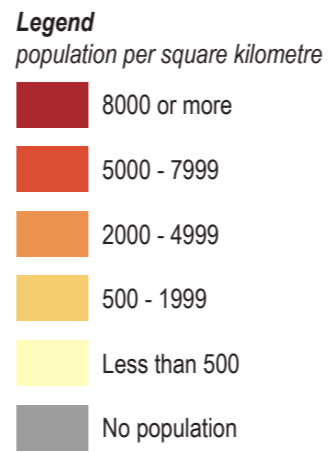
Mount Waverley Reserve - metropolitan context



Mount Waverley Reserve - population density context
(source: ABS Population grid 2019)



Mount Waverley Reserve - suburb context



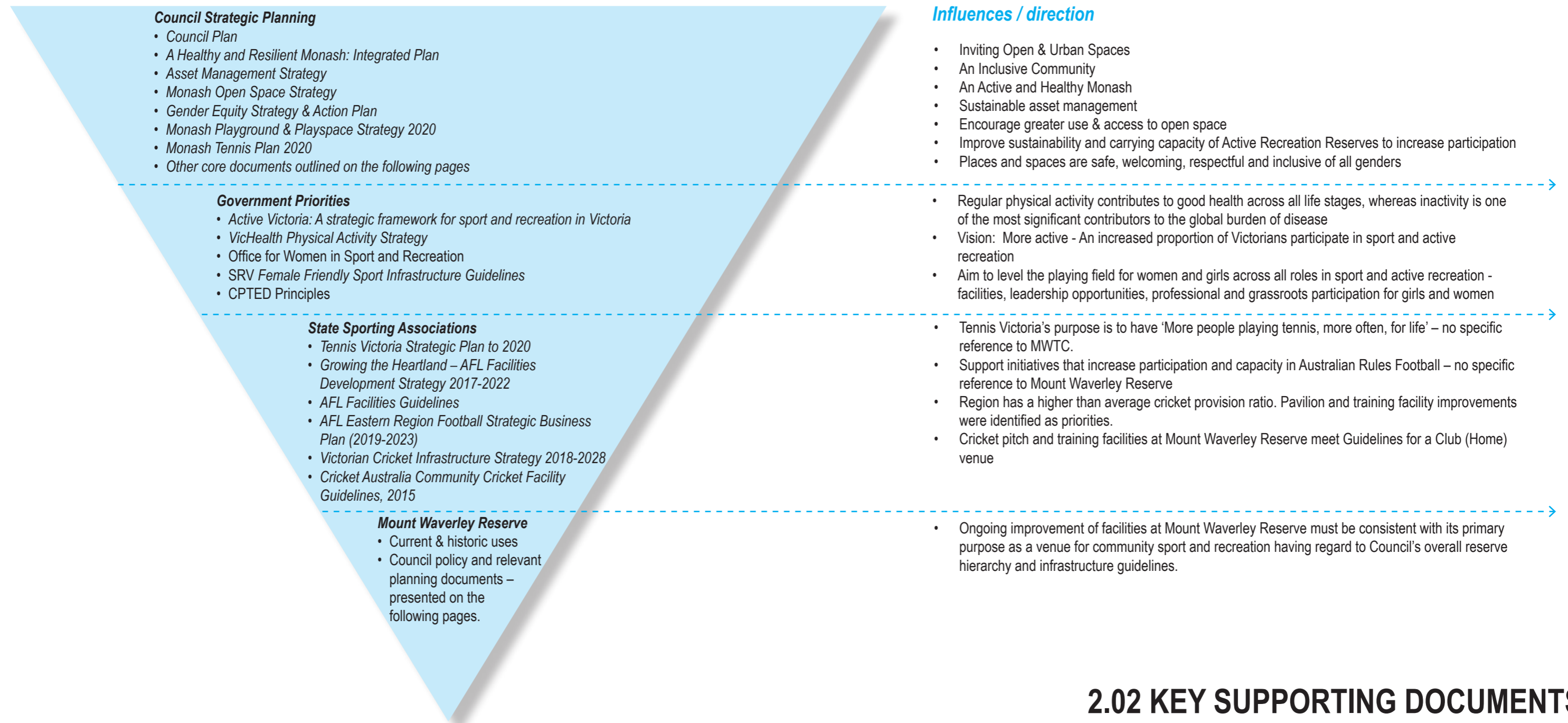
Mount Waverley Reserve is located within the suburb of Mount Waverley, a well-established suburban area located approximately 15 kilometres to the east of the Melbourne CBD. The area is well serviced by a wide range of facilities, reflecting the population density (illustrated in the diagram to the left - For further information on population and demographics refer to the Background and Needs Assessment). As shown on the context plan above, there are 5 schools within one kilometre of the reserve.

2.01 CONTEXT PLANS

STRATEGIC ALIGNMENT

The following section highlights the strategic alignment of this project – and future improvement of the Mount Waverley Reserve – with relevant Council planning documents, broader Government priorities and relevant State Sporting Association objectives, in particular initiatives that support improved community health, well-being, physical activity and sports participation with an emphasis on proactive measures to support traditionally disadvantaged groups, specifically women and girls.

The image below (pyramid) illustrates a strategic relationship or nexus to support ongoing improvements at Mount Waverley Reserve to service community sport and recreation needs. However, further analysis of Council's planning framework highlights several important influences on possible future directions and infrastructure provision. Key influences are summarised over the following pages.



2.02 KEY SUPPORTING DOCUMENTS





Influences / direction

- Public Open Space (PPRZ) is highly valued by the community.
- There are 6 sporting fields within Mount Waverley precinct – Mayfield Park, Mount Waverley Reserve, Tally Ho Reserve, Mount Waverley Bowling Club, Essex Heights Reserve and Pinewood Reserve.
- Gaps in sports provision exist within the precinct in each of the north, centre and southern areas.
- Mount Waverley Reserve is classified as district catchment sports open space reserve (primary function) with social/family recreation (secondary function).

Implications for Master Plan

- Land zoned PPRZ is not to be sold and should be retained for community use.
- Design guidelines – District sports open space:
 - Open space reserve that can preferably provide for two senior playing fields AFL /cricket/netball, or three field sports such as soccer, or 4-6 tennis courts.
 - Provide support facilities, training facilities and car parking either on-site and/or on the perimeter of the reserve.
 - Code compliant sports lights (training standard for field sports), irrigation, and drainage.
 - Sports pavilions suitable for senior level competition and may cater for multiple seasonal use. Facilities to include multi-gender change room, amenities, basic kitchen/kiosk and separate provision of social space. The Open Space Strategy recommends an indicative pavilion size of 500m² for District standard facilities (i.e. Mount Waverley Reserve) and 600m² for Regional standard venues. NB: The existing pavilion is approximately 546m². By comparison, AFL Guidelines for Local standard venues recommend an indicative pavilion size of 590m².
 - Provide access to playing fields, practice facilities or courts by the community for non-club use.
 - Provide space for a park perimeter trail that is accessible via the local path network.
 - Seating, shade and mature trees to be provided.
 - Fencing avoided in some instances to increase flexibility of the site (where no conflicts with sporting requirements).
 - Co-location with other community facilities encouraged with public access to toilets considered.
 - Provide high quality design and landscaping that enhances spectator enjoyment and viewing opportunities.
 - Incorporate universal and environmentally sustainable design principles.





Influences / direction

- The Active Reserves Facility Hierarchy creates five distinct facility provision categories:
 - Class A – Regional/Municipal Facilities
 - Class B – District Facilities
 - Class C – Local Facilities
 - Class D - Other
 - School – School Facilities
- In order to provide an integrated and coordinated service for sports ground and pavilion provision a classification system of four grading levels (Class A, B, C, D and school) has been developed to guide the level of sport facility provision and playing surface standards across the municipality.
- Class A facilities provide regional/multi-purpose pavilions to accommodate regional level competition such as premier cricket (Central Reserve).
- Currently there is no regional level AFL football played in Monash.
- These facilities are able to accommodate a number of users and can address the shortfalls in available community meeting space. Multi-purpose spaces are designed to accommodate seasonal users and public hiring.
- Class B facilities are the most commonly provided standard for sports grounds and generally cater to consistent demand by tenant clubs on a seasonal basis. They may also be used occasionally for subregional events. Class B facilities primarily cater for higher level senior sports e.g. sub-district cricket (generally on turf wickets), Division 1 or A-B grade (AFL), National Premier League Division 1 (soccer).
- Originally adopted by Council in February 2018, the policy has been reviewed in March 2021 to reflect updated pavilion sizes, standards and costs.
- Mount Waverley Reserve remains a Class A standard Pavilion servicing a Class B standard sports ground (i.e. single oval venue).
- The classifications provide a transparent framework for the provision of pavilion upgrades. The average footprint and cost for pavilion redevelopments proposed under the hierarchy (p. 6) is detailed below:

Table: Indicative Size and Budget Guide for Pavilions Redevelopments

Classification	A *	B *	C *
Indicative footprint incl. spectator shelter (Est. social space approx. 20% of footprint)	600 m ² (120 m ²)	500 m ² (100 m ²)	350 m ² (60 m ²)
Est. Cost @ \$4,500 per m ²	\$2,700,000	\$2,250,000	\$1,575,000
Design, Project Management & Contingency Costs (+25%)	\$675,000	\$562,500	\$393,750
Sub-Total	\$3,375,000	\$2,812,500	\$1,968,750
Adjust annually for CPI 2%	\$67,500	\$56,250	\$39,375
Total Estimated Cost (2019/20)	\$3,442,500	\$2,868,750	\$2,008,125
Adjust annually for CPI 2%	\$68,850	\$57,375	\$40,162
Total Estimated Cost (2020/21)	\$3,511,350	\$2,926,125	\$2,048,287

Implications for Master Plan

- Mount Waverley Reserve is categorized as a District venue (NB: The Pavilion is currently classified as a Class A facility, primarily due to the existing size (e.g. large social space), whereas the ground is classified as a Class B sportsground).
- As a minimum, facility and infrastructure provision should reflect design guidelines for Class B standard facilities consistent with the grading and use of Mount Waverley Reserve.
- The existing main pavilion exceeds Class B standards, however modification may be required to improve mixed gender use (i.e. female friendly) and change rooms.

Other relevant infrastructure guidelines / considerations for District venues:

- Sports lighting - training standard sports lighting to oval – match standard lighting can be considered if funded by club/s.
- Cricket practice nets - 0-2 turf practice wickets in nets (space permitting and dependent on level of cricket played). Maximum 3 cricket nets with synthetic base. Council's *Cricket Wicket Policy* (draft 2021) also confirms the following minimum and maximum provision guidelines for Mount Waverley Reserve (i.e. sub-District Cricket standard): 3 synthetic nets and 6 turf strips.
- Sports oval - Full size oval (preferred 165m x 135m); Minimum (150m x 110m). Full drainage and irrigation.
- Off street carparking – 50 spaces minimum.

Important Notes:

- These are indicative maximum sizes and costs for Class A, B & C Pavilions that are female friendly and service a single sports ground. They are a guide only and budget estimates will need to be adjusted annually by CPI.
- Pavilion footprints and estimated costs will vary according to:
 - multi-use potential to cater for broader community access;
 - existing site limitations and latent conditions e.g. landfill and leachate sites;
 - the code and level of sport being played;
 - the size and number of sports ground/s and number of clubs at the reserve; and
 - the range and cost of ESD elements incorporated into the design.



**Monash Tennis Plan
(May 2021)**

Influences / direction

- There are 16 tennis clubs in Monash that operate under a lease arrangement with Council.
- The Tennis Plan identifies inequitable distribution of clubs/courts in the north east of the municipality.
- However, the suburbs of Glen Waverley, Mount Waverley and Wheelers Hill have the highest supply of tennis facilities in Monash, with 77% of courts at club venues in Monash being located in these 3 suburbs alone (1 court for every 1,579 people). This exceeds the Tennis Australia benchmark of one court for every 2,000 people.
- Further to this, there are another 67 courts in the Glen Waverley, Mount Waverley and Wheelers Hill catchment, which are not located on Council land. This includes privately owned club, schools and church tennis clubs.
- Tennis club participation has declined in Monash by 3.9% since 2010.
- The Tennis Plan recommended a minimum of six compliant courts are required to support club sustainability.
- The Tennis Plan recommends that Council engage with clubs located in Mount Waverley and Glen Waverley to explore potential relocation and merger opportunities – in order to achieve a consolidation of facilities and more sustainable club structure.
- Investment in the existing courts at Mount Waverley Reserve is not considered a priority.

Implications for Master Plan

- Council to actively explore relocation options for the Mount Waverley Tennis Club to another reserve.
- Identify potential impacts of accommodating six new courts at Mount Waverley Reserve having regard to overall spatial capacity, functionality and amenity impacts.
- Consider Master Plan options without club tennis at the reserve.



**Mt Waverley Reserve -
2MH Tennis Facility &
Condition Audit 2018**

Influences / direction

- There are currently four club courts at Mount Waverley Reserve. The courts are non-compliant in terms of size/enclosure areas do not meet current standards for run-off and circulation.
- Existing infrastructure such as steps and light towers sit in the run off zone, exacerbating the problem.
- The location of the existing courts limits potential for expansion to address compliance or to provide additional courts (i.e. to achieve a sustainable model of 6-courts as recommended in the Tennis Plan, above).

Implications for Master Plan

- Council to actively explore relocation options for the Mount Waverley Tennis Club to another reserve.
- Identify potential impacts of accommodating six new courts at Mount Waverley Reserve having regard to overall spatial capacity, functionality and amenity impacts.
- Consider Master Plan options without club tennis at the reserve.



**Playground &
Playspace Strategy
2020**

Influences / direction

- Mount Waverley Reserve playground is classified as a Local play space.
- The Strategy suggests renewal will be required in 2023/24.
- Mount Waverley (Ward) has the second highest level of play space provision in the City (i.e. 1 play space to every 1,428 people).

Implications for Master Plan

- Master Plan to support ongoing provision of a Local standard play space (i.e. 5-8 pieces of equipment) at Mount Waverley Reserve.



**Monash Urban
Landscape & Canopy
Vegetation Strategy, 2018**

Influences / direction

- Landscape character assessment has been undertaken across the City of Monash to help protect areas of 'Garden City' suburban character, as well as areas of remnant native vegetation.
- The strategy categorises the municipality into 9 landscape character types, with the Mount Waverley Reserve being in the 'Creek valley environs' category.
- The strategy identifies 5 preferred vegetation types including identifying recommended species. Mount Waverley Reserve is assessed as being in the 'Evergreen' category.
- The strategy sets a goal of increasing the canopy tree cover across public and private land from 22% (in 2015) to 30% by 2040.

Implications for Master Plan

- New planting proposed should reflect the 'Creek Valley Environs' landscape character type, and the 'Evergreen' preferred vegetation type.
- Consider increasing canopy cover at reserve to help meet the strategy goals.



**Monash Public Toilet
Strategy Action Plan
(draft 2021)**

Influences / direction

- Mount Waverley Reserve has been considered as a low priority location for new public toilet provision in draft PTS action plan.
- Three potential actions for future public toilet provision are being considered for the site.
 - Option 1 - Open existing standalone patron only toilet to public with additional security and maintenance cost.
 - Option 2 - Refurbish existing standalone toilet to unisex accessible and/or ambulant public toilet.
 - Option 3 - New standalone automated unisex public toilet at the same location of existing toilet block.
- Considering there is already an existing patron only standalone toilet on-site with reasonable connectivity to and surveillance from its surroundings, the short term option (Option 1) is considered likely.

Implications for Master Plan

- The Master Plan will explore options for the most appropriate location for public toilet provision – including retaining the existing site/facility or elsewhere within the reserve.
- Opportunities to consolidate overall built form within the reserve will be a key consideration



**Active Monash
Cricket Wicket Policy
(draft 2021)
& Turf Wicket Review
Report
(June 2020)**

Influences / direction

- The Policy outlines the guidelines and responsibilities for cricket wicket usage, preparation, maintenance and provision throughout the City of Monash.
- The Policy outlines proposed fees based on a 15% cost recovery basis for turf tables and practice wickets as well as a 15% levy on each senior team as a contribution to outfield maintenance costs.
- On this basis Mount Waverley CC fees would increase by approximately \$560p.a. compared to previous years, reaching a total of just under \$9,500 for the season.
- All turf wicket facilities to be maintained by Council or appropriate Council appointed contractor.
- Field size: A minimum of 50 metres must be achieved for all boundary lengths before a senior T20 match is considered in Monash.
- Cricket nets will be provided at all cricket venues that are the main ground for that tenant. Practice facilities at these venues will have a minimum of 3 cricket net lanes.
- Council will fully fund practice net facility (re)development at venues that are the main training ground for clubs who participate in Premier and Sub-district cricket competitions. Nets are to be available for community use.
- Turf Wicket Review confirms Mount Waverley Reserve centre wicket has 6 turf pitches, 8 turf practice pitches and 3 synthetic practice pitches. This exceeds the draft policy recommendations (6 turf centre wickets and 6 turf practice strips and 3 synthetic practice wickets for sub district cricket). The review identified the following recommendations:
 - Vigorous renovation of Mount Waverley Reserve main turf table due to marginally high thatch levels.
 - Tree works (e.g. root pruning) are required at Mount Waverley Reserve training due to shade & moisture stress issues from nearby trees.

Implications for Master Plan

- Review playing field dimensions and consider options to ensure a minimum cricket field size of 50m to all boundaries (to allow T20 matches).
- Policy framework supports a minimum of 3 synthetic cricket net practice lanes and retention of a turf practice facility to allow at least two live/playable pitches for training at any one time. Council's Cricket Wicket Policy (2020) also confirms the following minimum and maximum provision guidelines for Mount Waverley Reserve (i.e. sub-District Cricket standard): 3 synthetic nets and 6 turf strips
- Note recommendation for de-thatching the main table.
- Address tree issues at existing practice nets – including possible relocation and enclosure to improve safety.

**Monash Sports
Floodlighting Policy
(2021)**

Influences / direction

- The Policy outlines the responsibilities of tenant sporting clubs and Monash Council for the installation, maintenance and usage of floodlights on sportsgrounds and active playing surfaces in Monash.
- The policy seeks to introduce a fair, equitable and transparent system to manage sportsground and active playing surface floodlighting across Monash and recognises the difference between clubs with lease and licences.
- The Mount Waverley Cricket Club and Waverley Blues Football Netball Club currently operate under an annual License / Seasonal Allocation from Council as opposed to a formal Lease.
- For licensed clubs, no club contribution is required toward the cost of installation of floodlighting up to minimum lighting levels required for training. However, tenant clubs will be responsible for 100% of the cost (excluding Council supervision and project management charges) to install lighting above minimum lighting levels for training (i.e. above 100 Lux). In the event that a power upgrade is required to upgrade lighting facilities to minimum standards, Council will fully fund the costs associated with this work.
- Monash Council will oversee and manage the maintenance of all floodlighting on behalf of all licensed clubs reserves including poles, switchboards, control gears, wiring, switching mechanisms, fittings, truck appointments and the replacement of lamps.

Implications for Master Plan

- Council will be responsible for all capital costs associated with sports floodlighting improvements to Training standard (i.e. 100Lux). Any improvements beyond training standard would need to be funded by tenant Clubs.

**City of Monash
Asset Condition
Assessment (2017)**

Influences / direction

Facility condition audit assessments were undertaken as part of Council's Asset Management Planning for the Main Pavilion and Tennis Pavilion. Key findings are summarised below (refer to appendices for more detail).

- **Main Pavilion (Cricket/Football):**
 - Constructed 1963, extended 1982, 2005 and refurbished 2017.
 - Replacement cost \$1.2mil. Building area 368m².
 - Average condition rating = 2.1 (1= Excellent, 5 = Very Poor).
 - Useful Life Remaining – 17% of the building requires renewal over the next 10 years and a further 27% over the next 25 years (i.e. 44% combined). However, the structural envelope will last more than 35 years (i.e. 54%).
- **Tennis Pavilion / Clubroom:**
 - Constructed 1967. Replacement cost \$350k. Building area 130m².
 - Average condition rating = 2.8 (1= Excellent, 5 = Very Poor).
 - Useful Life Remaining – 37% of the building requires renewal over the next 10 years and a further 68% over the next 25 years.

Implications for Master Plan

- The tennis pavilion has a limited useful asset life remaining. The Master Plan will explore options for replacement and/or consolidation as part of a shared use facility (if tennis remains on site).
- The main pavilion is structurally sound and has recently been refurbished, however it does not meet contemporary standards and expectations (i.e. number of change rooms and female facilities).
- The master plan to consider demand assessment results, current Council policy framework and stakeholder aspirations to determine future options for the main pavilion.



Influences / direction

The following section provides a summary of key observations and/or actions noted in the audit report. These issues will be addressed in recommended improvement works in the Master Plan.

Reserve Classification: District

Primary Function: Sport

Tennis Hit-Up Wall:

- Hit-up wall pad is 8x12m, cracking needs some repair wall is intact.
- Basketball Court:
- Condition rating: Ring and Backboard = moderate; Court surface = Good
- Pad is 7.1 x 8.2m; pole on a strong lean [backwards].
- Base of pole is rusting. Screws & nuts securing backboard to frame are rusted. Ring coating is worn, missing chain/net. Backboard is intact but pieces are peeling off the front and the bottom edge is starting to break up [early signs]
- Action: Pole skewed and on a lean backwards- assess for stability, and rectify.

Asphalt Tennis Court:

- Nets in poor condition. Net poles in poor condition.
- Action: Net itself is intact albeit the ties need fixing. Posts are intact but coating worn, bases and hardware are rusting and one is on a pronounced lean. Surface itself has cracking through the majority, weeds growing in cracks, disintegrated lines, and the surface slant is pronounced.
- Tree roots from next property have encroached into runoff [needs to be addressed, would also be a good idea to have the trees assessed for stability, there is significant overhang and they're growing on a lean into the court]. Surface type is suitable for this type of use but currently it needs resurfacing and replacement poles.

Cricket Practice Nets:

- Suspected pitch base issues / failure.
- Uneven bowling crease / drop-offs.
- Leaf litter debris.
- Compacted pile, dirty, splitting seams and level changes (possible tree root damage).
- Subsidence along edges.
- Worn areas on pitch surface.
- Fix broken roof join in 3 net. schedule carpets for resurfacing and rectify the base.

Other Comments:

- Rubbish bins are only available at pavilion and one St Albans St entry/exit.
- One bench seat at playground only. Playground equipment is tired.
- Mixture of perimeter fencing, a different one on each frontage.
- Travel through the reserve is mostly across grass but could also park on Charles St directly adjacent the playground or on St Albans St for the nets. Parking onsite provides direct access to the (recreation) tennis court and basketball court.
- There is good visibility of/for the playground and a reasonable amount for the cricket nets, although some of the trees cut do with cutting back.
- Tennis court has good line of sight to the community centre, oval /pavilion.
- The basketball court and hit up wall have line of sight from the oval but are obscured from the community centre direction.

Implications for Master Plan

- The Master Plan will consider opportunities for improvements to the Tennis Hit Up Wall, Basketball Court, Asphalt Tennis Court, Cricket Nets and supporting park infrastructure.



The following information has been sourced from <https://forecast.id.com.au/monash> & <https://profile.id.com.au/monash>.

Overview

The City of Monash is a culturally diverse community in Melbourne's south-east suburbs. Monash is home to an Estimated Resident Population of 202,847 people (2019) making it one of the most populous municipalities in Victoria and is forecast to grow to 249,287 by 2041.

Monash City includes the following suburbs: Ashwood, Clayton, Glen Waverley, Hughesdale, Huntingdale, Mount Waverley, Mulgrave, Notting Hill, Oakleigh, Oakleigh East, and Wheelers Hill as well as parts of Chadstone, Burwood and Oakleigh South.

Monash is home to the main campus of Monash University, Australia's largest university in terms of student numbers, and the Australian Government's premier research organisation, CSIRO. It is also home to the only Australian Synchrotron and the Melbourne Centre for Nanofabrication.

According to 2016 Census data, the City of Monash had a lower proportion of pre-schoolers and a higher proportion of persons at post retirement age than Greater Melbourne.

Analysis of the service age groups of the City of Monash compared to Greater Melbourne shows that there was a lower proportion of people in the younger age groups (0 to 17 years) and a higher proportion of people in the older age groups (60+ years).

Overall, 19.1% of the population was aged between 0 and 17, and 21.9% were aged 60 years and over, compared with 21.7% and 19.0% respectively for Greater Melbourne.

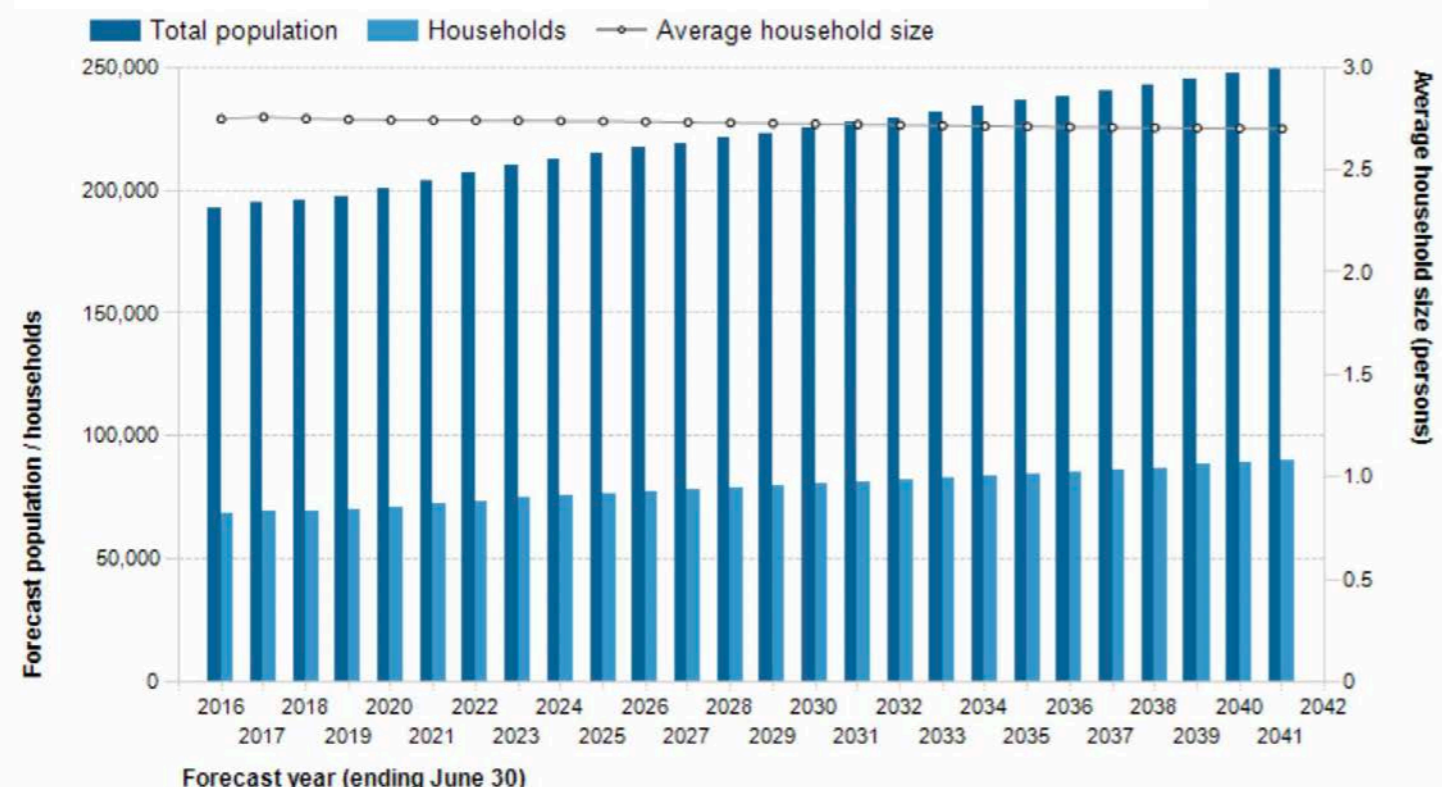
Between 2016 and 2031, the age structure forecasts for the City of Monash indicate a 12.7% increase in population under working age, a 14.0% increase in population of retirement age, and a 19.9% increase in population of working age.

In 2016, the dominant age structure for persons in the City of Monash was ages 20 to 24, which accounted for 10.0% of the total persons.

The largest increase in persons between 2016 and 2031 is forecast to be in ages 15 to 19, which is expected to increase by 4,076 and account for 7.6% of the total persons.

The largest 5 year age group in 2031 is 20 to 24 years, with a total of 22,265 persons.

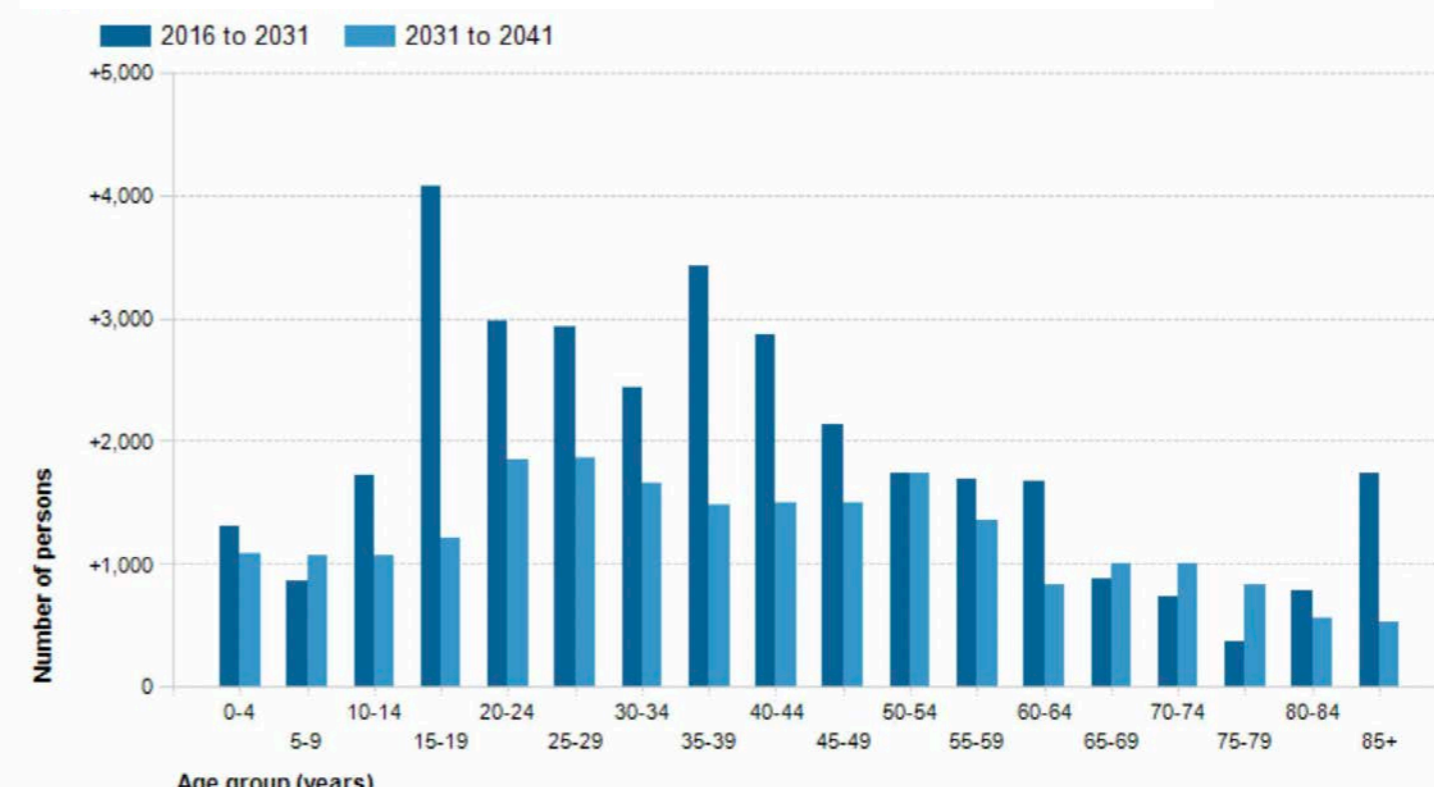
Figure 2
Forecast population, households and average household size (City of Monash)



Population and household forecasts, 2016 to 2041, prepared by .id the population experts, February 2019.



Figure 3
Forecast change in age structure - 5 year age groups (City of Monash)



Population and household forecasts, 2016 to 2041, prepared by .id the population experts, February 2019.



2.03 POPULATION & DEMOGRAPHIC CHARACTERISTICS

Mount Waverley

The current population of Mount Waverley is approximately 36,045 people and is forecast to grow to 40,827 by 2041.

Analysis of the service age groups of Mount Waverley in 2016 compared to City of Monash shows that there was a higher proportion of people in the younger age groups (0 to 17 years) as well as a higher proportion of people in the older age groups (60+ years).

Overall, 20.7% of the population was aged between 0 and 17, and 24.2% were aged 60 years and over, compared with 19.1% and 21.9% respectively for City of Monash. The major differences between the age structure of Mount Waverley and City of Monash were:

- A larger percentage of 'Seniors' (11.6% compared to 9.9%)
- A larger percentage of 'Older workers & pre-retirees' (12.8% compared to 11.3%)
- A smaller percentage of 'Tertiary education & independence' (10.1% compared to 13.3%)
- A smaller percentage of 'Young workforce' (12.0% compared to 14.9%)

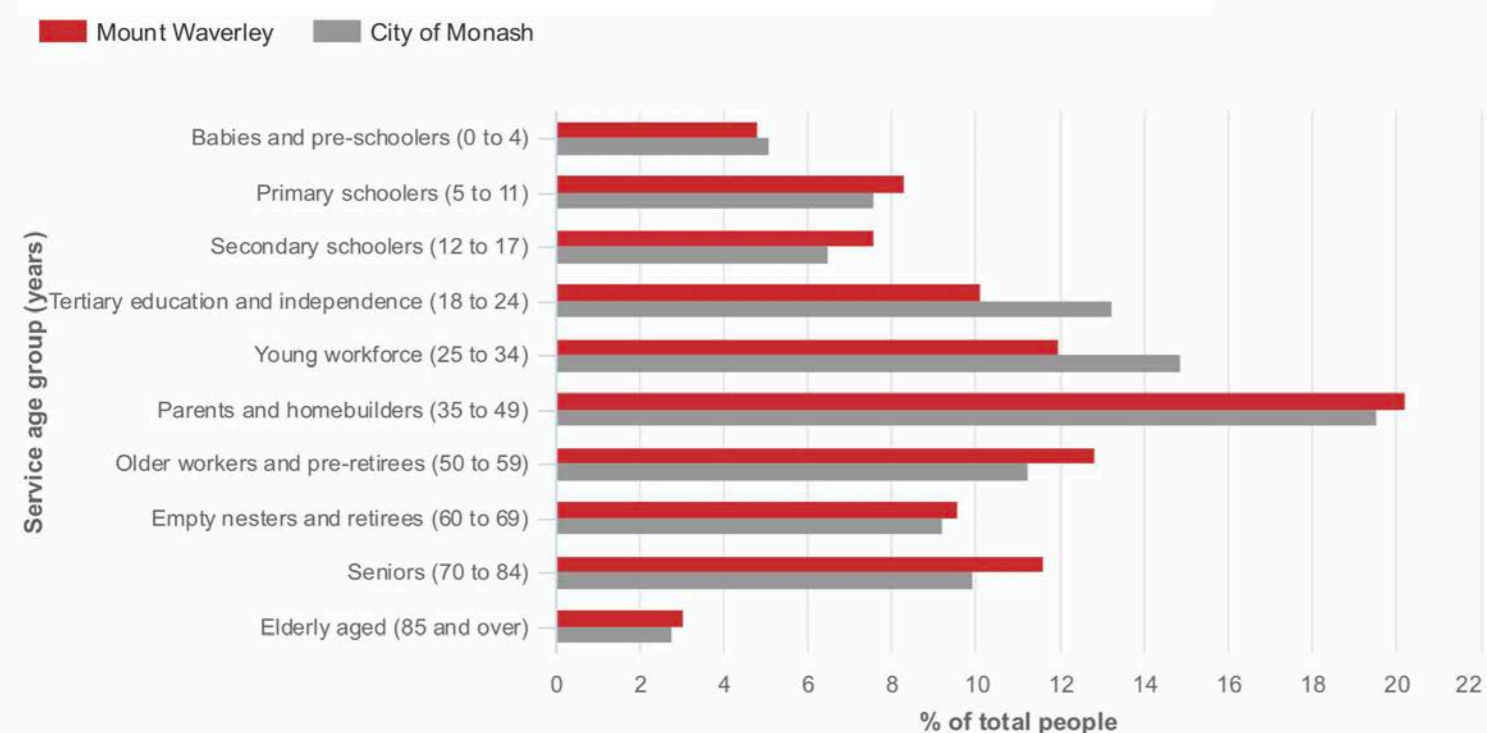
Planning Implications

The following planning implications can be derived from the population and demographic profile of the community:

- Sustained population growth will increase demand for access to appropriate sport and active recreation participation opportunities, including in Mount Waverley.
- The relatively 'young' age profile of the Monash community (i.e. high proportion of 15-19 & 20-24 year age groups), including a high proportion of females, will contribute to demand for access to sport and recreation participation opportunities as these age groups traditionally have high rates of participation in formal sports.
- Within the immediate catchment (i.e. Mount Waverley) the higher proportion of people aged under 17 years compared to the City as a whole will influence demand for access to junior sport participation opportunities. Conversely, the higher proportion of adults aged over 60 years will influence demand for informal recreation participation opportunities.
- Whilst demand for participation in traditional formal sports can be expected to experience growth associated with population increases, demand for informal, non-club based leisure opportunities can also be expected to increase associated with the physical activity participation preferences of an ageing community (e.g. including walking and social gathering).

- In Victoria, female participation rates in sport and active recreation remain lower than males, particularly in community sport and recreation club settings. Appropriate sport facilities and supporting infrastructure are a key factor in encouraging female involvement.
- The relatively high proportion of females in younger age groups (i.e. 15-24 years) and 65+ years will drive demand for access to appropriate female friendly infrastructure and participation environments.

Figure 4
Age structure - service age groups, 2016



Source: Australian Bureau of Statistics, Census of Population and Housing, 2016 (Usual residence data). Compiled and presented in profile.id by .id, the population experts.



Primary User groups

Current formal user groups / tenants of the reserve include:

Mount Waverley Cricket Club

- Established in 1906.
- Reportedly one of the largest clubs in Melbourne:
 - 320 active players in 2019/2020 season (aged 5-50+ years).
 - Approximately 200 engaged families and over 500+ past players and supporters.
 - 45 senior men.
 - 190 junior boys.
 - 20 junior girls.
 - 30 veteran men.
- Teams:
 - 19 junior teams.
 - 5 representative junior teams.
 - 2 junior girls teams.
 - 4 senior (men's) teams – playing the VSDCA, the second highest turf competition in Victoria.
 - 2 veterans teams.
 - Cricket Blast (junior development) 30+ participants.
- Currently play across six grounds – Mount Waverley Reserve is the club home ground.

Waverley Blues Football (& Netball) Club

- Originally established as the Glen Waverley Football Club in 1961. Changed their name to Waverley to better reflect their representation of the region and adopted the nickname Panthers in 1963.
- Participate in the Eastern Football League and Netball EFL. Netball is conducted at the Waverley Women's Sports Centre (i.e. Waverley Netball Centre).
- 400+ players and 1200+ community supporters.
 - Approx. 90 senior men players.
 - Approx. 275 junior boys.
 - Approx. 50 junior girls.
 - Approx. 30 senior women.
 - Approx. 15 senior Netball women.
- Teams:
 - 3 x senior men.
 - 1 x senior women (new and growing).
 - 10 x junior boys (growing)
 - 1 x junior girls (growing)
 - 1 x senior netball (growing).
- The existing sports pavilion reportedly does not meet the club needs in relation to adequate number of change rooms, toilet facilities, umpire amenities and female friendly design.
- The playing field is also an irregular shape and dimensions do not match guidelines for a senior oval.

Mount Waverley Tennis Club

- Establish on site since 1925.
- Club has a relationship with a professional tennis coach to utilise the courts and provide specialist coaching to members and the public (since 2017).
- Participation (based on 2019/2020 season):
 - 136 members.
 - 66 students in coaching.
 - 6 junior teams.
 - 2 senior teams.
 - 1 Vic Pennant team.
- Member profile (2019/2020 season):
 - 56 male juniors.
 - 24 female juniors.
 - 20 male senior/adult.
 - 22 female senior/adult.
 - 8 male non-playing members.
 - 6 female non-playing members.
 - Ages 6-91 years.
 - 50% live in Mt Waverley, approx. 75% live in the City of Monash.
- Current courts do not meet contemporary size regulations/ requirements (particularly safety run-off and circulation space). The club would ideally like 8 new courts with lighting (6 x En-tous-cas and 2 x hard courts. One hard court could potentially be multi-use and under-cover – refer to Figure 6).

Participation Changes

According to Council records as reported in annual ground allocations:

- Waverley Blues Football (& Netball) Club participation has remained relatively stable, i.e. 14 teams in 2014 season and 13 teams in 2019.
- Mt Waverley Cricket Club participation has increased from 21 teams in the 2013/14 season to 27 teams in 2019/20 season. The 2017/18 season saw a peak of 32 teams registered with the club.

Support venues

- Waverley Blues also use Pinewood Reserve for club training and matches.
- Mt Waverley Cricket Club also use Pinewood Reserve, Fregon Reserve, Mount View Primary School, Jordan Reserve and Carlson Reserve – primarily for matches rather than training.

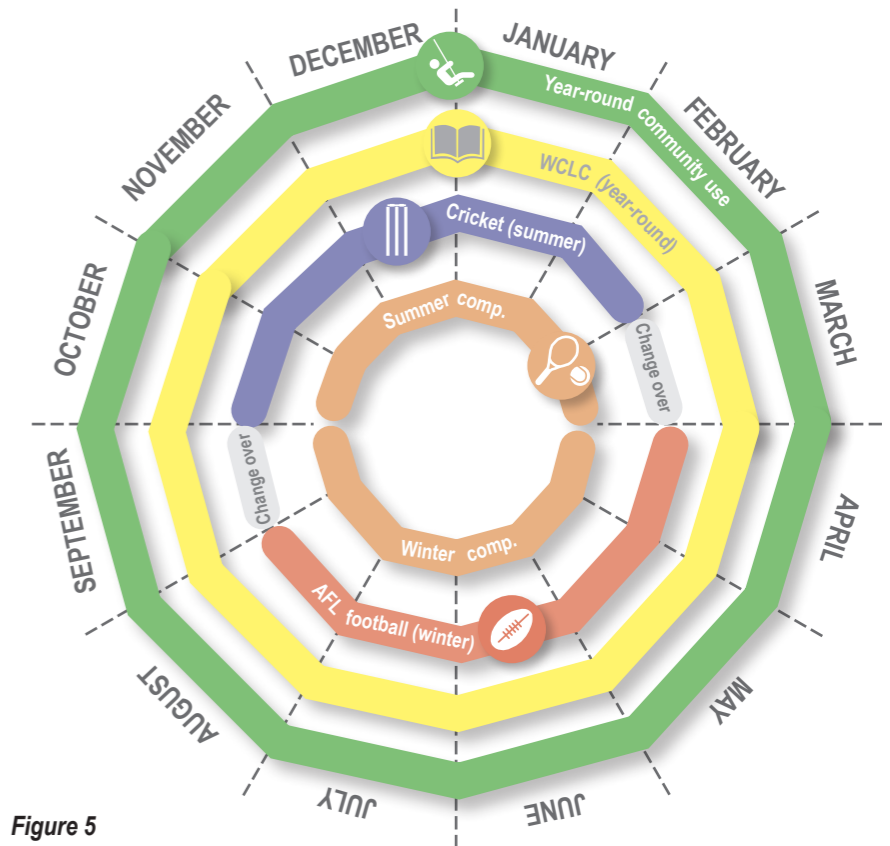


Figure 5
Current site usage diagrams

2.04 CURRENT USE & PARTICIPATION

Figure 6
Current schedule of regular sporting activities at Mount Waverley Reserve

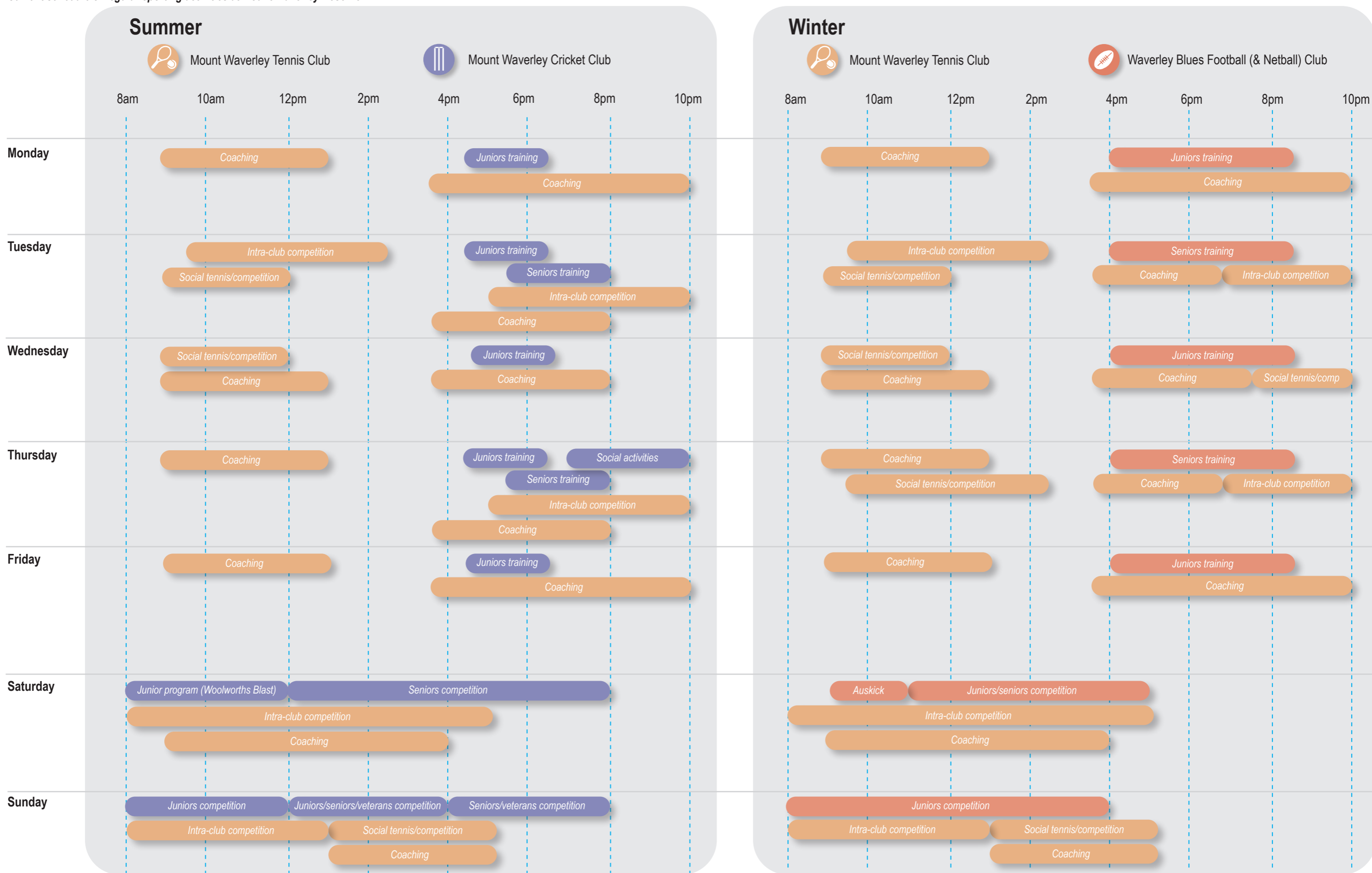
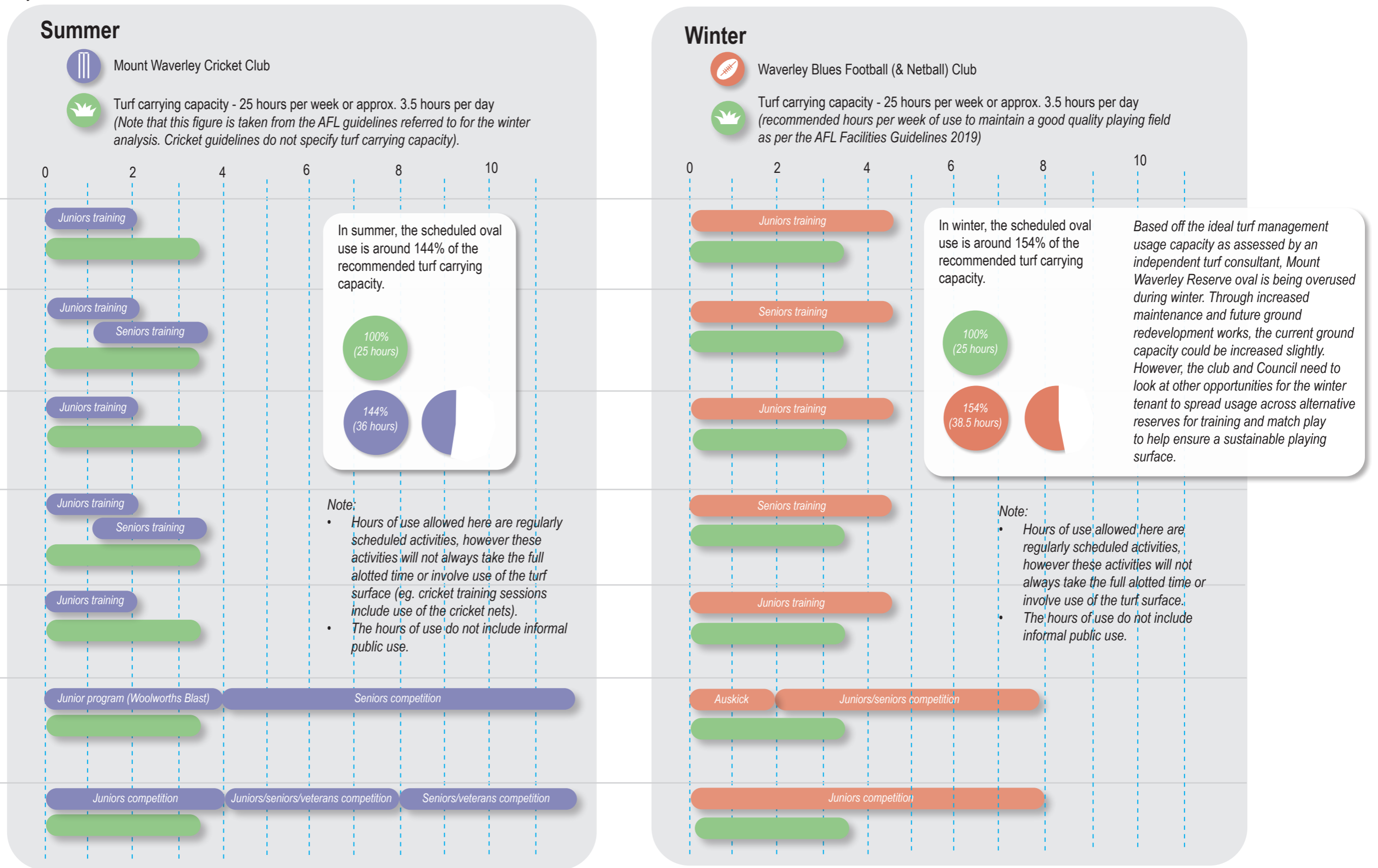


Figure 7
Oval turf carrying capacity analysis



Cricket Australia facility guidelines indicate that a Premier/Regional venue should have an 8-10 wicket turf table (Mount Waverley Reserve has 8, so fits within these guidelines). A recent audit conducted by an independent turf expert also found that the number of wicket turf tables at Mount Waverley Reserve was adequate.

**Waverley Community Learning Centre
(Fleet Street neighbourhood house) and Occasional Care**

- Established in 1973.
- The Waverley Community Learning Centre offers an extensive range of courses, events, health, fitness and craft programs as well as a vital meeting place for a variety of social groups (including older adults).
- The Centre offers accessible activities that reduce social isolation, improve well-being, and add value to the community.
- Administered by a Committee of Governance of residents, the Centre is committed to the development needs of the local community and providing friendly and supportive services for all.
- Pre COVID-19, the Centre attracted over 1,000 visits per week, with the majority of classes and activities offered between 9am-3.30pm weekdays.
- More recently the Centre has offered after school programs between 4pm-5.30pm weekdays and a limited range of evening classes from 7-9pm weekdays.
- Weekend use is limited to casual hirers, activity workshops and occasional events.
- Usage periods do not tend to conflict with sporting uses of the reserve.
- The Centre occasionally rents other venues off-site (e.g. Uniting Church Hall) to help cater for usage demands (e.g. meeting rooms, program spaces, multi-purpose rooms).
- The Centre attracts users from all ages (children to older adults), as well as people with disabilities, special needs and 'at risk' individuals. Patron safety and security are critical considerations (i.e. working with children and special needs requirements).
- Two major community events are conducted each year attracting over 500+ people i.e. Harmony Day and Christmas Market. Events are scheduled on Friday twilight periods to minimize potential conflicts with sporting uses of the reserve.
- The reserve/Centre is also used by other groups (e.g. Probus) as a collection point for day trips and outings (i.e. Bus pick up, drop off and patron parking).
- Occasional Care is operated by a Parent Cooperative generally operating between 9am-3.30pm weekdays.

Informal recreation

In addition to formal sporting use of facilities by clubs, it is also recognised that Mount Waverley Reserve is also used by local residents for informal recreation, including dog walkers, casual users, walkers/joggers, recreational cyclists, local schools and to access the playground and sporting facilities for community activities, informal use and events.

The Master Plan will explore opportunities for alternative uses of the area currently occupied by the club tennis courts to support additional community use and/or expansion of the Learning Centre/Occasional Care (e.g. outdoor play area, community garden, etc.).



Photographs of the Waverley Community Learning Centre building and facilities.



Neighbouring land use: Melbourne Water Reservoir

Mount Waverley Reserve sits adjacent to Melbourne Water controlled land known as Water Reservoir Number 16 (i.e. WR16). As can be seen on the plan on this page, the reservoir is located on a parcel of land that is larger than Mount Waverley Reserve.

Melbourne Water advised that the reservoir is a crucial component in Melbourne’s water distribution network and will not be decommissioned in the foreseeable future. The asset supplies parts of the City and growth related to Fisherman’s Bend. The site will not be surplus to requirements. No changes are proposed from a hydraulics or capacity point of view.

There are a number of drainage assets located on the north boundary of the recreation reserve and in Fleet Street, as well as valves and fittings on the north and south side of the oval. There is a scour pipe present on the eastern side of the oval. An application must be made to Melbourne Water’s Asset Services team for specific conditions including clearance zones from assets. Access to these Melbourne Water assets are required at all times.

Melbourne Water will remove and replace ageing, senescent pine trees along the boundaries of WR16 in the short-medium term (i.e. 1-5 years). This timeframe may be longer depending priorities at other Melbourne Water reserves. Large scale removal would include development of a landscape plan with input from Council and the community.

As a principle, Melbourne Water supports public activation of reserves, however WR16 is used by both Telco and MW operations, with considerable vehicle movements, chemical deliveries, crane operations and infrastructure in the area and therefore public access/activation is not appropriate at this site.

Melbourne Water does not have any requirements for use of Mount Waverley Reserve (other than existing drainage infrastructure) and would like the master plan to retain the integrity and security between the two sites.

Existing arrangements for water harvesting for sporting field irrigation should be formalised via a licence agreement between Melbourne Water and Council so that rights and obligations are appropriately recorded. This could include access arrangements to inspect and clean the offtake as required.

Implications for the Master Plan include confirmation of the long-term future of the Melbourne Water land as an active reservoir, thereby ruling out any possible future expansion of Mount Waverley Reserve into the adjacent site, hence confining Mount Waverley Reserve to a maximum capacity of a single oval venue. Council facility and infrastructure provision should therefore reflect Class B hierarchy standards (as per Councils Active Reserves policy framework) and seek to actively manage usage loads by maximizing use of other active reserves in the region where required – this may require an upgrade to training and competition facilities at selected other venues (e.g. Pinewood Reserve).



Figure 8
Melbourne Water Reservoir extents

STAKEHOLDER ASPIRATIONS

Sporting Clubs

The three clubs (i.e. Mount Waverley Cricket Club, Waverley Blues Football & Netball Club and Mount Waverley Tennis Club) have been working collaboratively to identify priority needs and future aspirations for the reserve. A Power Point presentation was submitted by the clubs to the consultant team (June, 2020) outlining their collective vision and aspirations for the reserve. The suggestions are aspirational and will be assessed against the ISP and Background Research outcomes to ensure consistency with Council policy and planning frameworks when developing the draft master plan. A summary of key information is outlined below.

Collective Vision

“Creating a community hub for the people of Monash.”

Aspirations

“To deliver a community facility that will serve the diverse needs of the Monash area by bringing stakeholders who share the Mount Waverley Reserve together to build a facility that will cater for their needs and interests.”

It will be underpinned by:

- A sense of diversity and community pride.
- Inclusiveness that will allow people of all ages, backgrounds, genders and abilities to utilize the facility.
- Designed to meet the current and future needs of clubs and the community.
- Providing contemporary facilities for the next generation.
- Creating a local hub for the community.

Points of difference

The clubs believe their submission/vision has the following key points of difference:

- Collaboration between the sporting clubs and willingness to form an alliance to support development and operation of new facilities.
- Viewed as a community facility, not just sporting facilities.
- Facilities will collectively service over 3000 members and supporters (of all clubs) as well as the broader community.
- Willingness and demonstrated capacity to embrace diversity and inclusion.
- Multi-use, shared-use facility.
- Alignment with Council Strategy, specifically *Health and Resilient Monash: Integrated Plan 2017 to 2021 and Monash 2021 and Beyond*.

Key issues for the Master Plan to consider

The clubs identified the following key issues to be addressed in the Master Plan:

- Current pavilion facilities are too small for user needs.
- Pavilion size limits capacity to deliver extended activities to the community.
- Current facilities are not designed to cater for female participation.
- Kitchen facilities are restrictive and limit catering capacity (including event catering).
- Current facilities do not meet the needs of stakeholders.
- Training facilities are inadequate having regard to the size of the population, growth of clubs and standard of competition/participation.
- Current facilities limit capacity for cohabitation and shared use.
- Reserve facilities lack access to public toilets, BBQ's, seating and other features/ furniture.
- Car parking is limited, traffic flow/management could be improved.
- Limited storage facilities for clubs.
- Opportunities to improve safety for users.
- Overall amenity and functionality of the reserve.

Figure 7 reproduces a plan provided by the clubs as an indication of a possible new layout for new, upgraded and shared use facility aspirations at the reserve. It is acknowledged that this plan has been developed by the clubs as an indication only for discussion purposes and that it does not take into account Council's overall planning principles and policy framework.

Waverley Community Learning Centre (Fleet Street neighbourhood house) and Occasional Care

Aspirations / priorities expressed by the Community Learning Centre for consideration in the Master Plan included:

- Retain existing neighbourhood house facilities, in particular the California Bungalow 'house' as this is critical to the amenity and appeal of the Centre. It is also believed to have heritage significance.
- Retain access to car parking along Fleet Street and within the reserve.

- Significant renovation or rebuild of the Community Learning Centre facilities would have a major impact on ongoing operations if closure were required to rebuild. Concern was raised about the sustainability of the Center if it was required to close for an extended period to allow construction works.
- The main priority expressed by the Centre was to access a new multi-purpose health and fitness program room within any new sports pavilion (if developed) to allow the Centre to expand program offerings. Exclusive use during defined hours (daytime) would be required, as well as clarity around management, cleaning and insurance considerations.
- The space would need to be suitable for health and fitness programming (e.g. yoga, gentle exercise, dance, etc.). Typically, a hard wood floor that is separate from club social spaces and alcohol service areas i.e. appropriate amenity and functionality to cater for children through to older adults.

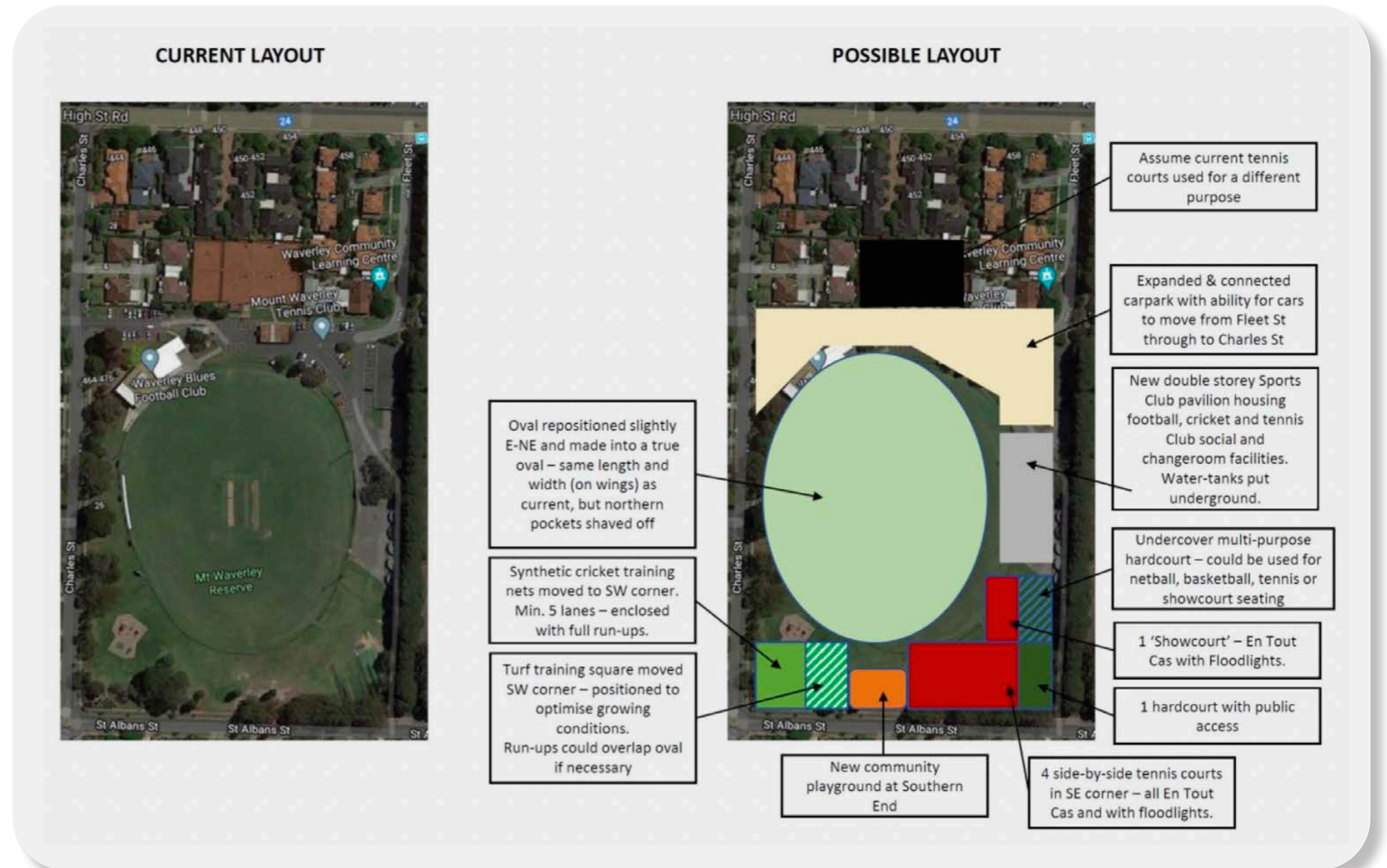


Figure 9
Sporting clubs aspirations for new facilities and suggested possible layout provided by them

DEMAND ASSESSMENT

Participation Trends (pre-COVID-19)



Australian Rules Football

- Evidence of participation growth across the sport (Victoria-wide), particularly juniors, women/girls and seniors/veterans.
- Junior development programs (i.e. Auskick) continue to attract high participation.
- Increased focus on female friendly facilities, gender equity and universal access standards.
- Waverley Blues participation has remained relatively stable over the last five years (i.e. 14 teams in 2014, 13 teams in 2020).



Netball

- The Eastern Metro Region (incorporating City of Monash) has the highest membership rate of any region in Melbourne at 1.8% of the total population (Vic average 1.3%).
- Netball joined the Waverley Blues Football Club in 2016. Participation is currently low, i.e. approx. 15 senior women.
- Netball participation within the City of Monash is adequately provided for via the Waverley Women's Sports Centre Precinct (i.e. Waverley Netball Centre) and Ashwood High School Netball Facilities (Waverley District Netball Association).



Cricket

- According to the National Cricket Census (2017-18), cricket participation has experienced strong growth (i.e. approx. 9% increase on previous year), with growth experienced across both females and males.
- The census revealed that 30 per cent of cricket's participant base are females, translating to six in every 10 new participants.
- The Victorian Cricket Infrastructure Strategy identified that the east Melbourne region has a higher than average cricket provision ratio. Pavilion and training facility improvements were identified as priorities for future investment.
- Mount Waverley Cricket Club participation has increased from 21 teams in the 2013/14 season to 27 teams in 2019/20 season. The 2017/18 season saw a peak of 32 teams registered with the club.



Tennis

- Tennis club participation has declined in Monash by 3.9% since 2010.
- The suburbs of Glen Waverley, Mount Waverley and Wheelers Hill have the highest supply of tennis facilities in Monash, with 77% of courts at club venues in Monash being located in these 3 suburbs alone (1 court for every 1,579 people). This exceeds Tennis Australia's recommended court provision ratio of 1 court for every 2,000 people.
- Further to this, there are another 67 courts in the Glen Waverley, Mount Waverley and Wheelers Hill catchment, which are not located on Council land.
- The Active Monash Tennis Plan recommended Council engage with clubs located in Mount Waverley and Glen Waverley to explore potential relocation and merger opportunities in order to consolidate facilities and maximise club sustainability.



Informal recreation

- Notwithstanding the importance of formal sporting clubs and groups, physical activity participation trends confirm that the most popular activities undertaken by all adults (aged over 15 years) are dominated by non-organized, non-club-based activities including walking, cycling and jogging.
- Options to maximise opportunities for multi-use and informal participation in a range of physical activities should be explored in the Master Plan.

Mount Waverley Population Impacts

The current population of Mount Waverley is approximately 36,045 people and is forecast to grow to 40,827 by 2041, an increase of approximately 4,800 people. This is considered a relatively low level of population growth over a twenty-year period. Approximately 19% of new residents will be aged under 17 years representing an additional 912 people, and 59% aged between 18-59 years representing an additional 2,832 people.

Based on current sport participation rates (i.e. AusPlay Australia) the impact of future population growth on likely participation demand can be shown in the table below.

Activity	Adult Participation	Junior Participation	Potential Total Additional Participants by 2041	Approx. Club Membership (as at 2020)
Australian Rules Football	4.2% x 2,832 = 119	15.6% x 912 = 142	261	400+
Netball	3.4% x 2,832 = 96	8.4% x 912 = 76	172	15
Cricket	3.6% x 2,832 = 102	9.0% x 912 = 82	184	320
Tennis	5.2% x 2,832 = 147	7.9% x 912 = 72	219	136

Conclusion

There are limited opportunities to acquire or provide additional public open space (particularly active sport reserves) within the Mount Waverley suburb to service expected population growth.

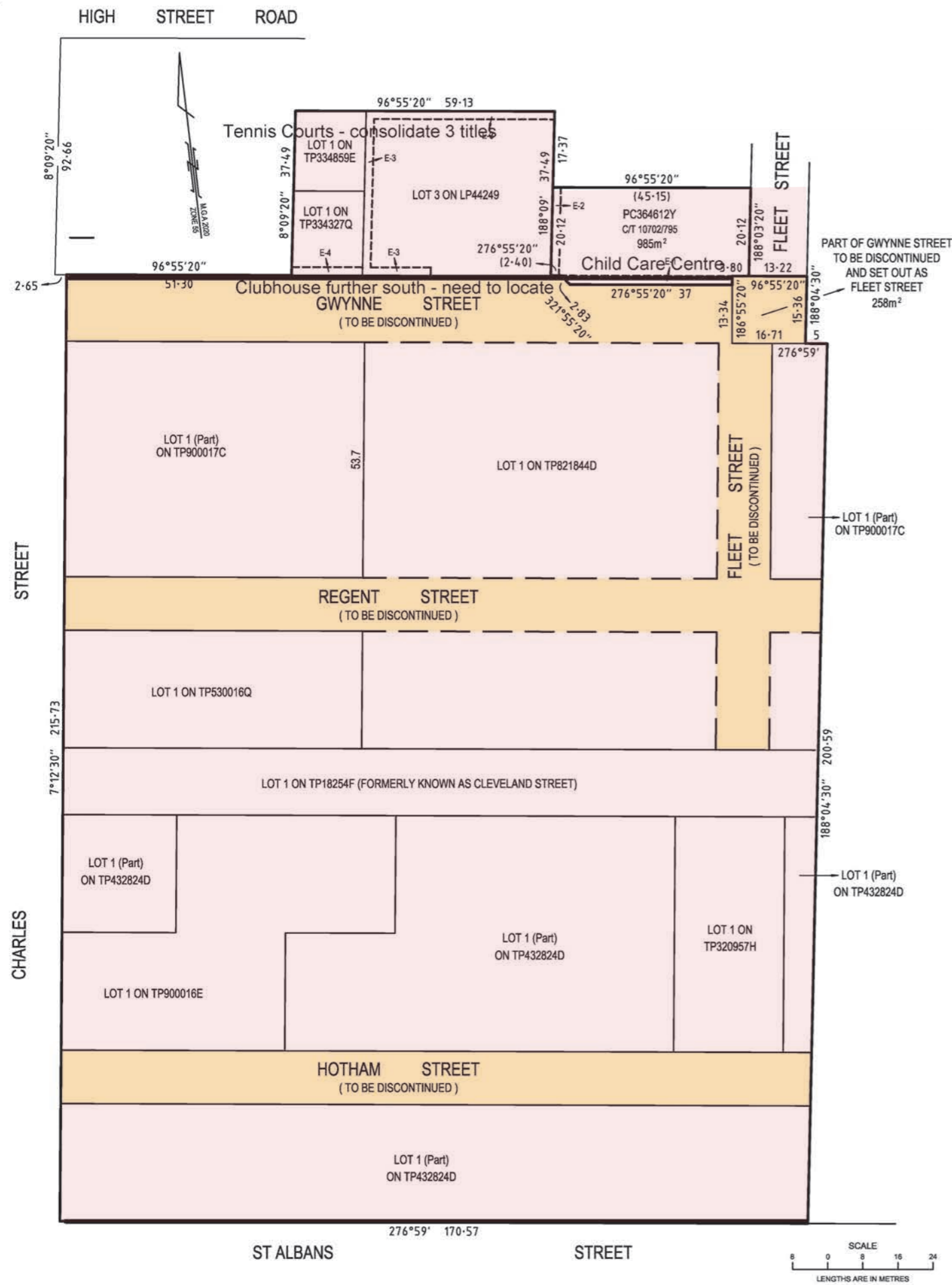
However, the City's Open Space Strategy acknowledges that there are 6 sporting fields within the Mount Waverley 'precinct', specifically Mayfield Park, Mount Waverley Reserve, Tally Ho Reserve, Mount Waverley Bowling Club, Essex Heights Reserve and Pinewood Reserve. Therefore, not all future participation growth will need to be accommodated at Mount Waverley Reserve.

Despite potential access to alternative playing fields, existing usage data for Mount Waverley Reserve confirms that the oval is already over-used having regard to recommended natural turf carrying capacity – almost 50% above recommended capacity.

Both formal sport and non-club based physical activity participation trends are increasing. Therefore, combined with anticipated population growth, it can be expected that demand for access to appropriate facilities at Mount Waverley Reserve will continue to be in extremely high demand. Option to enhance the capacity, functionality and appeal of sporting and open space infrastructure to service the growing participation needs of the population will need to be explored at Mount Waverley Reserve.

However, given the spatial constraints at Mount Waverley Reserve, the site is only ever going to be capable of accommodating a single oval. Therefore, facility and infrastructure provision should reflect District/Class B standards in accordance with Council's Open Space Strategy and Active Reserve Facility Hierarchy. Levels of (sporting) use will need to be proactively managed by Council and Clubs acknowledging the natural carrying capacity of the reserve and impacts on surrounding residents. One strategy will be to increase the use of other reserves in the region for training and competition whilst retaining Mount Waverley Reserve as a 'home' base for clubs.

Opportunities to enhance informal recreation and physical activity participation opportunities within the reserve will complement existing sporting uses and encourage community engagement.



LAND TITLE

While Mount Waverley Reserve presents as a unified and legible parcel of land, it is currently made up of 15 lots, road reserves (including a number of unformed roads), and easements. This title complexity indicates that the land was subdivided prior to being acquired for use as a public reserve. It can be seen that some of the lots that now make up the reserve appear to be remnants of larger lots that were acquired for the construction of the reservoir to the east of Mount Waverley Reserve. The current title boundaries were likely to have been largely established prior to the commencement of the reservoir construction in 1927.

While the land title status has little bearing on the day to day use of the reserve, there are management and administrative benefits from consolidating the titles to better reflect the current conditions.

NOTATIONS

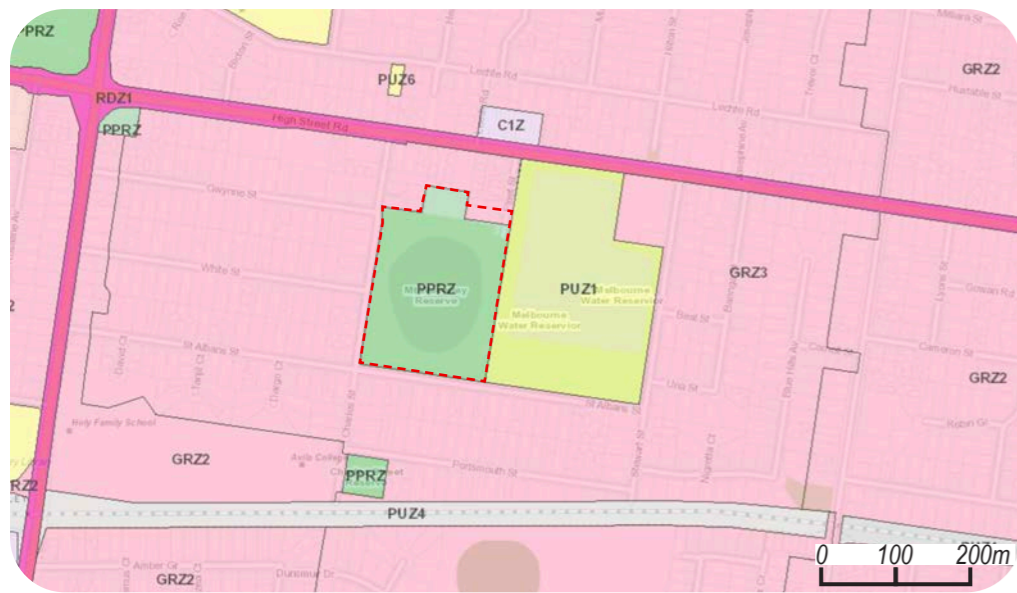
- TITLE BOUNDARY DIMENSIONS SHOWN HEREON ARE BASED ON SURVEY
- EASEMENTS REGISTERED ON TITLE: -
- E-1: RIGHTS SAVED UNDER THE LOCAL GOVERNMENT ACT TO MONASH CITY COUNCIL & YARRA VALLEY WATER (2.00 METRES WIDE)
- E-2: DRAINAGE & SEWERAGE TO M.M.B.W. (1.83 METRES WIDE)
- E-3: DRAINAGE & SEWERAGE VIDE. LP44249 (1.83 METRES WIDE)
- E-4: DRAINAGE & SEWERAGE VIDE. LP18789 (1.83 METRES WIDE)
- UNFORMED ROADS SUBJECT TO ANY EASEMENTS NOTATION

Subject site (Mount Waverley Reserve)

Land Title Information

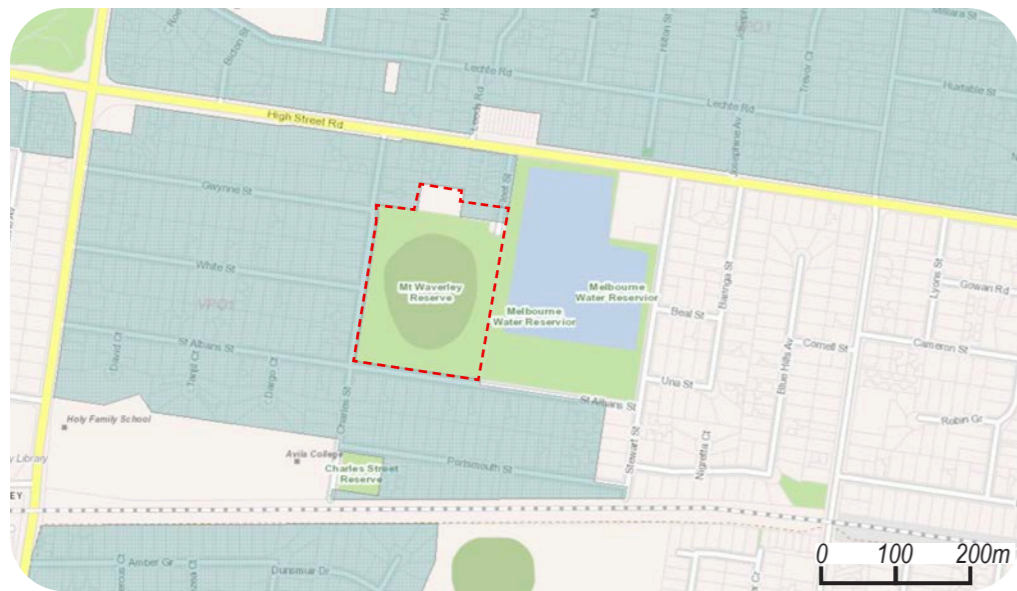
(adapted from a plan prepared for Monash City Council by licensed surveyors Terrain Consulting Group, drawing no. 20298D02s dated September 2020)

2.05 LAND TITLE



- Legend**
- PPRZ - Public Park and Recreation Zone
 - PUZ - Public Use Zone - Service and Utility
 - GRZ - General Residential Zone
 - RDZ - Road Zone
 - C1Z - Commercial 1 Zone
 - PUZ - Public Use Zone - Transport
 - Subject site (Mount Waverley Reserve)

Planning Scheme
 (source: VicPlan <https://mapshare.vic.gov.au/vicplan/>)



- Legend**
- VPO - Vegetation Protection Overlay
 - Subject site (Mount Waverley Reserve)

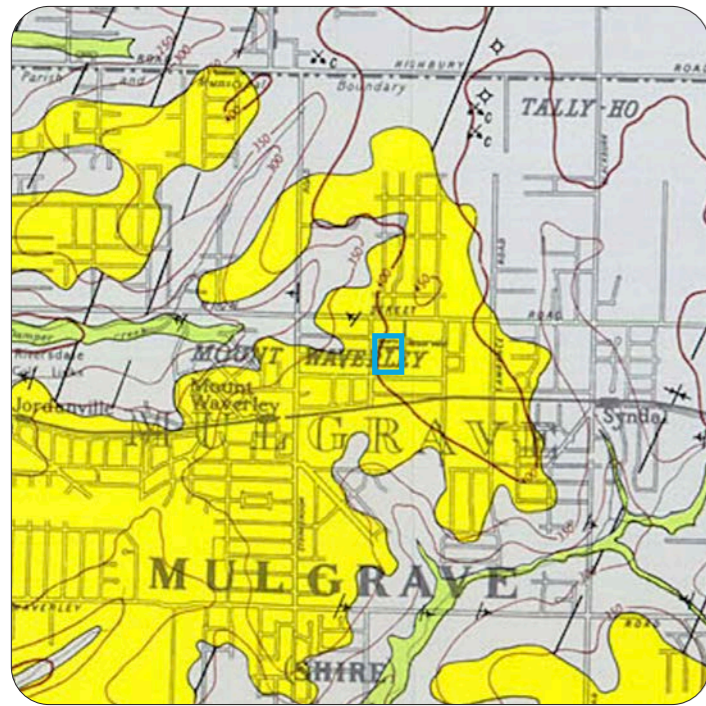
Planning Scheme
 (source: VicPlan <https://mapshare.vic.gov.au/vicplan/>)

STATUTORY PLANNING

The planning scheme zoning of Mount Waverley Reserve reflects the current use of the land, with the majority being zoned Public Park and Recreation Zone (PPRZ). The Waverley Community Learning Centre (a residence converted to community usage) located in the north-eastern corner of the study area is within the General Residential Zone (GRZ).

The neighbouring Melbourne Water Reservoir to the east is zoned for Public Use (Service and Utility). The remainder of the surrounding area is within a General Residential Zone (GRZ) which includes a Vegetation Protection Overlay as shown above.

2.06 STATUTORY PLANNING



Legend

- Quaternary alluvial flats, mud flats, beach and estuarine deposits
- Tertiary marine & non-marine sands, clays, ferruginous sandstones and gravels
- Silurian mudstones, siltstones and sandstones
- Study area

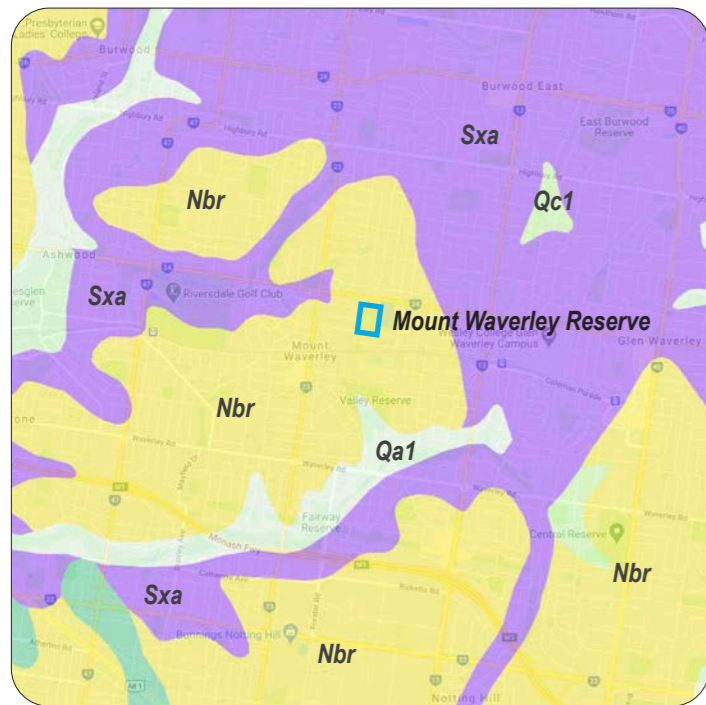
Geology overview
 (Source: Melbourne and Suburbs
 1:13,680 geological map, 1959)

GEOLOGY

The study area sits within an area whose geology is Tertiary marine & non-marine sands, clays, ferruginous sandstones and gravels.

The soil and subsoil conditions on the site are likely to have been heavily modified from the natural conditions over time, based upon activities on the site including:

- earthworks associated with the 'benching' of the oval, and the importation of soil and drainage material.
- earthworks associated with the construction of the reservoir on the neighbouring site.

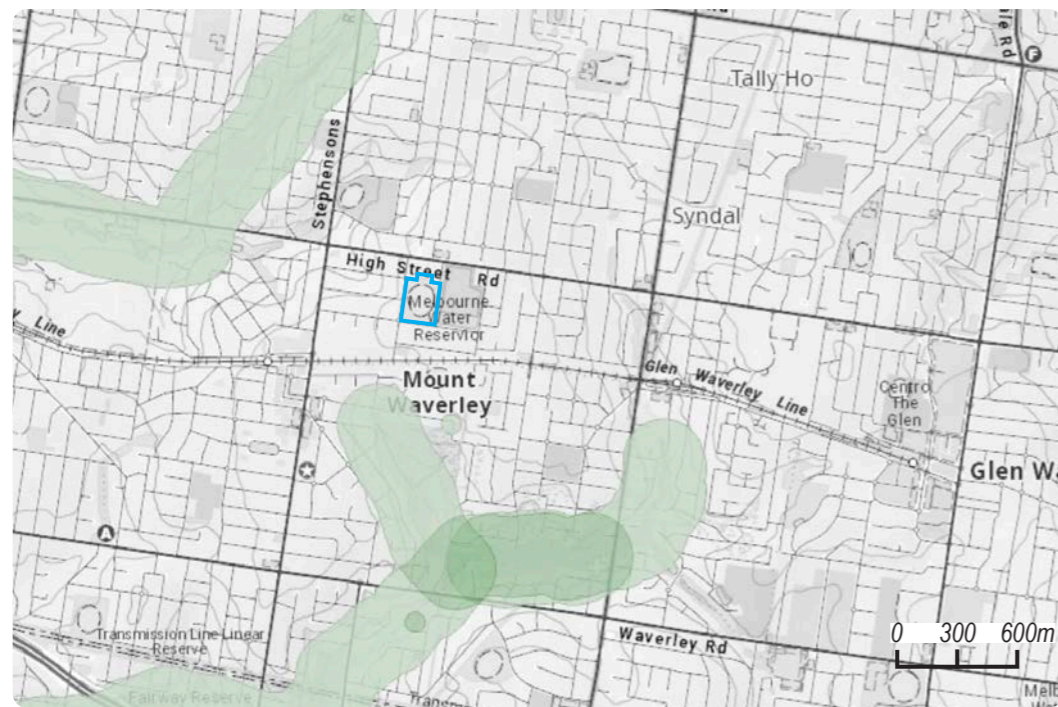


Legend

Nbr	
Unit	Red Bluff Sandstone (Nbr): generic
History	Miocene to Pliocene (channelled stream flow - fluvial [environment])
Lithology	sandstone (significant); conglomerate (significant)
Sxa	
Unit	Anderson Creek Formation(Sxa): generic
History	Llandovery to Wenlock (water [process] - marine)
Lithology	siltstone (major [proportion]); sandstone (significant); conglomerate (minor [proportion])
Qa1	
Unit	alluvium(Qa1): generic
History	Pleistocene to Holocene (channelled stream flow-fluvial [environment])
Lithology	silt [material] (significant); sand (significant); gravel [material] (significant)
Qc1	
Unit	colluvium(Qc1): generic
History	Pliocene to Holocene (sheet flow - colluvial)
Lithology	diamictite (dominant); rubble (significant); clay [lithology] (significant); silt [material] (significant); sand (significant); gravel [material] (significant)

Geology - history & lithology
 (Source: Adapted from maps at vvg.org.au -
 Visualising Victoria's Groundwater)

2.07 GEOLOGY



- Legend**
- Aboriginal Cultural Heritage Sensitivity
 - Subject site (Mount Waverley Reserve)

Cultural Heritage Sensitivity
 (source: VicPlan, <https://mapshare.vic.gov.au/vicplan/>)

CULTURAL HERITAGE SENSITIVITY

Cultural heritage in this context relates to Aboriginal heritage. Cultural Heritage Management Plans (CHMPs) are required to be undertaken if an activity likely to disturb the heritage values is to be undertaken within a sensitive area. There are a number of ways to determine cultural heritage sensitivity, including the engagement of specialist consultants who can make observations and engage with Aboriginal Affairs Victoria and the relevant Registered Aboriginal Party (although none currently exist within the City of Monash).

The other trigger for requiring a CHMP is proximity to waterways (current or prior), with places within 200 metres of a waterway normally requiring a CHMP to be prepared. The planning map on this page shows a 200 metre offset from nearby waterways located to the south and north west of the Mount Waverley Reserve.

Given the disturbed nature of the site, cultural heritage investigations may not be required as a part of any developments at the site.

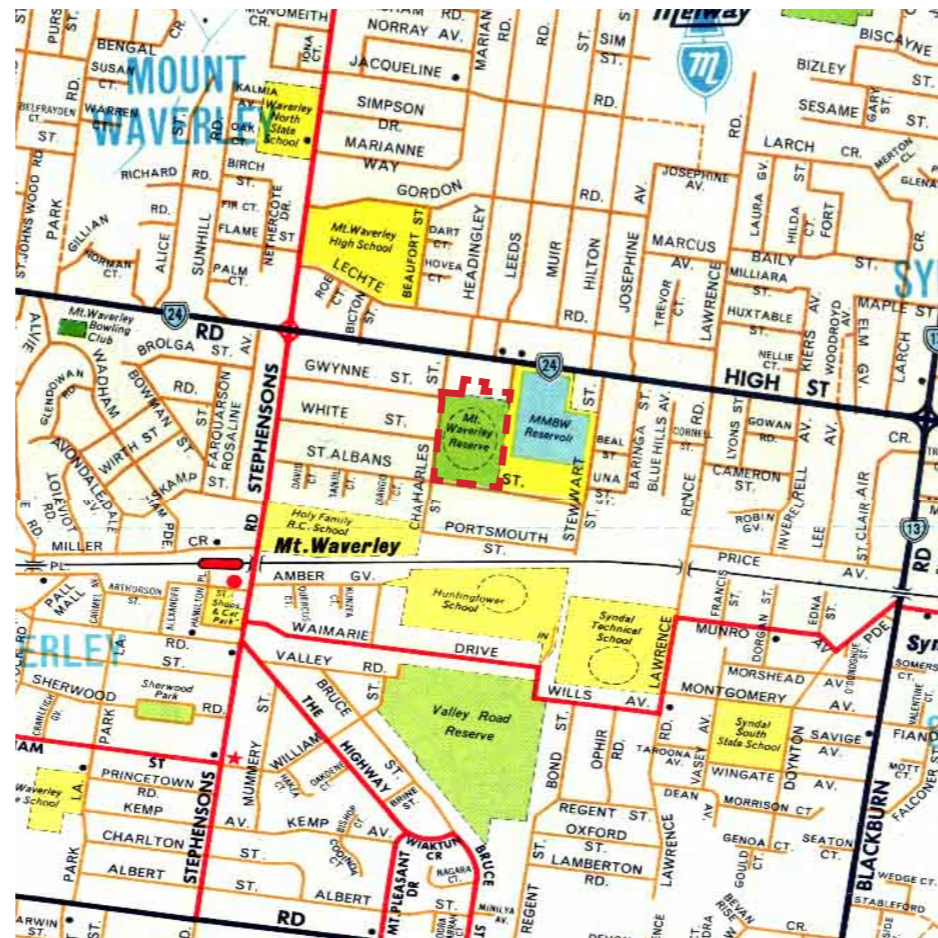
2.08 CULTURAL HERITAGE SENSITIVITY

1945



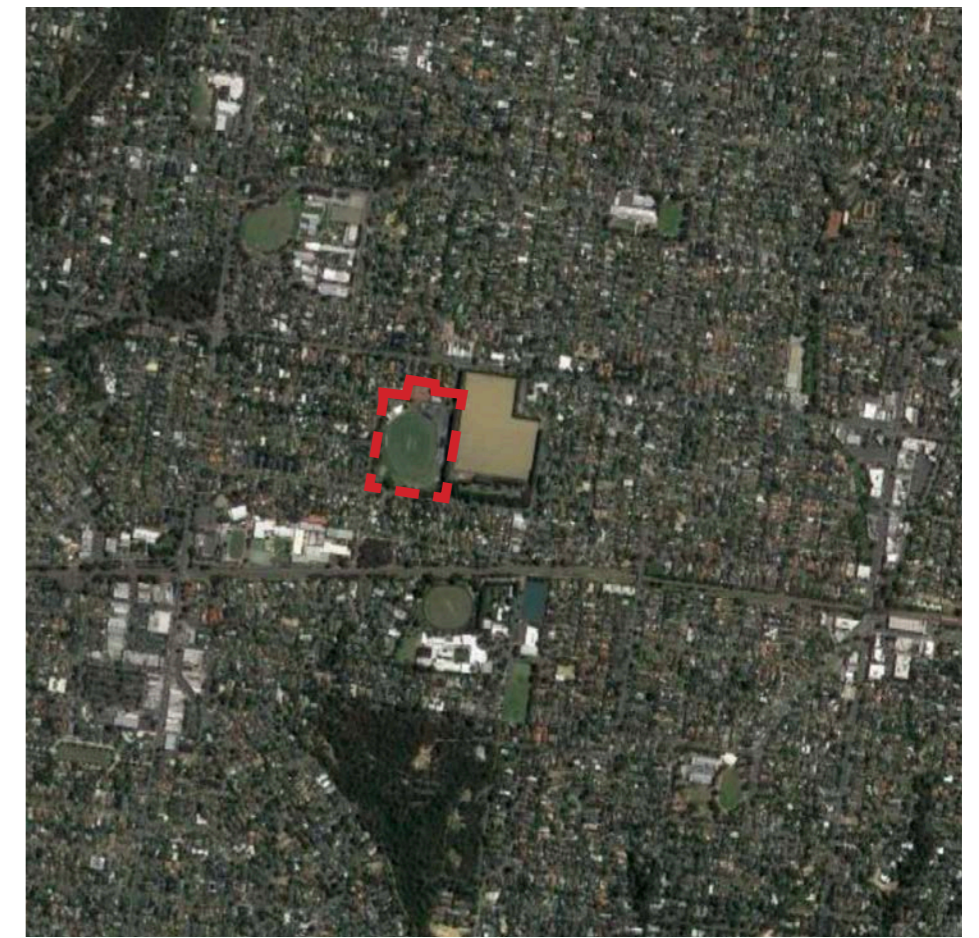
1945 aerial photo
(source <http://1945.melbourne>)

1966



Melway Street Directory, Edition 1 1966
(source: melwayed1.melway.com.au)

2020



Aerial Photo 2020
(source: <https://www.google.com/maps/>)

SITE

Available aerial photos and mapping of the site, such as the 1945 aerial photo and 1966 street directory map shown above, show the development of the area over time. They show that the Mount Waverley area was largely agricultural in 1945, although the broad road network was mostly in place at this time. More intensive residential development, creating the suburban form existing today, was undertaken during the 1960s and 1970s.

MOUNT WAVERLEY RESERVE

As shown in the 1945 aerial above, the Mount Waverley Reserve and adjacent reservoir were already formed prior to development of the area. Following the turn of the 20th century the Mount Waverley was officially named and key services such as the post office and primary school were established. In 1927 construction on the Mount Waverley reservoir began. From the 1950s onwards, additional service buildings, amenities and facilities began to be established across the suburb in line with residential development.

2.09 HISTORIC CONTEXT

ECOLOGICAL VEGETATION COMMUNITIES

Ecological Vegetation Communities (EVCs) are a categorisation tool that had been developed to classify vegetation communities. The mapping included here shows both the vegetation communities are believed to have existed prior to European disturbance (pre 1750), as well as the contemporary situation (2005). Further details regarding the EVCs present, including lists of indicative species, are included on the following page.

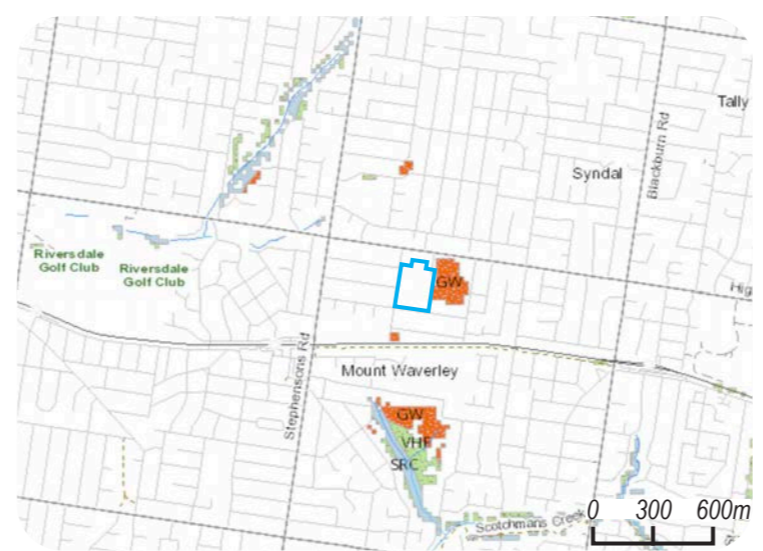
The mapping shows that the Mount Waverley Reserve is adjacent to areas to the east where pre-1750s vegetation communities still exist to some extent (the Mount Waverley Service Reservoir) and to areas developed for residential use, where indigenous vegetation communities are close to non-existent.

Along the waterways north-west and south of the site (including Valley Reserve), remnants of pre-1750s vegetation are evident.



- Legend**
- EVC 175 - GW Grassy Woodland
 - EVC 127 - VHF Valley Heathy Forest
 - EVC 47 - VGF Valley Grassy Forest
 - EVC 126 - SRC Swamy Riparian Complex
 - EVC 83 - SRW Swamy Riparian Woodland
 - Subject site (Mt Waverley Reserve)

Ecological Vegetation Communities - pre 1750
 (source: Adapted from <http://maps.biodiversity.vic.gov.au/viewer/?viewer=NatureKit>)



- Legend**
- EVC 175 - GW Grassy Woodland
 - EVC 127 - VHF Valley Heathy Forest
 - EVC 126 - SRC Swamy Riparian Complex
 - Subject site (Mt Waverley Reserve)

Ecological Vegetation Communities - 2005
 (source: Adapted from <http://maps.biodiversity.vic.gov.au/viewer/?viewer=NatureKit>)

2.10 ECOLOGICAL VEGETATION COMMUNITIES

ECOLOGICAL VEGETATION COMMUNITIES DESCRIPTIONS

EVC 83 - SRW Swampy Riparian Woodland

Woodland to 15 m tall generally occupying low energy streams of the foothills and plains. The lower strata are variously locally dominated by a range of large and medium shrub species on the stream levees in combination with large tussock grasses and sedges in the ground layer.

Typical species found within the EVC:

Trees:

Eucalyptus ovata	Swamp Gum
Eucalyptus radiata s.l.	Narrow-leaf Peppermint

Other:

Acacia melanoxydon	Blackwood
Melaleuca ericifolia	Swamp Paperbark
Leptospermum lanigerum	Woolly Tea-tree
Leptospermum continentale	Prickly Tea-tree
Coprosma quadrifida	Prickly Currant-bush
Bursaria spinosa	Sweet Bursaria
Senecio minimus	Shrubby Fireweed
Gonocarpus tetragynus	Common Raspwort
Acaena novae-zelandiae	Bidgee-widgee
Hydrocotyle hirta	Hairy Pennywort
Dichondra repens	Kidney-weed
Carex appressa	Tall Sedge
Cyperus lucidus	Flat-sedge
Lepidosperma elatius	Tall Sword-sedge
Juncus procerus	Tall Rush
Phragmites australis	Common Reed
Themeda triandra	Kangaroo Grass
Lomandra filiformis	Wattle Mat-rush
Microlaena stipoides	
var. stipoides	Weeping Grass
Pteridium esculentum	Austral Bracken

EVC 127 - VHF Valley Heathy Forest

A low, open forest to 15 m tall with a sedgy/grassy understorey with a component of small ericoid shrubs and grass-trees. Soil and moisture factors are critical in delimiting the vegetation.

Typical species found within the EVC:

Trees:

Eucalyptus melliodora	Yellow Box
Eucalyptus goniocalyx s.l.	Bundy
Eucalyptus cephalocarpa s.l.	Silverleaf Stringybark
Eucalyptus obliqua	Messmate Stringybark

Other:

Exocarpos cupressiformis	Cherry Ballart
Epacris impressa	Common Heath
Cassinia aculeata	Common Cassinia
Daviesia leptophylla	Narrow-leaf Bitter-pea
Cassinia arcuata	Drooping Cassinia
Platylobium obtusangulum	Common Flat-pea
Dillwynia cinerascens s.l.	Grey Parrot-pea
Hovea heterophylla	Common Hovea
Pimelea humilis	Common Rice-flower
Acrotriche serrulata	Honey-pots
Bossiaea prostrata	Creeping Bossiaea
Leptorhynchus tenuifolius	Wiry Buttons
Gonocarpus tetragynus	Common Raspwort
Helichrysum scorpioides	Button Everlasting
Opercularia varia	Variable Stinkweed
Drosera whittakeri	
ssp. aberrans	Scented Sundew
Oxalis corniculata s.l.	Yellow Wood-sorrel
Xanthorrhoea minor	Small Grass-tree
ssp. lutea	
Deyeuxia quadriseta	Reed Bent-grass
Gahnia radula	Thatch Saw-sedge
Joycea pallida	Silvertop Wallaby-grass
Lomandra filiformis	Wattle Mat-rush
Themeda triandra	Kangaroo Grass
Poa morrisii	Soft Tussock-grass
Dianella revoluta s.l.	Black-anther Flax-lily
Microlaena stipoides	
var. stipoides	Weeping Grass
Lindsaea linearis	Screw Fern
Billardiera scandens	Common Apple-berry

EVC 175 - GW Grassy Woodland

A variable open eucalypt woodland to 15 m tall or occasionally Sheoak woodland to 10 m tall over a diverse ground layer of grasses and herbs. The shrub component is usually sparse. It occurs on sites with moderate fertility on gentle slopes or undulating hills on a range of geologies.

Typical species found within the EVC:

Trees:

Eucalyptus radiata s.l.	Narrow-leaf Peppermint
Allocasuarina verticillata	Drooping Sheoak

Other:

Acacia mearnsii	Black Wattle
Allocasuarina littoralis	Black Sheoak
Exocarpos cupressiformis	Cherry Ballart
Leptospermum continentale	Prickly Tea-tree
Epacris impressa	Common Heath
Cassinia aculeata	Common Cassinia
Acacia paradoxa	Hedge Wattle
Pimelea humilis	Common Rice-flower
Hibbertia riparia	Erect Guinea-flower
Bossiaea prostrata	Creeping Bossiaea
Astroloma humifusum	Cranberry Heath
Acrotriche serrulata	Honey-pots
Pterostylis longifolia s.l.	Tall Greenhood
Gonocarpus tetragynus	Common Raspwort
Drosera peltata	Tall Sundew
ssp. auriculata	
Dichondra repens	Kidney-weed
Opercularia varia	Variable Stinkweed
Drosera whittakeri	
ssp. aberrans	Scented Sundew
Deyeuxia quadriseta	Reed Bent-grass
Xanthorrhoea minor	Small Grass-tree
ssp. lutea	
Lomandra longifolia	Spiny-headed Mat-rush
Gahnia radula	Thatch Saw-sedge
Lomandra filiformis	Wattle Mat-rush
Themeda triandra	Kangaroo Grass
Poa sieberiana	Grey Tussock-grass
Lepidosperma laterale	Variable Sword-sedge
Microlaena stipoides	
var. stipoides	Weeping Grass
Pteridium esculentum	Austral Bracken
Comesperma volubile	Love Creeper
Billardiera scandens	Common Apple-berry

EVC 47 - VGF Valley Grassy Forest

Open forest to 20 m tall that may carry a variety of eucalypts over a sparse shrub cover and occur in moderate rainfall regimes. In season, a rich array of herbs, lilies, grasses and sedges dominate the ground layer.

Typical species found within the EVC:

Trees:

Eucalyptus radiata s.l.	Narrow-leaf Peppermint
Eucalyptus leucoxydon	Yellow Gum
Eucalyptus melliodora	Yellow Box
Eucalyptus rubida	Candlebark

Other:

Acacia mearnsii	Black Wattle
Myoporum sp. 1	Sticky Boobialla
Acacia pycnantha	Golden Wattle
Bursaria spinosa	Sweet Bursaria
ssp. spinosa	
Pimelea humilis	Common Rice-flower
Bossiaea prostrata	Creeping Bossiaea
Veronica gracilis	Slender Speedwell
Poranthera microphylla	Small Poranthera
Gonocarpus tetragynus	Common Raspwort
Drosera peltata	
ssp. auriculata	Tall Sundew
Solenogyne dominii	Smooth Solenogyne
Oxalis corniculata s.l.	Yellow Wood-sorrel
Oxalis exilis	Shady Wood-sorrel
Opercularia varia	Variable Stinkweed
Austrostipa rudis	Veined Spear-grass
Austrostipa mollis	Supple Spear-grass
Gahnia radula	Thatch Saw-sedge
Themeda triandra	Kangaroo Grass
Lomandra filiformis	Wattle Mat-rush
Tricoryne elatior	Yellow Rush-lily
Arthropodium strictum s.l.	Chocolate Lily
Microlaena stipoides	
var. stipoides	Weeping Grass
Billardiera scandens	Common Apple-berry



BIODIVERSITY

Strategic Biodiversity Values (SBVs) combine information on areas important for threatened flora and fauna, and vegetation types and condition to provide a view of relative biodiversity importance. It is an assessment tool that has been specifically developed for to provide objective information for decision-makers, allowing comparisons of different locations.

The SBV mapping around the Mount Waverley Reserve is shown on this page. This map demonstrates that the site is located within a disturbed area with low biodiversity levels. As with observations highlighted in the EVC mapping, areas of higher biodiversity levels exist along the waterways north-west and south of the site (including Valley Reserve).

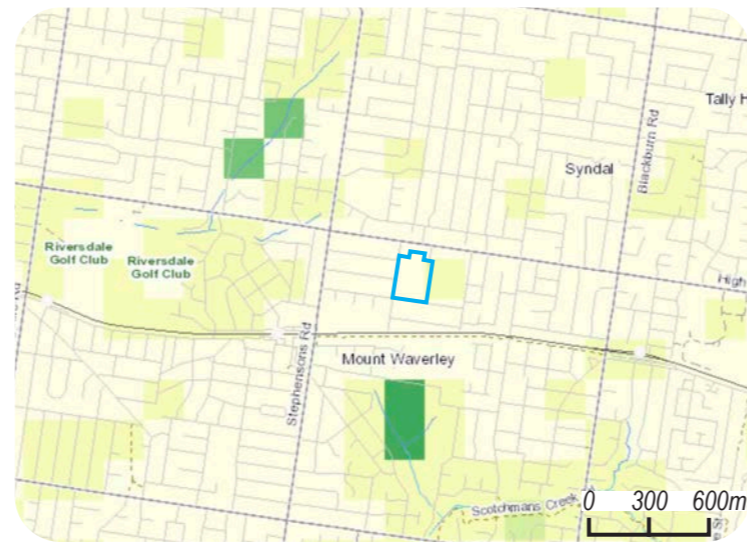
A search of the Victorian Biodiversity Atlas (vba.dse.vic.gov.au) shows no records of rare or threatened species at the subject site, but has 2 records within 1 kilometre, being:

- *Billadiera scandens* (Velvet Apple-berry) - a plant with conservation status of 'Rare', last recorded in 1989
- *Gallinago hardwickii* (Latham's Snipe) - a bird with conservation status 'Near threatened', last recorded in 2018.

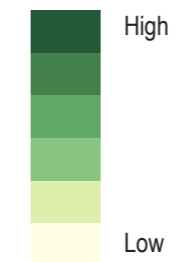
A search undertaken via the Protected Matters Search Tool ([via environment.gov.au](http://environment.gov.au)) records the following within 1 kilometre of the subject site:

- Listed Threatened Ecological Communities: 1
- Listed Threatened Species: 28 (comprising 10 birds, 2 fish, 1 frog, 1 insect, 6 mammals & 8 plants)
- Listed Migratory Species: 14

The full list of these listed species is recorded on the following page.



Legend



Subject site (Mt Waverley Reserve)

Strategic Biodiversity Values

(source: Adapted from <http://maps.biodiversity.vic.gov.au/viewer/?viewer=NatureKit>)

2.11 BIODIVERSITY



The following are the listed species potentially occurring within one kilometre of the subject site, sourced via the Protected Matters Search Tool (at environment.gov.au).

Listed threatened ecological communities

Name	Status	Type of Presence
Natural Damp Grassland of the Victorian Coastal Plains	Critically Endangered	Community may occur within area

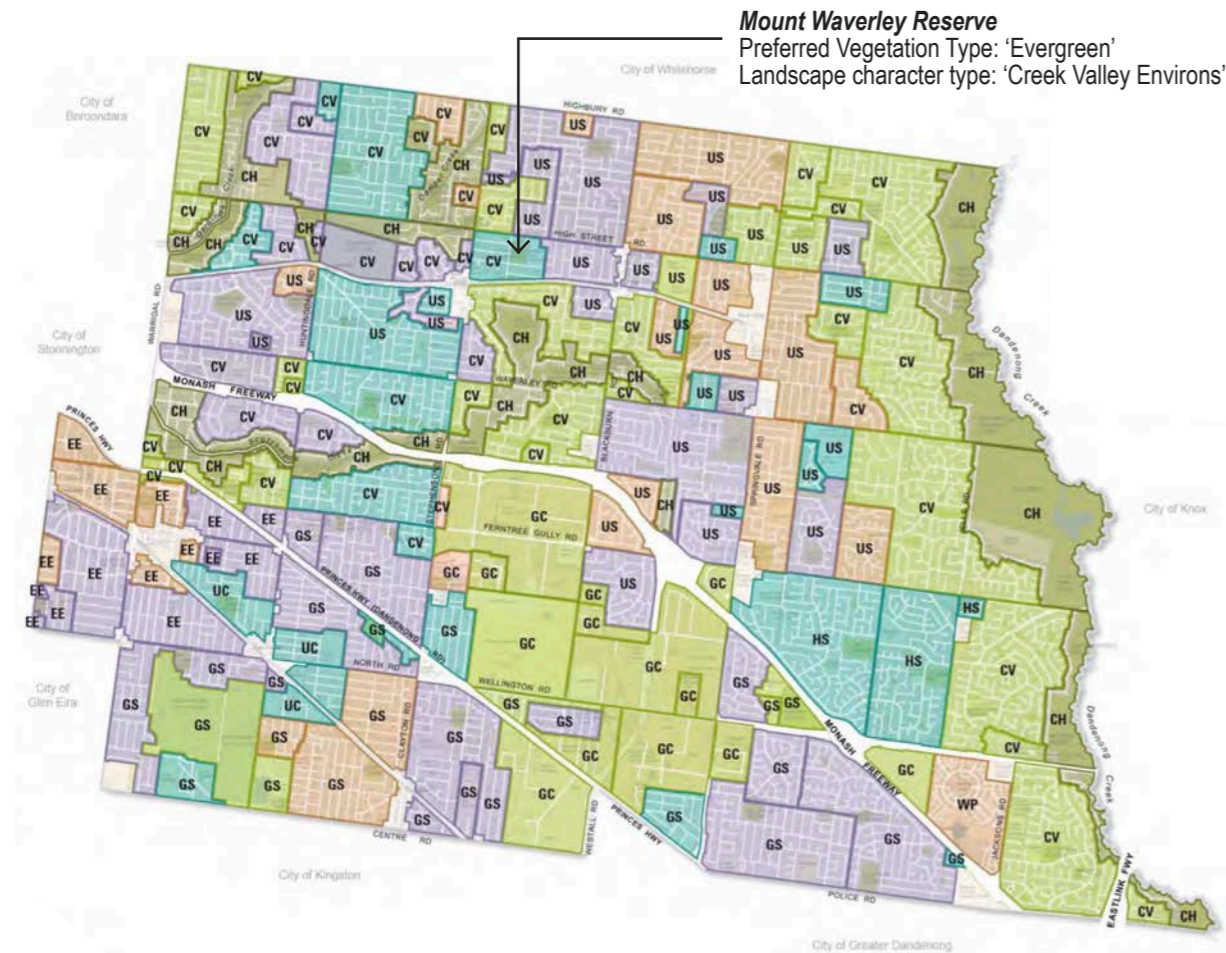
Listed threatened species

Name	Status	Type of Presence
Birds		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Breeding known to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Thinornis cucullatus cucullatus Hooded Plover (eastern), Eastern Hooded Plover [90381]	Vulnerable	Species or species habitat may occur within area
Fish		
Galaxiella pusilla Eastern Dwarf Galaxias, Dwarf Galaxias [56790]	Vulnerable	Species or species habitat may occur within area
Prototroctes maraena Australian Grayling [26179]	Vulnerable	Species or species habitat may occur within area

Frogs		
Litoria raniformis Growling Grass Frog, Southern Bell Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog [1828]	Vulnerable	Species or species habitat likely to occur within area
Insects		
Synemon plana Golden Sun Moth [25234]	Critically Endangered	Species or species habitat may occur within area
Mammals		
Antechinus minimus maritimus Swamp Antechinus (mainland) [83086]	Vulnerable	Species or species habitat may occur within area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat may occur within area
Isodon obesulus obesulus Southern Brown Bandicoot (eastern), Southern Brown Bandicoot (south-eastern) [68050]	Endangered	Species or species habitat may occur within area
Petauroides volans Greater Glider [254]	Vulnerable	Species or species habitat likely to occur within area
Potorous tridactylus tridactylus Long-nosed Potoroo (SE Mainland) [66645]	Vulnerable	Species or species habitat may occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Plants		
Amphibromus fluitans River Swamp Wallaby-grass, Floating Swamp Wallaby-grass [19215]	Vulnerable	Species or species habitat likely to occur within area
Dianella amoena Matted Flax-lily [64886]	Endangered	Species or species habitat likely to occur within area
Glycine latrobeana Clover Glycine, Purple Clover [13910]	Vulnerable	Species or species habitat likely to occur within area
Prasophyllum frenchii Maroon Leek-orchid, Slaty Leek-orchid, Stout Leek-orchid, French's Leek-orchid, Swamp Leek-orchid [9704]	Endangered	Species or species habitat likely to occur within area
Pterostylis chlorogramma Green-striped Greenhood [56510]	Vulnerable	Species or species habitat likely to occur within area
Pterostylis cucullata Leafy Greenhood [15459]	Vulnerable	Species or species habitat may occur within area
Senecio psilocarpus Swamp Fireweed, Smooth-fruited Groundsel [64976]	Vulnerable	Species or species habitat likely to occur within area
Xerochrysum palustre Swamp Everlasting, Swamp Paper Daisy [76215]	Vulnerable	Species or species habitat likely to occur

Listed migratory species

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat likely to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area



Vegetation type key

- Indigenous tall Eucalypt
- Tall Eucalypt
- Evergreen
- Deciduous and evergreen
- Exotic

Landscape character type key

- CH** Creek habitat corridor
- CV** Creek valley environs
- US** Undulating leafy garden suburban
- GS** Gently undulating leafy garden suburban
- HS** Hilly native garden suburban
- EE** Early 1900s exotic garden style
- WP** Waverley Park exotic urban
- GC** Native garden commercial/industrial
- UC** Urban greening commercial/industrial

List of typical character species suitable for the Evergreen vegetation type

Botanical name	Common Name	Approx size (H x W)
<i>Angophora hispida</i>	Dwarf Apple Myrtle	8 x 7 m
<i>Banksia integrifolia</i>	Coast Banksia	8 x 4 m
<i>Brachychiton acerifolius</i>	Illawarra Flame Tree	12 x 6 m
<i>Callistemon salignus</i>	Willow Bottlebrush	6 x 4 m
<i>Cupaniopsis anacardioides</i>	Tuckeroo	8 x 7 m
<i>Ficus rubiginosa</i>	Port Jackson Fig	10 x 15 m
<i>Hymenosporum flavum</i>	Native Frangipani	8 x 4 m
<i>Lophostemon confertus</i>	Brush Box	12-15 x 10 m
<i>Magnolia grandiflora</i>	Bullbay Magnolia	10 x 8 m
<i>Phoenix canariensis</i>	Canary Island Date Palm	12 x 6-8 m
<i>Trachycarpus fortunei</i>	Windmill Palm	8 x 3 m
<i>Tristania laurina</i>	Kanooka	8 x 6 m
<i>Waterhousia floribunda</i>	Weeping Lily Pilly	12 x 12 m

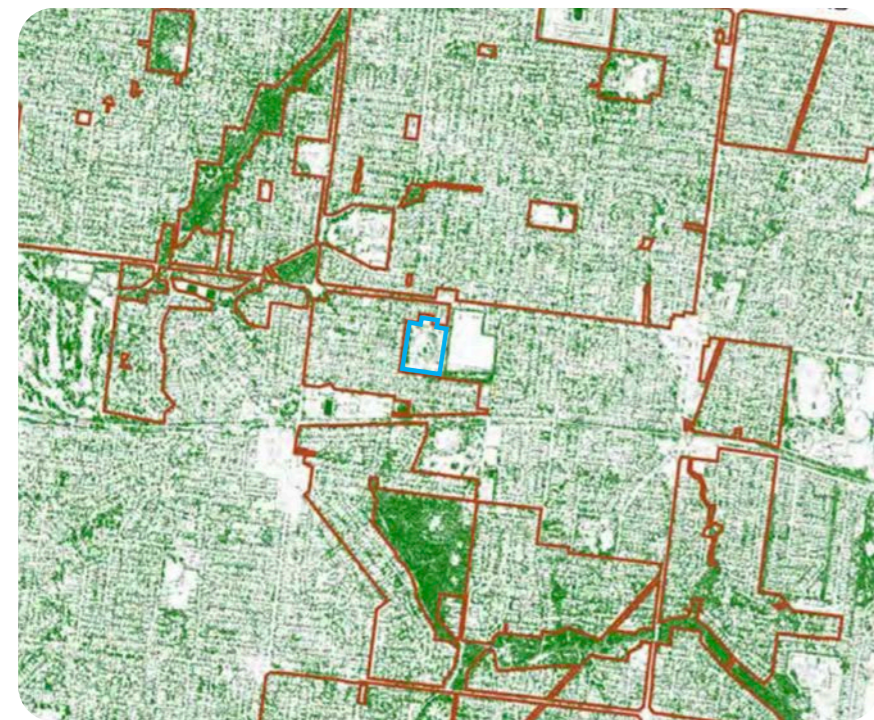
Criteria for suitable canopy vegetation types for use in Evergreen vegetation type:

- Trees to be predominantly evergreen with a variety of textures and characteristics and can be both exotic evergreen and native evergreen species.
- Where deciduous trees are proposed due to sunlight access and overshadowing issues, these are to be used as feature trees, with more than 50% of proposed trees to comprise evergreen species.
- Shrubs and ground covers can be a combination of exotic and or native species.

(source: Adapted from Monash Urban Landscape and Canopy Vegetation Strategy 2018)

Preferred Landscape Character

(source: Adapted from Monash Urban Landscape and Canopy Vegetation Strategy 2018)



- Vegetation Protection Overlay (VPO) Monash Planning Scheme
- Subject site (Mount Waverley Reserve)

Tree Canopy Cover Map 2015

(source: Adapted from Monash Urban Landscape and Canopy Vegetation Strategy 2018)

LANDSCAPE CHARACTER

Landscape character assessment has been undertaken across the City of Monash to help protect areas of 'Garden City' suburban character, as well as areas of remnant native vegetation. The area around Mount Waverley Reserve has been assessed to be of the 'Creek Valley Environs' landscape character type, and the 'Evergreen' preferred vegetation type. The *Monash Urban Landscape and Canopy Vegetation Strategy 2018* provides guidelines for suitable tree species within this zone, presented above.

CANOPY COVER

Mount Waverley Reserve currently has a slightly lower canopy cover density compared to the surrounding residential area. The *Monash Urban Landscape and Canopy Vegetation Strategy 2018* sets a goal of increasing the canopy tree cover across public and private land from 22% (in 2015) to 30% by 2040 to create a more liveable, sustainable and resilient city. Public open space such as Mount Waverley Reserve provides opportunities for the addition of canopy trees that provide aesthetic and functional benefits (especially shade).

2.12 LANDSCAPE CHARACTER & CANOPY COVER

Transport context

Council's Integrated Transport Strategy (ITS) (2017) outlines five specific directions to encourage best practice integrated transport and land use planning within Monash.

- A safer network
- A more accessible Monash
- Promote sustainable transport
- Support productivity, and
- Manage car parking

The strategy is a high-level document that does not include any specific mention of Mount Waverley Reserve.

There are three key transport types that apply to the site, being active transport (eg. walking & cycling), public transport and private vehicle.

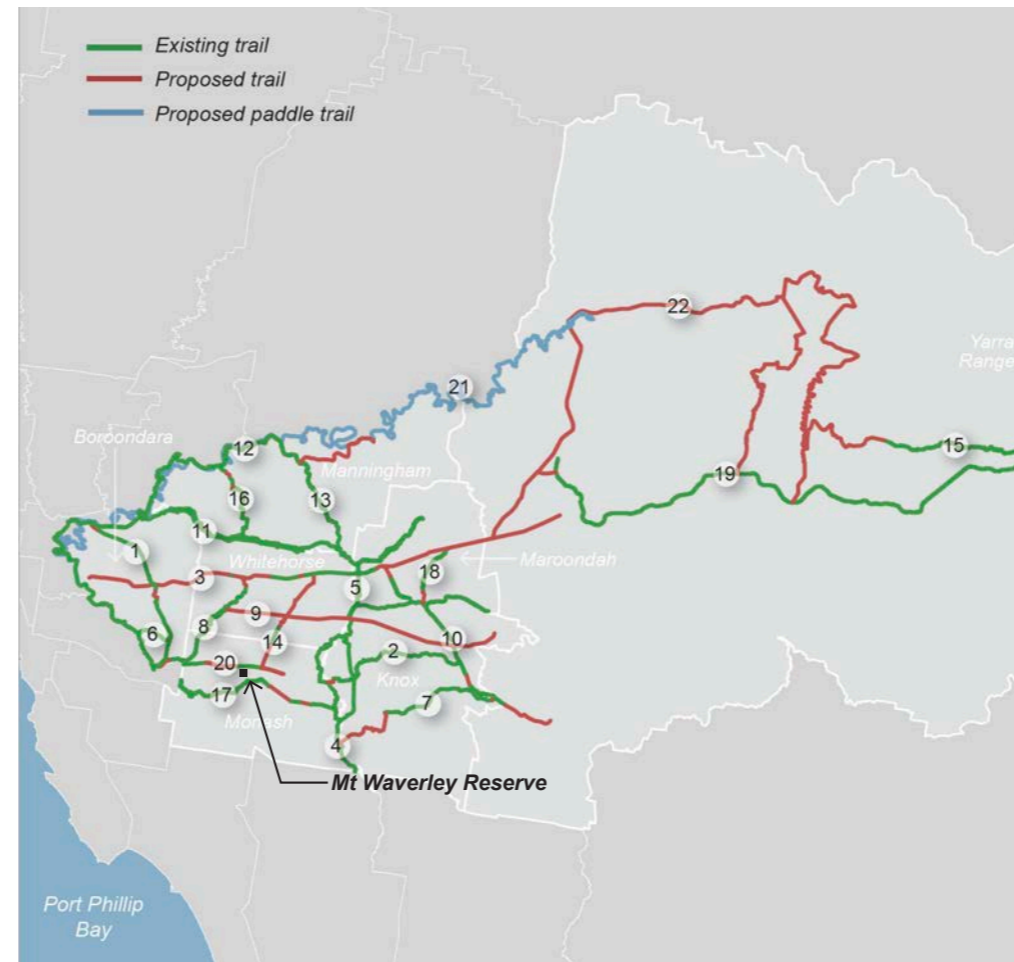
Active transport

The site is well served by local footpaths and trails. This includes being in close proximity to a number of significant shared trails (including the Scotchmans Creek Trail to the south and the Waverley Rail Trail to the north) that link to a broader shared trail network. These broader trail connections, and proposed future regional trail links, are shown on the adjacent plan.

At a more local level, there are numerous walking paths and bike routes within the vicinity of the Mount Waverley Reserve, as shown in the plan on the following page.

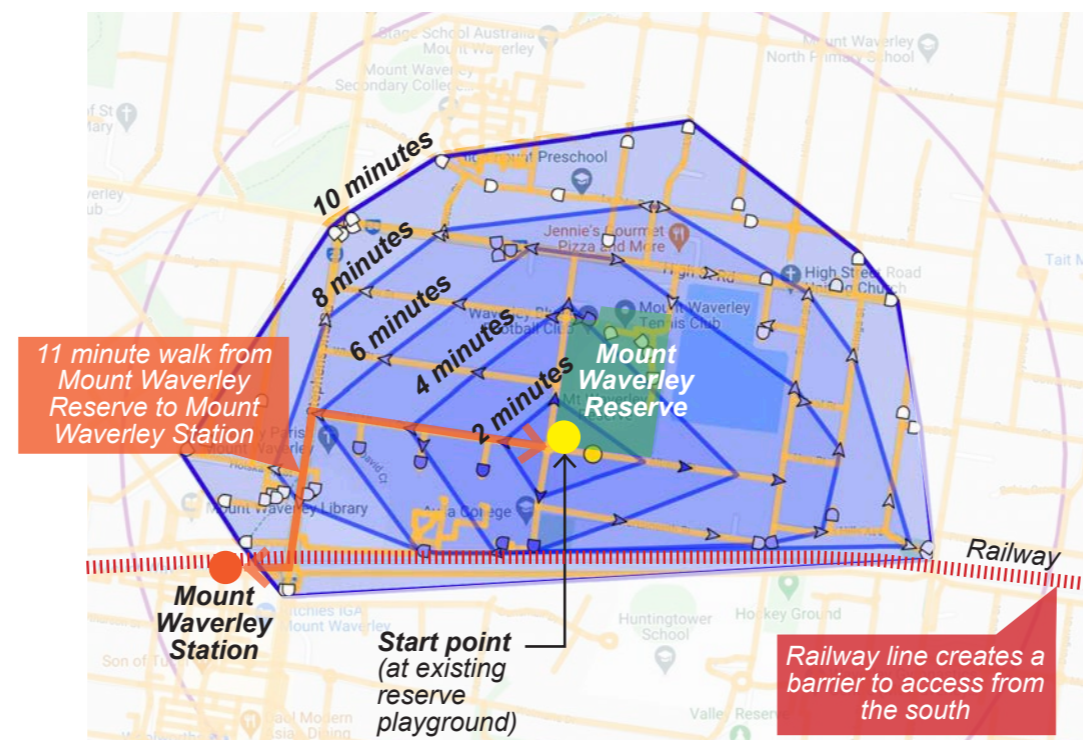
A pedestrian catchment analysis demonstrating the walkability of the area was also undertaken for the site. The diagram on this page shows the 10 minute walking catchment of the site, demonstrating the barrier that the railway line to the south creates to pedestrian movement. The analysis also shows that the nearest train station, Mount Waverley Station, is just outside the 10 minute walk catchment.

The area was also analysed using the Walk Score tool (www.walkscore.com) which analyses routes to nearby amenities and the pedestrian friendliness of the walking routes to provide a walkability score between 1 and 100. The Mount Waverley Reserve received a score of 59 meaning it is somewhat walkable and that some errands can be completed on foot. It also noted that the site is an 11 minute walk from the Mount Waverley Railway Station and that parks within walking distance include Valley Reserve, Damper Creek Reserve and Damper Creek Reserve.



- 1 Anniversary Trail (Outer Circle Trail)
- 2 Blind Creek Trail
- 3 Box Hill to Ringwood Rail Trail
- 4 Dandenong Creek Trail
- 5 Eastlink Trail
- 6 Ferndale Trail
- 7 Ferny Creek Trail
- 8 Gardiners Creek Trail
- 9 Healesville Freeway Reservation Trail
- 10 Heathmont to Belgrave Trail
- 11 Koonung Creek Trail
- 12 Main Yarra Trail
- 13 Mullum Mullum Creek Trail
- 14 Nunawading to Syndal Trail
- 15 O'Shannassy Aqueduct Trail
- 16 Ruffey Creek Trail
- 17 Scotchmans Creek Trail
- 18 Tarralla Creek Trail
- 19 Warburton Rail Trail
- 20 Waverley Rail Trail
- 21 Yarra River Paddle Trail
- 22 Yarra Valley Trail

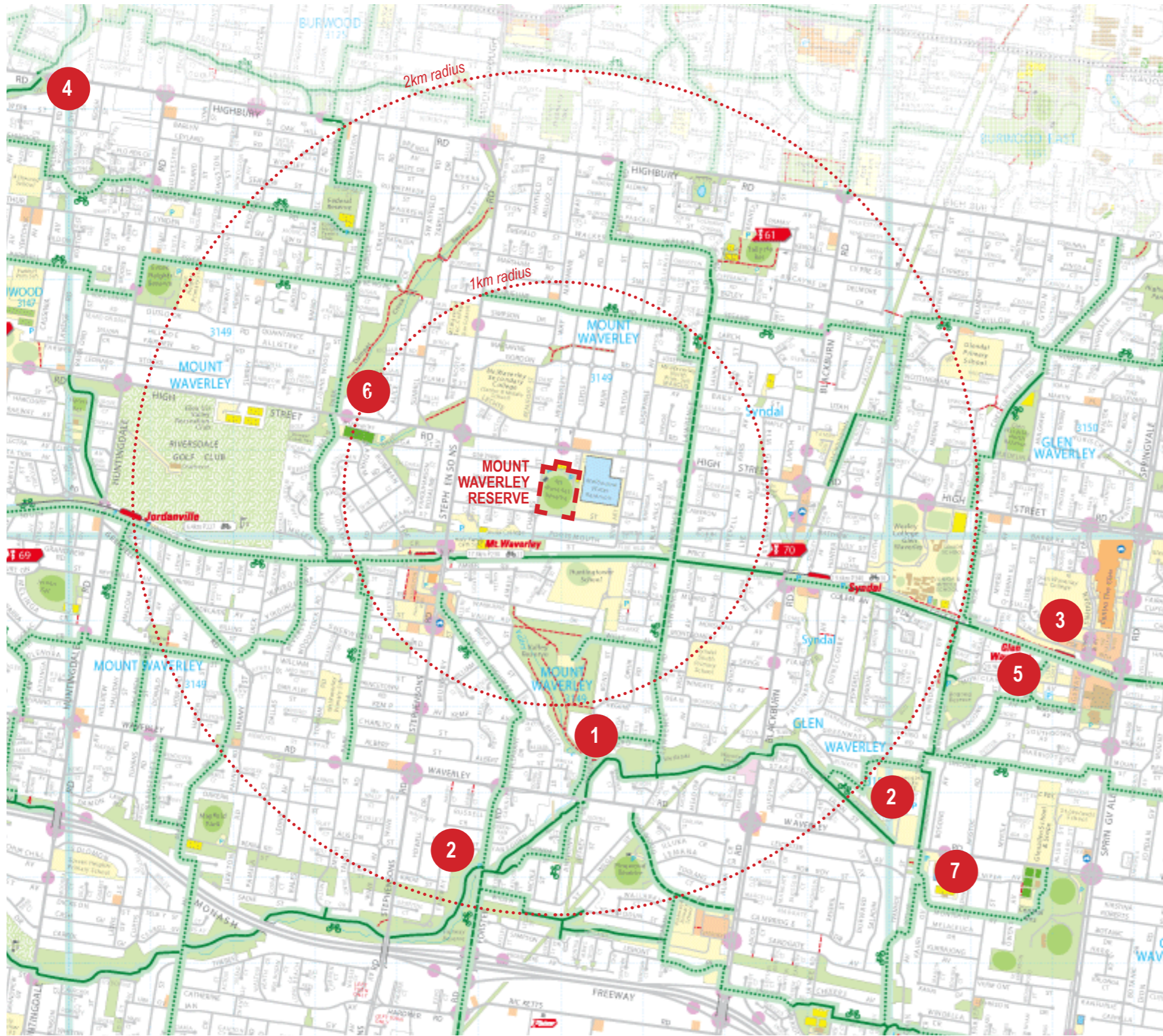
Eastern Melbourne Regional Trail Network
Adapted from the Eastern Regional Trails Strategy 2018














- Pedestrian catchment analysis parameters:
- pedestrian speed 1.3 metres per second (12:25 mins/ 1 kilometre)
 - 10 minute walk time

Pedestrian Catchment Analysis
Adapted from Pedcatch (www.pedcatch.com)

2.13 TRANSPORT CONTEXT



Legend

-  Walking Track
-  Off-road Shared Path
-  On-road Bike Lane
-  Informal Bike Route
-  1 Valley Reserve
-  2 Scotchmans Creek Trail
-  3 Waverley Rail Trail
-  4 Gardiners Creek Trail
-  5 Glen Waverley Historical Walk
-  6 Damper Creek Path
-  7 Monash Aquatic and Recreation Centre

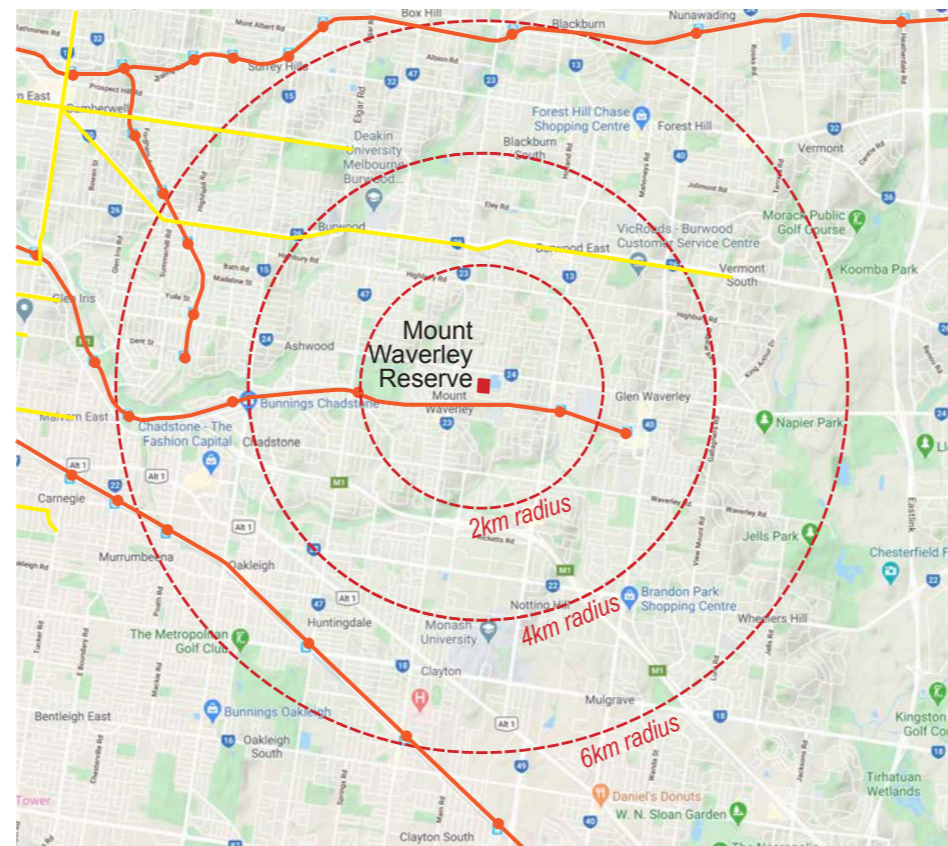
Walking & cycling routes

Adapted from Monash Walking & Riding Map (<https://www.monash.vic.gov.au/files/assets/public/leisure/sports-hobbies/monash-walk-and-ride-map.pdf>)

Public transport

The three public transport modes (train, tram and bus) are mapped on this page.

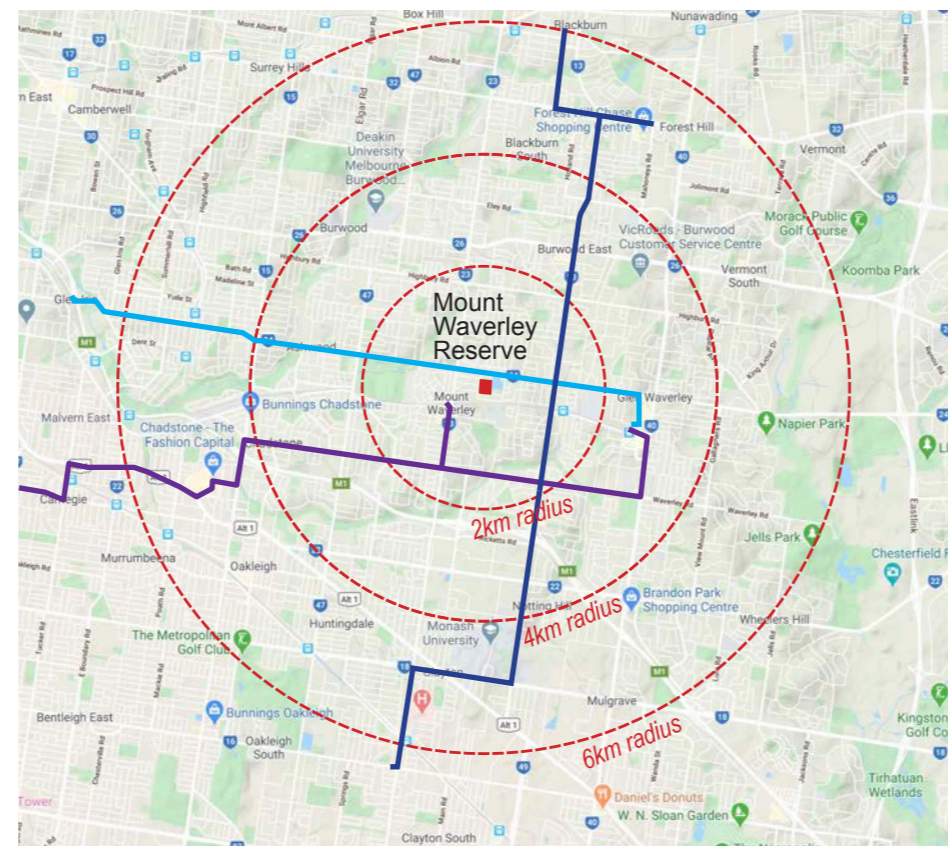
- Train: the nearest train station (Syndal Station) is around 1.5km from the site, which is with walking distance for most users. In addition to this, the Waverley Rail Trail shared path provides an off-road connection to the site from the train line for pedestrian and cyclists.
- Tram: the nearest tram service is along Burwood Highway which is around 2.5km from the site. This allows visitors to walk from the site in approximately half an hour.
- Bus: bus service 734 connects the site to Glen Waverley and Carnegie along High Street Road and is the nearest mode of public transport. These bus services operate between approximately 6am and 7.30pm, at approximately 12 minute intervals on average, with up to 20 minutes between services at non-peak times. Additionally, bus service 623 provides a connection to Glen Waverley and St Kilda with bus stops on Stephensons Road to the south of the site, less than a kilometre away.



Legend

- Train line & stations
- Tram line

Public transport - train & tram routes



Legend

- 623 Glen Waverley - St Kilda via Mount Waverley & Chadstone & Carnegie
- 734 Glen Iris - Glen Waverley
- 703 Middle Brighton - Blackburn via Bentleigh & Clayton & Monash University

Public transport - bus routes



Legend

- Existing footpath network
- ⋯ Off-road shared path
- ⋯ Bus route & bus stop (Route 734)
- Formal car parking
- Informal gravel overflow car parking
- Unrestricted on street parking
- On street permit parking (8am - 4pm)
- Key vehicle access routes
- ⋯ → Maintenance vehicle access

Existing site access analysis

Private vehicle

The site is very well served by access roads, including High Street Road (State Route 24) immediately to the north of the site, and the Monash Freeway (M1) just over 2 kilometres to the south.

At a local level, the reserve is bounded by public roads on 2 sides (Charles Street to the west, and St Albans Street to the south), and can also be accessed from Fleet Street, a no-through road that links the reserve to High Street Road to the north.

As shown in the diagram on this page, the site is well serviced for car parking, including:

- two sealed car parks within the reserve (totalling 82 car spaces)
- a gravel overflow car park (with space for approximately 50 cars)
- unrestricted on-street parking along the park edges to the west and south (approximately 60 spaces)
- unrestricted angle parking on Fleet Street (approximately 20 spaces)

The total car parking currently available at the site (including the streets immediately adjacent and overflow parking) is therefore 212 spaces.








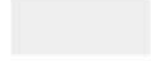



Currently the two existing sealed car parks within the reserve are not linked, with the larger one accessed from Fleet Street, and a smaller one accessed from Charles Street.

Pedestrian site access

As demonstrated in the plan at right, the site is well serviced by footpaths from the surrounding streets. Within the site, the roadways act as shared zones to provide pedestrian access to the facilities. This shared use of roads is not ideal for the Waverley Community Learning Centre (which includes programs and facilities for young children), nor for general public access to the reserve during times when the car park is heavily used (such as when organised sporting activities are occurring at the site on the weekend).

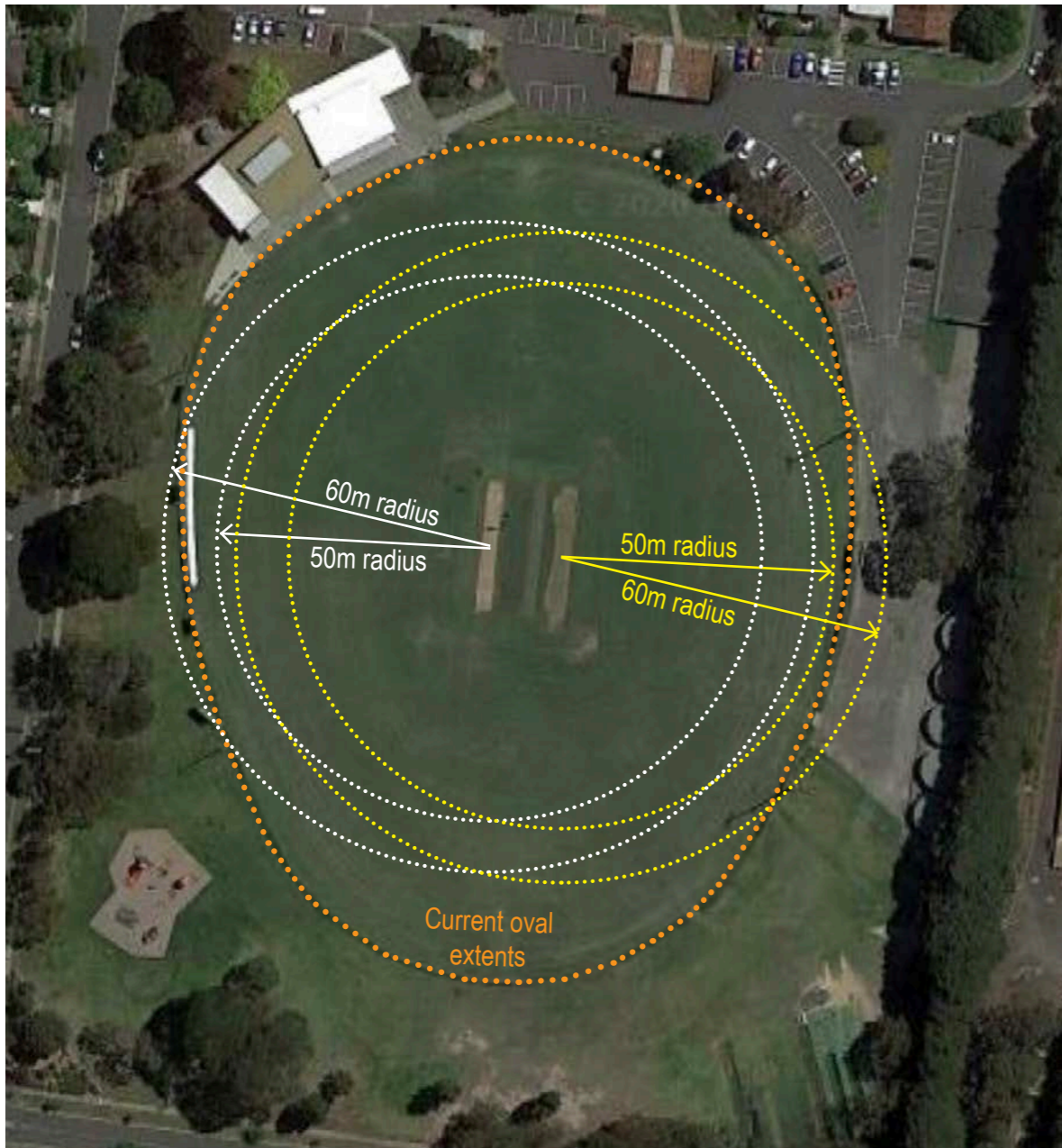
While there is currently no vehicle between the two car parks noted above, there is pedestrian (and maintenance vehicle) access. To the south east of the site, there is a maintenance vehicle access to the site off St Albans Street. This accessway is also a well-used pedestrian access point into the site.



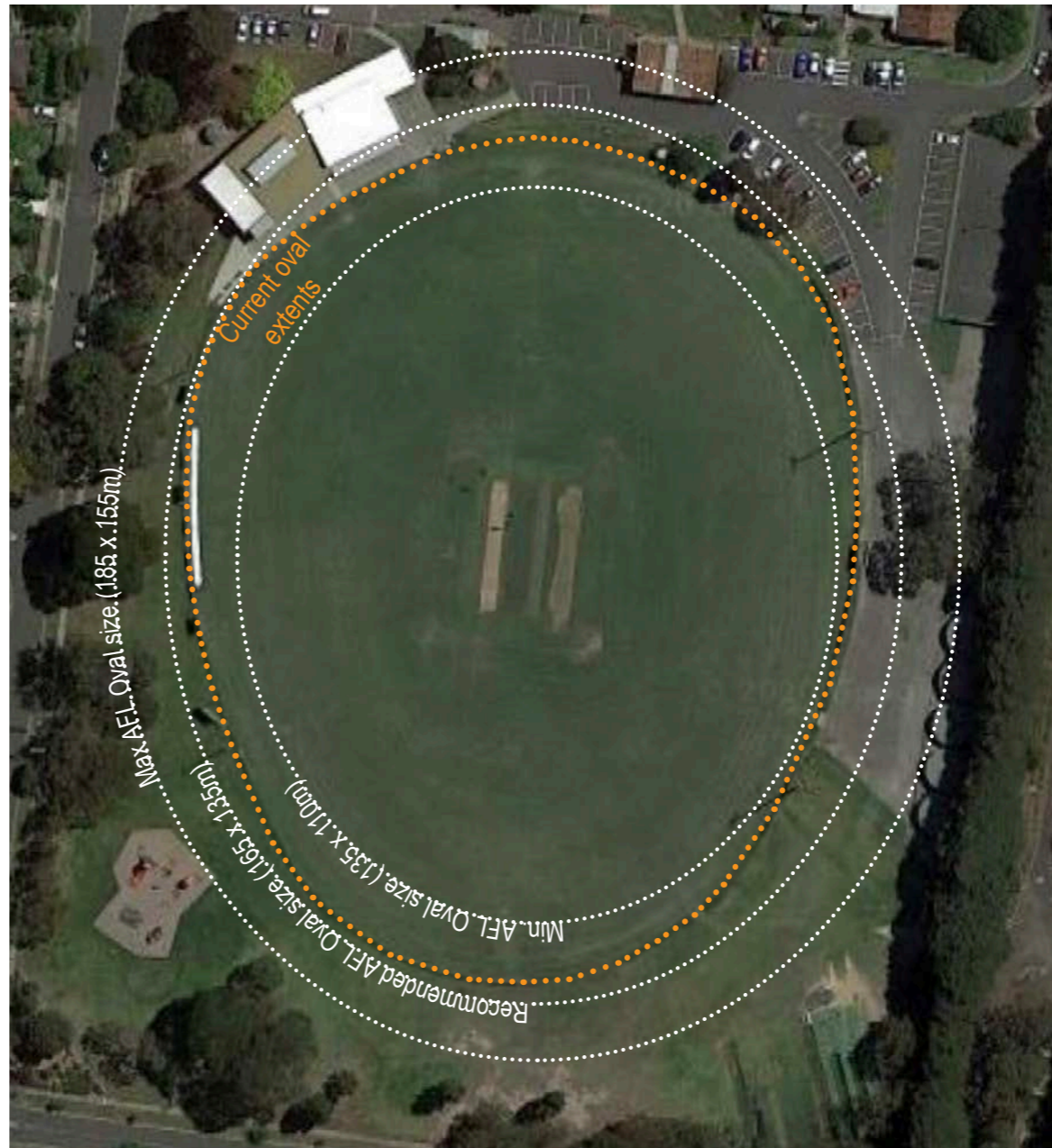
- LEGEND**
-  Existing trees
 -  Existing oval with turf cricket wickets
 -  Existing cricket nets
 -  Existing clay tennis courts
 -  Existing asphalt tennis courts with hit-up wall
 -  Existing buildings
 -  Existing playground
 -  Existing concrete pavement
 -  Existing fence
 -  Existing retaining wall
 -  Existing water tank
(maintenance access required)
- N

2.14 EXISTING SITE CONDITIONS PLAN





Existing oval size comparison to Cricket Australia recommendations



Existing oval size comparison to AFL standards



Existing tennis court dimensions compared to Tennis Australia standard for club/recreation courts (34.77 x 17.07m)

Cricket

The Cricket Australia minimum size for preferred playing field dimensions for community club open age cricket use is 50m radius, with 60m being the recommended size. The diagram on this page shows these measurements for the outside turf pitches (measured from the centre of each pitch). All of the pitches meet the minimum recommended size. The centre pitch also meets the 60m radius recommendation. While the oval is an irregular shape ('egg-shaped'), this does not significantly impact upon the function of the oval.

AFL

For AFL football, there are minimum and maximum standard sizes, and a recommended size for seniors. It can be seen in the analysis graphic that the current oval is a little smaller than the recommended size but significantly larger than the minimum, and therefore meets minimum standards. While the oval is an irregular shape ('egg-shaped'), this does not significantly impact upon the function of the oval.

Tennis

A Monash City Council facility audit has found the tennis courts to be non-compliant with current standards. As illustrated in the analysis graphic, the existing courts are smaller than the Tennis Australia standard for club/recreation courts in both their length and width. It can also be seen that the site is constrained by existing surrounding land uses that makes addressing this size non-compliance very difficult at this location.

2.15 SPORT FACILITY SIZE ANALYSIS

The following condition audit assessments were undertaken as part of Council's Asset Management Planning in August 2017.

Site-Asset	1730-10000	Building Name	Mt Waverley Reserve Pavilion
Service Group	Active Monash		
Site	Mt Waverley Reserve		
Address	8-26 Charles St, MT WAVERLEY		
Constructed	1963		
Extended	1982, 2005		
Building Area (m2)	368		
Replacement \$	\$1,216,700		
Current WD Value \$	\$243,340		
Valuation Yr	2020		
Condition Audit	10/08/2017		
Asbestos	Yes		
FCI-0	1%		
FCI - 10	16%		
FCI - 25	27%		
FCI - 40	0%		



		Element	Cond Rating	Average Remaining Useful Life	0-5 Years	6-15 Years	16-25 Years	26 - 35 Years	36 Years +	
Building Condition	Structure/Envelope	Fascia/Guttering	2.0	24			\$ 8,200			
		Frame/Structural Walls	2.0	40					\$ 533,000	
		Roof	3.0	25			\$ 92,000			
		Slab	2.0	80					\$ 127,000	
		Wall Cladding	2.0	24			\$ 76,000			
		Windows	2.0	15		\$ 45,000				
	Structure/Envelope			2.2	34.7	\$ -	\$ 45,000	\$ 176,200	\$ -	\$ 660,000
	Building Services	Electrical	2.0	14			\$ 48,000			
		Electrical Hardware	2.0	8	\$ 2,000	\$ 12,000				
		Fans	2.0	8		\$ 200				
		Lighting	2.0	8	\$ 200	\$ 3,200				
		Plumbing Fixtures	2.0	14		\$ 1,200	\$ 600			
		Rainwater Tanks	2.0	20						
	Building Services			2.0	12.0	\$ 2,200	\$ 64,600	\$ 600	\$ -	\$ -
	Fit out/Finishes	Ceilings	2.2	20.0			\$ 70,000			
Curtains/Blinds		3.0	16.0			\$ 6,000				
Desk/Cabinet/Shelves/Rails		2.3	14.2		\$ 19,900	\$ 6,200				
Doors		2.0	18.9			\$ 2,900	\$ 11,700			
Fixed Signs and Boards		2.0	9.5			\$ 700	\$ 700			
Floor Coverings		2.2	8.1	\$ 10,500	\$ 21,000					
Handrails, Balustrades, Ramps		2.0	7.0			\$ 3,800				
Sinks Basins and Baths		1.9	12.3			\$ 4,500	\$ 2,100			
Surfaces/Painting		2.1	10.8			\$ 21,500	\$ 8,000			
Tapware/Sanitary		2.0	13.5			\$ 1,400	\$ 1,750			
Fit out/Finishes			2.2	14.0	\$ 10,500	\$ 75,700	\$ 155,850	\$ -	\$ -	
Site	Fencing/Gates	2.0				\$ 3,500				
	Signs/Other	2.0	7.0			\$ 700				
	Stairs/Ramps/Balustrades					\$ 2,300				
Site Infrastructure			2.0	7.0	\$ -	\$ 6,500	\$ -	\$ -	\$ -	
TOTALS						\$12,700.00	\$191,800.00	\$332,650.00	\$ -	\$660,000.00

Defects	Hierarchy	Element	Quantity	0-5 Years	6-15 Years	16-25 Years	26 - 35 Years	36 Years +
			\$ -	\$ -				
	TOTALS		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

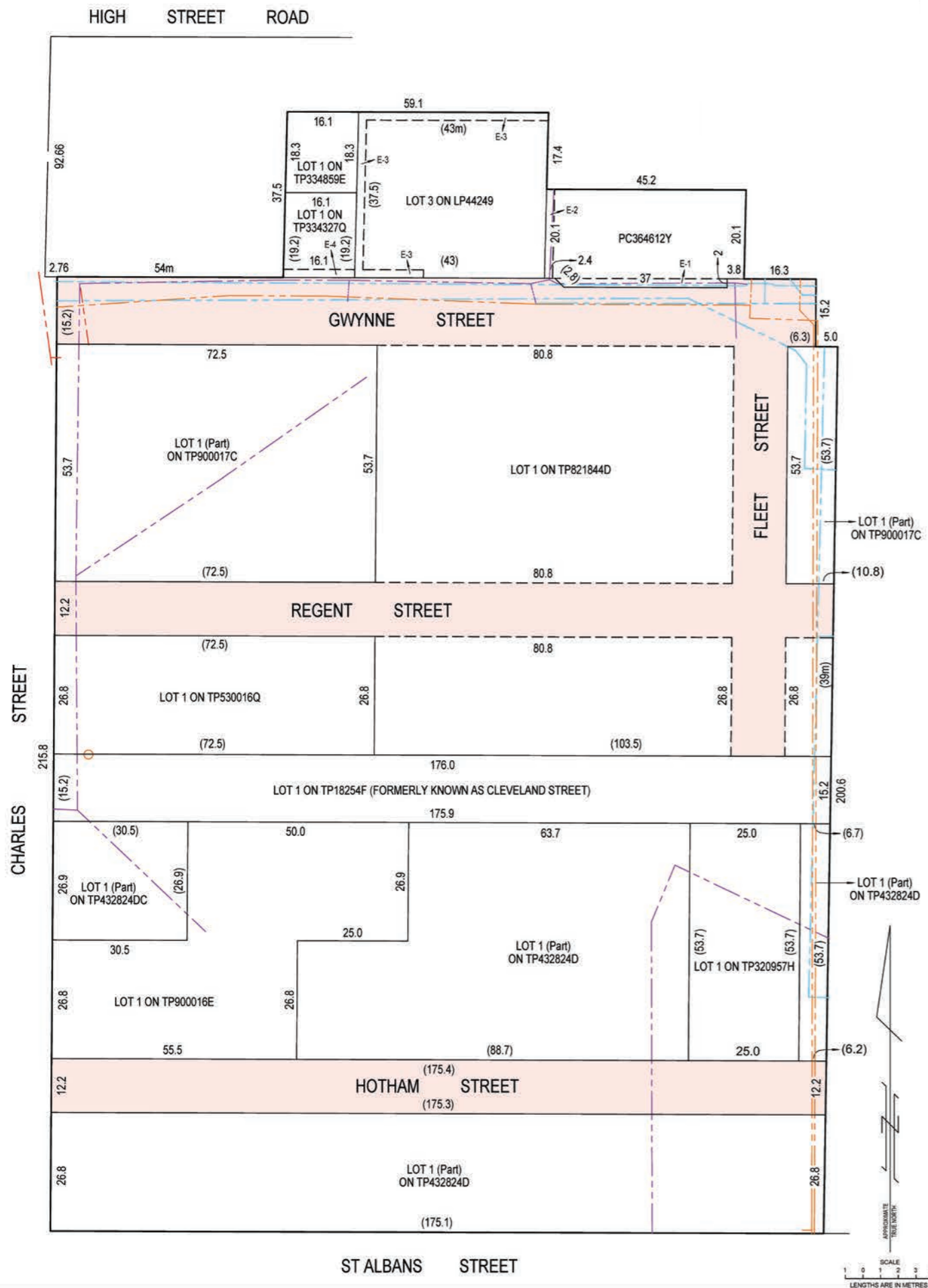
FCI	FCI	FCI - 4	FCI - 10	FCI - 25	FCI - 40	FCI - +40
	FCI	1%	16%	27%	0%	54%
	Accumulative FCI	1%	17%	44%	44%	98%

2.17 BUILDING CONDITION ASSESSMENTS

Site-Asset	1730-40000	Building Name	Mt Waverley Reserve Tennis Pavilion
Service Group	Active Monash		
Site	Mount Waverley Reserve		
Address	8-26 Charles St, MT WAVERLEY		
Constructed	1967		
Building Area (m2)	130		
Replacement \$	\$343,850		
Current WD Value \$	\$89,401		
Valuation Yr	2020		
Condition Audit	10/08/2017		
Asbestos	Yes		
FCI-0	4%		
FCI - 10	33%		
FCI - 25	68%		
FCI - 40	0%		



		Element	Cond Rating	Average Remaining Useful Life	0-5 Years	6-15 Years	16-25 Years	26 - 35 Years	36 Years +	
Building Condition	Structure/Envelope	Fascia/Guttering	2.5	16		\$ 8,500				
		Frame/Structural Walls					\$ 165,000			
		Roof	3.5	10		\$ 32,000				
		Slab								
		Wall Cladding	3.0	24			\$ 55,200			
		Windows	3.5	5		\$ 7,700				
	Structure/Envelope			3.1	13.8	\$ -	\$ 48,200	\$ 220,200	\$ -	\$ -
	Building Services	Electrical		3.5	16.0		\$ 2,000	\$ 2,000		
		Electrical Hardware		3.0	10	\$ 2,000	\$ 4,000			
		Fans		3.0	5.0		\$ 1,600			
		Lighting		2.0	8	\$ 800	\$ 3,200			
		Plumbing Fixtures								
	Building Services			2.9	9.8	\$ 2,800	\$ 10,800	\$ 2,000	\$ -	\$ -
	Fit out/Finishes	Ceilings		2.2	14.0		\$ 14,000			
		Curtains/Blinds		3.0	10.0		\$ 3,000			
Desk/Cabinet/Shelves/Rails			2.5	14.2		\$ 6,200				
Doors			2.2	18.9		\$ 2,900	\$ 9,200			
Fixed Signs and Boards			2.0	9.5		\$ 700	\$ 700			
Floor Coverings			2.8	8.1	\$ 10,500	\$ 10,500				
Handrails Balustrades and Ramps										
Sinks Basins and Baths			2.5	12.3		\$ 2,100				
Surfaces/Painting			2.3	10.8		\$ 14,500				
Tapware/Sanitary			2.0	13.5	\$ 1,400	\$ 1,400				
Walls Cladding										
Windows										
Fit out/Finishes			2.4	12.4	\$ 11,900	\$ 55,300	\$ 9,900	\$ -	\$ -	
Site	Fencing/Gates					\$ -				
	Signs/Other		0.0	0.0		\$ -				
	Stairs/Ramps/Balustrades					\$ -				
Site Infrastructure			0.0	0.0	\$ -	\$ -	\$ -	\$ -	\$ -	
TOTALS						\$14,700.00	\$114,300.00	\$232,100.00	\$ -	\$ -
FCI	FCI				4%	33%	68%	0%	0%	
	Accumulative FCI				4%	38%	105%	105%	105%	



SERVICES

This section compiles the available information regarding existing services at Mount Waverley Reserve, particularly underground assets that are not easily discernible on the site. This page includes the drainage-related assets combined with land title and easement information. Further detail is provided about the different drainage assets over the following pages, along with the details of other service types (including water, gas and telecommunications).

- It can be observed that the majority of the services located in an around the site are located:
- along the northern side of the Gwynne Street alignment that cuts through the subject site at the northern end.
 - along the eastern boundary of the reserve (ie. the boundary adjoining the reservoir).
 - within the road reserves along the western and southern boundaries of the reserve (Charles and St Albans Streets).

The easements existing at the site are all located in the north of the site and do not correspond with curret asset locations. If title consolidation occurs, easements within the reserve along the northern and eastern edges to match the asset locations may be required. These assets and associated easements do create some limitations upon what development can occur in these areas.

- APPROX. TITLE - NON SURVEY BASED
- EASEMENT
- MELB. WATER DRAIN - APPROX. ONLY
- COUNCIL DRAIN - APPROX. ONLY
- YVW DRAIN - APPROX. ONLY
- YVW SEWERAGE - APPROX. ONLY
- LAND SUBJECT TO ANY EASEMENTS NOTATION REGISTERED ON TITLE.

DISTANCES SHOWN HEREON ARE DERIVED FROM TITLE PLANS AND ARE SUBJECT TO SURVEY.

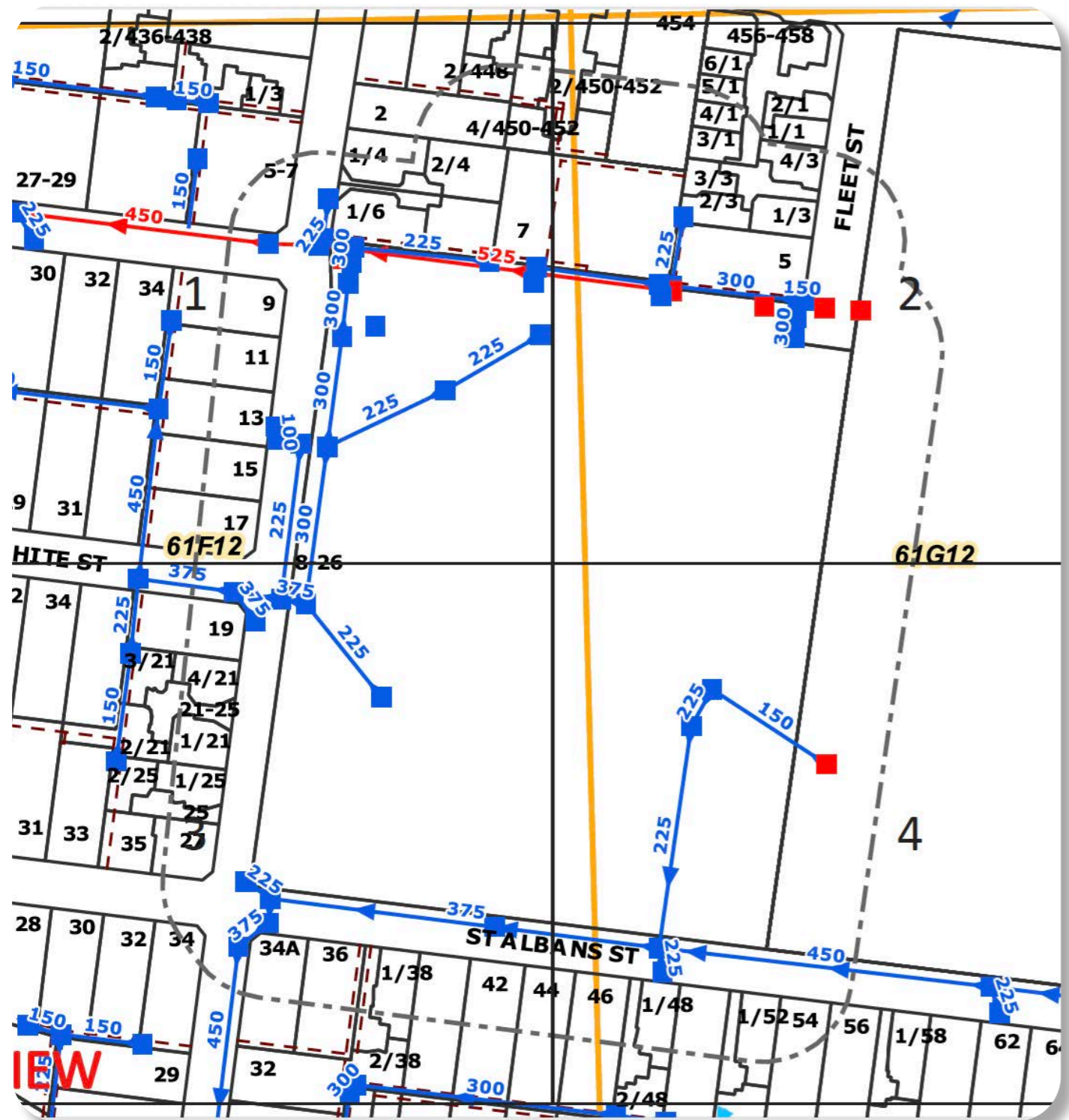
- EASEMENTS REGISTERED ON TITLE: -
- E-1: RIGHTS SAVED UNDER THE LOCAL GOVERNMENT ACT TO MONASH CITY COUNCIL & YARRA VALLEY WATER (2.00 METRES WIDE)
 - E-2: DRAINAGE & SEWERAGE TO M.M.B.W. (1.83 METRES WIDE)
 - E-3: DRAINAGE & SEWERAGE VIDE. LP44249 (1.83 METRES WIDE)
 - E-4: DRAINAGE & SEWERAGE VIDE. LP18789 (1.83 METRES WIDE)
 - UNFORMED ROADS SUBJECT TO ANY EASEMENTS NOTATION

Land title & assets

(adapted from a plan prepared for Monash City Council by licensed surveyors Terrain Consulting Group, drawing no. 20298D01s dated September 2020)

2.18 SERVICES

Drainage

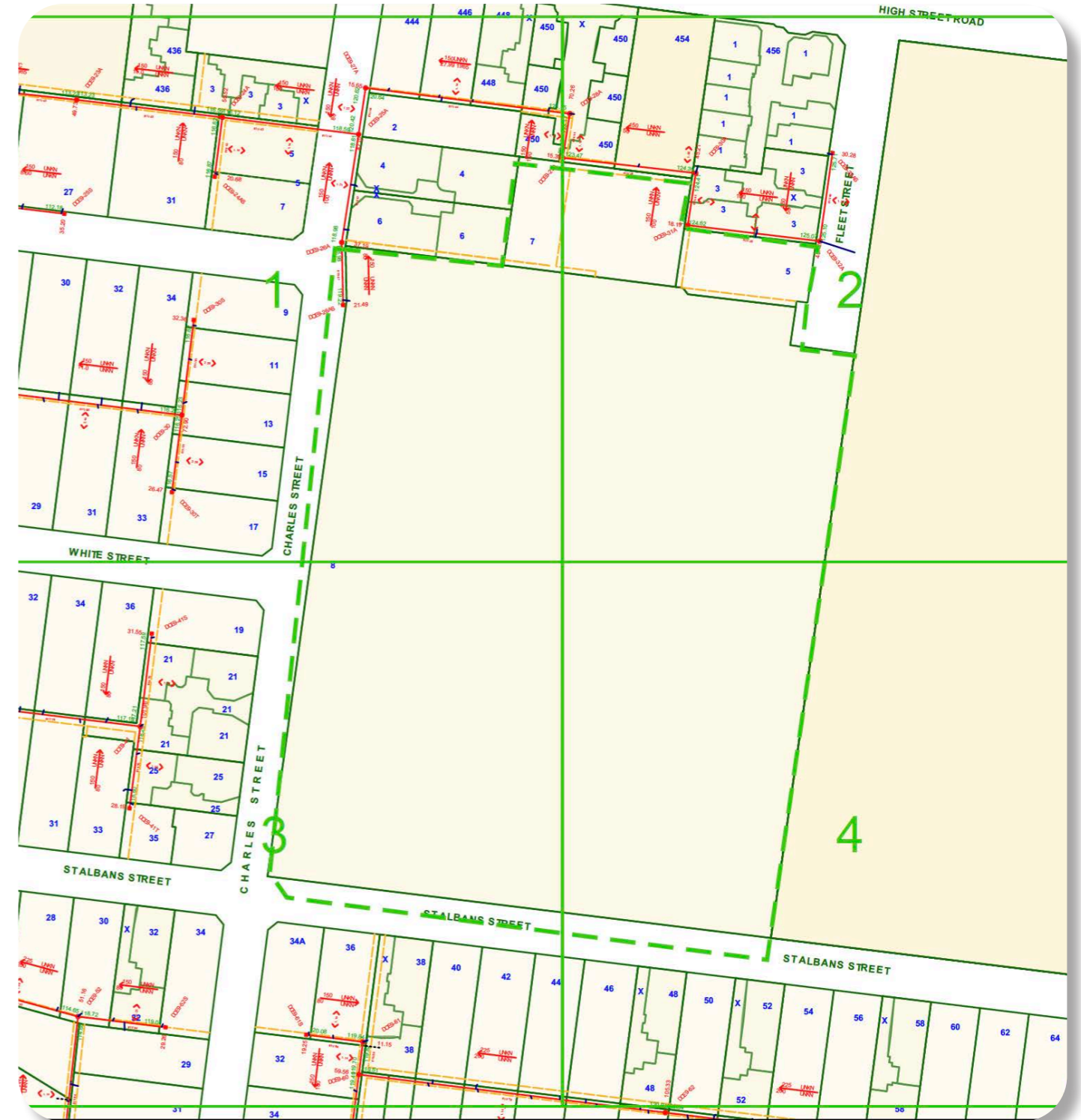


Drainage
Source: Dial Before You Dig

Legend

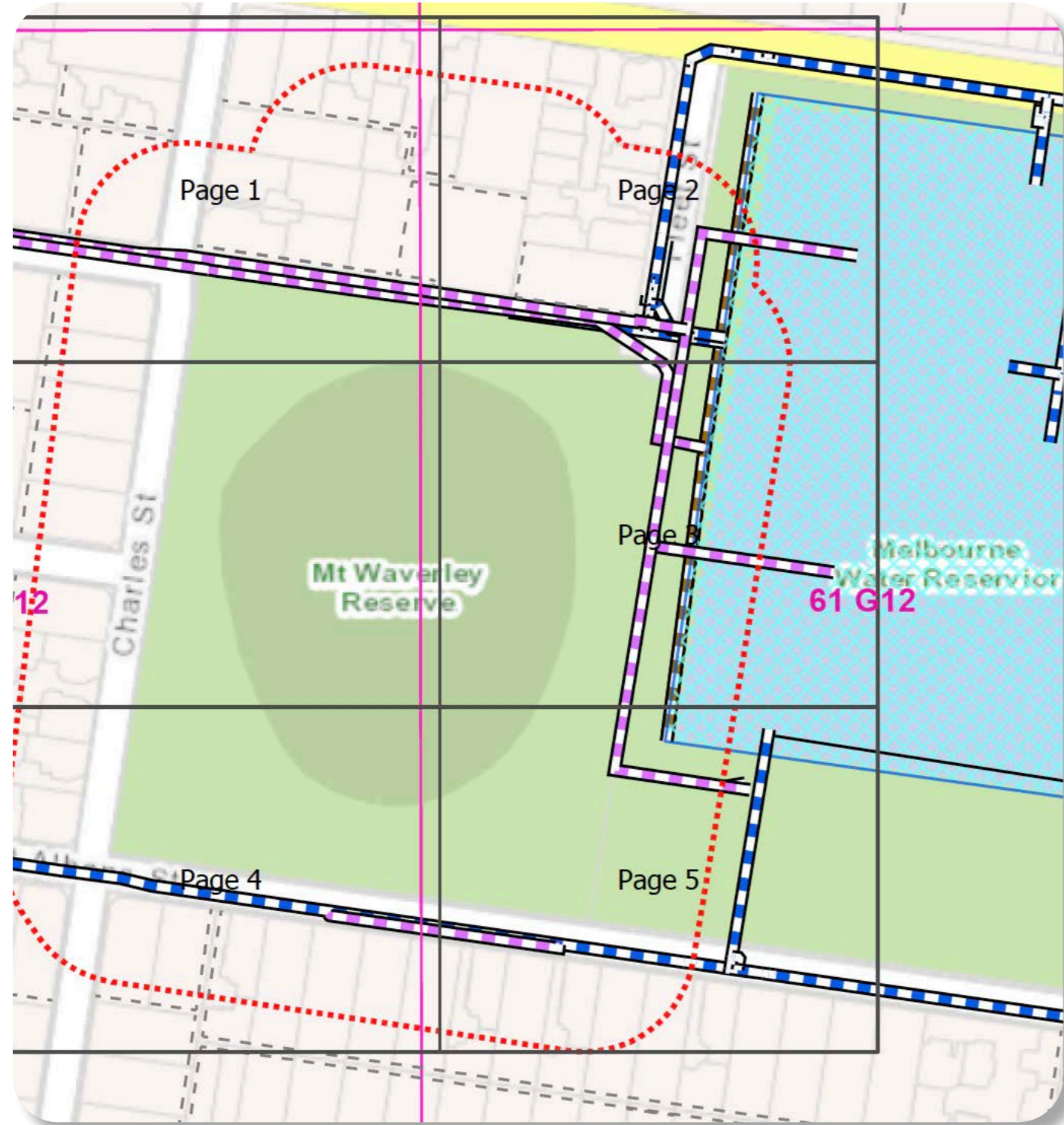
- | | | |
|-------------------|-------------------|--------------------------|
| Drain Pits | Drains | Drain - Diameters |
| ■ Council | — Council | eg 223 |
| ■ Melbourne Water | — Melbourne Water | Melway Grid |
| ■ DOT (Vic Roads) | — DOT (Vic Roads) | eg 70 E1 |
| ■ Unknown | — Unknown | |

Sewer



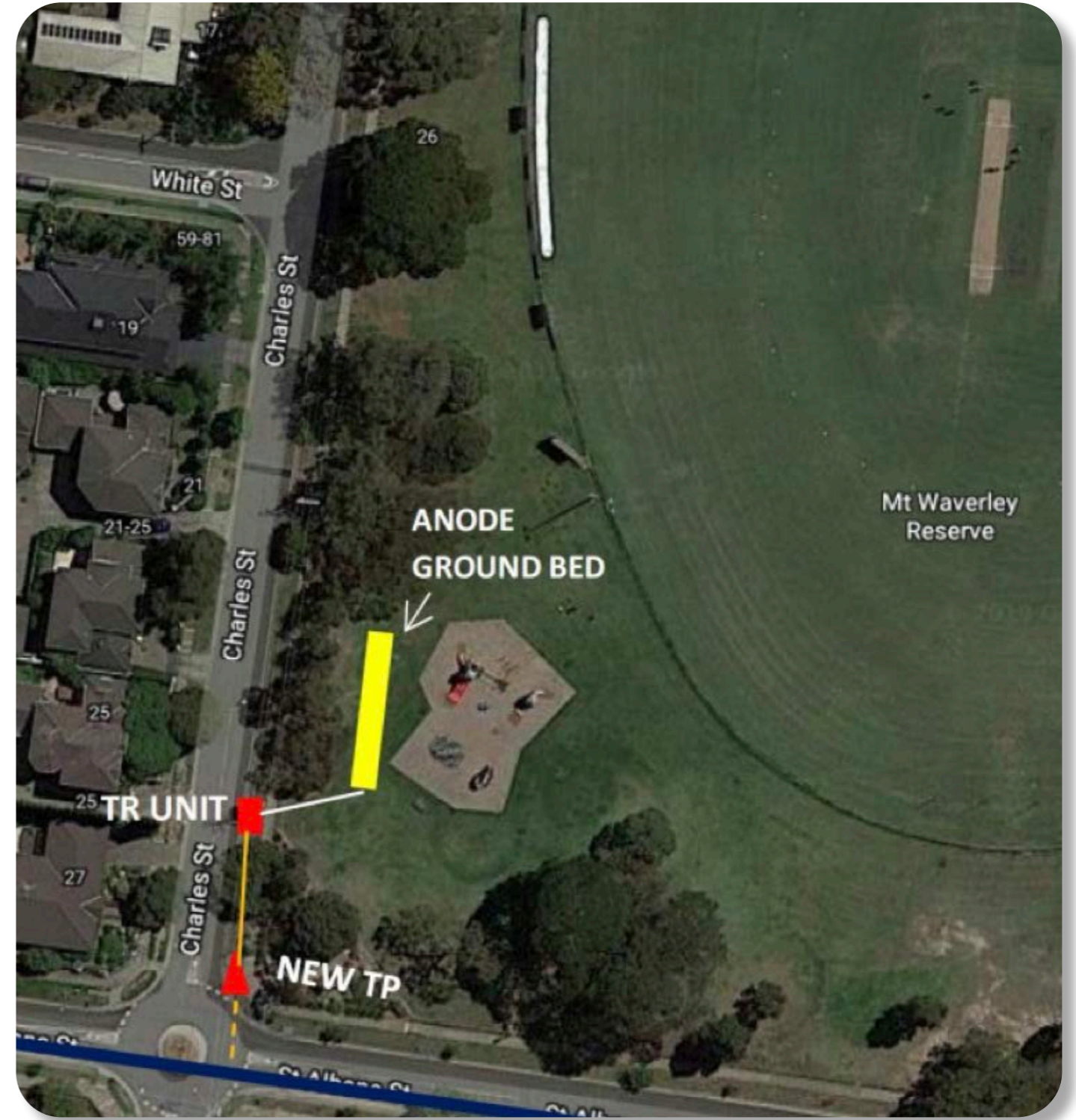
Sewer
Source: Yarra Valley Water

Melbourne Water



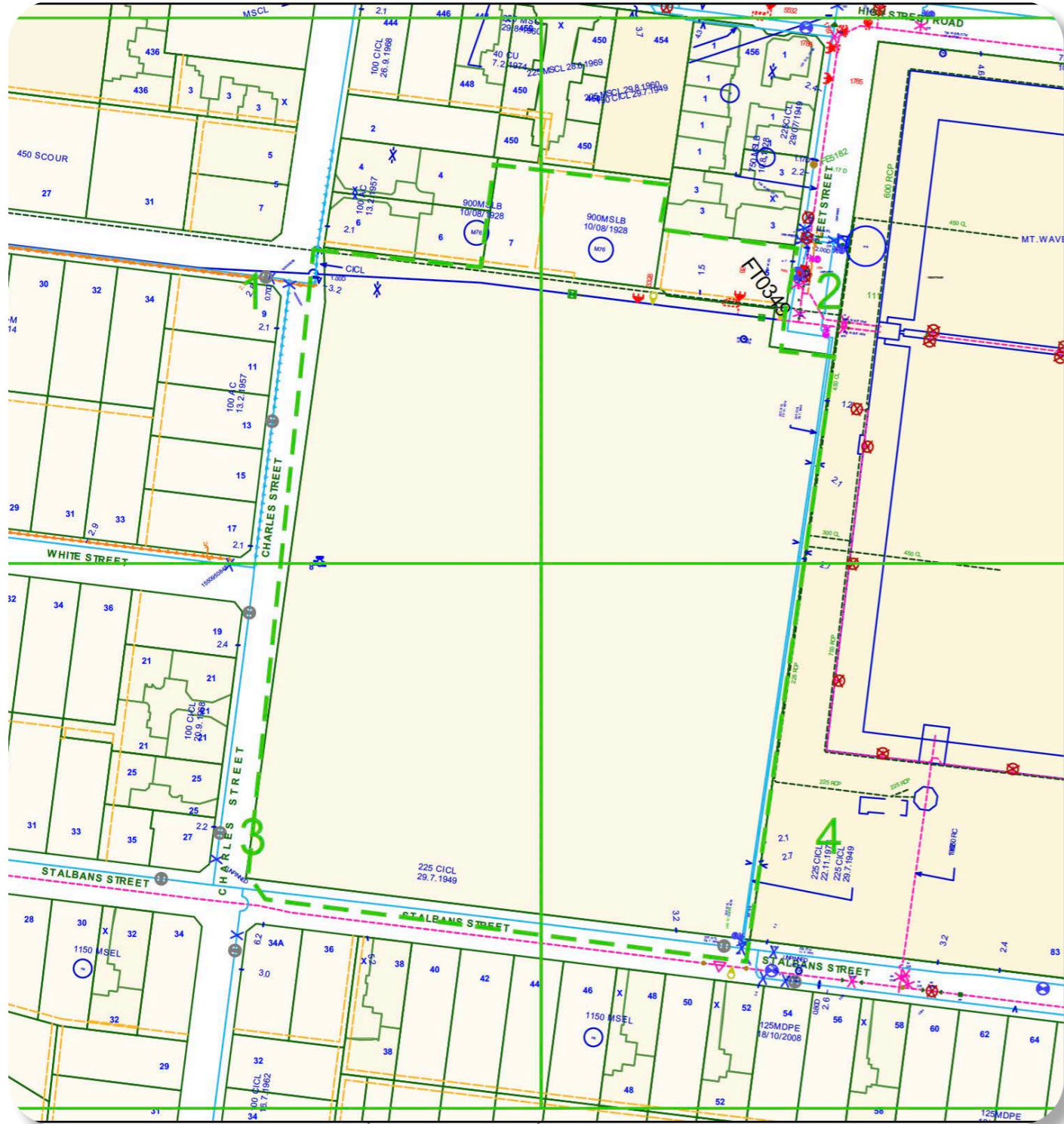
Water
Source: Melbourne Water

- Water
- Water supply scour
 - Water supply main
 - Abandoned water supply main
 - Water Service Reservoir
 - Cathodic protection zone



Melbourne Water Cathodic Protection Cabling
Discussions have been held with Melbourne Water regarding the installation of cathodic protection cabling required on the reserve. Council's preferred location is identified above. Any upgrade or improvement works to the playground will need to consider construction impacts, adequate access and buffer zones as required.

Water

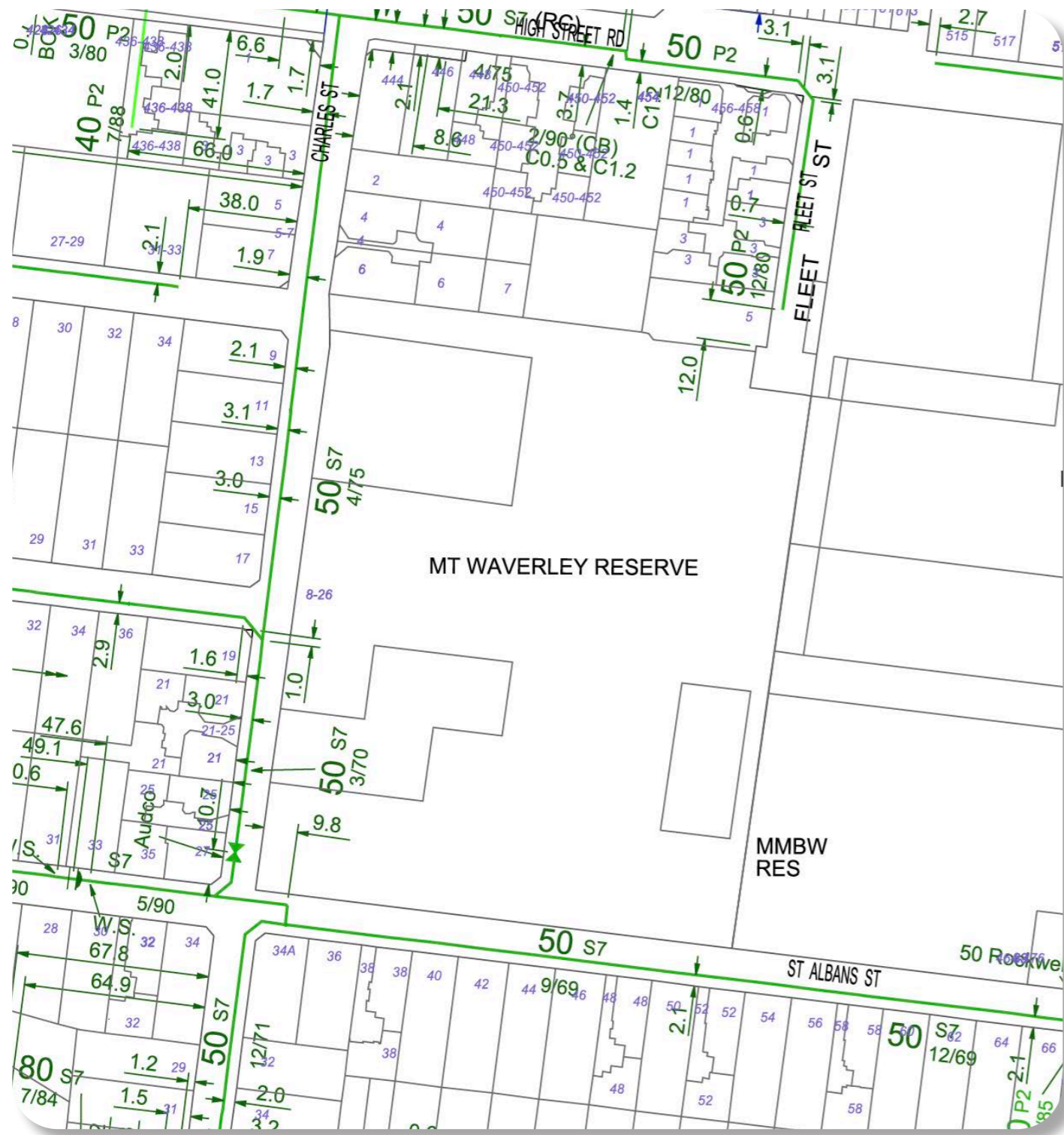


Water

Source: Yarra Valley Water

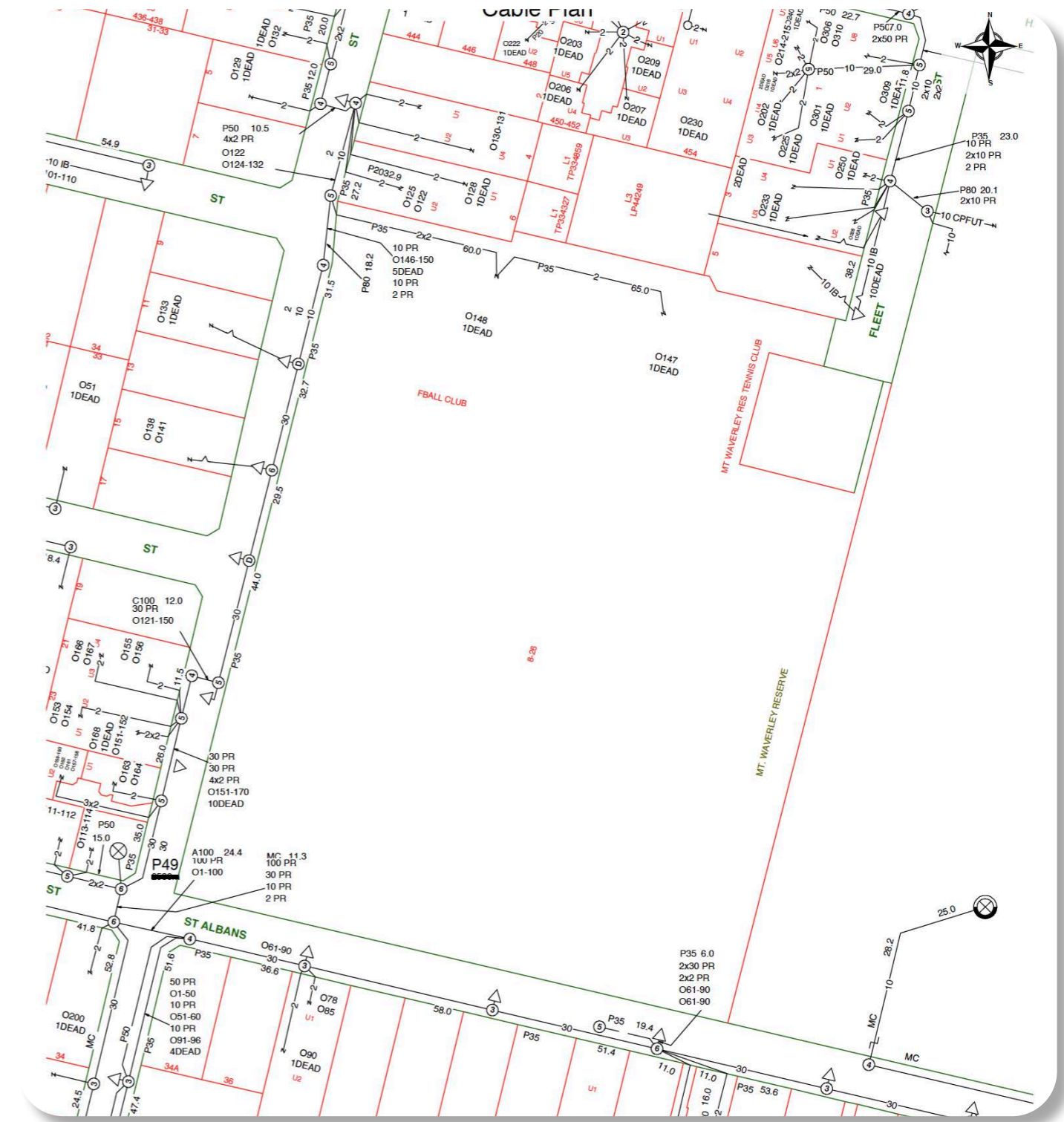


Gas

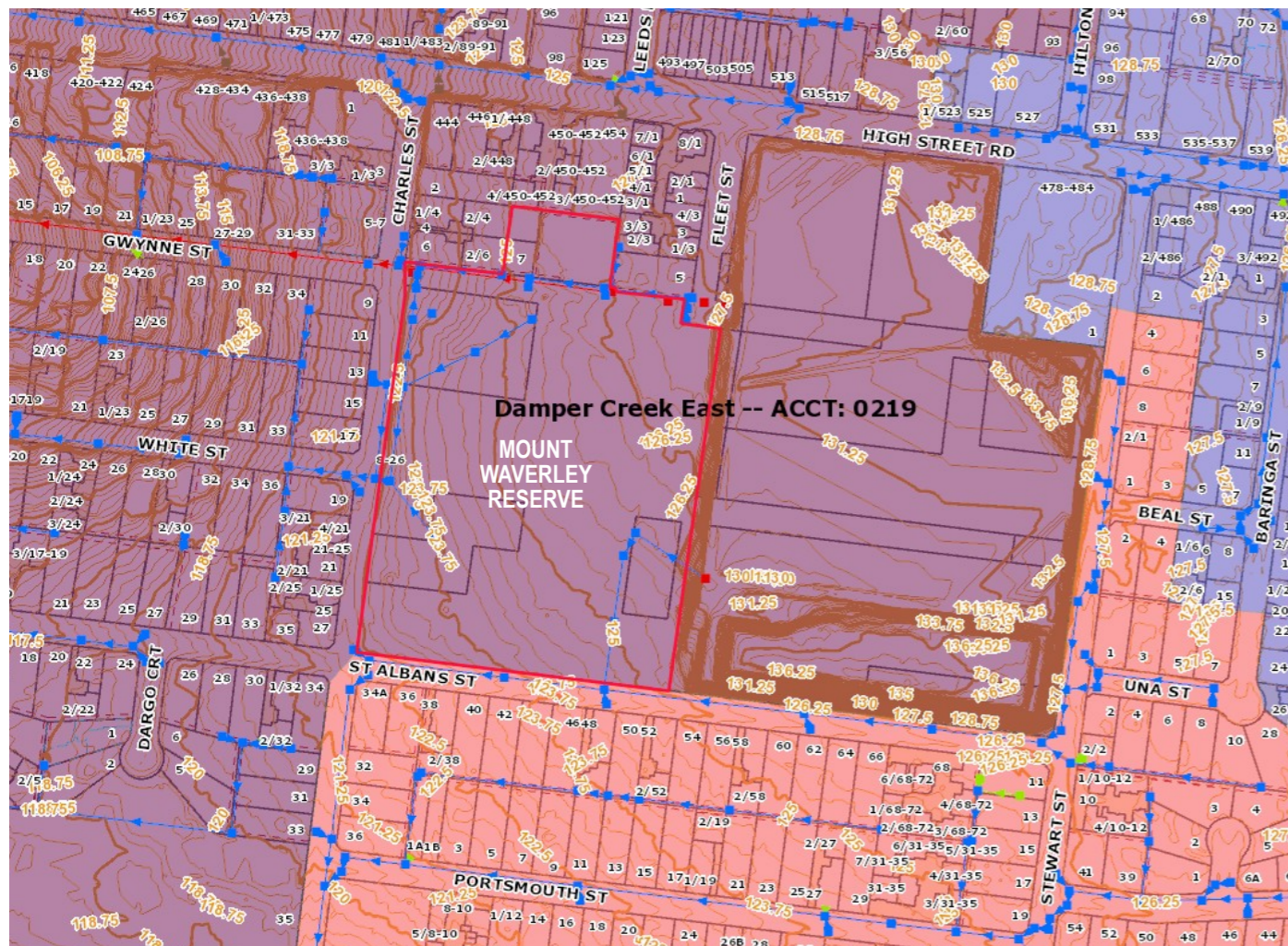
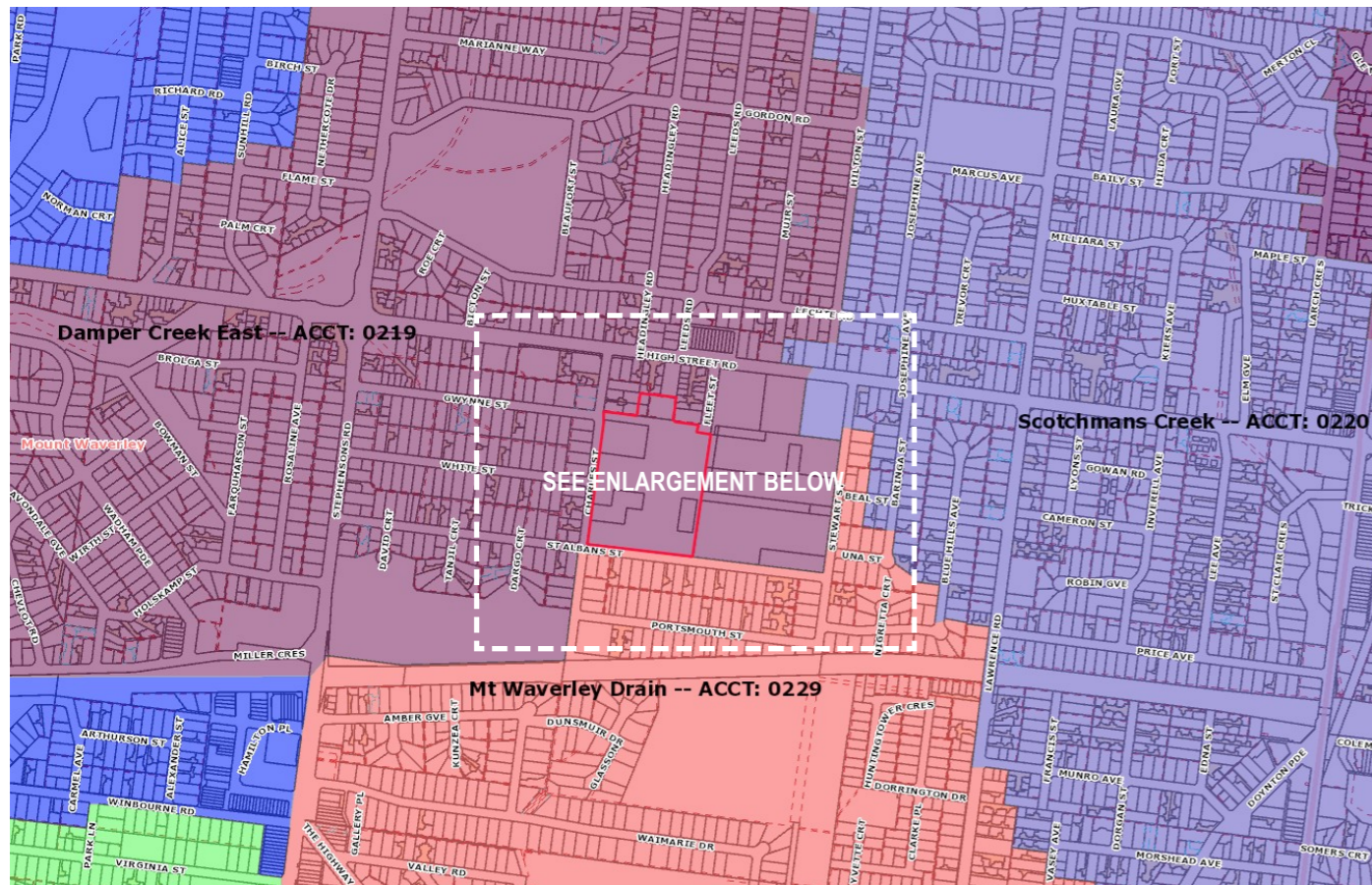


Gas supply
Source: Multinet

Telecommunications



Telecommunications cables
Source: Telstra



2.19 DRAINAGE & CATCHMENT ANALYSIS

SCALE KEY

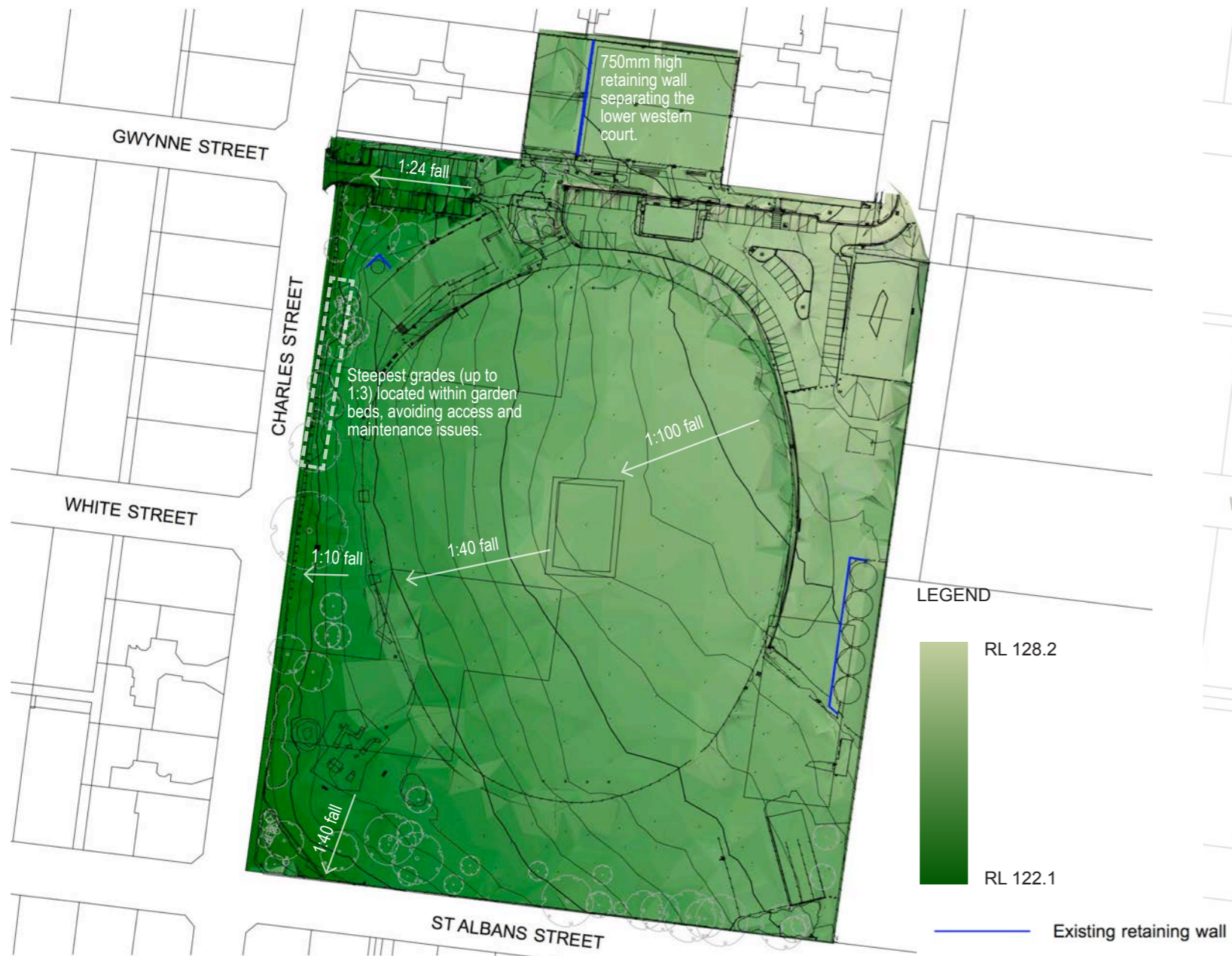
PROJECT
8-26 CHARLES STREET, MOUNT WAVERLEY 3149

CLIENT
City of Monash

PROJECT #
1495

DATE
07-06-2021

PAGE
45



Topography analysis



Grade analysis

Topography & grade analysis

The Mount Waverley Reserve site falls gently from a high point in the north-east corner, to a low point in the south east. The natural topography of the land has been shaped over time to accommodate the uses on the site, particularly earthworks associated with creating relatively flat surfaces for the tennis courts and the oval. The 'benching' of the oval has resulted in somewhat steeper grades along the western (Charles Street) boundary. The steepest of these grades are located within garden beds, which helps to address accessibility and maintenance issues (such as issues associated with establishing and mowing grass on steep slopes).

Across the majority of the site, the grades do not exceed 1:20. Accessibility standards require that pedestrian path access at grades steeper than this require handrails and regularly-spaced landings. While few pedestrian paths currently exist on the site, the current site topography will allow easy alignment of accessible paths throughout the site. Paths linking Charles Street with the reserve along the western reserve boundary may require some earthworks and/or be aligned to run at an angle to the slope. This area is identified on the grade analysis diagram on this page. The grade analysis also identifies very flat grades, defined as being areas 1:100 or flatter. At these grades, drainage can become an issue, particularly on unpaved surfaces where water may pool.

The analysis undertaken here is based upon a feature & level survey of the site, undertaken in May 2020. A copy of the survey drawing is included on the following page.

2.20 EXISTING SITE TOPOGRAPHY



Feature & level survey (northern section of reserve)



Feature & level survey (southern section of reserve)





The images below are cross-referenced to the plan on this page, showing the most significant existing trees existing on and around the reserve.

- 1**  The Melbourne Water Reservoir along the eastern boundary is lined with a mature row of closely-planted cypress, effectively screening the reservoir beyond. These trees are a strong part of the character of the reserve, but are reaching the end of their lives and will likely be removed within the life of the master plan.
- 2**  The site contains a number of very large pine trees, likely to be remnants of the original reserve planting, including these 2 located near the south-west corner of the reserve.
- 3**  Another of the very large pine trees is located mid-way along the western boundary. It can be seen that more recently planted native trees are now getting to a similar size.
- 4**  The fact the the large pines are getting to the end of their life is demonstrated by this tree, formerly located on the western boundary of the reserve which was removed in 2019 due to failing health. The remaining pine trees on the site will also decline over time, and so succession planting is an important consideration of the master plan.
- 5**  The mixed native trees planting along the southern boundary of the reserve are typical of the second phase of site planting (the first being the pines described above). Even when planted in rows, the mix of species creates an informal planting character.
- 6**  Remains of 1918 Portugese Oak Avenue of Honour along High Street Road. These trees are located outside the study area, but are important historic context.

2.21 EXISTING VEGETATION





Vehicular access and car parking from High Street Road



Mount Waverley Reserve car park



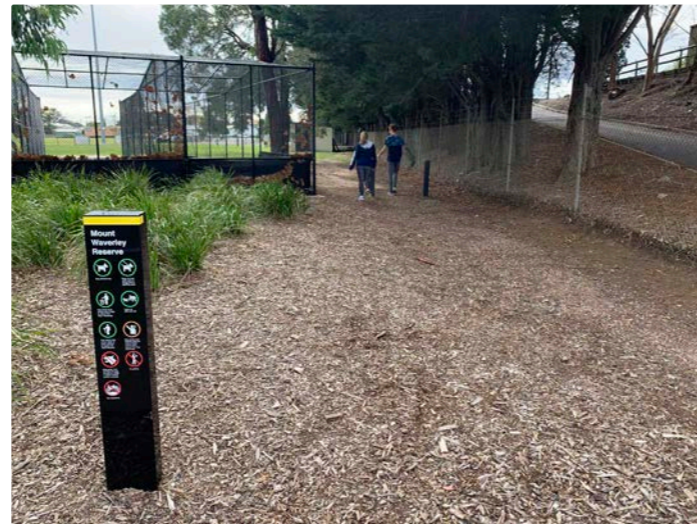
Water tanks on eastern boundary



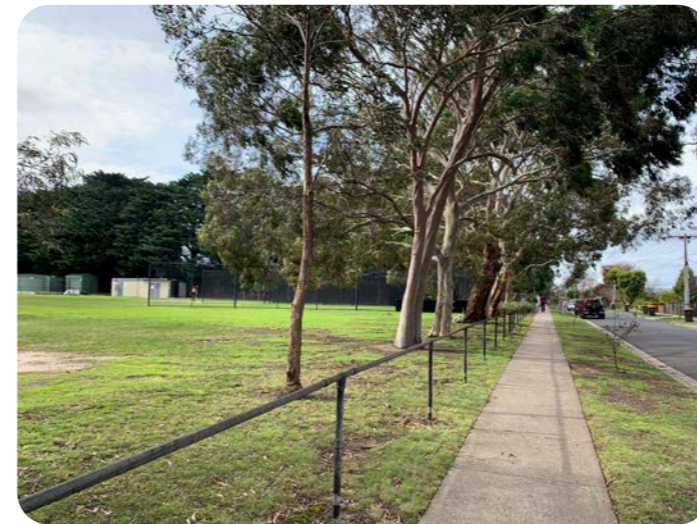
Sheds on eastern boundary



Cricket nets



Maintenance and informal pedestrian access from St Albans Street



Footpath and existing trees on St Albans Street



Playground



Playground



Garden bed on corner of Charles and St Albans Streets



Footpath and existing trees along Charles Street



Vehicle exclusion bollards and existing trees on Charles Street frontage

2.22 EXISTING CONDITIONS PHOTOGRAPHS



Footpath along Charles Street



Players boxes on eastern boundary



Pavilion with concrete apron



Northern end of oval and pavilion



Northern end of oval with pedestrian path from pavilion to car park



Amenities block



Car park from Charles Street behind pavilion



Waverley Community Learning Centre



Mount Waverley Tennis Club



Western-most tennis court with retaining wall



Tennis courts



Memorial planter adjacent to tennis courts

Furniture - seating



KEY PLAN



Playground seating



Seating facing oval at southern end of pavilion



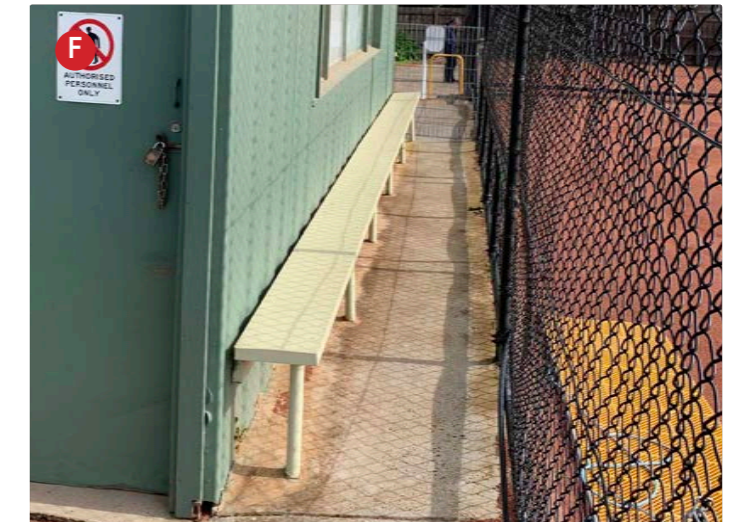
Bench seat south of the pavilion



Seats facing tennis courts outside Tennis clubrooms



Seating at the southern end of the western-most tennis court



Bench seating facing tennis courts



Old-style concrete framed timber seat facing tennis courts

2.23 EXISTING FURNITURE & EQUIPMENT



Sport & recreation equipment



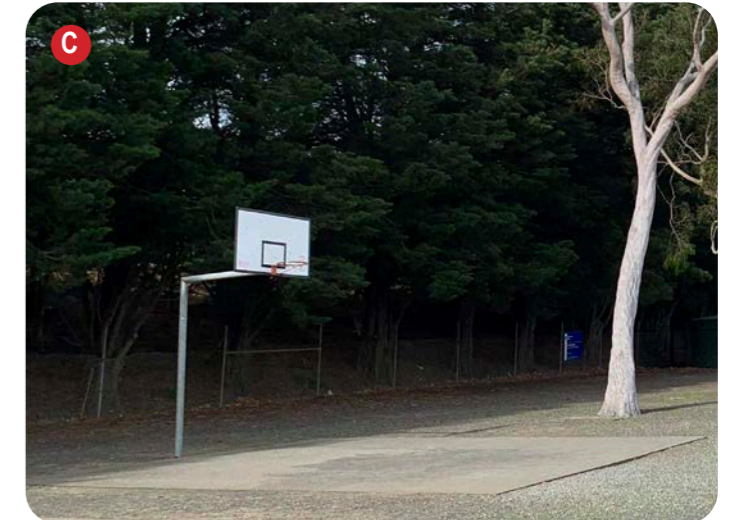
KEY PLAN



Playground



'Hit up wall'



Basketball hoop



Covered seating boxes (3 no.)



Old score board



Digital scoreboard (rear view)



Cricket nets (synthetic lanes on the left, turf lanes on the right)



Tennis nets



Furniture - miscellaneous



KEY PLAN



Rubbish bin



Recycling bin



Rubbish bin ('wheelie bin' with concrete pad and post)



Drinking fountain with dog bowl



Signs



KEY PLAN



Sign on High Street Road



Reserve entry sign (Charles Street)



Bollard sign (pedestrian entry points and play space information)



Waverley Community Learning Centre sign



Mount Waverley Reserve

Strategic Context	
Land ownership	City of Monash
Location type	Park or reserve
Constraint by retarding basin	No
Constraint by overhead transmission line	No
Any new public toilet committed by others in proximity?	No
Any proposed new council building or building upgrade in proximity?	No
Does internal stakeholder consultation feedback support public toilet provision in this area?	Yes
<i>Other comments</i>	
Assessment result: Strategic context supports new public toilet provision	
Facility condition of existing non-public toilet in the area	
Mount Waverley Reserve Toilet	Adjacent to car park without disabled parking space, direct external access
Recommended investigation: Investigate feasibility of upgrade existing standalone toilet and open it to public.	

On-site assessment	
Nearby playground	Local level
Nearby sports field	Non-A grade sports fields
Nearby shared trail	No
Existing service connection	Services connected to existing pavilion and standalone toilet
Terrain	Fairly flat around the existing toilet and car park
Connectivity to the surroundings	Good connectivity to surroundings from toilet and car park
Building asset condition	Fair
General asset condition and vandalism situation	Fair
Surveillance from the surroundings	Good surveillance around toilet from car park and sports field
Other context	Mount Waverley Tennis Club in the north of reserve, bus stop to north on High Street Road approx. 200m away from toilet
Comment: Existing standalone toilet is located at a well-connected location with good surveillance.	

Action proposal (To be updated)	
Priority status	Low?
Service level	Base?
<ul style="list-style-type: none"> ① Optimal location for short term new public toilet ① Car park ② Non-A grade sports fields ③ Local playground ④ Sports pavilion ⑤ Mount Waverley Tennis Club ⑥ Bus stop 	
Option 1	Open Mount Waverley Reserve toilet to public
Design standard	?
Associated cost	Initial cost \$, ongoing cost \$?
Timeline	
Option 2	Refurbish Mount Waverley Reserve toilet to 2 unisex accessible or one unisex accessible + 2 unisex ambulant PTs
Design standard	?
Associated cost	Initial cost \$, ongoing cost \$?
Timeline	
Option 3	New standalone automated single unit unisex PT at the same location of existing toilet block
Design standard	?
Associated cost	Initial cost \$, ongoing cost \$?
Timeline	
Other recommendation: Provide one disabled parking space in car park next to future public toilet.	

2.24 PUBLIC TOILET ASSESSMENT

3.0 ANALYSIS



Constrained tennis site
 The existing tennis courts are non-compliant, but can't be easily rectified due to their constrained location. The master planning process is an opportunity to review the suitability of this site for tennis use into the future.

Built form consolidation
 There is an opportunity to consolidate built form through sharing of facilities and creating multipurpose facilities. This has the potential to increase space available for other purposes, and to improve the quality of built facilities able to be provided.

Vegetation succession planning
 The site needs a plan for the future that accommodates the future removal of the remaining pine trees and the cypresses on the Melbourne Water land to the east.

Better integration of play opportunities
 The current play space is an island within the reserve, separate from the character and function of the rest of the space.

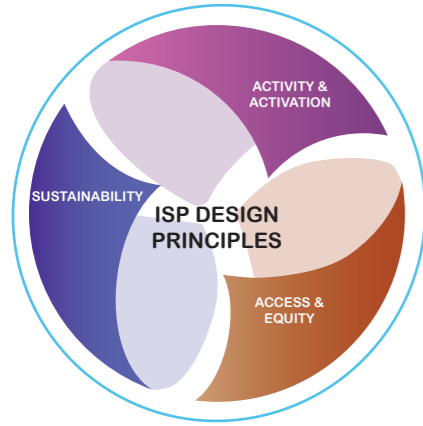
Passive recreation opportunities
 There is a significant parcel of land along the southern end of the site currently without a defined use with strong potential for passive community use and a stronger connection to the surrounding residential neighbourhood.

Path network
 There is the opportunity to have a path network linking the site facilities and creating a circuit within the reserve.

Car parking
 There is an opportunity to review car parking provision on the site, particularly the less-frequently used gravel parking area.

Oval & cricket nets
 There is the opportunity to reshape the oval (currently egg-shaped), and to review the location of the cricket nets to improve their function and maximise passive recreation opportunities within the reserve.

3.01 STRATEGIC SITE OPPORTUNITIES



In addition to opportunities derived from observations and research regarding site conditions, there are also a range of opportunities related to the ISP Design Principles identified at the start of this document. These are itemised below under the three principle categories: Activity & Activation, Access & Equity, and Sustainability.

ACTIVITY AND ACTIVATION

(Inviting Open and Urban Spaces)

- Identify site activation opportunities and constraints;
- Identify creative opportunities for integrated site usage and activation and improved integration of built form and landscape;
- Investigate opportunities to optimize site activation and viability with regard to the local and regional context.

Mount Waverley Reserve is currently well-used for a range of different activities. However, there are opportunities for improving activity and activation of the space.

- **Path network:** Construction of a path network that encourages access into the site, and a path circuit that provides a focus for activity.
- **Better integration of play:** The current play space sits in an open lawn area, separate from the rest of the reserve elements. There is an opportunity for the play experiences to be better integrated into the reserve, and to appeal to a wider range of users.
- **Passive recreation opportunities:** There is an opportunity to focus upon the 'left over' spaces around the edges of the oval and other facilities, and to find ways that these areas can attract different kinds of users to the space (eg. seating/picnic area). There is also the opportunity to provide better informal use access to sporting facilities located at the site.

ACCESS AND EQUITY

(An Inclusive Community)

- Provide equitable access to people of all ages, gender, physical abilities and cultural backgrounds;
- Adopt Crime Prevention through Environmental Design (CPTED) principles;
- Consider all transport modes while giving priority to active transport modes.

The following opportunities have been identified to improve access & equity at the site.

- **Path network:** Currently there are large areas of the park, including the playground, that are not accessed by a path. This can make access for people with mobility issues difficult. Construction of a path network around the site would improve the equity of access to site facilities. Defined path networks, combined with pedestrian lighting where appropriate, also assist in improving site surveillance and CPTED outcomes.
- **Accessible play:** The current play space is not designed to provide access to children of all abilities. Elements that might be considered to improve this include 'nest swings' that provide good play opportunities for people of all abilities if paired with rubber surfacing.
- **Diversity of recreation opportunities:** The sporting facilities that are currently the most obvious features of reserve do not provide recreation opportunities for everyone. Providing a wide range of active and passive recreation opportunities within the space maximises its appeal to the widest range of people.
- **Gender equity:** There is the opportunity to review the facilities provided at

SUSTAINABILITY

(A Liveable and Sustainable City)

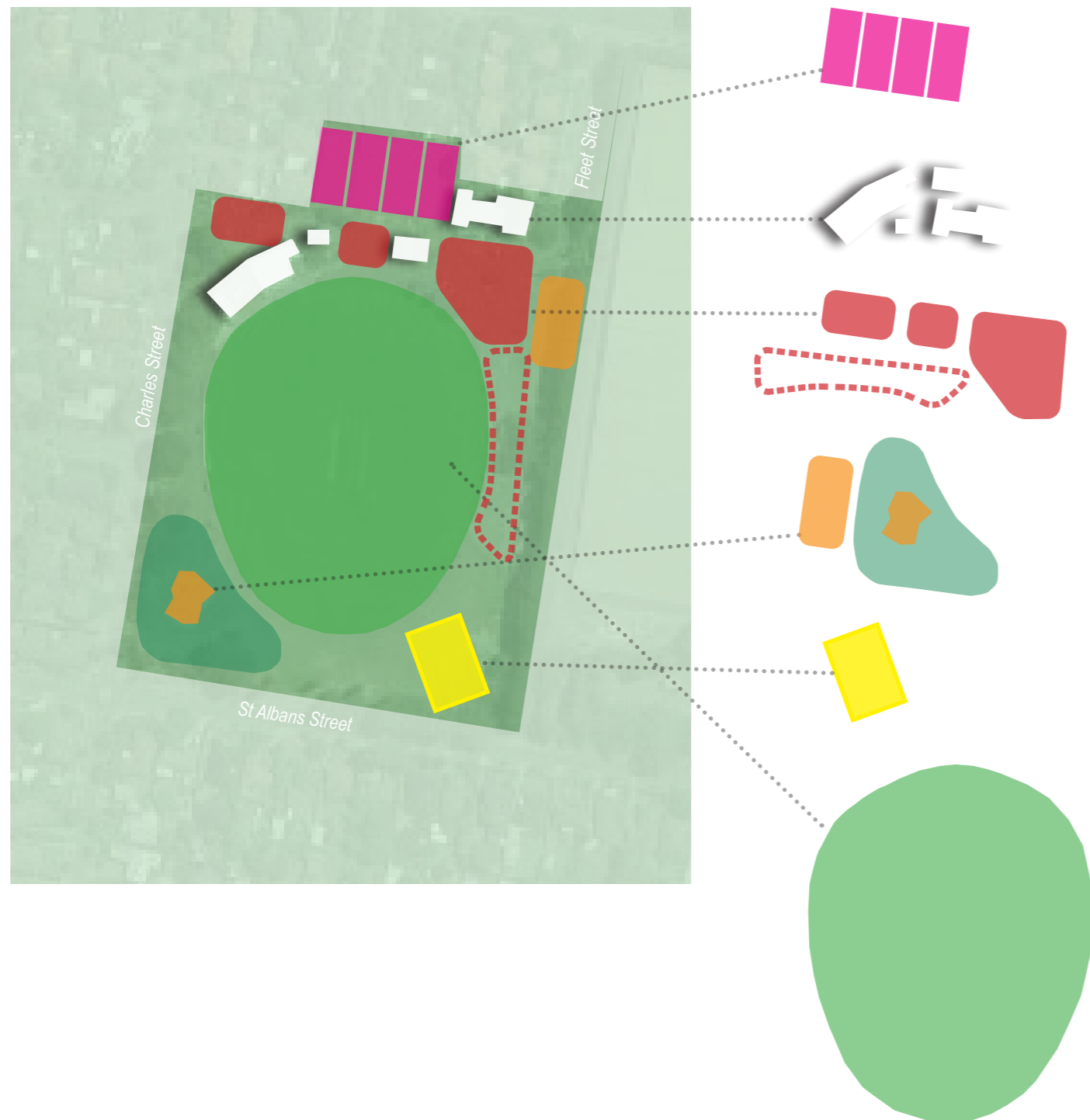
- Proposals are to be in keeping with ESD principles and be of high level of quality and design excellence;
- Proposals are to be adaptable and flexible to respond to future changes in use, lifestyle and demographics;
- Provide for stormwater collection, storage and treatment where applicable.


The following opportunities have been identified relating to the sustainability of Mount Waverley Reserve.


- **Water:** The reserve is currently irrigated using water collected from the large roof over the neighbouring reservoir. There is the opportunity to build upon this sustainable feature of the reserve and introduce other water-related measures, such as stormwater treatment elements (eg. rain gardens or swales) to filter storm-water runoff from car parks.
- **Energy:** There is the opportunity to improve the energy efficiency of elements around the site. Key opportunities include upgrading the sports lighting (to low-energy LED fittings), and the consideration of energy-efficiency when upgrading the aging building stock.
- **Biodiversity:** It has been identified that there are a large number of existing exotic trees on the site that are reaching the end of their lives. The opportunity exists to have the succession planting at the site prioritise species that provide biodiversity benefits, including providing habitat for indigenous fauna.
- **Active transport:** There is the opportunity to encourage active transport modes for people accessing the site, to reduce resource usage associated with private vehicle use.





Mount Waverley Reserve comprises a range of elements and activities that combine together to create the public facility that currently exists. While there is strong interaction between all of these different elements and activities, it is useful for the purposes of analysis to isolate the key elements so that the opportunities relating to each can be addressed separately. The key existing site elements are identified in the plan below, and options for each of these elements are assessed individually over the following pages. The findings of this assessment of the individual elements are then joined back together and considered in the context of the whole site in the Functional Design Options Analysis following.





- 
Tennis courts

Tennis facilities at the site currently include 4 en-tous-cas tennis courts (that do not comply with current size standards).
- 
Buildings

Key buildings on the site include (from west to east) the football/cricket pavilion, a stand-alone public toilet, the tennis clubrooms and the neighbourhood house.
- 
Car parking & vehicle access

Current parking provision on the site includes sealed car parks and an unsealed overflow parking area (shown dashed). Currently there is no internal access between car parks accessed from Fleet St and those accessed from Charles St.
- 
Play & informal recreation

A small play space exists in the south-west corner of the reserve. Other informal recreation opportunities at the site include a public tennis court and hit-up wall in the north-east corner of the reserve, and small lawn areas around the oval edges.
- 
Cricket nets

The existing cricket practice wickets are located in the south-east corner of the site, and comprise both synthetic wickets (3 lanes) and 8 practice turf strips.
- 
Oval

The existing B grade oval (including a B grade turf wicket) is used for football and cricket competition and training. It has an irregular 'egg' shape.

3.02 SPATIAL ANALYSIS - REVIEW OF OPTIONS FOR KEY EXISTING ELEMENTS



TENNIS CLUB FACILITIES OPTIONS ANALYSIS

Tennis - criteria used to develop & assess opportunities

- Number of courts to align with Council strategy (*Monash Tennis Plan, 2021*) for a sustainable club (ie. 6 courts minimum).
- New tennis infrastructure to comply with current Australian and Tennis Victoria standards



Option A
Retain existing conditions (4 courts).

This option has been rejected for the following reasons:

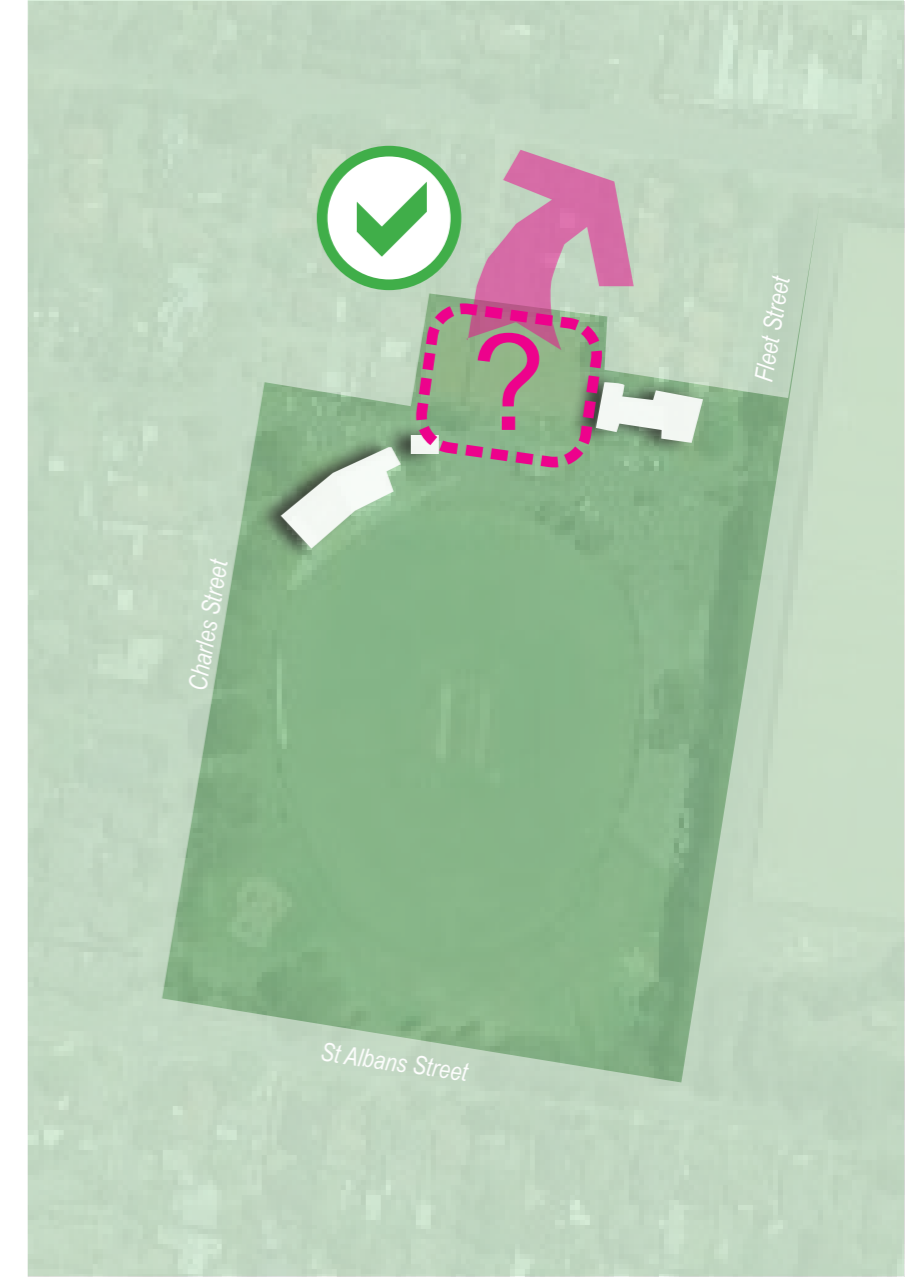
- ⊗ Existing court sizes are not compliant with current standards
- ⊗ Number of courts does not align with Council strategy (*Monash Tennis Plan, 2021*) for a sustainable club (ie. 6 courts minimum)
- ⊗ Existing site issues not resolved (including courts split over two levels, and difficulty in lighting the western-most court due to proximity to neighbouring residences)



Option B
Tennis relocated to south of reserve. 6 new courts to meet the Council strategy (*Monash Tennis Plan, 2021*) requirements, with 2 potential configurations shown above.

This option has been rejected for the following reasons:

- ⊗ Requires a complete re-construction of tennis infrastructure at the site in a location that significantly impacts other existing and potential uses of the reserve.



Option C
Tennis relocated to another reserve.

This is the preferred option for the following reasons:

- ✔ Consistent with directions outlined in the *Monash Tennis Plan, 2021*. Improves opportunities for club sustainability and use of existing Council infrastructure.
- ✔ Frees space for additional facilities/activities at the reserve.



BUILDINGS OPTIONS ANALYSIS

Buildings - criteria used to develop & assess opportunities

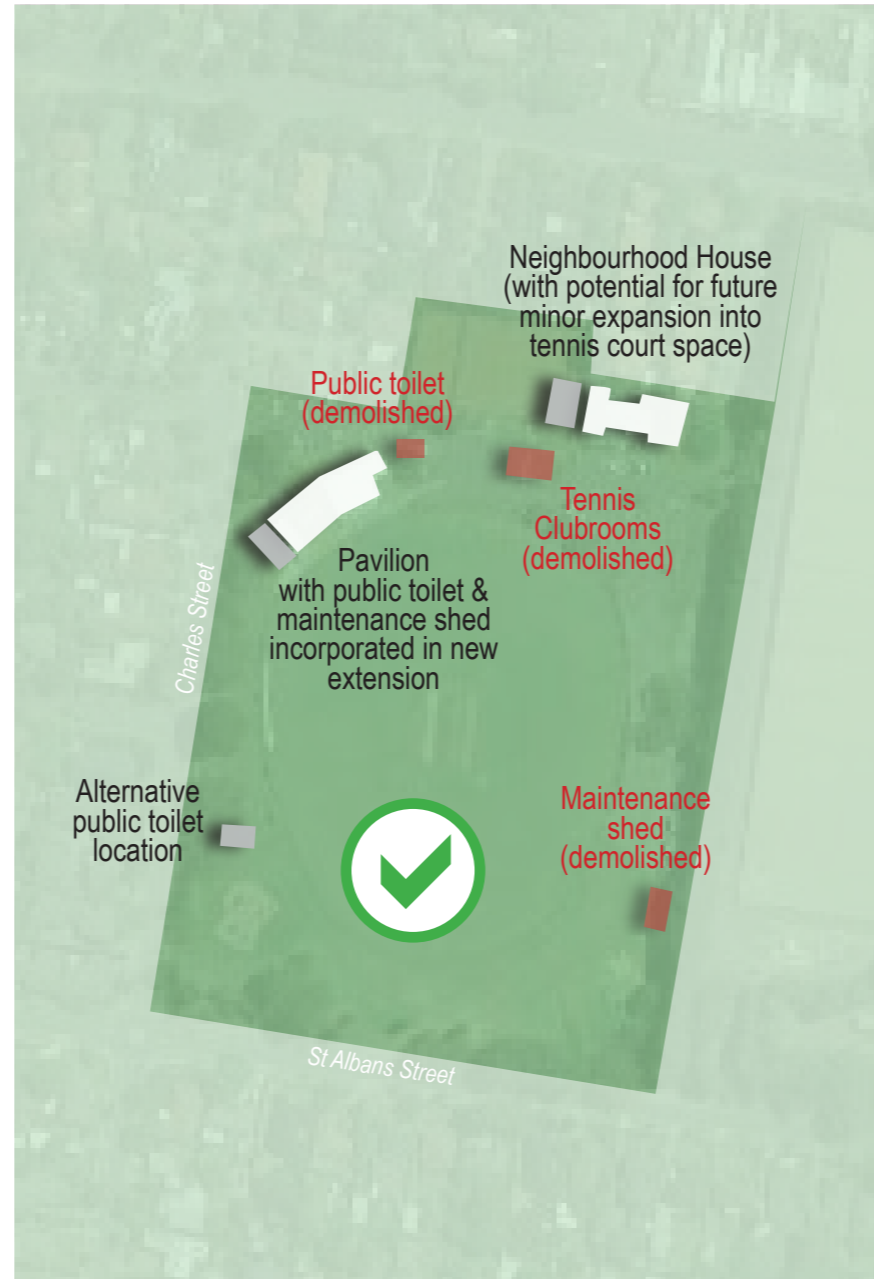
- A preference for shared use facilities and consolidation of built form. This approach reduces unnecessary duplication, maximises the quality of built facilities able to be provided, and ensures as much of the open space as possible remains 'open'.



Option A
Retain existing conditions.

This option has been rejected for the following reasons:

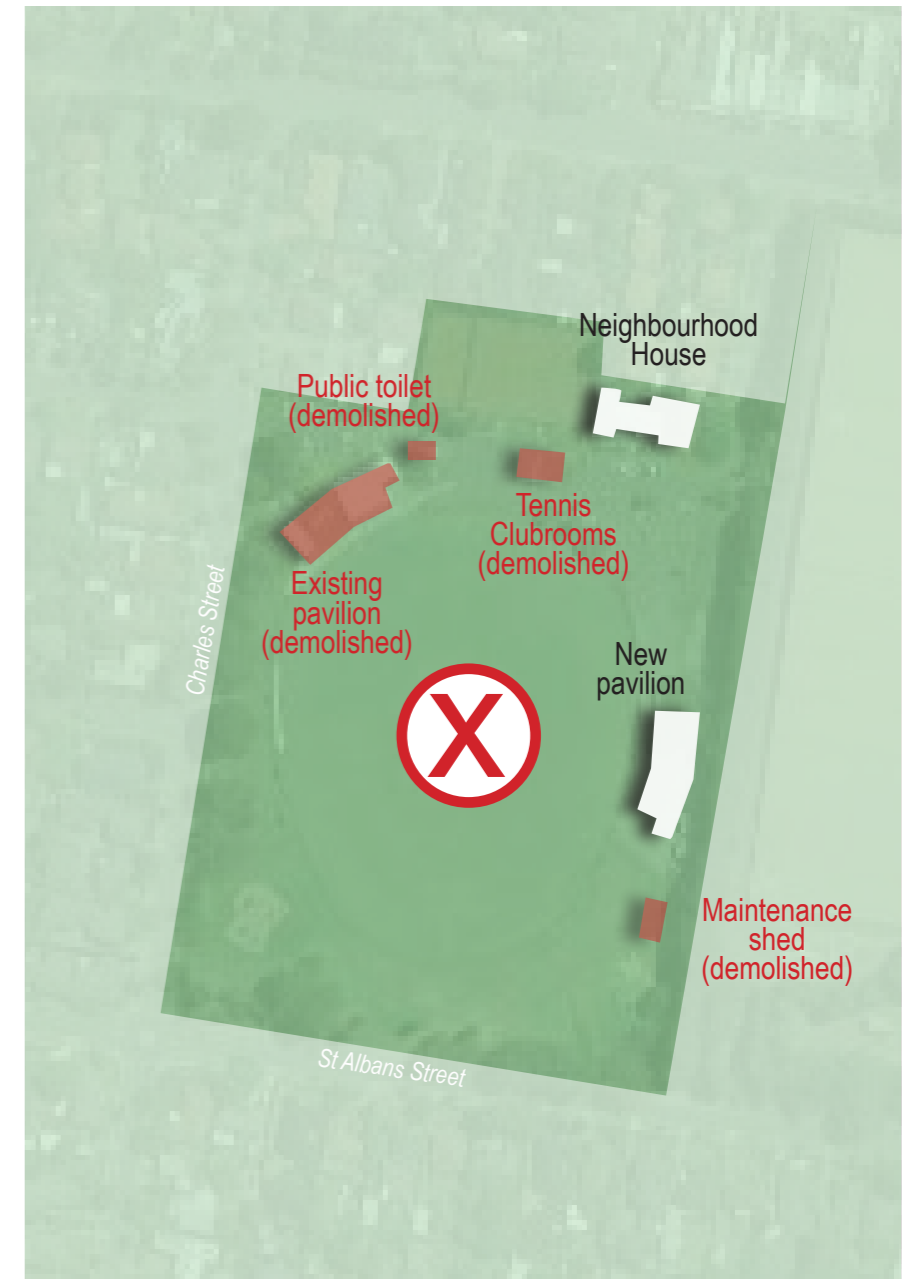
- ❌ The constraints upon the tennis club in this location (non-compliant court sizes, limited number of courts, and no space for expansion) mean that it does not meet the requirements of the *Monash Tennis Plan 2021* to be a long-term sustainable club in this location.
- ❌ Doesn't address the issue of making the pavilion female-friendly.



Option B
This option shows the tennis clubrooms demolished (assuming that tennis is relocated from this site making the facility redundant), the maintenance shed consolidated into the pavilion, and identifying potential future expansion opportunities for the Neighbourhood House. The public toilet is shown either incorporated with the pavilion, or located closer to the existing play space. This option also includes internal works at the pavilion, including works to make the facility female-friendly.

This is the preferred option for the following reasons:

- ✅ Consolidated building footprints free up space for other functions, create a greater sense of openness and reduce barriers to site surveillance.
- ✅ Female sport teams catered for at the pavilion.



Option C
This option shows the relocation of the pavilion to an alternative location on the site, as well as the demolition of the tennis clubrooms and the public toilet.

This option has been rejected for the following reasons:

- ❌ The cost of relocating the pavilion would be high.
- ❌ The existing pavilion largely meets current requirements and standards for this class of reserve and standard of competition (noting that some relatively minor refurbishment/additions are likely required to address specific issues).



CAR PARKING & VEHICLE ACCESS OPTIONS ANALYSIS

Site access - criteria used to develop & assess opportunities

- Council policy (Monash Active Reserves Facility Hierarchy, 2018, v3 reviewed May 2021) regarding number of on-site car parking spaces (50 sealed spaces for this type of facility).



Option A

- Existing parking & vehicle access retained.

This option has been rejected for the following reasons:

- Overflow car parking is an underutilisation of valuable open space that could be used for other purposes.



Option B

- Consolidation of parking, including removing vehicle access and parking between the oval and current tennis courts, creating a stronger open space connection between the tennis court site and the rest of the reserve.
- Expansion of existing north eastern car park to the east (over existing public tennis court).

This is the preferred option for the following reasons:

- On-site parking provision is maximised in convenient locations close to key facilities. Removal of buildings allows for a more efficient car park layout than currently exists.
- The existing overflow car park provides opportunities for new site uses.
- Future uses of the tennis court site will be better integrated with the reserve.



Option C

- Reformatting of parking taking advantage of potential building consolidation, creating the same number of car spaces as currently exist within a smaller footprint.
- Creation of through access between Charles and Fleet Streets.

This option has been rejected for the following reasons:

- Potential unintended traffic impacts from create through-traffic through the site.
- The introduction of through traffic creates a barrier that divides the reserve into separate parts.



OVAL OPTIONS ANALYSIS

Oval - criteria used to develop & assess opportunities

- Needs to meet minimum cricket and AFL standards for the level of competition undertaken here (which it currently does)



Option A
Retain the existing oval location, size and shape.

This option has been rejected for the following reasons:

- The current irregular oval shape means that the distance to the boundary from the cricket wickets is not consistent.

It is noted that the current oval does meet the minimum standards for the level of competition of AFL and cricket played here, so reshaping works are not urgent.



Option B
Retain the existing oval location and size, but making modifications to remove the current 'egg' shape. The proposal shown is to reshape the southern part of the oval, which would require the existing oval lighting to be moved. The oval perimeter fencing would also be upgraded (black powder-coated chain mesh), safety fencing behind goals and spectator seating.

This is the preferred option for the following reasons:

- Reshaping the oval makes the cricket boundary distance equal, and the 'wings' of the oval the same area for football use. (It is noted that the current oval size and shape does meet the minimum standards for the level of competition of AFL and cricket played here).
- Existing oval floodlighting to be upgraded to accommodate reshaping ground and deliver match standard in accordance with Monash Sports Floodlighting Policy 2021 and Night Match Suitability Checklist.



Option C
Increasing the size of the oval (to meet the AFL 'recommended' size). The AFL minimum size (which the current oval easily meets) is also shown for reference.

This option has been rejected for the following reasons:

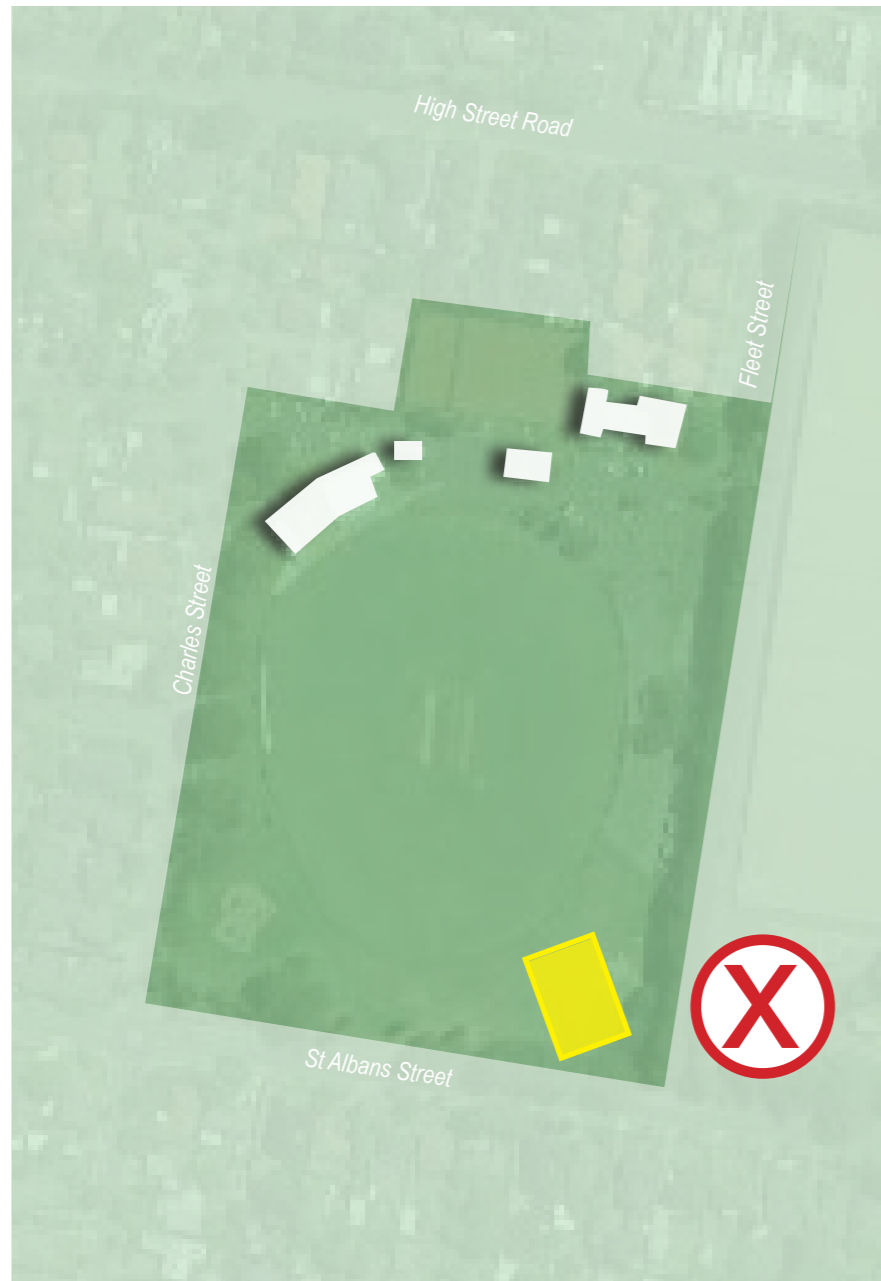
- Increasing the size of the oval provides marginal benefits to oval users, but has a significant impact upon the space available within the reserve for other uses.



CRICKET NET OPTIONS ANALYSIS

Cricket nets - criteria used to develop & assess opportunities

- North-south orientation required (to avoid sun glare issues)
- It is recognised that demand for the nets is high, but the current net provision is the highest allowed at this reserve in accordance with current Council strategy (The *Active Monash Cricket Wicket Policy*, draft 2021, allows for a maximum of 3 synthetic practice wickets and 6 turf practice strips - Mount Waverley currently has 3 synthetic practice wickets and 8 turf practice strips). Additional facilities at other venues may be required to be investigated to meet club demand.
- All options shown have the cricket nets contained within a cage to mitigate safety issues associated with informal recreation use of the reserve. The enclosure length shown is 36m (as recommended by Cricket Australia, Guidance Note 2: Outdoor Training Facilities). It is possible that these safety risks can be addressed by other means (eg. restricting use certain areas while the nets are in use).

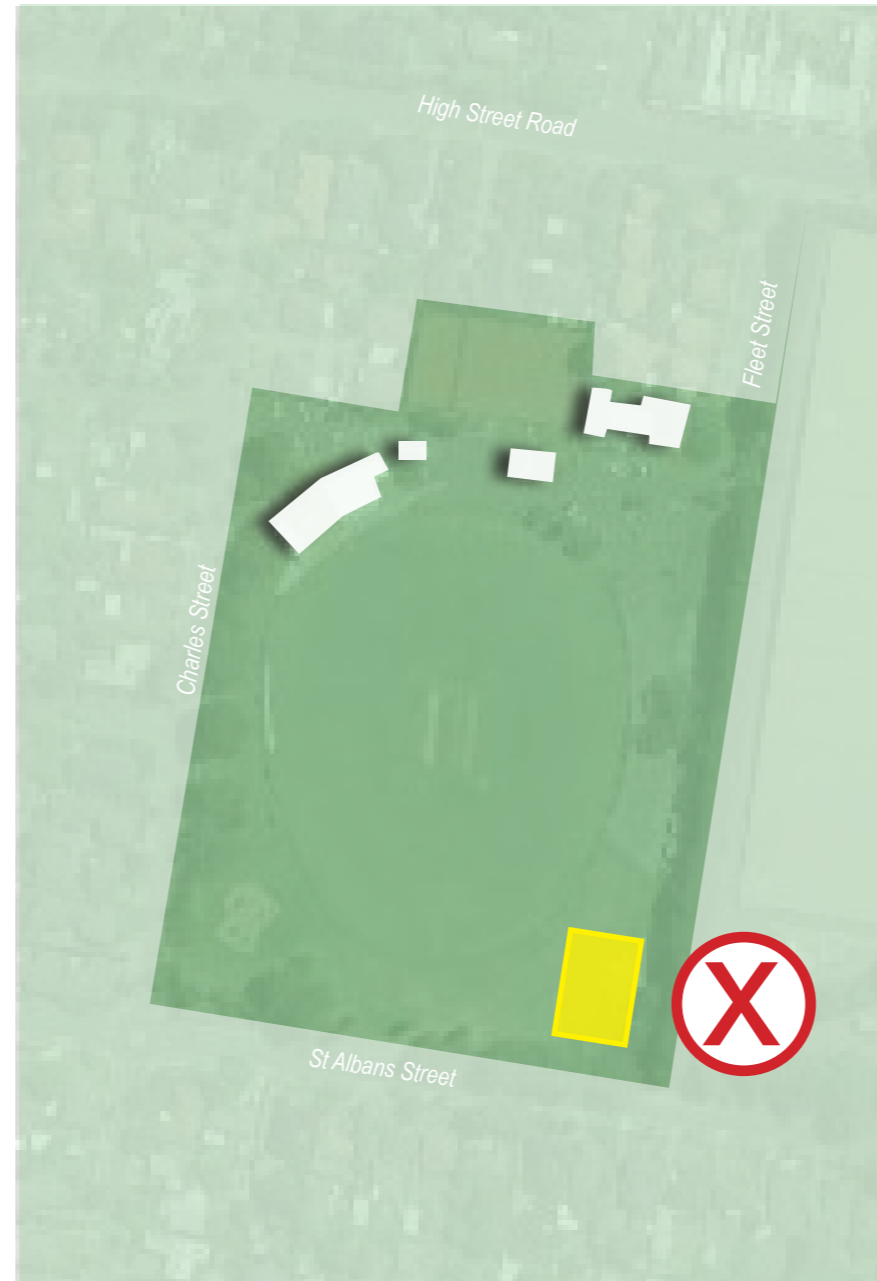


Option A

Retain existing cricket nets in current location and configuration, with option for nets to be fully caged.

This option has been rejected for the following reasons:

- ⊗ Does not resolve existing issues associated with tree impacts (shade and roots) on turf.
- ⊗ The nets are not located close to site amenities and infrastructure (ie. pavilion and parking).



Option B

Realign the cricket nets so that the location is less constrained by the oval, also allowing the nets to be moved further from existing trees.

This option has been rejected for the following reasons:

- ⊗ Requires a complete re-construction of the nets without addressing other issues (ie. proximity to pavilion/parking).



Option C

Construction of new nets at site of current tennis courts. The number/type of nets is to match the current provision (3 synthetic lanes & an 8 lane turf table).

This is the preferred option for the following reasons:

- ✔ It consolidates organised sport facilities to the north of the reserve (creating benefits of proximity), thereby providing significant opportunities to increase the informal recreation use to the south.





PLAY & INFORMAL RECREATION OPTIONS ANALYSIS

Informal recreation opportunities - criteria used to develop & assess opportunities

- Maximising informal recreation opportunities to provide opportunities for a wide cross-section of the community to use the reserve.



Synthetic surface cricket nets to be available for public use (noting that access to turf wickets will need to be controlled).



Opportunity for a community use of this space (potentially with a relationship to the neighbourhood house).



Potential to explore additional or alternative uses for the existing tennis court and hit-up wall. eg. multi-use hard court. The existing facility is at the end of its useful life, and needs upgrading.



Option to provide an accessible pedestrian path network around the site, linking site facilities and providing a circuit path (approx 500m long) for informal recreation. (Existing paths shown as solid lines on the plan and potential paths shown dashed).



Potential for increased informal recreation use of the oval, taking advantage of potential oval upgrades including perimeter fencing, fencing behind the goals and floodlighting.

Potential for the southern part of the reserve to become a large informal recreation space, including:

- garden spaces and walking paths creating a respite from the surrounding urban area.
- shelters, seats, and BBQs, creating opportunities to relax or congregate.
- play and exercise elements, as noted separately below.



Potential to provide an outdoor exercise hub, including within the passive recreation space.



Play space. Opportunity to better integrate play opportunities into the space (the current play space is an island within the reserve, separate from the character and function of the rest of the space). Note that the western reserve boundary in this area is the preferred option for cathodic protection works by Melbourne Water, and the play space should be designed around this zone.



The opportunities and options identified on the previous pages relating to key elements and activities has been translated below into a number of functional design option scenarios. This analysis is of broad-brush functional arrangements, and more detailed resolution of issues such as the shape of the oval are not captured here.

Option A

- Retention of key existing facilities in their current locations, with some minor upgrades.
- Addition of pedestrian paths and a circuit path.



- Doesn't address existing issues (eg. non-compliant tennis courts)
- Limited opportunities for informal recreation

Option B

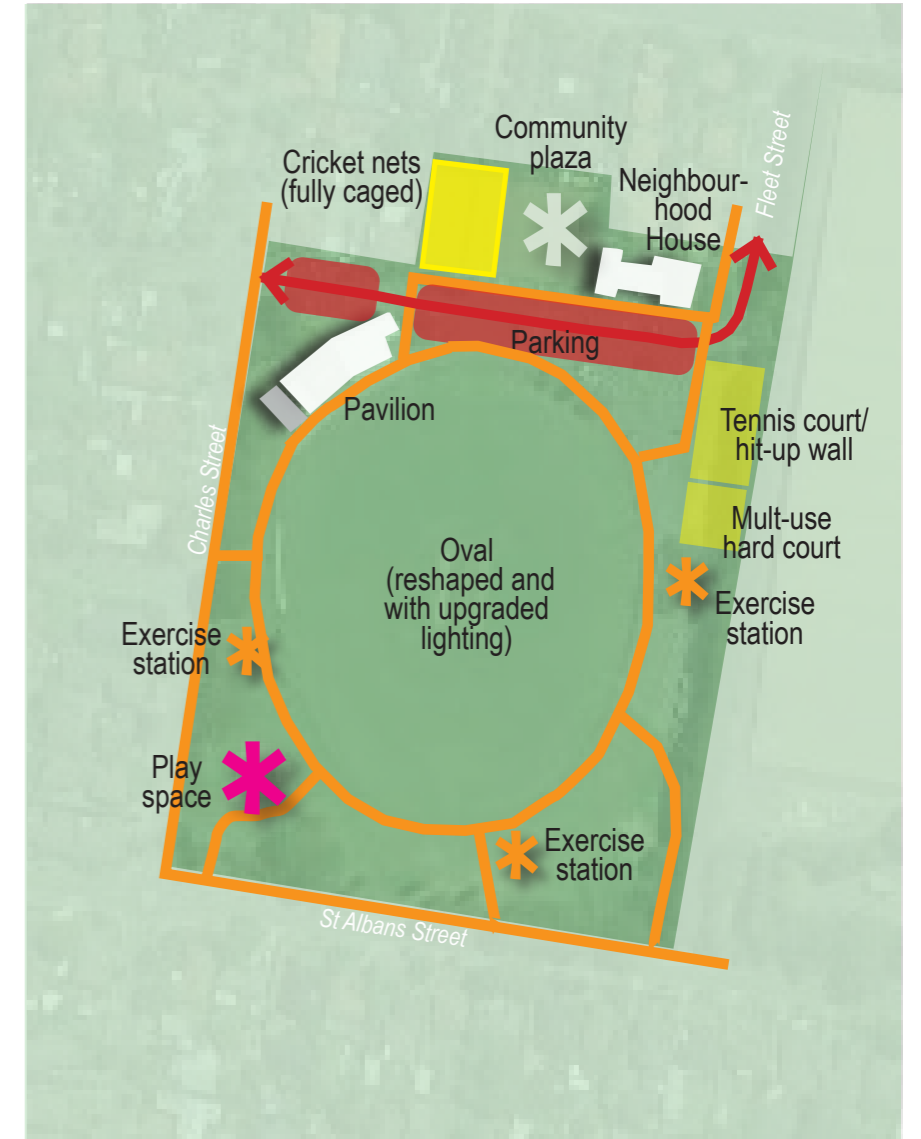
- Tennis club relocation to another reserve. Current tennis site replaced with cricket nets (fully caged) and new community plaza with a relationship to the Neighbourhood House.
- Addition of pedestrian access paths and a circuit path.
- New multi-use hard court and tennis hit up wall.
- Creation of a large informal recreation zone (seats, shelter, planting)
- Creation of a fitness hub with outdoor exercise equipment.
- Reshaped oval and upgraded oval lighting.



- Creation of a range of new activities at the reserve, including multiple activities not related to organised sport.
- Reconfiguration of car parking creates a stronger relationship between the current tennis court site and the rest of the reserve. The arrangement also allows breathing space around the key buildings, providing opportunities for potential future expansion and/or outdoor gathering spaces that support the internal facilities.

Option C

- Tennis club relocation to another reserve. Current tennis site replaced with cricket nets (fully caged) and new community plaza.
- Addition of pedestrian access paths and a circuit path.
- Through access for vehicles created between Fleet & Charles Streets.
- Existing public use tennis court retained, and supplemented with a multi-use hard court.
- Exercise stations spread around circuit path.
- Reshaped oval and upgraded oval lighting.



- Traffic flow through the site may have flow-on traffic impacts (eg. use as a short cut), and reinforces the segmentation of the site.
- The layout of elements on the site allows for less 'breathing space' between different elements than option B, which reduces future flexibility and options.

3.03 FUNCTIONAL DESIGN OPTIONS ANALYSIS

4.0 DESIGN

SCALE

KEY

PROJECT
8-26 CHARLES STREET, MOUNT WAVERLEY 3149

CLIENT
City of Monash

PROJECT #
1495

DATE
07-06-2021

PAGE
69



The option pictured below has been identified as the preferred functional design option for the site.

Assessment against key principles:

Activity & activation

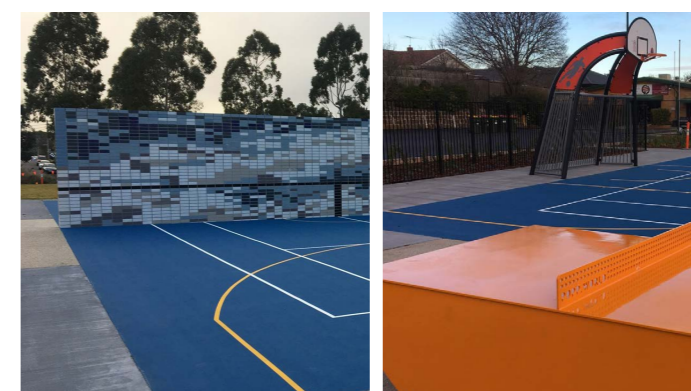
- Tennis activity reduced (by relocation of tennis club)
- Other existing organised sport activity retained
- Informal recreation opportunities significantly enhanced with the addition of a range of elements appealing to a wide range of users, including a circuit path, informal recreation zone, multi-use hard court, fitness hub and community plaza.

Access & equity

- New path network and circuit path improves site accessibility
- New non-sport elements (including the community plaza and circuit path) provides activities for a group of people who are currently not well catered for at the site, improving equity of provision.

Sustainability

- Significant opportunities for increased vegetation along the southern edge of the site as a part of the informal recreation zone.
- This option reduces the amount of hard paving at the site (by consolidating parking areas), increasing site permeability.
- The layout provides extensive opportunities for the integration of sustainability initiatives that are not referenced on this high-level functional design plan (eg. on-site storm water treatment via raingardens).



An upgraded multipurpose space, inspired by the existing tennis hit-up wall and basketball hoop, but with potential for additional activities (image examples: Joyce Park, Glen Eira)



The fitness hub is intended to create a focus for individual exercise, but may also be used by sporting clubs. (Image examples: Turruwul Park Fitness Hub, Sydney)



The informal recreation zone is intended to be a combination of natural areas, as a respite from the built-up urban area surrounding the site, as well as facilities that allow people to engage with this space (including paths, seats and shelter).

4.01 PREFERRED FUNCTIONAL DESIGN OPTION