



MALA STUDIO LANDSCAPE ARCHITECTURE & URBAN DESIGN

MT ATKINSON
HOPKINS ROAD BUSINESS PRECINCT
LANDSCAPE STRATEGY TECHNICAL REPORT

27.05.2021

INTRODUCTION

The newly planned community of Mt Atkinson is a future suburb 23kms from the Melbourne CBD. It is projected to have over 20 thousand residents by 2030, 35% protected natural and enhanced green zones, as well as schooling, shopping and employment opportunities unprecedented in the region.

Prior to the preparation of the Hopkins Road Business Precinct UDF this landscape technical report has been prepared in order to identify issues, opportunities and other matters required to be addressed including landscape architectural and place making opportunities and challenges.

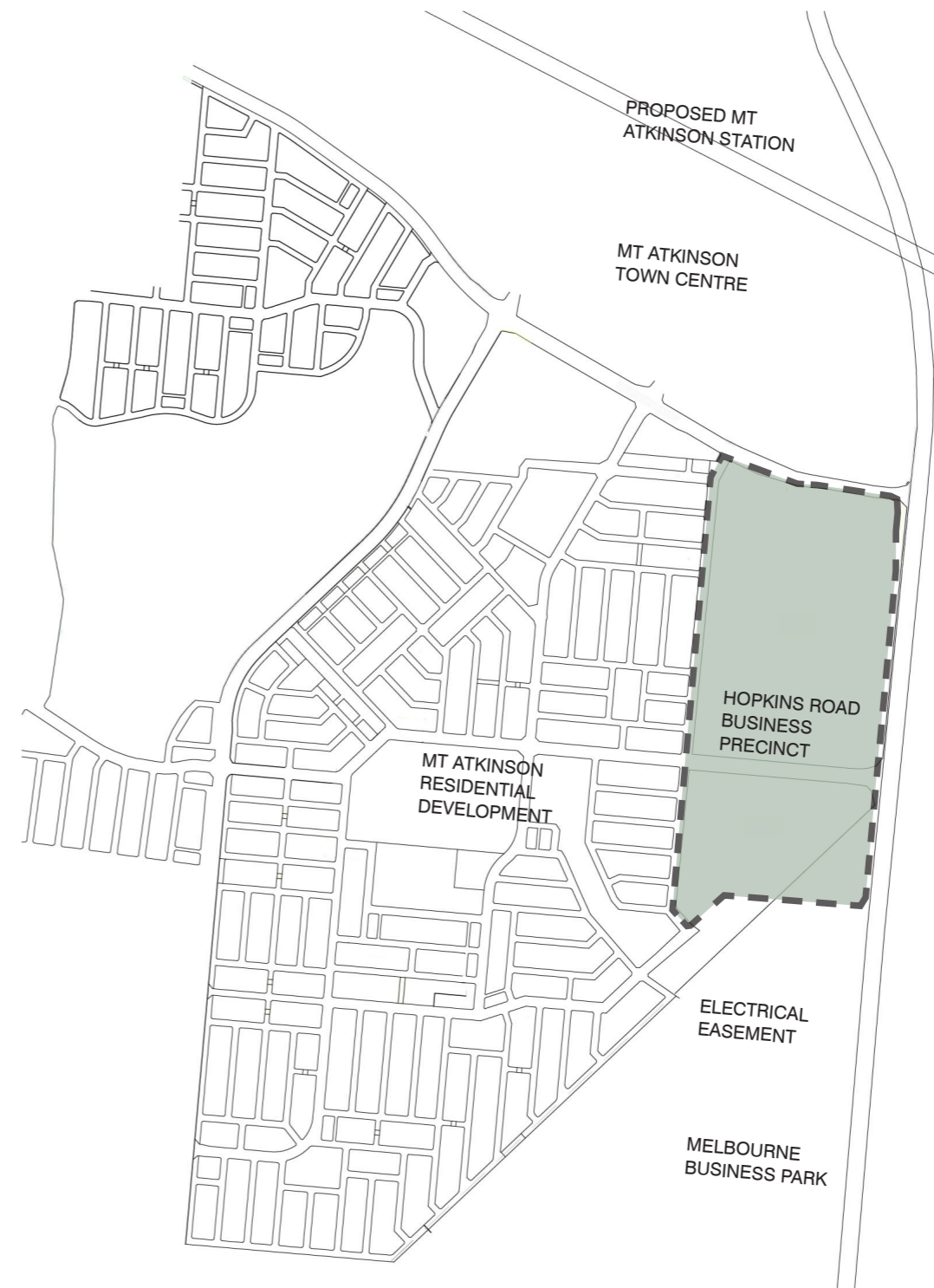
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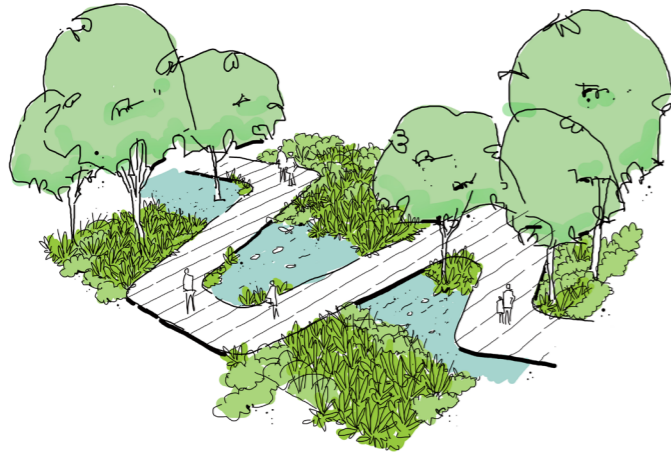
Landscape CONTEXT & VISION

Hopkins Road Business Precinct (HRBP) will provide a convenient, potential offering of large format retail, community services, hospitality and commercial tenancies, stitched together by a functional, green streets and sustainable landscape systems.

HRBP forms part of major entry into Mt Atkinson, and an eastern boundary to residential development. The Hopkins road interface is affected by quarry blast zones, while the southern side is flanked by electrical easement. The Melbourne Business Park sits on the southern boundary of the easement. The landscape will need to turn these constraints into opportunities, and look to softening interfaces between transport, business and residential zones to create a considered sense of place.



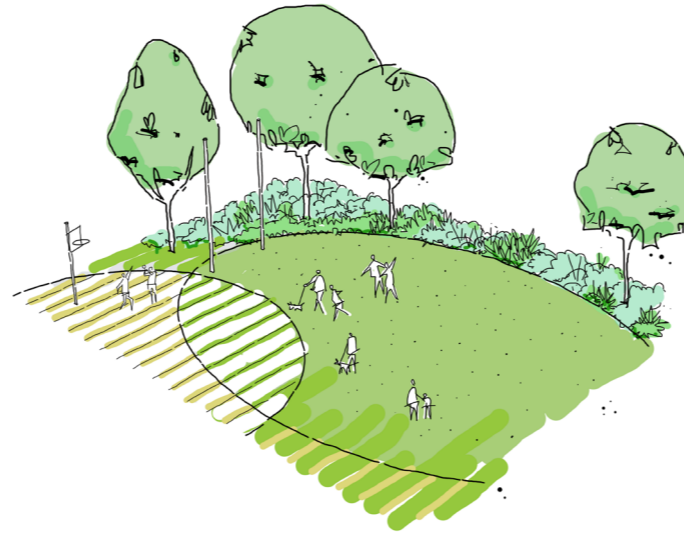
KEY LANDSCAPE OBJECTIVES



SUSTAINABLE CITY

Integrate leading engineering, architecture and systems design into landscapes that perform environmentally.

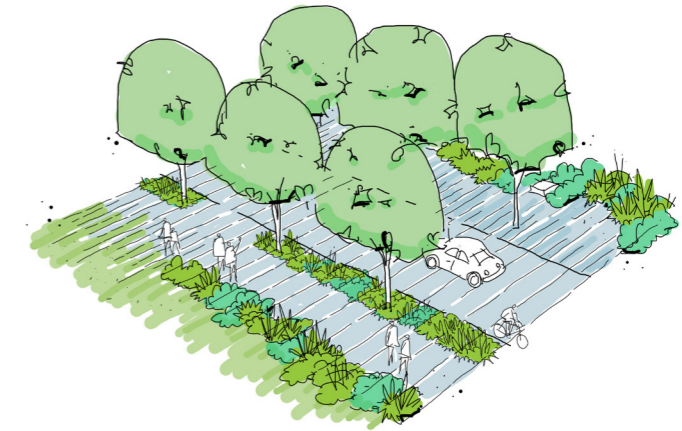
- Best-practice WSUD integrated into pedestrian connections, streetscapes and car parking areas
- Natural shade and green infrastructure strategy reducing heat island effect over buildings, streets and car parks
- Water capture off roof and car parks
- Maintain and increase biodiversity of grassy woodlands typology to easements and buffer zones, making use of often-neglected landscapes
- Design the Precinct to reduce the number of car parks needed creating opportunities for more planting beds and WSUD within car park areas
- Mitigating the urban heat island effect by creating a consistent shade cast through tree planting
- Reduce conflicts between tree locations and their growth with underground services, car parks and other infrastructure
- Increase tree and planting diversity
- Reducing storm water run-off
- Supporting sustainable transport including to the train station
- Increasing usable soil root volumes to maximise tree growth.



PEOPLE AND PLACE

Combine human-scale gestures with the unique qualities of the local landscape. Create a sense of place that inspires, surprises and nurtures.

- Create gateway entrance and site perimeter that respects and celebrates unique aspects of Western Plains grasslands, native trees and geological history
- Create green links between the Town Centre to the north and Skeleton Creek to the south
- Landscape opportunities designed to the anticipated user patterns of the vicinity
- Create sensitive built form and landscape interfaces that reduce the impact of large format retail on the predominately flat landscape
- Buffer residential areas with generous streetscape planting and trees to minimise visual impact of commercial and large format retail built form
- Recapitulate as per the PSP a street network that identifies direct connectivity within, to and from the commercial area, including measures to slow down speed.



FURTHER-THAN-FUNCTION

Consider each necessary element and an opportunity for best-practice, beautiful landscape design.

- Integrated Water Sensitive Urban Design into streets and car parks
- Extensive natural shade and green screening to all functional landscapes
- Designed approach to necessary infrastructure including surrounding major roads
- Integrated approach to architecture, engineering and landscape ensuring each typology is designed with the others in mind, including orientation, form and functional requirements
- Consider maintenance requirements at the design phase and installing hardy, durable set up to thrive and survive
- Consider CPTED and Passive Surveillance to support the function of spaces.

EXISTING LANDSCAPE CHARACTER



VOLCANIC GEOLOGY

Shallow topsoil, rocky geology and gentle undulations will be major technical considerations

“The eruption cone of Mt. Atkinson comprises the major landscape feature of the region, with slopes and basaltic eruptions form a wide undulating plain dotted with small to medium-sized stony rises characteristic of the Victorian Volcanic Plains bio-region and geomorphological units.”

Geology: Tholeiitic to alkaline basalts, minor scoria and ash, fertile cracking soils

Geomorphology: Stony rises, gentle slopes, basaltic floaters, occasional water-logging.

Landscape Recommendations:

1. A collaboration between landscape and engineering entities to achieve equitable outcomes that support the success of a green landscape
2. Utilise site topography to inform urban design, making use of ridge lines and depressions as key design drivers
3. Incorporate geology into landscape materiality, making use of site rock in a contemporary manner
4. Create support for plant growth, the need for structural soil, and drainage.



VEGETATION

Low-lying, largely treeless grassland and pockets of grassy wetland

“Within the current study area at the time of European settlement, the vegetation would have been predominantly representative of EVC 132_61: Heavier-soils Plains Grassland. This vegetation class consisted of low-lying treeless plants such as graminoids and herbs.”

Endemic vegetation typologies: Grasses, herbs, intermittent eucalyptus.

Vegetation character: Golden, windswept, subtle.

Landscape Recommendations:

1. Look to endemic vegetation history to inspire narrative
2. Utilise green technology and architectural micro-climates toward social centers, allowing for lush planting to reduce climatic conditions
3. A collaboration of disciplines to create passive irrigation arrangements, support sustainability and harness water to promote plant growth.



CLIMATE

Hot summers, cold winters and strong winds influence the open conditions of the Western Plains

“The climate of Truganina is characterised by warm summers and cool winters; with annual average rainfalls of 539.9 mm (BOM 2014).”

Summers: average maximum of 25.7°C and minimum of 14°C. Exposure to strong northerly and southerly winds.

Winters: Average maximum 13.7°C and minimum 5°C.

Exposure to strong northerly winds.

Landscape Recommendations:

1. Use architecture and vegetation to buffer strong prevailing northerly and southerly winds
2. Create network of pedestrian naturally shaded links
3. Coordinate architectural and landscape form to allow light through in winter and shade for summer
4. Utilise passive irrigation to support planting in low rainfall environment of Melton
5. Western facades require hardy and durable treatments
6. Design for low surface temperatures to reduce pressure on planting.

ABORIGINAL CULTURAL HERITAGE



CULTURAL HERITAGE

Mt Atkinson holds various archaeological records of Aboriginal occupation and use for at least 10,000 years.

“The study area is located approximately 1 km south of Kororoit Creek. Both Skeleton and Kororoit Creeks would have been an important part of the regional landscape for Aboriginal people. These permanent sources of water would have provided numerous food resources, materials and a constant supply of fresh water. Previous archaeological studies clearly identify high concentrations of Aboriginal archaeological sites within 200 metres of both Skeleton and Kororoit Creek and associated swamps”

Mt Atkinson Precinct Structure Plan (PSP1082), Victoria: Aboriginal Heritage Impact Assessment, October 2015

There is generally a relationship to the number of artefacts recorded at a place and its proximity to a waterway. Fitting with this scenario, many places that are further away from established waterways contain fewer artefacts, and there are often one or two surface artefacts located on an exposure lacking vegetation.

Only minor, ephemeral drainage channels are located in the Activity Area, such as the headwaters of Skeleton Creek. Therefore, there are unlikely to be higher frequencies of artefacts associated with waterways in the Activity Area.

Cultural Heritage Management Plan 13712, August 2017

Specific cultural heritage management requirements are listed for each Aboriginal Place within the CHMP.

There are four heritage component areas that cross over the Hopkins Road Business Park. These are:

- Component 4, Mt Atkinson raised volcanic plateau AS 1 component (VAHR 7822-4109-8) page 240 of the CHMP
- Component 6, Mt Atkinson stony rise AS 1 component (VAHR 7822-4109-4) page 241 of the CHMP
- Component 8, Mt Atkinson cone AS 1 component (VAHR 7822-4109-2) page 243 of the CHMP
- Component 10, Cultural heritage material (page 244 of the CHMP).

Each component area sets out a number of specific conditions that must be considered and followed prior to the commencement of works within each area.

For the full outline of each condition, relevant to the Landscape Strategy refer to the listed pages in the CHMP.

There are also two conditions that are relevant across the whole Business Park. These are:

- Component 11, Heritage Induction (page 245 of the CHMP)
- Component 12, Cultural Management Plan (page 245 of the CHMP).

Landscape Recommendations:

1. Be aware of artefact scatters and consult closely with traditional owners (Boon Wurrung, Bunurong, Wurundjeri)
2. Undertake all landscape works in accordance to the Conditions set out in the CHMP as summarized in Table 133 of page 136 of the report
3. Recognise the ongoing custodianship of land and engage in meaningful engagement with traditional owners leading authentic and integrated landscape gestures
4. Explore meaningfully connections to the Skeleton Creek corridor and its indigenous history.

Aboriginal Places within the Activity Area Cultural Heritage Management Plan 13712

Biosis, 29th August 2017, page 212

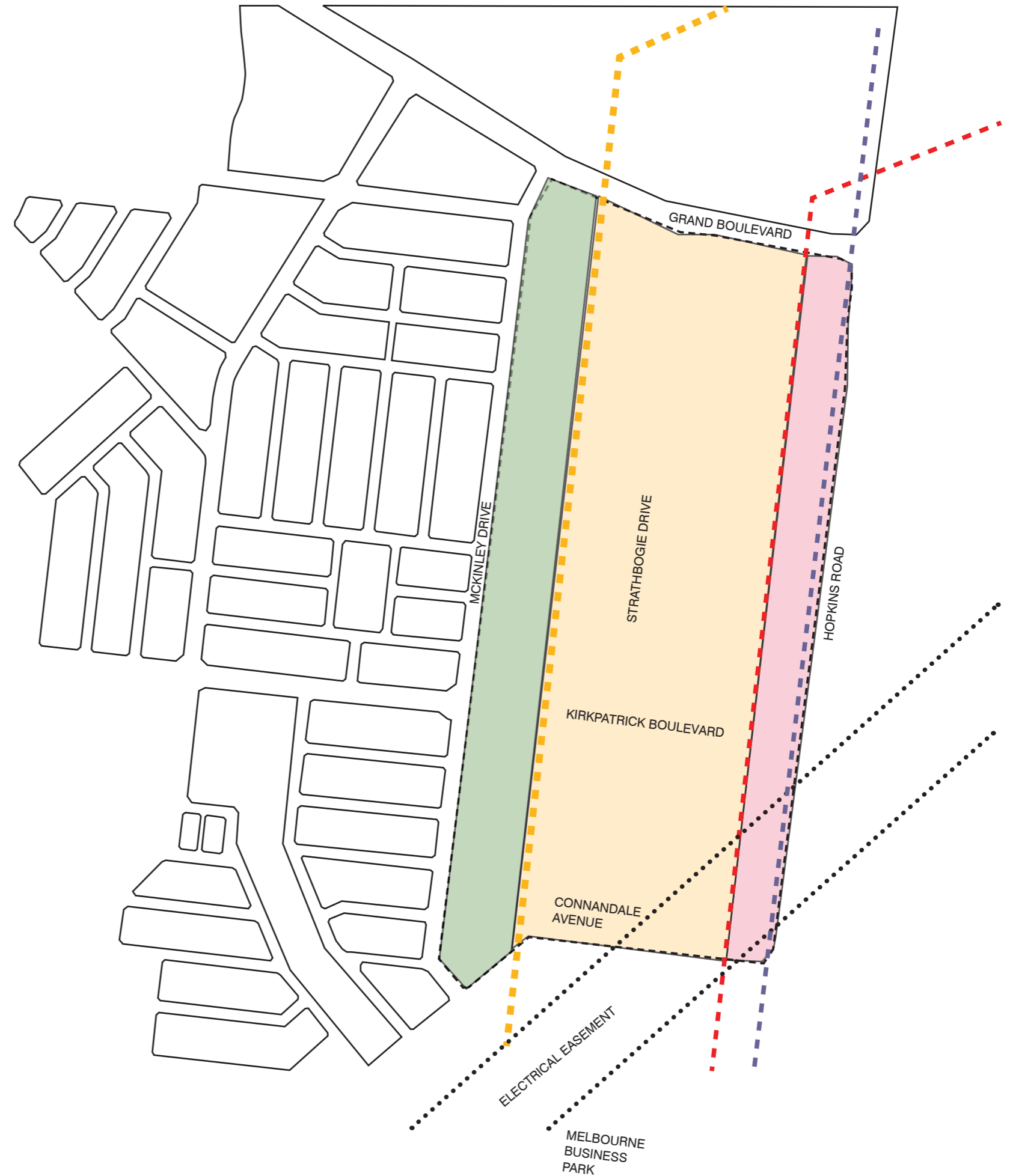


Landscape CONSTRAINTS

Development of the Hopkins Road Business Precinct is limited by constraints relating to the Quarry Blast Buffer and Quarry Sensitive Use Buffer, High Pressure Gas Transmission Pipeline Measurement Length (Gas Easement) and Electrical Easement.

As such, the landscape is predominately reactive to the logistics of approved uses, tree planting limitations and overland flow requirements.

These constraints however, hold opportunity for a landscape that is integrated with civil engineering. WSUD integration into streetscapes and drainage lines will ultimately uplift the capacity for tree planting in a landscape that has been traditionally free of trees and these trees will play an important role in screening the visual volumes of large format retail and commercial buildings to provide a business precinct that marries in with the quality of nearby residential areas as much as possible.



- QUARRY BLAST BUFFER - - - - -
- QUARRY SENSITIVE USE BUFFER - - - - -
- RESIDENTIAL INTERFACE / UNCONSTRAINED LAND
- GAS EASEMENT - - - - -
- ELECTRICAL EASEMENT



KEY LANDSCAPE OPPORTUNITIES

Treating the edges of the HRBP will be the key move to reducing the visual impact of commercial premises on nearby residential areas, as well as creating a sense of place for the whole development from the Hopkins Road entries. Utilising the gentle topography and WSUD will provide green connections through the precinct connecting to the Town Centre and Skeleton Creek. Public open space will provide respite for commercial tenants and visitors on a suitable scale.

KEY LANDSCAPE OPPORTUNITIES



GREEN STREETSCAPES
Ensure passive irrigation to all trees encouraging tree growth and maximum shade coverage. Provide strong pedestrian links to Town Centre and Skeleton Creek



SUSTAINABLE TRANSPORT LINKS
Facilitate strong pedestrian, cycle and public transport links connecting to Mt Atkinson Town Centre, Skeleton Creek Parklands and residential areas



RECREATIONAL LINKS
Utilise Electrical Easement perimeter and Hopkins Road frontage as opportunity for recreational link through to Skeleton Creek Parklands and Town Centre



HOPKINS ROAD FRONTAGE
Create sense of place with Western Plains grassland inspired frontage and key entrance landscaping



TOWN CENTRE INTERFACE
Ensure landscaping leverages Grand Boulevard schematic, providing a consistent sense of identity and generosity of landscaping



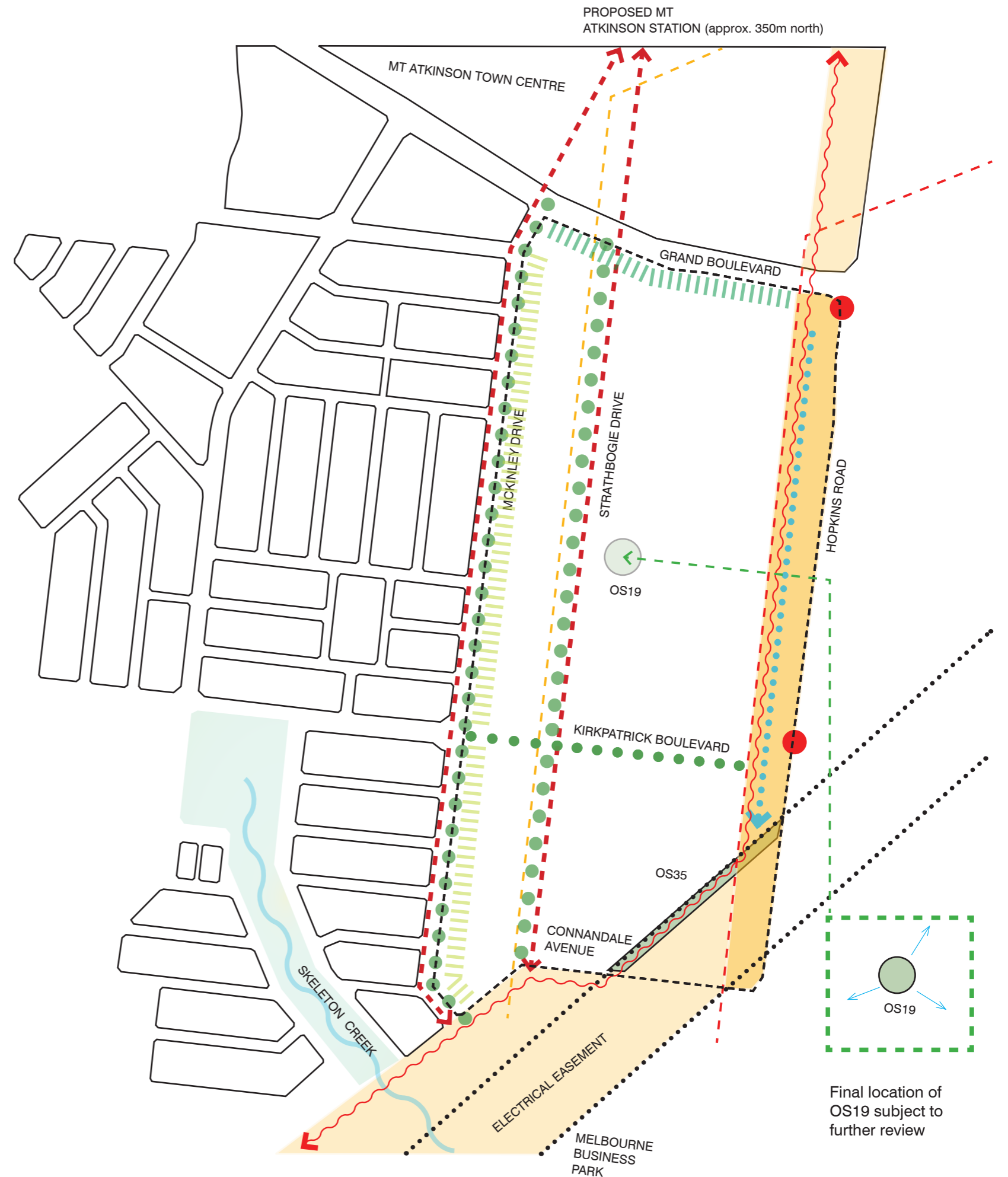
RESIDENTIAL INTERFACE
Provide high quality streetscapes supported by passive irrigation to provide strong visual buffers and pedestrian-focused aesthetic



OVERLAND FLOW PATH
Investigate overland flow paths as opportunity to support endemic planting in suitable locations

GREEN CAR PARKS AND SERVICE AREAS (Throughout)

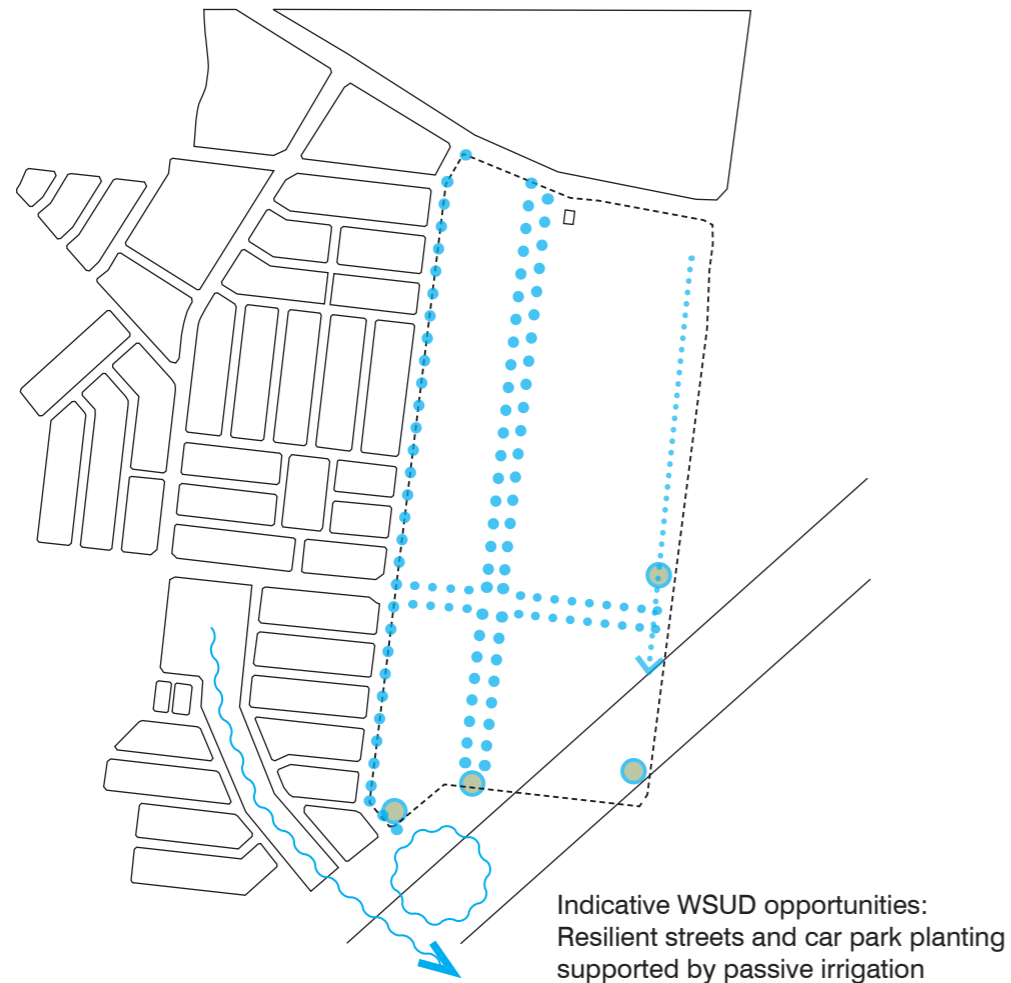
Ensure car parks maximise natural shade cover through adequate tree density, supporting passive irrigation and surrounding hardy planting to reduce surface temperatures



WSUD OPPORTUNITIES

The landscape of Mt Atkinson is gently undulating with shallow, rocky soil profile, leading to slow to moderate water runoff into wetter depressions and eventually Skeleton Creek. The introduction of large expanses of hardscape will dramatically effect the absorption of the landscape, and create faster run-off. The integration of vegetated islands and swales will create a range of new landscape opportunities whilst maintaining the quality of water entering Skeleton Creek.

- Provide passive irrigation to all street trees as per City of Melton Guidelines
- Introduce permeable paving where feasible
- Raingardens should be 'end of line' catchments, be located within the public realm and at key locations should support small public landscape moments
- Coordinate design of car parks to ensure maximum planting cover through passive irrigation schemes
- Harness overland flow path along Hopkins Road frontage as potential to support landscaping to low lying areas to create a lush buffer to the road and a naturalistic perimeter to site.



Passive irrigation to all street trees



Passive irrigation to car parks



Public landscape nodes supported by passive irrigation



Planted swales and public moments



WSUD Public Space Integration



Harness overland flow path to create naturalistic edges

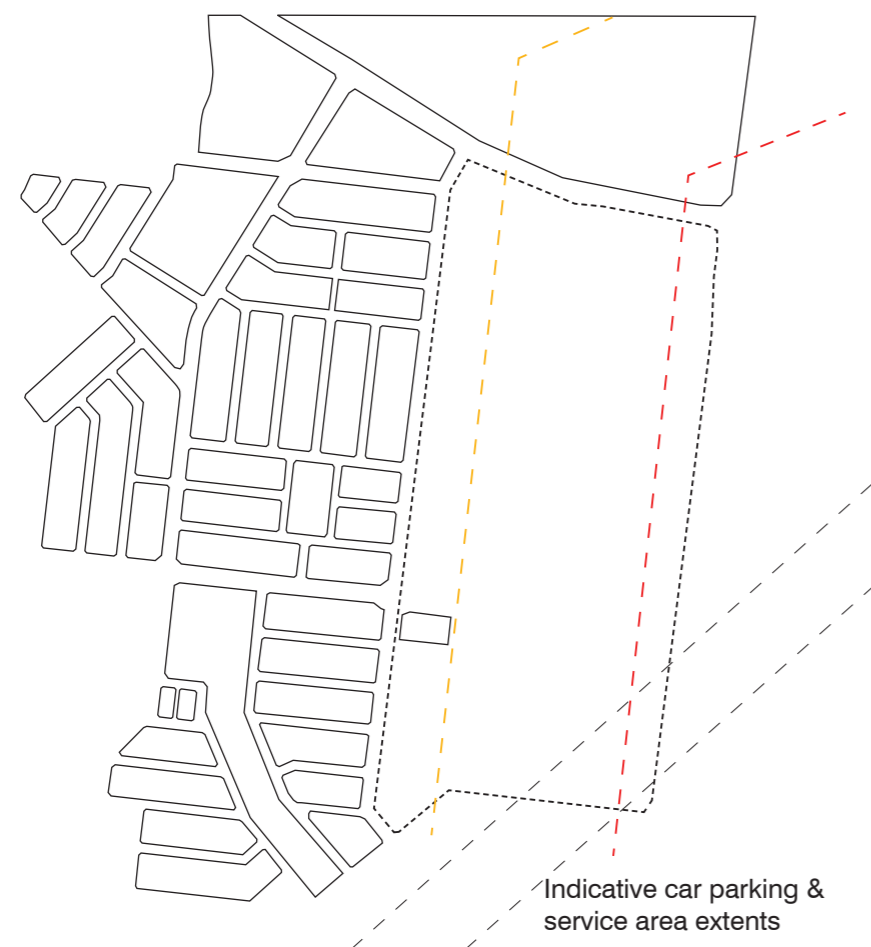
LANDSCAPE ZONES: CAR PARK & SERVICE AREAS

INDICATIVE LANDSCAPE OPPORTUNITIES

Hopkins Road Business Precinct serves a wider regional audience, arriving largely by car to choose and transport goods. As such, the major landscape opportunity within the vehicular zone within HRBP should provide best practice planning of car parking, green infrastructure and potential incorporation of water sensitive urban design within generous green buffers to these sites. There is also opportunity to announce Mt Atkinson with quality landscape treatment at the entry on the north eastern-most extent of the car park at the entrance into Grand Boulevard from Hopkins Road.

Design Considerations and Opportunities:

- Allocate trees and green space where possible within car parking requirements
- Investigate opportunities for permeable surfaces and water harvesting to streetscapes and car parks
- Break visual masses of large architecture form with strategic planting of tall trees
- Bridge landscape treatments across both sides of connecting streets to ensure that Hopkins Road Business Precinct should not appear as an outpost to the greater Town Centre
- Provide visual connectivity to adjoining green spaces and local amenities including play areas, pedestrian links to civic core and periphery recreation landscapes to better integrate retail operations within the life of the community.



CITY OF MELTON CAR PARKING GUIDELINES (Version 1.0 February 2015)

Landscaping ambitions:

- To have well integrated hard and soft landscape treatments provided consistently throughout the car park
- To have landscaping considered at the inception of the car park design to ensure it is accommodated appropriately to perform its purpose
- To have sufficient space allocated to landscaping to ensure it does not impede on pedestrian and vehicle requirements, safety or other entities.

Guidelines:

Landscaping should be an integral part of the car parking area and consider the following:

- Design of landscaping should be integrated with pedestrian, car parking and all other items pertaining to the function of the car park
- Elements including but not limited to vehicle overhang, ability to access car doors, access to pedestrian paths, provision of lighting and signage should not impact upon landscaping or give cause to reduce landscaping
- Landscaping should not obstruct pedestrian or vehicle view lines
- Soft landscaping (ground covers and trees) should be provided along pedestrian priority pathways, throughout the car park and areas where screening is considered required
- Trees should be provided with sufficient space to promote healthy growth and protection
- Soft landscaping should be provided with passive irrigation and adequate drainage
- A minimum 15% of the car parking area should be landscaped
- A target of 35% shaded area should be provided by trees
- Tree species should have a clear singular trunk form
- Ground covers should be hardy and grow to a mature maximum height of 500mm, except where vehicle overhang occurs. In this case appropriate ground cover needs to be used
- Garden beds without trees should be a minimum of 400mm in width
- Shrubs are generally not accepted and should only be used where considered appropriate, i.e. screening walls or fences
- Landscape designs for off-street car parking should take into account Council's Landscape Guidelines including recommended species.

NOTE: Current City of Melton car parking guidelines are to be referred to for the latest standards and expectations.



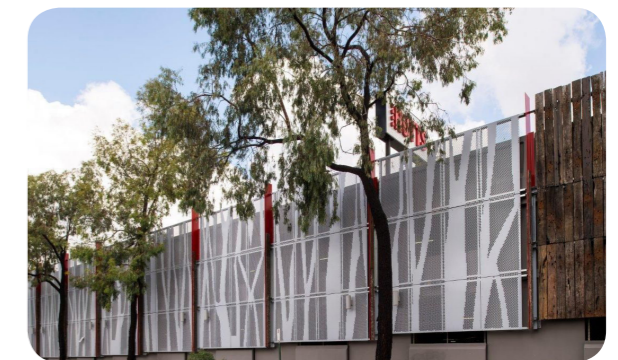
Natural Canopy



Pedestrian experience and safety



WSUD integration



Screening of building mass

LANDSCAPE ZONES: STREETSCAPES

INDICATIVE LANDSCAPE APPROACH

As a major part of the Hopkins Road Business Precinct, streetscapes will play an important role in defining the identity of Mt Atkinson. Many factors will inform tree selection and street ground plane conditions, including built form, WSUD opportunities, traffic planning and parking. It is envisaged that major streets will connect to the greater area but transition their planting arrangements from residential areas into the business precinct in response to adjacent built form.

Technical Considerations and Opportunities:

- Refer to City Melton Landscape Guidelines for appropriate selection of soils and tree species and seek guidance from the City of Melton to understand context and local conditions
- Link to existing major residential streets structurally, but consider shifts in conditions and aesthetics
- Investigate Water Sensitive Urban Design principles to bolster tree and plant growth
- Provide for cycleways using recent case studies nationally and internationally to determine the safest on-road and off-road situation not just for cyclists, but cars and pedestrians
- Consider summer shading and winter sunlight to footpaths and utilise tree lines to buffer prevailing winds
- Consider street tree density in order to reduce urban heat in summer and to allow adequate solar access for streetscapes and private open spaces in the winter
- Establish precinct characters through species variation
- Future plan for long term sustainability of tree species in changing climatic conditions. Monitor tree performance through early years of establishment and determine best adaptability and necessary changes and maintenance.



Hopkins Road - Eastern Perimeter
Endemic, iconic



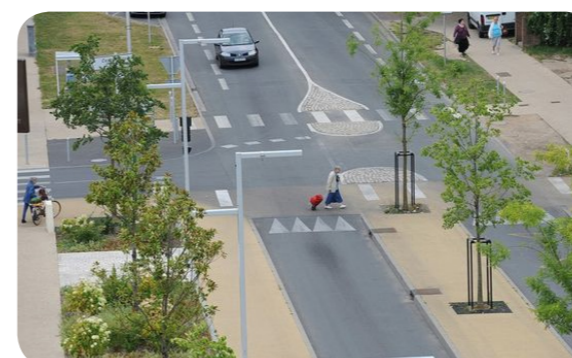
Kirkpatrick Boulevard - East/West Link
Connection to community



Grand Boulevard - Northern Perimeter
Civic, welcoming



McKinley Drive - Western Perimeter
Integrated residential buffer



Strathbogie Drive - North/South Link
Practical green link



Connandale Avenue
Interface with endemic easement

LANDSCAPE ZONES: PUBLIC OPEN SPACE

INDICATIVE LANDSCAPE OPPORTUNITIES

OS19 is identified in the PSP. Its location and form will be refined through the UDF.

Technical Considerations OS19

- Design to best maintain verdant landscape in harsh climate
- Provide deep soil for large trees
- Design for 70% natural shade cover
- Provide picnic infrastructure (tables, BBQs, shelter/s)
- Provide Drinking fountain
- Design quality seating in strategic locations
- Investigate passive irrigation within reserve
- Provide connection to off-road bike paths and bike racks.

OS35 is a linear open space identified in the PSP. Its location and form will be refined through the UDF.

Technical Considerations OS19

- Provide bicycle and pedestrian connections
- Mediate edge of electrical easement with HRBP southern boundary
- Accommodate vehicle and path crossovers
- Design to best maintain verdant landscape in harsh climate
- Provide deep soil for large trees
- Provide Drinking fountain
- Design quality seating in strategic locations
- Investigate passive irrigation within reserve
- Provide connection to off-road bike paths and bike racks.

Indicative Park Opportunities



Lawns



Simple geometry and amenity



Active



WSUD Integration



Strong forms, dappled light



Commercial edges, social activity

KEY REFERENCE DOCUMENTS

BACKGROUND INFORMATION

The following documents have been reviewed and summarised in order to prepare the Landscape Strategy.

The documents pertain to important information about existing site condition, heritage, as well as existing and ongoing strategies and policies being developed by Melton City Council and other consultants alike for Mt Atkinson precinct.

The Mt Atkinson and Tarneit Plains Precinct Structure Plan (Jun 2017)

Stockland Landscape Strategy

Rockbank Major Town Centre Urban Design Framework Draft (Aug 2018)

200211_UDF Workshop 5 (Feb 2020)

Mt Atkinson Precinct Structure Plan (PSP1082), Victoria: Aboriginal Heritage Impact Assessment (Oct 2015)

Melton Landscape Guidelines (2010)

City of Melton 'Off Street and Car Parking Guidelines'

City of Melton 'Industrial Guidelines'

'Start with the grasslands' <https://vnpa.org.au/wp-content/uploads/2017/02/Start-with-the-Grasslands.pdf>

Cultural Heritage Management Plan 13712, Residential and Industrial Subdivision, Greigs Road, Mt Atkinson Road, Middle Road, Hopkins Road, Truganina, Victoria, Biosis, Final version 03, 29/08/2017

