Attachment 1: 52 Golf Road (1 Beryl Avenue), Oakleigh South

52 Golf Road, Oakleigh South

DEVELOPMENT PLAN - VOLUME 1

MAY 2019 - REVISION 2

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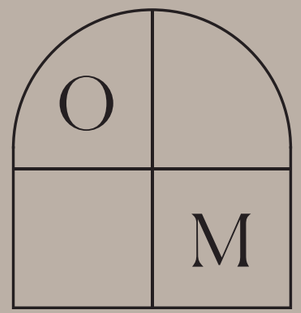

OAKMONT

OAKLEIGH SOUTH

Contents.

Introduction.

‘The Development Plan will facilitate the creation of a high quality, dynamic and sustainable residential community that will seamlessly integrate with and complement the existing urban environment of Oakleigh South.’

1 INTRODUCTION

1.1 OVERVIEW

This Development Plan applies to the former Oakleigh South Primary School at 52 Golf Road, Oakleigh South.

It is noted that 1 Beryl Avenue, Oakleigh South was the former address of the Site and it is now identified as 52 Golf Road, Oakleigh South.

The Development Plan has been prepared on behalf of Golf Road Project Development Pty Ltd to provide a land use and development framework for the redevelopment of the Site in accordance with Schedule 5 to the Development Plan Overlay and other relevant policies and provisions of the Monash Planning Scheme.

Specifically, this Development Plan seeks to:

- Provide for the use, development and subdivision of the former Oakleigh South Primary School that is responsive to its unique characteristics and its surrounds.
- Provide opportunities for a range of medium density housing typologies and open spaces. Specifically, the provision of 7 townhouse typologies ranging from 2 to 4 bedrooms, catering for a wide variety of housing needs.
- Apply best practice Environmentally Sustainable Development initiatives in all aspects of the Site's design and development.
- Provide for a high quality of internal amenity for future residents.
- Create a composition of varied building forms and heights across the Site.
- Respect the amenity of adjoining sensitive interfaces including existing properties to the north, east, south and west, and the Metropolitan Golf Course through appropriate buffer treatments and respectful building envelopes.
- Encourage high quality architectural, urban design and landscape outcomes that are responsive to the Site's features and characteristics, as well as the wider Oakleigh South area.
- Promote permeability in the layout of buildings, open spaces and the design of the vehicle and pedestrian access network.
- Incorporate significant vegetation into the design of the development where possible.

The land represents a significant opportunity for infill residential development and this Development Plan will facilitate the coordinated redevelopment of the land to enable appropriate development to occur. The proposed development promotes varied, engaging and high architectural quality building forms, a balance of two and three storey townhouses and a pedestrian and cyclist focused environment.

1.2 DEVELOPMENT PLAN STRUCTURE

The Development Plan implements the objectives and requirements of Schedule 5 to the Development Plan Overlay and it is structured as follows:

- Planning Context - **Section 2**
- Site and Urban Context Analysis - **Section 3**
- The Development Plan - **Section 4**
- Landscape Design Report - **Section 5**
- Traffic Management - **Section 6**
- Ecological sustainable development. - **Section 7**
- Stormwater Management Plan - **Section 8**
- Waste Management - **Section 9**
- Site and Environmental Considerations - **Section 10**
- Conclusion - **Section 11**

1.3 DEVELOPMENT PLAN CONTENT

This Development Plan comprises two volumes being:

- Volume 1 - Development Plan.
- Volume 2 - Supporting Specialist reports.

The specialist reports contained within Volume 2 have been prepared to respond to the requirements of Section 3 of Schedule 5 to the Development Plan Overlay.

In particular, the specialist reports address the following planning matters:

- Architectural Submission.
- Traffic management.
- Contamination assessment.
- Landscape Design Response.
- Sustainable Management Plan.
- Physical services and infrastructure.
- Stormwater Management Plan.
- Waste Management Plan.
- Arboricultural Report.
- Site Development Management Plan.

Where relevant, extracts of these reports (usually the executive summary and key findings) are included in the text of this document.

Volume 2 should be read in conjunction with this document.

1.4 PROJECT TEAM

The following consultants were involved in the preparation of Volume 1 and Volume 2 of the Development Plan:

- Tract Consultants
- Plus Architecture
- TraffixGroup
- Sustainability House
- FMG Engineering
- Landscape DEPT
- Prensa

Planning framework.

2 PLANNING FRAMEWORK

2.1 AMENDMENT GC5 TO THE MONASH PLANNING SCHEME

Amendment GC5 (**Amendment**) was prepared by the Minister for Planning at the request of the Department of Education and Early Childhood Development.

The Amendment was approved on 18 February 2014 and it rezoned a number of surplus school sites to enable their sale and redevelopment for residential use.

The Amendment changed the Monash Planning Scheme by:

- Rezoning the Site from Public Use Zone to the General Residential Zone (**GRZ**).
- Applying Schedule 5 to the Development Plan Overlay (**DPO5**) over the Land.

Refer to Figures 1 and 2.

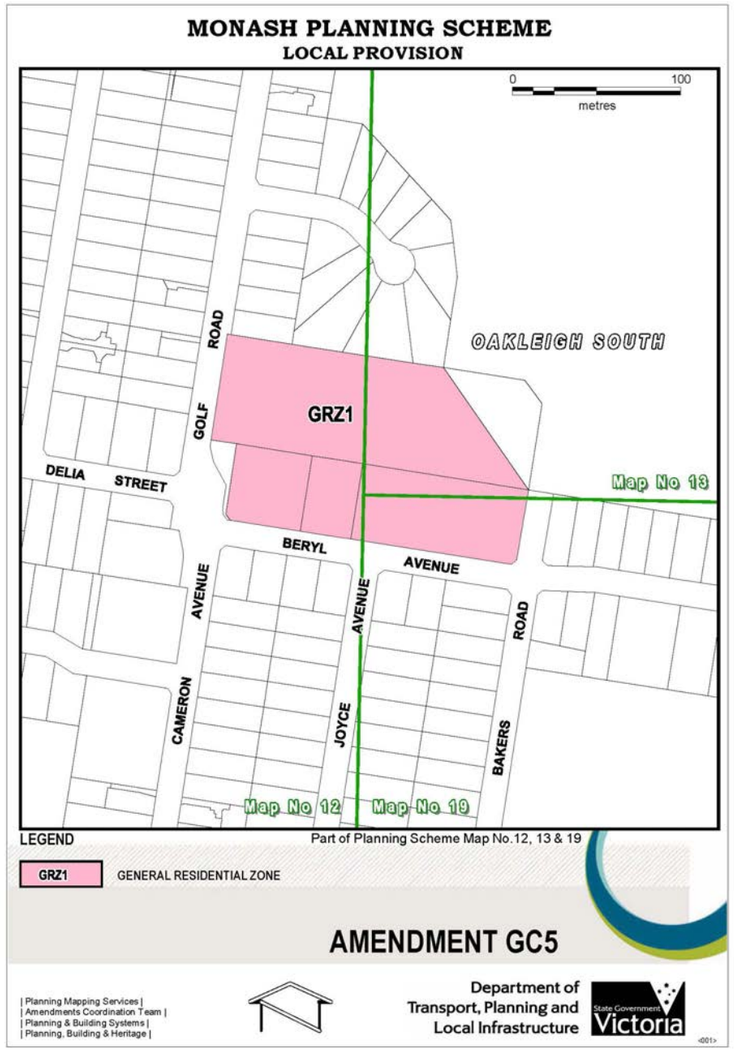

Figure 1. Amendment GC5 Zoning Plan

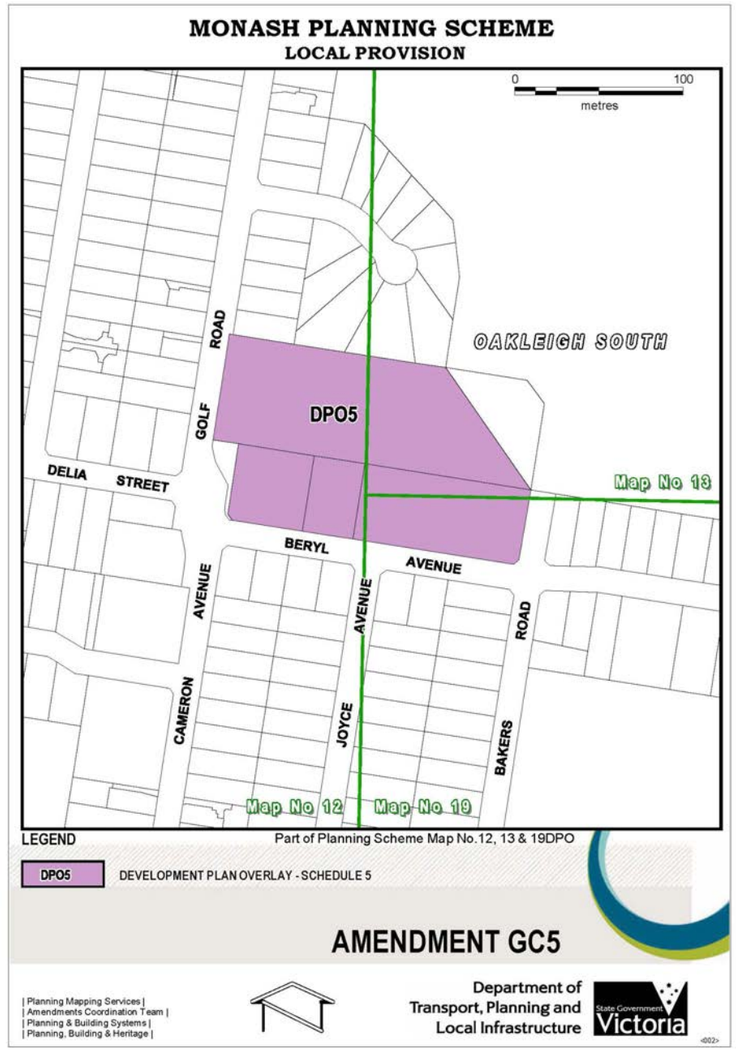

Figure 2. Amendment GC5 Overlay Plan

2.2 KEY PLANNING POLICY

The Development Plan has been prepared in accordance with the various policy provisions outlined in the Monash Planning Scheme, including Plan Melbourne and the PPF. The Development Plan has also had regard to the intent of both the land use zoning that affects the Site and relevant particular provisions.

More particularly, it is noted that the Development Plan is supported by:

- The GRZ as it identifies the use of land for 'dwelling' as a Section 1 (permit not required) use. The GRZ encourages diversity in housing and seeks outcomes which respect the existing neighbourhood character and can satisfy the requirements of Clause 55, and the Schedule to the zone.
- Plan Melbourne as it provides for an increase in housing close to jobs, education facilities and transport. Further, the Development Plan will support the objectives of Plan Melbourne by promoting increased affordability, inclusiveness, sustainable housing and integration between land use and transport planning.
- The various housing and liveability related provisions of the PPF of the Monash Planning Scheme (and as set out in the Monash Housing Strategy 2014) as it provides housing opportunities for a variety of lifestyle options in a location that is serviced well by retail, community and public open space services. This directly responds to Clauses 15.01-1S, 15.01-2S, 15.01-3S, 15.01-4S, 15.01-4R, 16.01-1S, 16.01-2S, 16.01-2R, 16.01-3S, 16.01-3R and 21.04-3.
- The various built form related provisions of the PPF and particular provisions of the Monash Planning Scheme as it provides for a high quality architecturally-designed framework that has taken a cue from the existing and emerging neighbourhood character of the area as well as the medium density aspirations set out in the DPO5. This directly responds to Clauses 15.01-1S, 15.01-2S, 15.01-3S, 22.01 and 55.
- The PPF and particular provisions regarding environmental sustainability as it will provide for an energy and water efficient community. This directly responds to Clause 15.02-1, 21.13, 22.04 and 22.13.
- Clause 52.06 of the Monash Planning Scheme as it includes car parking and access design that is consistent with the required statutory provisions.
- The Monash Housing Strategy 2014, which identifies the Site as being within a 'Category 2 - Accessible Area' (refer to Figure 3). A 'Category 2 - Accessible Area' applies to residential areas that are within reasonable walking distance from an Activity Centre, Neighbourhood Centre, railway station public transport interchange or medium to large scale supermarkets. The relevant residential outcomes identified for a 'Category 2 - Accessible Area' includes:
  - 'Transition in residential density from the interface with surrounding residential areas to the boundary of the Activity Centre;
  - Lower density unit and townhouse style developments at the interface with surrounding residential areas; and
  - On larger sites, in suitable locations, increased density may be appropriate, subject to careful design and the provision of appropriate landscaped setbacks'.

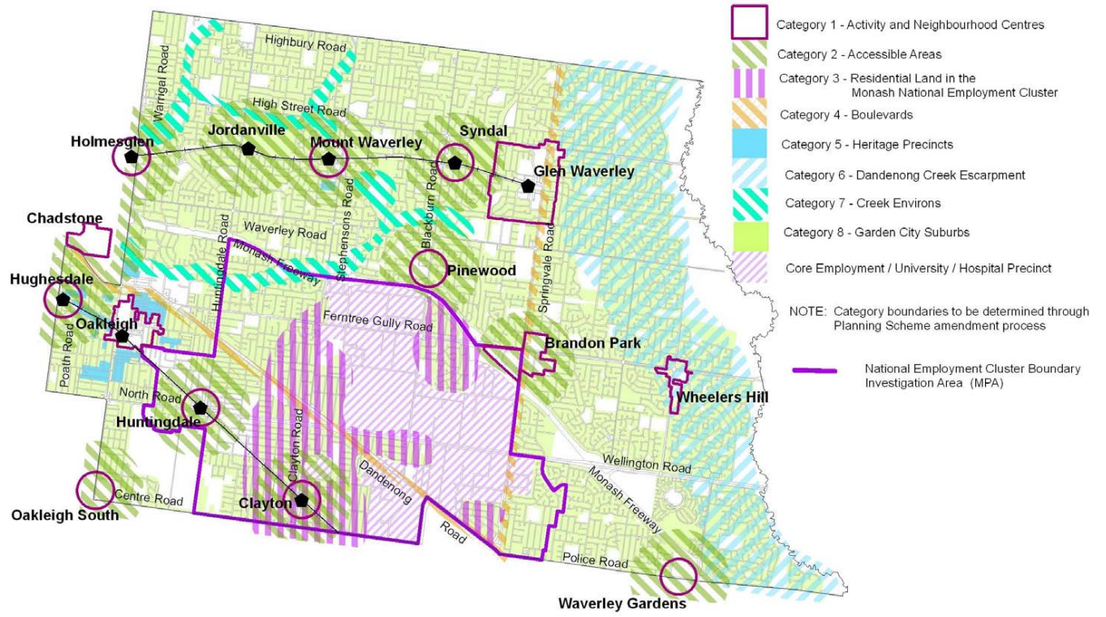

Figure 3. Monash Housing Strategy Residential Development Framework Map (Source: Monash Housing Strategy)

2.3 GENERAL RESIDENTIAL ZONE

The purpose of the GRZ is:

- *'To implement the Municipal Planning Strategy and the Planning Policy Framework.*
- *To encourage development that respects the neighbourhood character of the area.*
- *To encourage a diversity of housing types and housing growth particularly in locations offering good access to services and transport.*
- *To allow educational, recreational, religious, community and a limited range of other non-residential uses to serve local community needs in appropriate locations.'*

Schedule 1 to the GRZ does not vary any requirements of Clause 54/55 and does not specify a maximum build height.

The provisions of the GRZ that are most relevant to the Development Plan include:

- **Clause 32.08-3 (Subdivision)**. This clause specifies that a planning permit is required to subdivide land.
- **Clause 32.08-4 (Construction or extension of a dwelling or residential building**: **Minimum garden area requirement)**. This clause states that any application to construct or extend a dwelling or residential building on a Site above 650 square metres must provide a minimum of 35% garden area at ground level. This does not apply to:
  - An application to construct or extend a dwelling or residential building on a lot if the lot is designated as a medium density housing Site in an incorporated plan or approved development plan.

This Development Plan designates the Site as a medium density housing Site, therefore the garden area requirement will not be applicable to any future planning permit application under this clause.

- **Clause 32.08-6 (Construction and extension of two or more dwellings on a lot, dwellings on common property and residential buildings)** states that a permit is required to construct two or more dwellings on a lot. The clause also states that a development must meet the requirements of Clause 55.
- **Clause 32.08-9 (Maximum building height requirement for a dwelling or residential building)** - Schedule 1 does not specify a maximum building height, and the provision therefore defaults to the relevant standard of Clause 55.
- **Clause 32.08-12 (Decision Guidelines)** states that before deciding on an application the Responsible Authority must consider the requirements of Clause 55.

Refer to Figure 4 - Zone Plan.

Figure 4. Zone Plan

2.4 OVERLAYS

2.4.1 Clause 43.04 - Development Plan Overlay - Schedule 5

The DPO5 specifies that a Development Plan must be prepared for the whole Site, and should:

- Where residential uses are proposed, provide a range of dwelling types to cater for a variety of housing needs.
- Where non-residential uses are proposed, details of the nature of the proposed use, including hours of operation, stall and visitor numbers, and traffic and parking management plan.
- Incorporate sustainable design features to address water and waste management, solar access and energy saving initiatives, to deliver lower living costs for future residents.
- Create a composition of varied building forms and heights across the Site.
- Provide for a high quality of internal amenity for future residents
- Respect the amenity of adjoining interfaces for providing for a maximum of 2 storey built form adjacent to or opposite any existing single storey residential development.
- Any taller buildings across the balance of the Site should be carefully graduated with reference to analysis of shadow, visual amenity impacts and the character of the area.
- Apply appropriate buffer treatments at the interface with any non-residential uses on adjoining properties.
- Create opportunities for improved local permeability through provision of new pedestrian/cycle pathways or new local street networks where appropriate.
- Incorporate any significant native vegetation into the design of the development.

This Development Plan implements the objectives and provisions of Schedule 5 to the Development Plan Overlay and the policy statements which apply to the land.

Refer to Figure 5 - Overlay Plan

Table 1. Required Development Plan Components

DPO5 Component	Volume 1 of DP	Volume 2 of DP
Existing conditions plan, showing surrounding land uses and development, adjoining roads and pedestrian links, public transport routes, topography, and infrastructure provision.	Section 3	DPO Architectural Submission prepared by Plus Architecture
Concept plans for the Site	Section 4	DPO Architectural Submission prepared by Plus Architecture
A traffic management report and car parking plan	Section 6	Traffic Engineering Assessment prepared by TraffixGroup
For the former Oakleigh South Primary School Site, plans to implement the Site Development Management Plan developed by Prensa in their report dated August 2013.	Section 10	Updated Site Development Management Plan prepared by Prensa
A landscaping plan	Section 5	Landscape Design Report prepared by Tract Consultants

Figure 5. Overlay Plan

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Site &
urban context
analysis.

3 SITE & URBAN CONTEXT ANALYSIS

This section of Development Plan addresses the following requirement of the DPO5:

'Existing conditions plan, showing surrounding land uses and development, adjoining roads and pedestrian links, public transport routes, topography, and infrastructure provision'

3.1 SITE LOCALITY

The Site is located in Oakleigh South, within the City of Monash.

It lies approximately 3 kilometres west of the Monash National Employment and Innovation Cluster and approximately 17.59 kilometres south-east of Melbourne's Central Business District.

The Site is described on Certificate of Title as:

- Lot 41 LP13217
- Lot 42 LP13217
- Lot 43 LP13217
- Lot 44 LP13217
- Lot 45 LP13217
- Lot 46 LP13217
- Lot 47 LP13217
- Lot 48 LP13217
- Lot 49 LP13217
- Lot 50 LP13217
- Lot 51 LP13217
- Lot 52 LP13217
- PARISH OF MORDIALLOC Allot. 2030

Apart from a drainage and sewerage easement that runs through the Site, there are no other restrictions or covenants placed over the land.

Refer to Figure 6 - Site Locality Plan.

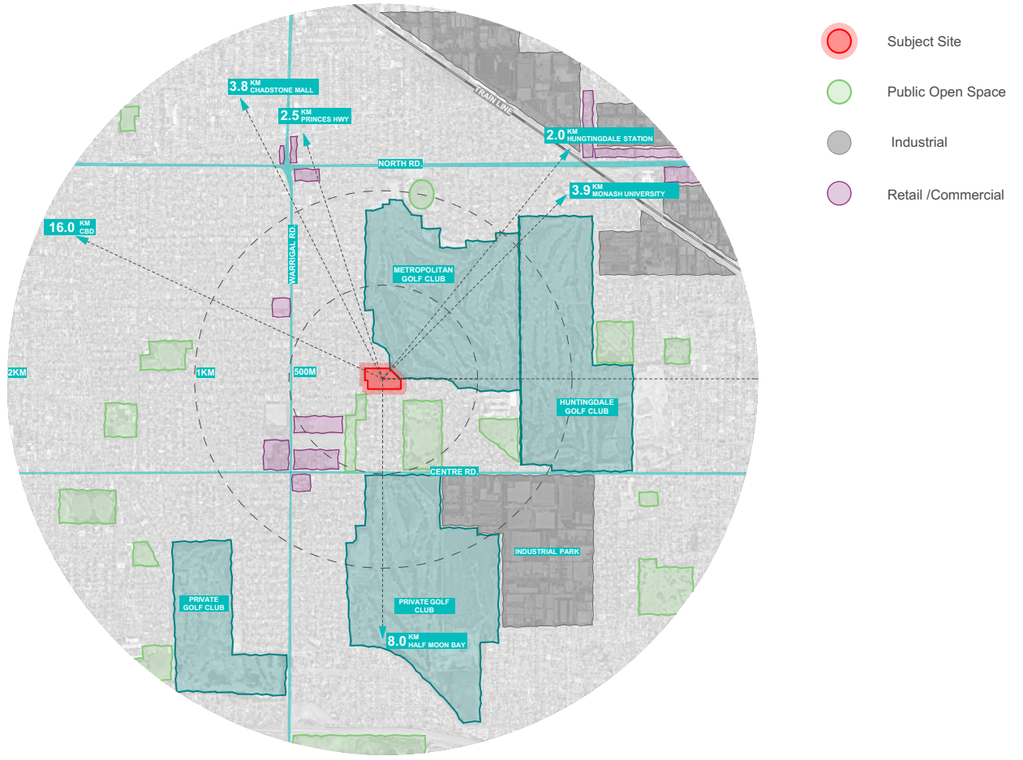


Figure 6. Site Locality Plan (Source: Plus Architecture)

3.2 SITE ANALYSIS

The Site is irregular in shape and it is bound by Golf Road and a vacant parcel of land owned by Monash City Council to the west, Beryl Avenue to the south, Bakers Road to the east, the Metropolitan Golf Club to the north-east and an existing residential interface to the north.

The Site comprises 13 land parcels, which together total 1.83 hectares in area.

The Site's topographical profile features a gentle fall of approximately 1.5 metre from the south to the north-west.

Vehicular access is provided to the Site currently from an existing single-width crossover on Beryl Avenue (west of Joyce Avenue) and from a double-width crossover on Bakers Road.

Apart from some existing hard-paved areas, the Site is vacant.

There are a number of existing native and exotic trees scattered throughout the Site. An Arboricultural Assessment of the Site was initially undertaken by TreeLogic to accompany the Site's rezoning. This report was published in 2013 and it has been referenced in the DPO5.

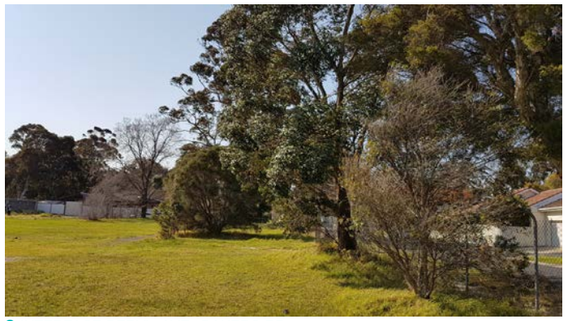
The 2013 TreeLogic report recommended that trees of 'High' and 'Moderate' arboricultural value be considered for retention and protection over trees of 'Low' or 'No' arboricultural value during any redevelopment of the Site.

The 2013 TreeLogic report considered 55 individual trees and 1 tree group comprising 12 smaller trees within the Site. Of these trees surveyed, 18 were attributed a 'Moderate' arboricultural rating, 33 were attributed a 'Low' arboricultural rating and five were attributed 'No' arboricultural rating.

Due to the age of the TreeLogic report, a new Arboricultural Assessment of the Site was undertaken by Landscape DEPT in December 2018. This report concluded that of the 55 trees assessed, 42 were allocated a low arboricultural value and 13 were allocated an arboricultural rating of moderate.

Refer to Figures 7-9 for Site Details.

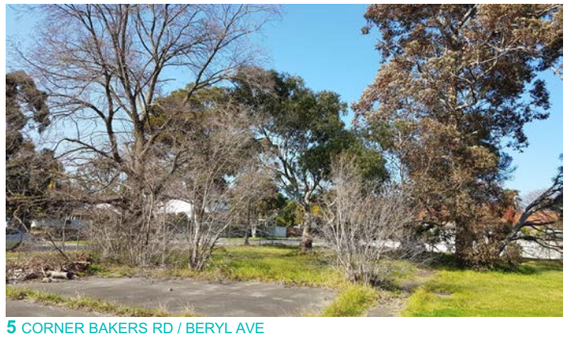
1 INTERFACE GOLF RD



2 INTERFACE BERYL AVE / BAKERS RD

3 CORNER BAKERS RD / METROPOLITAN GOLF COURSE

4 INTERFACE BAKERS RD



5 CORNER BAKERS RD / BERYL AVE

6 INTERFACE TO METROPOLITAN GOLF COURSE

Figure 7. Site Photos (Source: Plus Architecture)

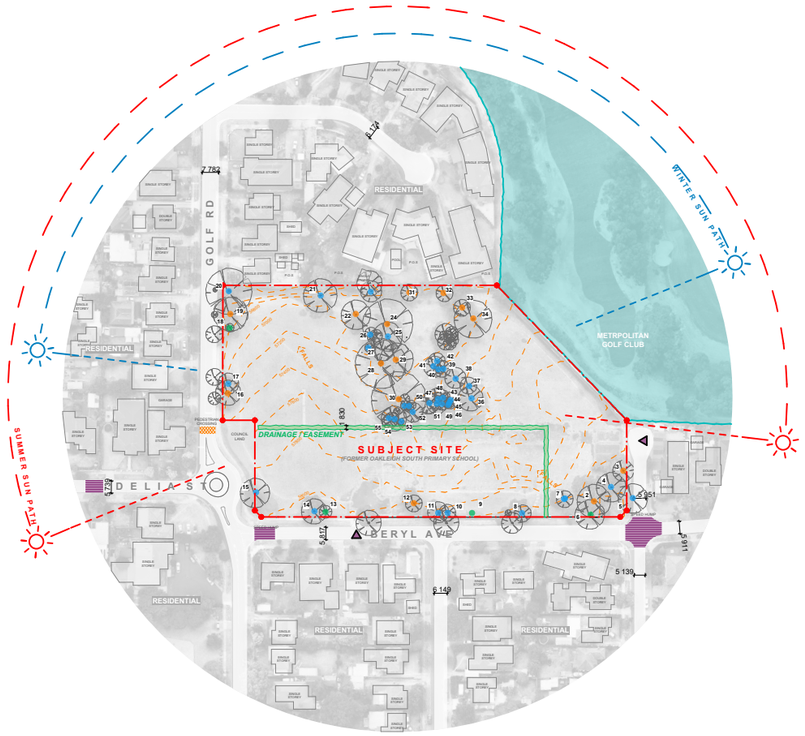


Figure 8. Site Analysis Plan (Source: Plus Architecture)

Figure 9. Site Survey (Source: Veris)

3.3 IMMEDIATE CONTEXT

3.3.1 North

The Site adjoins four residential properties to the north. These are the rear of 13, 15 and 17 Barholme Court and the side of 50 Golf Road. The existing condition of each of these properties is described below.

Property	Existing Condition	Figure
13 Barholme Court	The property at 13 Barholme Court is located within the GRZ2 and it is not affected by any Overlays. Schedule 2 to the GRZ varies Standards A3/B6 (Minimum Front Setbacks) by requiring a minimum setback of at least 7.6m, and Standards B28 (Private Open Space) by requiring larger at-grade open space. The property is currently occupied by a single storey brick dwelling with a gable roof. The dwelling that extends deep within its lot and within 4 metre to the shared boundary with the Site. The unique shape of this property and the elongated nature of the existing dwelling results in two private open space areas, with one being located along the eastern edge of the existing dwelling and the other being located along the southern edge of the existing dwelling. The private open space area located along the southern edge of the existing dwelling is partly covered by a pergola structure (eastern side). The balance is uncovered and informally landscaped with a clothes line centrally sited. There are three habitable room windows facing the Site. Refer to Figure 10.	
15 Barholme Court	The property at 15 Barholme Court is located within the GRZ2 and it is not affected by any Overlays. The property is currently occupied by a single storey dwelling that is rendered with a part flat and part hip roof. The dwelling extends deep within the eastern side of its lot. This portion of the dwelling is set back approximately 5 metres from the shared boundary with the Site. The balance of the property's rear yard features a swimming pool (set back approximately 9 metres from the shared boundary with the Site), open grassed area and landscape screen along the shared fence line. Refer to Figure 11.	

Figure 10. 13 Barholme Court (Source: NearMap)

Figure 11. 15 Barholme Court (Source: NearMap)

Property	Existing Condition	Figure
17 Barholme Court	The property at 17 Barholme Court is located within the GRZ2 and it is not affected by any Overlays. The property is currently occupied by a single storey dwelling that is sited centrally within its lot. The dwelling is constructed from brick with a slight gable steel roof. It is set back approximately 12 metres from the shared boundary with the Site. Located within the area between the existing dwelling and the shared boundary with the Site is a landscaped rear yard that comprises a variety of canopy trees. An outbuilding is also constructed in the south-east corner of this property and on the shared boundary with the Site. There is one habitable room window facing the Site. Refer to Figure 12.	 **Figure 12.** 17 Barhome Court (Source: NearMap)
50 Golf Road	The property at 50 Golf Road is located within the GRZ2 and it is not affected by any Overlays is set back 7 metres from the Golf Road. Vehicular access to this dwelling provided via a crossover on the northern side of the property. The single storey dwelling that occupies this property is constructed from brick with a terracotta tiled hip roof. The dwelling is set back approximately 1.6 metres from the shared boundary with the Site and there are three habitable room windows facing the Site. The rear of this property comprises outbuildings along its northern boundary and a hard-paved area throughout its balance. There is minimal landscaping within the property. Refer to Figure 13.	 **Figure 13.** 50 Golf Road (Source: NearMap)

3.3.2 East

More than half of the Site's eastern boundary abuts the Metropolitan Golf Club and the balance of this boundary interfaces with the northern end of Bakers Road.

With respect to the Metropolitan Golf Club interface, this area of the golf course comprises an access vehicle maintenance track along the shared boundary of the Site, a landscaped berm and tee area beyond for 17th Hole. The edge of the tee area for 17th Hole is approximately 16 metres from the shared boundary with the Site.

With respect to the Bakers Road interface, Bakers Road is a Council owned road that provides vehicle access to the Site and 19 Beryl Avenue. The property at 19 Beryl Avenue is constructed from brick with a terracotta tiled hip roof. The dwelling is set back approximately 8 metres from Beryl Avenue and 4 metres from Bakers Road. This property's interface with Beryl Avenue comprises a front yard, a double car port (towards Beryl Avenue) and a 1.8m solid fence extending across the balance the interface.

Beyond this dwelling are further examples of residential dwellings that are predominately detached, single storey and double storey in height and constructed of brick with hip and gabled roof forms.

The dwellings all have landscaped front setbacks to Beryl Avenue with no front fences.

3.3.3 South

Immediately south of the Site is Beryl Avenue. Beryl Avenue is a Council owned road which provides vehicular access to the Site and properties facing it along its southern side.

There are a number of street trees along the frontage of the Site and there is a constructed pedestrian path along the whole frontage of the Site. Further south, across Beryl Avenue, are residential dwellings fronting Beryl Avenue with outlook towards the Site. These dwellings are detached and single storey in form. Dwellings are constructed of brick and weatherboard and feature either hip or gabled roof forms.

Landscaping within the front setbacks of these dwellings is informal.

3.3.4 West

Immediately west of the Site is Golf road and a Council owned piece of land.

Golf Road is a Council owned road that connects North Road in the north and Centre Road in the south. The road is set within an approximately 15 metre wide reservation. It comprises a two-way carriageway with sufficient space for on street car parking. On either side of the carriageway is a pedestrian path and a landscaped verge with some street trees.

The Council owned piece of land is known as 60 Golf Road. This parcel of land is located within the GRZ2 and it is not affected by any Overlays. It is approximately 315sqm in area and irregularly shaped. Its size and configuration makes it difficult to redevelop for residential purposes. This Development Plan suggests a public benefit type use is a more appropriate use and development of the land.

Beyond Golf Road and the Council owned piece of land are three residential dwellings that front Golf Road with an outlook towards the Site. These dwellings are detached and constructed from brick and weatherboard. The dwellings are set back between 7 and 10 metres from Golf Road and they are single storey in height with either hip or gabled roof forms constructed from steel or terracotta tiles. These dwellings feature low front fences with informal landscaping in behind.

Figure 14. Aerial photo of the Site looking north

Figure 15. Aerial photo of the Site looking north west onto Golf Road

Figure 16. Aerial photo of the Site

Figure 17. Aerial photo of the Site looking east

01 GOLF ROAD WEST STREETSCAPE

02 BERYL AVE SOUTH STREETSCAPE

03 BAKERS RD EAST STREETSCAPE

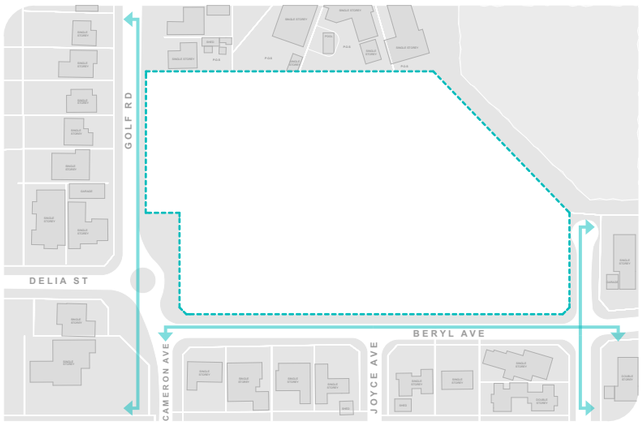


Figure 18. Public Realm Interfaces (Source: Plus Architecture)

3.4 WIDER CONTEXT

3.4.1 Neighbourhood Character

The neighbourhood surrounding the Site is predominately residential interspersed with large areas of both public and private recreational facilities.

Monash City Council's Neighbourhood Character Study identifies five residential character types within the Municipality which generally relate to their period in which they were constructed.

While the Site itself has not been nominated a preferred Neighbourhood Character Type, the surrounding land has been identified as either Character Type B and or Character Type C.

Neighbourhood Character Type B affects land to the north, west and south of the Site. Neighbourhood Character Type B is described as follows:

'The area is characterised by the evenly distributed mix of consistently setback post-War single storey weatherboard and brick houses of a common, functional architectural style. In many streets houses are arranged in groups of one type of material. A minority of streets have Californian Bungalows and houses from the inter-war period with visually prominent roof lines.

Multi-dwelling developments occur intermittently throughout the Character Type around Oakleigh and Clayton and diminish in frequency away from the commercial centres and collector Roads. They are mainly single storey brick and often use materials which contrast with the remainder of the area.

Front gardens are varied in horticultural content and are often well planted. Few obscure the buildings from the street. Most have low fences and walls constructed of brick , wire mesh, or timber which enables vegetation to be visible from the street. Other houses have hedges, whilst a minority are open to the street.'

Neighbourhood Character Type C affects land to the south-east of the Site. Neighbourhood Character Type C is described as follows:

'The dominant architectural framework is the double-fronted consistently setback, single storey brick veneer 1950's-1960's dwellings with some weatherboards dispersed throughout the area. Within this framework are some two storey houses constructed mainly of darker red and brown brick. These larger houses are concentrated in the higher, and more topographically diverse neighbourhoods. They tend to be more visually dominant from the street than the more modest older houses but still have substantial front gardens.

Many properties do not have front walls or fences, particularly in the northernmost neighbourhoods, leaving the garden open to the street. Otherwise fences and walls are low timber or brick of approximately 900mm allowing low shrubs in the front gardens to be visible from the street and giving clear views to the building.

Front gardens within the character unit exhibit a wide horticultural diversity and are generally well planted and maintained. In many cases they obscure the architecture. In the higher and more topographically diverse neighbourhoods many properties have large trees and shrubs both in the front and rear gardens. The character of areas adjacent to the creek valleys and the Riversdale Golf Club have been extensively influenced by the proximity of the dense native vegetation, steeply sloping topography and the sounds of native fauna.'

Refer to Figures 19 and 20.

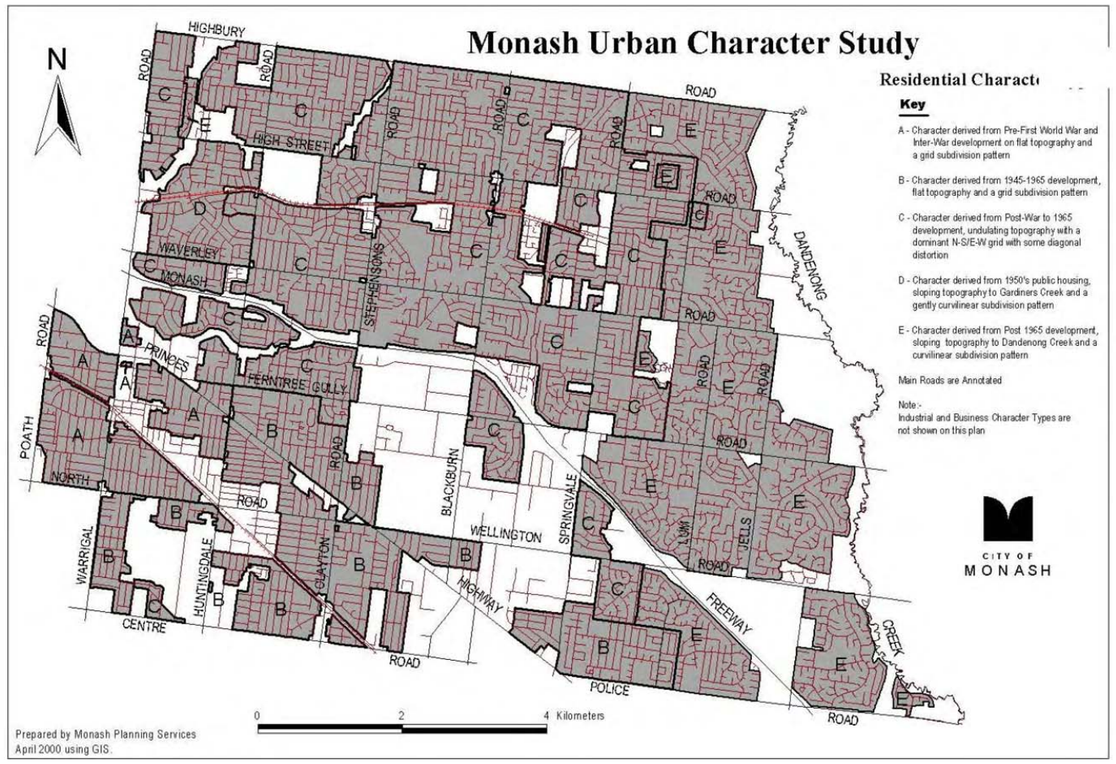


Figure 19. Residential Character Types (Source: Monash Urban Character Study)

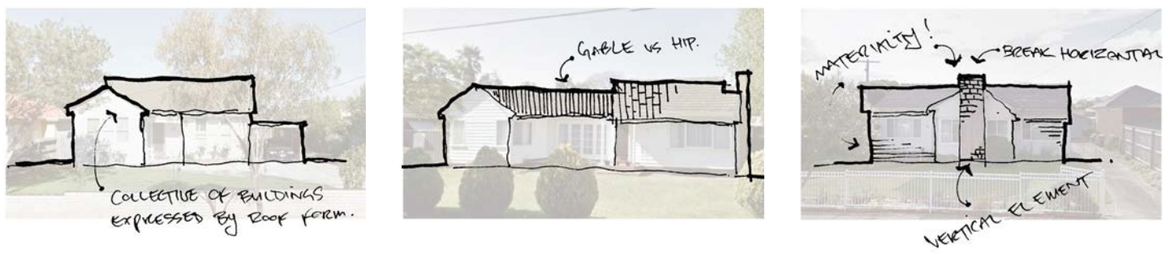


Figure 20. Key Character Elements (Source: Plus Architecture)

Figure 21. Local Context (Source: Plus Architecture)

3.4.2 Key Services and Facilities

The Site is proximate to a number of employment opportunities, transport facilities, open space amenities, education facilities and retail centres.

Key sites and land uses in the region close to the Site include:

- The Metropolitan Golf Club (adjacent).
- South Oakleigh College (300 metres).
- Oakleigh South Primary School (650 metres).
- Bright Beginnings Child Care Centre (20 metres)
- Monash Medical and Research Precinct (4.8 kilometres).
- Monash University (5 kilometres).
- Chadstone Shopping Centre (4.4 kilometres).
- Southland Shopping Centre (6.8 kilometres).

In addition to being located centrally between the Oakleigh and Clayton Activity Centres and proximate to the Monash National Employment and Innovation Cluster, there are a number of neighbourhood activity centres within close proximity that provide local retail and services needs to the Site.

The most easily accessible neighbourhood activity centre is in Huntingdale, which is located approximately 2.3 kilometres north-east of the Site. This centre includes a range of retail and commercial uses and a variety of food and drink premises. A smaller shopping centre, which is anchored by a Woolworths Supermarket, is located along Warrigal Road, approximately 700 metres south of the Site.

The Site is well serviced by public open space. Of particular note is Progress Play Park located approximately 50 metres south of the Site; Stan Riley Reserve located approximately 110 metres south of the Site; Murumba Drive reserve located 400 metres south-east of the Site; and Mackie Road Reserve located 900 metres west of the Site.

Refer to Figure 21 - Local Context Plan

3.5 PUBLIC TRANSPORT

The Site is serviced by a range of transport options located within close proximity. Importantly, the Site is located within Melbourne's Principal Public Transport Network. The main arterial routes connecting the region of Oakleigh South to Melbourne's CBD are Warrigal Road and Centre Road which connect to the Princes Highway. These transport options are easily accessed from the Site and provide a direct and effective link in and out of the city. The Monash Freeway is also located to the north of the Site.

The Site is approximately 2.4 kilometres from the Huntingdale Train Station and 3.8 kilometres from the Clayton Train Station.

The following bus routes are located within walking distance of the Site:

- 733 - Oakleigh to Box Hill via Clayton, Monash University and Mt Waverley which is routed along Golf Road;
- 703 - Middle Brighton to Blackburn via Bentleigh, Clayton and Monash University (SMARTBUS Service) which is routed along Centre Road; and
- 903 - Altona to Mordialloc (SMARTBUS Service) which is routed along Warrigal Road.

Refer to Figure 22.

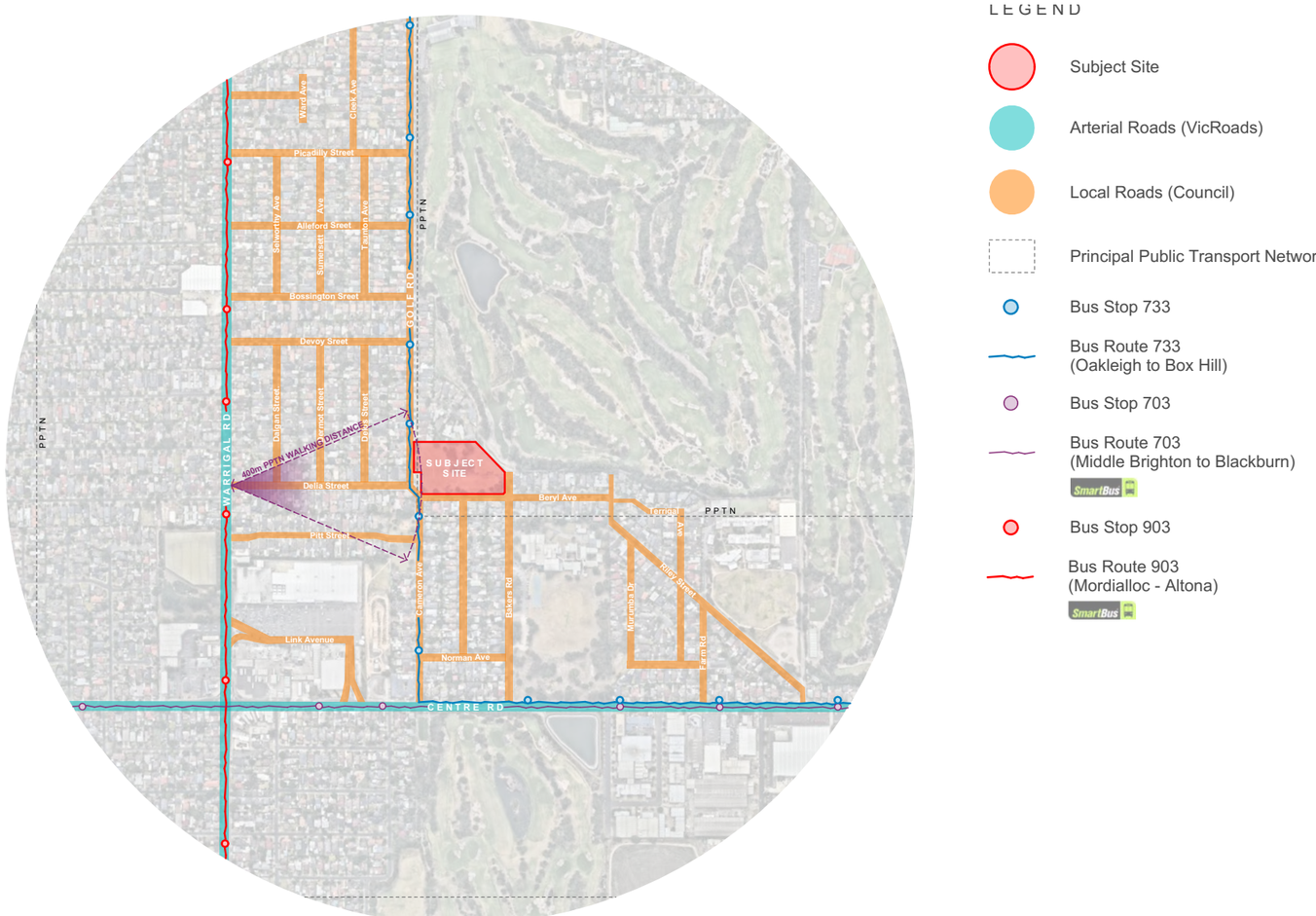


Figure 22. Public Transport Plan (Source: Plus Architecture)

3.6 INFRASTRUCTURE PROVISION

FMG Engineering has investigated Infrastructure Capacity within the existing area. The assessment has found the following.

3.6.4 Sewerage

South East Water is the authority responsible for the provision of sewerage facilities in this area.

The Authority's records show that the Site has a 150mm diameter sewer along Beryl Avenue. The depth of this sewer should enable the development of the Site to be controlled back to this point. The sewer drains run to the west towards Cameron Avenue.

It is assumed sewer outfall can be provided with minimum external construction works due to proximity of the existing sewer main.

The capacity of this existing sewer needs to be confirmed with South East Water prior to any development works.

3.6.5 Water

South East Water is the authority responsible for the provision of water supply in this area.

The Authority's records show that there is a 225mm diameter reticulation main along Golf Road. It is assumed a property branch comes off this main which previously serviced the Site.

It is assumed that the water main will have enough capacity to service the development of the Site. The capacity of this main will need to be confirmed with South East Water prior to any development works.

3.6.1 Drainage

The City of Monash is the authority responsible for the provision of local drainage facilities surrounding the Site, Main drainage infrastructure is managed by Melbourne Water.

The following Council pit and pipe drainage infrastructure surrounds the Site:

- A 150mm diameter drain in an easement on the northern boundary which drains to Barholme Court
- 2 x 225mm diameter pipes located in the north-west corner of the lot which discharges to a 450mm diameter pipe in Golf Rd and drains north.
- A combination of 300mm diameter, 375mm diameter and 450mm diameter pipes along Beryl Avenue which drains west to a 525mm diameter at the intersection of Cameron and Beryl Avenue.
- This drainage will be able to cater for this development to some extent. It assumed that detention will be required as impervious areas will increase. Assessment of the existing drainage design would be required. City of Monash typically require detention on 1 in 10-year ARI event post development flows back to existing 1 in 5-year ARI event pre-development flows.
- It is assumed connection will be to the 225mm diameter drain in the north/west corner of the Site
- Overland Flow for events greater than 1 in 10 year ARI would need to be contained to development roadways and conveyed through the Site.
- It is assumed that council would impose stormwater treatment requirements on the development, which requires the inclusion of Water Sensitive Urban Design (WSUD) measures. This requirement would be assessed at time of permit.

3.6.2 Communications

Telstra is the authority responsible for the provision of telecommunication infrastructure surrounding the Site.

Telecommunication assets exist along the western and southern boundaries of the Site. It appears that non-telecommunications feed into the Site. No reticulation of telecommunicators currently exists throughout the Site.

It is assumed that telecommunications connection can be provided with some external construction works required as all Telstra pits are located on the opposite side of the road to the development.

3.6.3 Electricity

United Energy manages the surrounding electricity assets.

Overhead Low Voltage (LV) electricity infrastructure exists along Golf Road and Beryl Avenue. An overhead High Voltage (HV) exists on Cameron Avenue near the intersection of Beryl and Cameron Avenue.

The existing electrical supply will not have the capacity to service the proposed development. The existing LV pole at the intersection of Cameron and Beryl Avenue will need to be upgraded to a HV pole. A new pole on Golf Road will be required for overhead supply from the new upgraded HV with underground into a new kiosk.

There will be a requirement for new infrastructure including main switchboards and distribution metering cabinets to service the density of the proposed development.

Gas

Gas assets are managed by Multinet Gas and exist within Golf Road and Beryl Avenue. Some external construction works will be required to connect to the existing gas assets to the Site.

It is assumed gas capacity is available within the existing network, however this will need to be confirmed prior to any development works.

Refer to Figure 9 - Site Survey.

Design response.

4 DESIGN RESPONSE

This section of Development Plan addresses the following requirement of the DPO5:

'Concept Plans for the Site'

4.1 DESIGN PHILOSOPHY

The design philosophy and built form rationale for the Site has been influenced by its physical attributes, its interfaces and surrounds, the objectives and requirements of the DPO5 and other relevant planning scheme provisions.

In particular, the philosophy and rational behind the Development Plan has been driven by the following key design principles.

Establish a new residential community set within a strong landscaped environment that complements the garden character of Oakleigh South

The Development Plan has been designed to ensure the new residential community respects and complements the garden character of Oakleigh South through integrated landscaping across the Site and the provision of areas of public open space.

The Development Plan includes areas of open space for use by all residents of the development and the broader Oakleigh South community.

The Development Plan is centred upon a large publicly accessible open space area of approximately 1,037 square metres. This area of local open space provides for a range of activities for residents and the broader community. These include:

- Play space.
- Lawn Area.
- Barbeque and picnic area.
- A hierarchy of soft landscaping including existing canopy trees retained as part of the development which will offer shade.

The Site is easily accessible for the broader Oakleigh South community through a series of green links provided at each of the existing street frontages. The provision of the pedestrian walkways to Beryl Avenue will act as a visual invitation to the broader community to utilise the central open space.

170 square metres of public open space is also provided in the eastern portion of the Site and a further 354 square metres is provided along the Bakers Road interface.

Landscaping is integrated across the overall Site with larger planted areas and opportunities for tree planning. Together this will create an attractive and high quality environment that will set a new standard for amenity.

Figures 23 and 24 demonstrate the proposed indicative landscaping for the Development.

Figure 23. Indicative Landscaping and Open Space (Source: Plus Architecture)

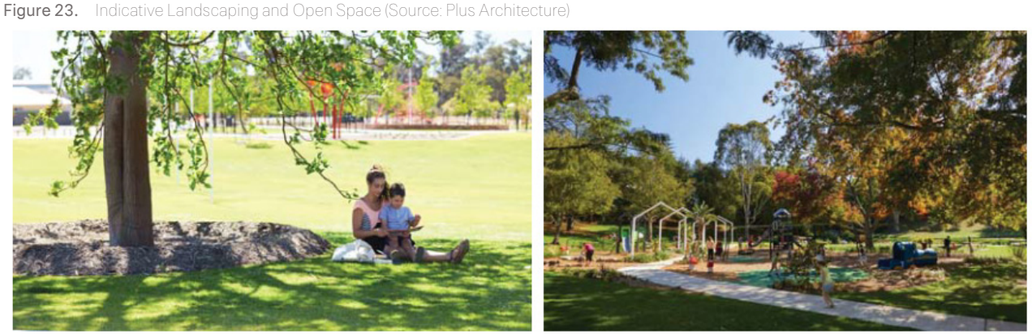


Figure 24. Precedent Images

Create clear and identifiable pedestrian and cyclist connections through the Site to improve local permeability and engagement with the surrounding neighbourhood.

The Development Plan provides for a highly permeable pedestrian and cycling network which links to the surrounding established neighbourhood and to the broader pedestrian and bicycle networks.

This is achieved via the proposed road network which acts as a shared space that prioritises pedestrian and cycling travel over vehicles. Substantial investments in quality landscaping will make this a high quality, high amenity community. Refer to Figure 25 which provides precedent images of the proposed landscape treatments.

In addition to providing an internal road network which priorities cycling and pedestrian travel, the pedestrian network shown in this Development Plan will link the Site with the local network through a series of green links connecting the Site to Beryl Avenue and Bakers Road. Low planting treatments will be provided along these links, contributing to a safe and pleasant pedestrian environment. These links are also designed as way-finding links to the central public open space area, thereby increasing permeability across the Site and encouraging the wider community to utilise the open space.

Refer to Figure 26 which demonstrate the proposed pedestrian and cyclist links.

Figure 25. Precedent Images

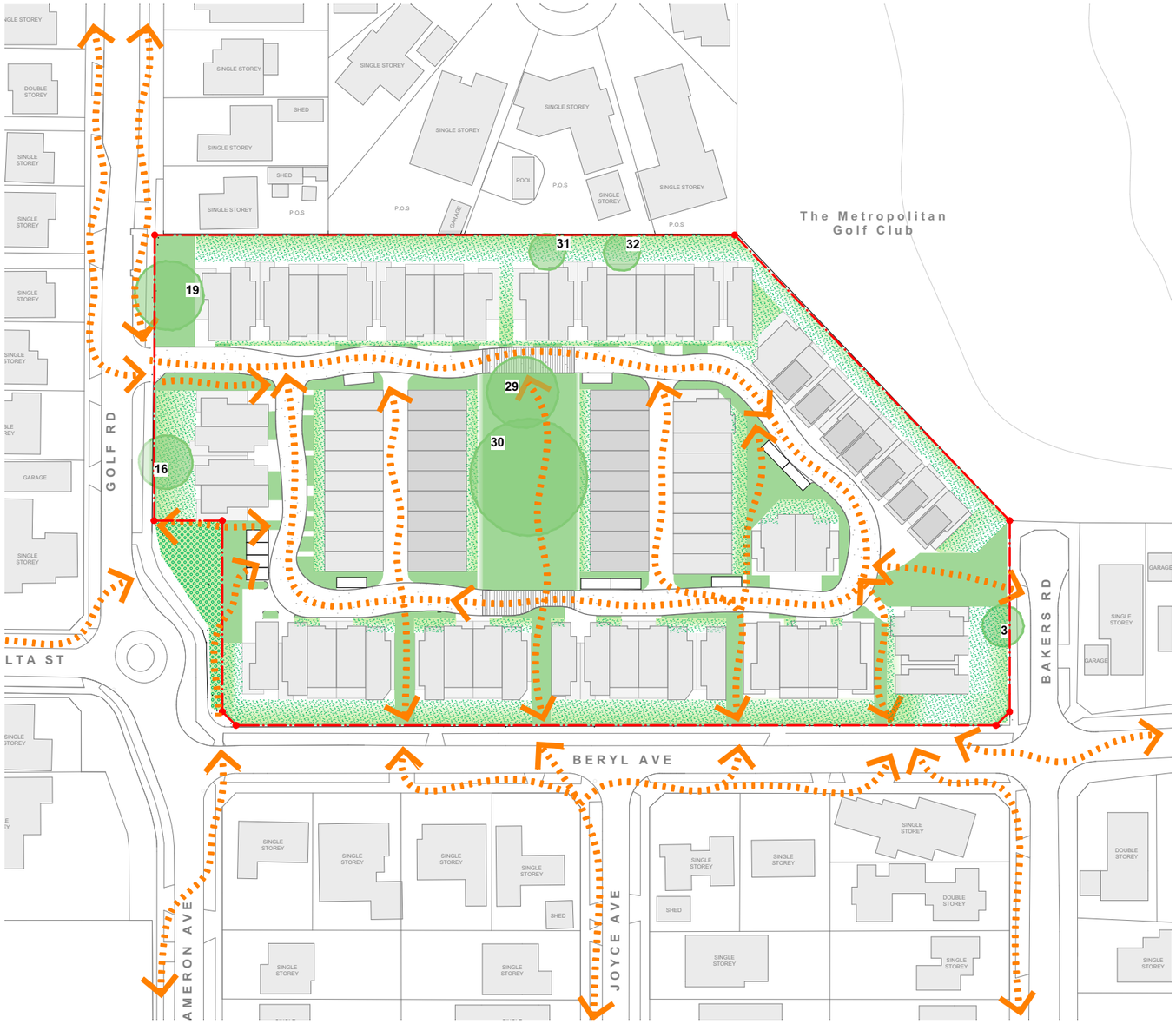


Figure 26. Indicative Pedestrian Connectivity and Amenity (Source: Plus Architecture)

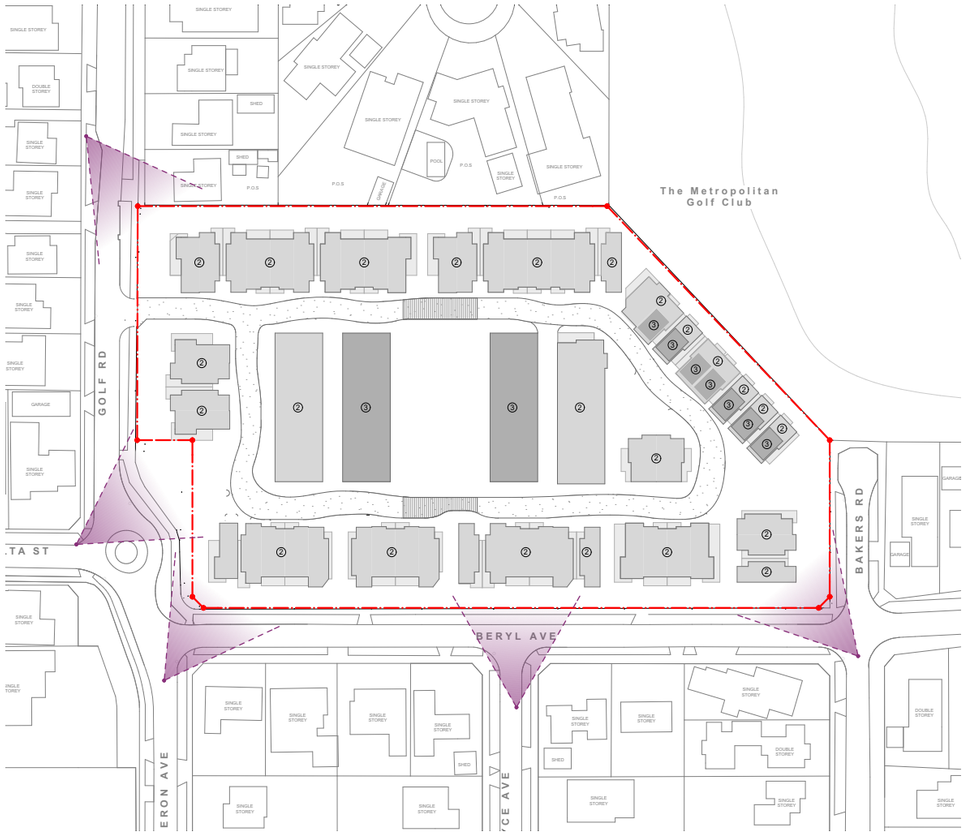


Figure 27. Indicative Building Heights (Source: Plus Architecture)

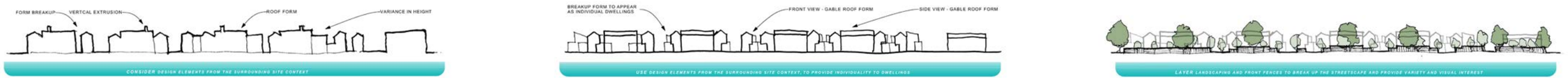


Figure 28. External Street Scape Diagrams (Source: Plus Architecture)

Provide a high quality architecturally-designed built form outcome that appropriately balances the character values of the neighbourhood with the medium density development aspirations sought under DPO5.

The Development Plan has been designed to provide a high quality, architecturally-designed built form outcome that positively responds to and integrates with the existing neighbourhood character of the surrounding area. This has been achieved through an architectural analysis on the surrounding built form and character which has in turn, shaped the design of the development. Contextual design elements of surrounding dwellings have been reflected in the development plan, including the roof form, materiality, built form breaks and setbacks (demonstrated in Figures 28-30).

The indicative architectural design response contained within this Development Plan will allow for the ultimate townhouses are read as singular detached dwellings rather than a series of distinctly different townhouse dwellings. This is achieved through using contextual design elements to merge the visual appearance of the townhouses. A series of landscaped green links will also assist in breaking down the mass of the townhouses while maintaining the existing streetscape rhythm.

Building materials and form shown within this Development Plan have also taken cues from the surrounding context. Brickwork and weatherboard all feature heavily in the area's housing topologies and are proposed to be reinterpreted in a contemporary fashion within the Development plan. The material schedule provides sample of the various materials that are proposed for the townhouses.

Further articulation to the built form is provided by way of staggered fence lines. The front fences along the existing street frontages should vary in material and style, complementing the architectural form and style of the existing fences along Beryl Avenue, Golf Road and Bakers Road (refer to Figures 31-32).

In accordance with DPO5 of the Monash Planning Scheme, the Development Plan seeks to create a composition of varied built form and heights across the Site with the higher built form sited along the central public open space and the golf course interface (Figure 27). These building types will bring the added benefit of passive surveillance of the proposed public spaces.

The townhouses will be designed to provide a high level of internal amenity for future residents, including habitable room windows and private open space located on the north-side, where possible; and the orientation of buildings layouts to minimise overlooking into habitable room windows.

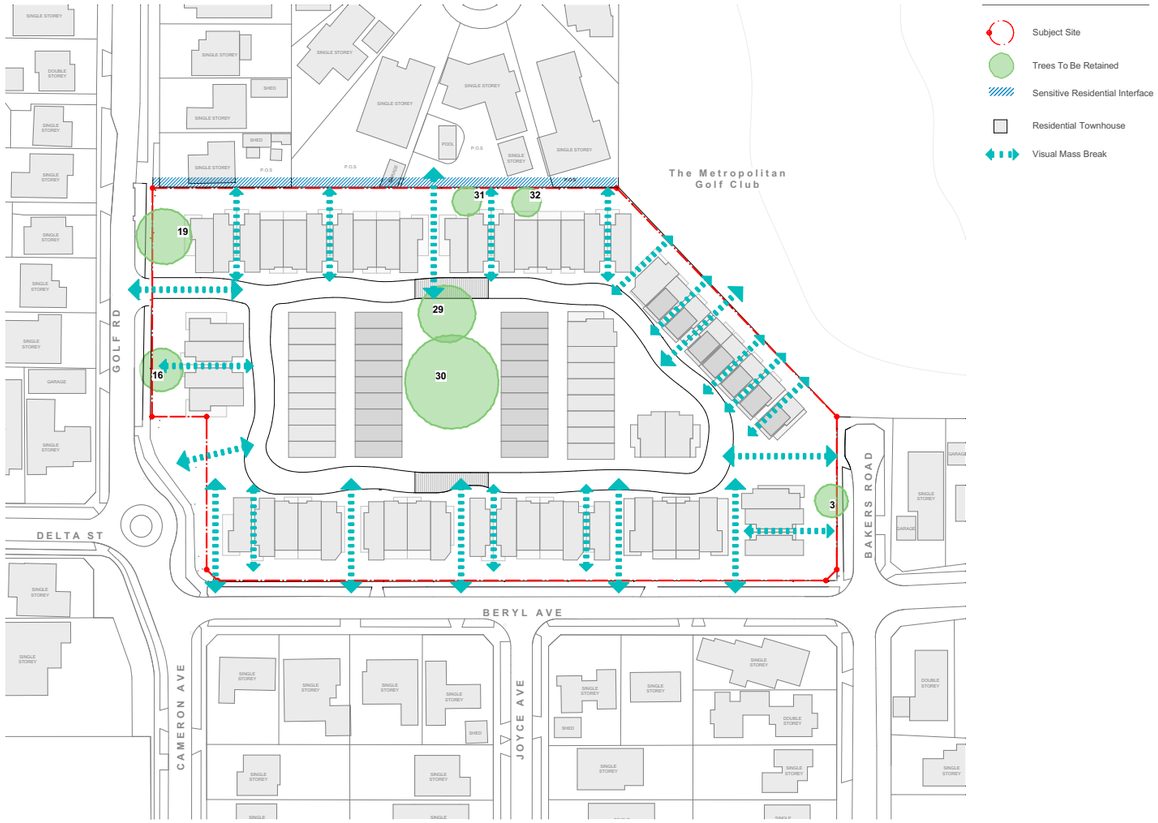
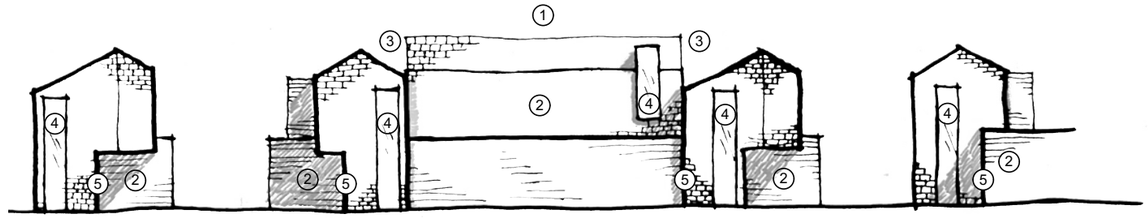


Figure 29. Urban Integration Plan (Source: Plus Architecture)



1 COLLECTIVE OF BUILDINGS UNIFIED BY ROOF FORM

2 SETBACK VS FLUSH

3 GABLE VS HIP

4 VERTICAL ELEMENT TO BREAK HORIZONTAL

5 MATERIALITY - TRADITIONAL BRICK / WEATHER BOARD

Figure 30. Contextual Design Application (Source: Plus Architecture)

Figure 31. Indicative West Elevation - Golf Road (Source: Plus Architecture)

Figure 32. Indicative South Elevation - Beryl Avenue (Source: Plus Architecture)

Respect the amenity of adjoining residential interfaces by adopting a two storey built form envelope.

The Development Plan aims to sensitively integrate future development into the existing urban environment and respect the amenity of adjoining residential interfaces.

A number of key interface treatments help enable this integration and provide an appropriate transition between new and existing development.

Refer to Figure 33 - Urban Integration Plan

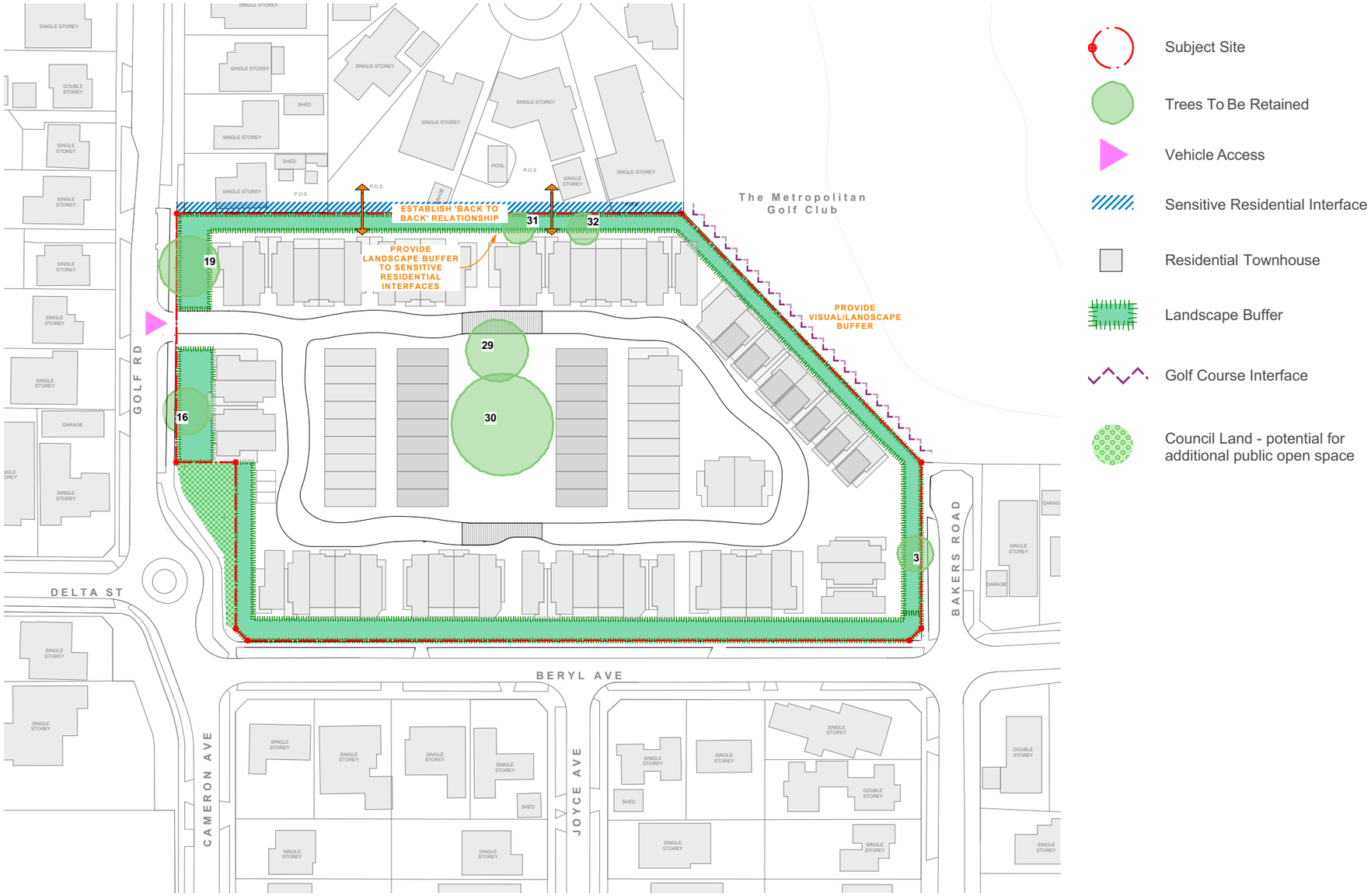


Figure 33. Urban Integration Plan (Source: Plus Architecture)

Northern Interface

To the north of the Site, new dwellings that back onto the established residential allotments will have adequate separation between buildings and existing back yards. In accordance with DPO5, the amenity of the exiting dwellings is maintained through the provision of a two storey built form envelope along the perimetre of the Site (refer to Figure 34).

The Development Plan ensures that the amenity of the existing dwellings is maintained, particularly in regard to overlooking and shadowing. The siting, orientation and internal layout of the indicative townhouses will be designed to minimise overlooking, as demonstrated in Figure 36.

Physical breaks have been provided between townhouses to reduce the visual bulk and appearance of the dwellings at the rear of each lot (refer to Figure 35). Furthermore, the provision of large setbacks will enable planting of canopy trees along the northern boundary.

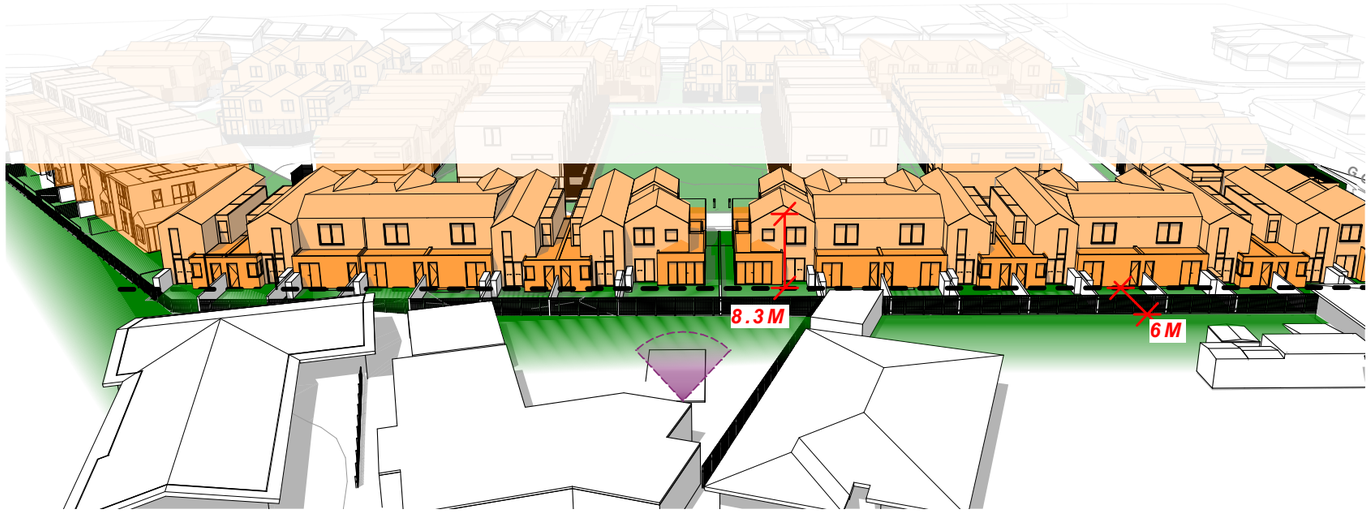


Figure 34. Indicative Northern Interface 3D Building Envelopes (Source: Plus Architecture)

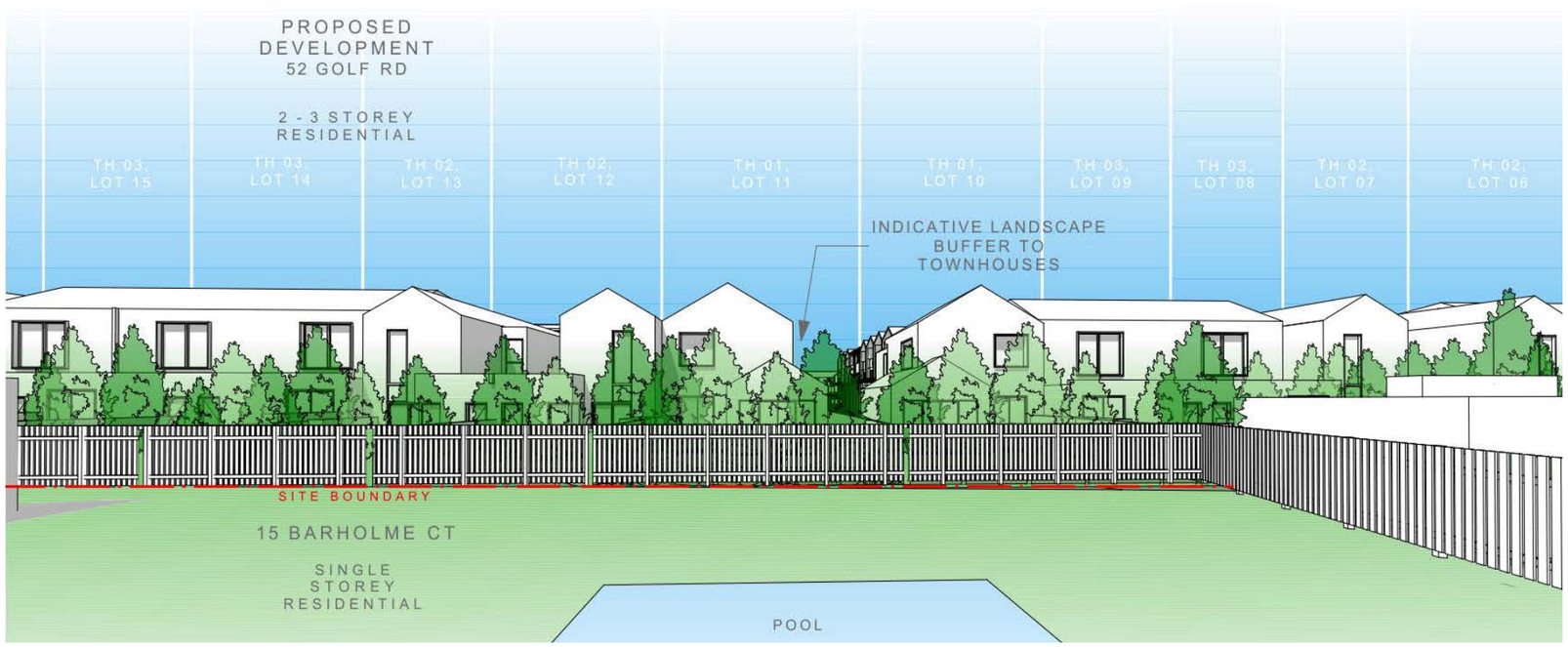
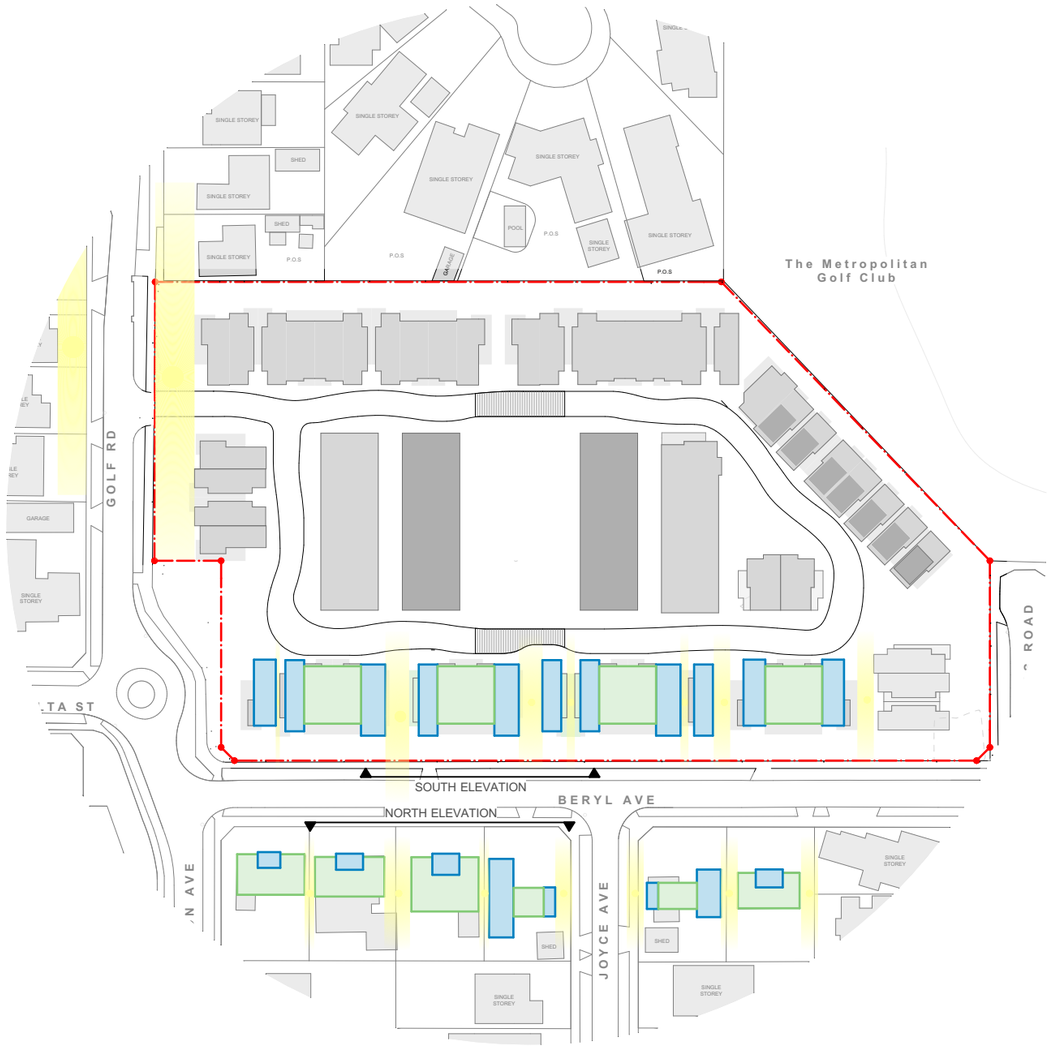
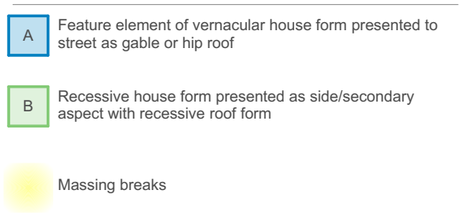


Figure 35. View of the indicative townhouses from 15 Barholme Court (Source: Plus Architecture)

Figure 36. Indicative Overlooking Diagram (Source: Plus Architecture)





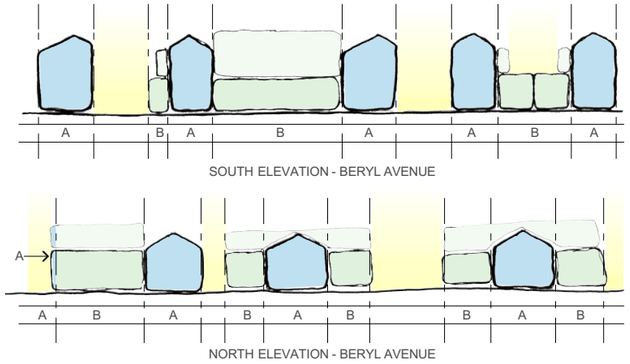


Figure 37. Indicative Pedestrian Connectivity and amenity (Source: Plus Architecture)

Public Realm Interfaces

The townhouses facing the street have been designed to respect and respond to the existing rhythm, spacing, scale, and the character of the surrounding conventional housing stock found in each streetscape.

The siting and built form of the indicative architectural design response reflects the scale and character of the housing stock along Golf Road and Beryl Avenue. Specifically, a two storey height limit has been adopted and visual breaks and variation in setbacks have been adopted. The setbacks from Golf Road, Beryl Avenue and Bakers Road have been designed to adhere to the established street pattern of large, well planted setbacks.

In terms of street setbacks, the Development Plan allows for a minimum of 5.5 metres along Beryl Avenue, 9.2 metres along Bakers Road and 7.9 metres along Golf Road.

Furthermore, physical breaks will be provided between the townhouses to create a streetscape that matches and addresses the existing context (as demonstrated in Figure 37). These physical breaks will allow for the dwellings read as singular detached dwellings rather than distinctly different townhouse dwellings.

The Development Plan will allow for a mix of rear and front loaded dwelling types along all street interfaces, thereby reducing the number of crossovers proposed along the existing streetscape. Where rear loaded dwellings are proposed, 1.5 metre palisade and horizontal slat fencing should be used to allow for passive surveillance of public spaces while maintaining privacy for the dwelling's secluded private open space. Notwithstanding, each dwelling will be provided with a pedestrian entry from Beryl Avenue and Golf Road, providing each dwelling with its own sense of identity and presence in the existing streetscapes.

Respect the Metropolitan Golf Club interface through appropriate setbacks and landscape treatments.

Dwellings along the Metropolitan Golf Course will be designed to appropriately respond to the golf course interface through large setbacks and the provision of landscaping.

The Development Plan ensures that the built form of the dwellings, as viewed from the golf course, is minimised through a 4 metre setback from the shared boundary.

While a three storey built form is proposed for this interface, the third storey is setback a further 9.5 metres from the boundary, ensuring that the built form will not result in any unreasonable visual bulk.

The proposed building setback from the boundary provides opportunities for significant vegetation and canopy trees along the interface, further mitigating potential overlooking into the Golf Course.

Figure 38. Indicative Golf Course Interface 3D Building Envelopes (Source: Plus Architecture)

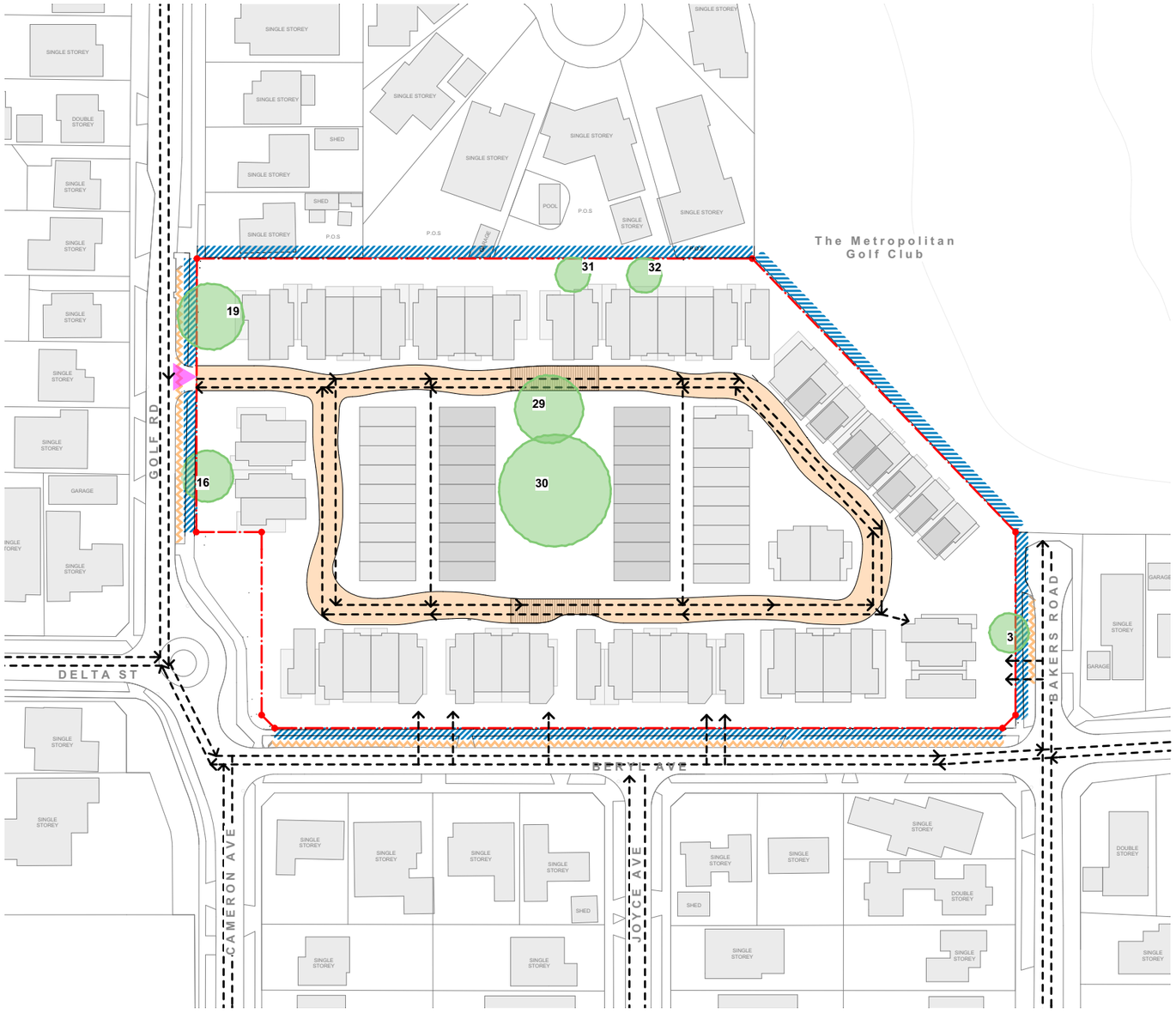


Figure 39. Indicative Internal Street Network (Source: Plus Architecture)

Subject Site

Trees To Be Retained

Potential Streetfront Vehicular Access to TH's

Vehicle Entry/Exit

Minor Townhouse Crossover

Shared Access

Sensitive Residential Interface

Residential Townhouse

Provide for a safe and convenient vehicular access and car parking arrangement throughout the Site.

The Development Plan provides a highly permeable neighbourhood that encourages slow moving vehicle traffic, walking and cycling.

The internal road network has been carefully considered to promote pedestrian and cycling travel through the provision of a shared internal laneway which priorities pedestrian and cycling movements. Sensible traffic movement and speeds into and within the Site will be required. Adverse traffic mitigation measures include a meandering road layout to discourage speeding. Landscaping and a reduced carriageway adjacent to the central open space will also ensure that safe and appropriate vehicle movement is achieved within and surrounding the neighbourhood.

A combination of off-street car parking and front and rear loaded garages will be integrated into the development for residents and visitors. While the Site is located within the PPTN, it will accommodate a sufficient number of car parking spaces (in accordance with statutory planning requirements) to avoid any adverse off-street parking and traffic management issues.

Provide a range of dwelling types to cater for a variety of housing needs.

The careful delivery of a variety of housing types will ensure this neighbourhood is sensitive to its surrounds, while encouraging a diverse population, acknowledging changing demographics in the Melbourne context and responding to the existing demand for housing in the Oakleigh South area.

The Development Plan offers a selection of housing choices for diverse sectors of the community. Housing types will vary from two bedroom townhouses to four bedroom townhouses with a concomitant range of dwelling styles catering for various sectors of the housing market such as first time home buyers and downsizer households.

Each housing type is carefully located to acknowledge existing residential land uses and to assist in framing streets and areas of public open space.

Dwelling types will include the capacity for flexible layouts and internal rearrangement to accommodate changes in household structure and the requirements of people with additional needs. Importantly, the Development Plan allows for 12 of the 89 proposed townhouses to feature ground floor bedrooms, living, dining and kitchen spaces with access to ground floor secluded private open space.

Figure 40 shows the indicative dwelling typology arrangement.

Figure 40. Indicative Dwelling Typology Arrangement

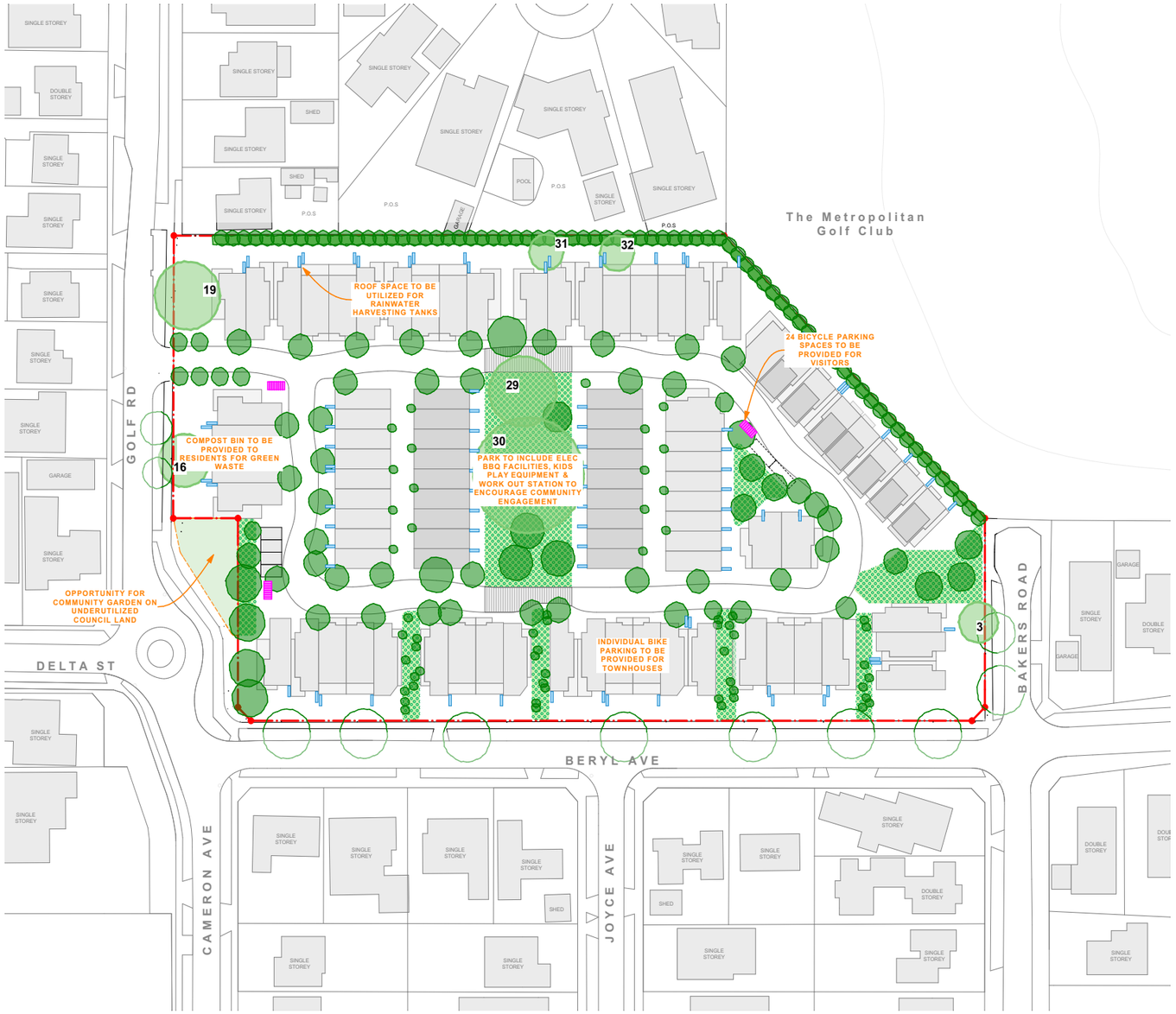


Figure 41. Indicative ESD Principles (Source: Plus Architecture)

Subject Site

Trees To Be Retained

Visitor Bike Parking

Rainwater Collection Tanks

Communal Open Space (Publicly Accessible)

Opportunity for Community Garden on Council Land

Residential Townhouse

Proposed New Trees
Refer to Landscape Plan for Further Detail

Incorporate sustainable design features.

Key sustainable design strategies considered in the Development Plan include:

- Gas instantaneous hot water systems to all dwellings.
- 3 star rated efficient reverse cycle air conditioning.
- Installation of efficient water fixtures to minimise potable water consumption.
- Communal garden with composting facilities to manage food and garden organics.
- A 2,000L rainwater harvesting tank for each dwelling plumbed to all WC's for toilet flushing and landscape irrigation. Additionally, a series of stormwater pits providing treatment equivalent to 12 square metres of 300 mm deep rain gardens to treat the rainwater collected from the main driveway in the development.
- Low/ultra-low VOC paints, adhesives and sealants, and low formaldehyde wood products (e.g. E0/Super E0 MDF and plywood).
- Resident and visitor bicycle parking spaces, and shared electric bicycle facilities, charging stations, and a public bike repair station (including pump, tire lever, Allen keys and screw drivers).
- Electric vehicle charging bays for residents and the broader community.

These sustainable design strategies are shown in Figure 41.

4.2 DEVELOPMENT PLAN

Figure 42 demonstrates the land use and development framework for the Site, encapsulating the key elements of the development:

- Townhouse Typologies
- Landscaping
- Open Space
- Setbacks
- Internal road network

Figure 42. Indicative Overall Development Plan (Source: Plus Architecture)

4.3 INDICATIVE TOWNHOUSE TYPOLOGIES

The Development Plan seeks to provide a range of dwelling types to cater for a variety of housing needs.

The indicative architectural plans contained within the Development Plan demonstrate that a range of two to four bedroom dwellings can be delivered at the Site with usual living, dining, kitchen, open space and car parking arrangements.

Table 2 provides an overview of the indicative townhouse typologies included in the Development Plan.

Please note the details contained below are indicative only and may be subject to change in a future planning permit application.

Figure 43. Proposed internal townhouses (Source: Plus Architecture)

Table 2. Development Summary

Typology	Typical Area	No. of Storeys	No. of Bedrooms	Indicative Private Open Space	Indicative No. of Dwellings
Type 01	190sqm	Two	Four	57sqm	8
Type 02	174sqm	Two	Four	39sqm	15
Type 02a	168sqm	Two	Four	39sqm	2
Type 02b	170sqm	Two	Four	39sqm	4
Type 03	197sqm	Two	Four	38sqm	15
Type 04	178sqm	Three	Three	20sqm	18
Type 05	203sqm	Two	Four	35sqm	3
Type 05b	215sqm	Two	Four	131sqm	1
Type 06	188sqm	Three	Four	38sqm	7
Type 07	120sqm	Two	Two	20sqm	16
Indicative Total					**89**

4.3.1 Townhouse Type 01

This townhouse type proposes a two storey built form and has been designed and sited to respect the existing interfaces along Beryl Avenue, Golf Road and the existing dwellings to the north.

The dwellings are set back 7 metres from Beryl Avenue, 9.3 metres from Golf Road and 7.5 metres from the northern boundary of the Site, ensuring adequate areas are provided for sufficient and meaningful planting to occur and appropriate visual separation.

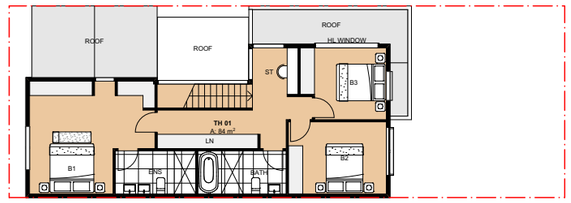
Access is provided via the internal laneway.

Dwellings located along Golf Road and Beryl Avenue will be provided with pedestrian access to the existing streets. It is envisaged that this pedestrian access will be the 'front door' for these dwellings.

The key elements of this Townhouse Type are:

- A two storey built form;
- Four bedrooms, including one guest bedroom located on ground;
- Open planned living, kitchen and dining area at ground with direct access to private open space;
- Ground floor private open space measuring 54 square metres in area with a minimum dimension of 8m (rear yard); and
- Two car parking spaces provided via a secure single garage and tandem car park behind.

Refer to Figure 44.



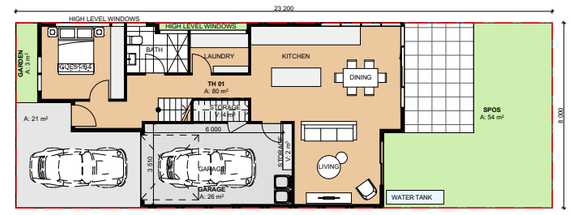


Figure 44. Townhouse Type 01 (Source: Plus Architecture)

4.3.2 Townhouse Type 02, 02a & 2b

This townhouse type proposes a two storey built form and has been designed and sited to respect the existing interfaces along Beryl Avenue, Golf, Road, Bakers Road and the existing dwellings to the north.

The dwellings are set back 5.5 metres from Beryl Avenue, 9.1 metres from Golf Road and 6 metres from the northern boundary of the Site ensuring adequate separation from existing dwellings to the north. The first floor side setbacks are recessed in order to reduce the visual prominence of the dwelling.

Dwelling Type 02 presents to the internal street and is located along Beryl Avenue, Bakers Road, Golf Road and the northern boundary.

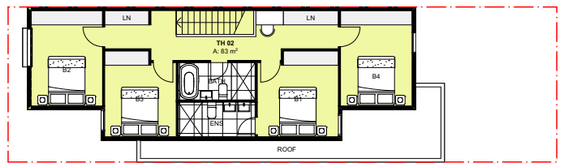
Dwelling Type 02a and 02b present to the existing streets and are located along Beryl Avenue and Bakers Road.

Dwellings located along Golf Road, Bakers Road and Beryl Avenue will be provided with pedestrian access to the existing streets. It is envisaged that this pedestrian access will be the 'front door' for these dwellings.

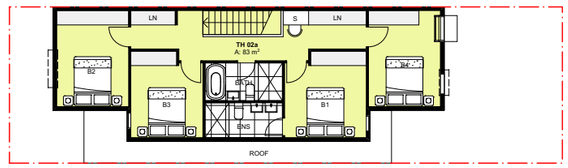
The key elements of this Townhouse Type are:

- A two storey built form;
- Four bedrooms;
- Open planned living, kitchen and dining area at ground with direct access to private open space;
- Ground floor private open space with a minimum area of 25 square metres; and
- Two car parking spaces via a secure Garage and tandem car park behind.

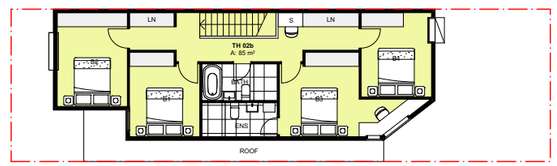
Refer to Figures 45-47.



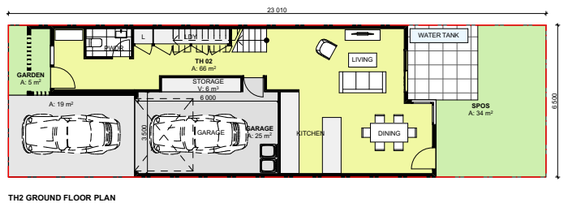
TH2 1ST FLOOR PLAN



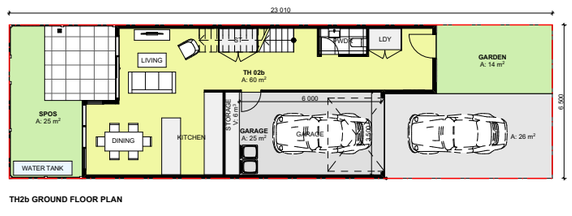
TH2a 1ST FLOOR PLAN



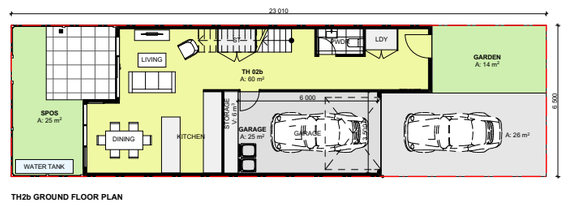
TH2b 1ST FLOOR PLAN



TH2 GROUND FLOOR PLAN



TH2b GROUND FLOOR PLAN



TH2b GROUND FLOOR PLAN

Figure 45. Townhouse Type 02 (Source: Plus Architecture)

Figure 46. Townhouse Type 02a (Source: Plus Architecture)

Figure 47. Townhouse Type 02b (Source: Plus Architecture)

4.3.3 Townhouse Type 03

This townhouse type provides a two storey built form and has been designed and sited to respect the existing interfaces along Beryl Avenue and the existing dwellings to the north.

The dwellings are setback 6 metres from Beryl Avenue, and 6.5 metres from the northern boundary of the Site ensuring adequate separation from existing dwellings to the north. The first floor side setbacks are recessed in order to reduce the visual prominence of the dwelling.

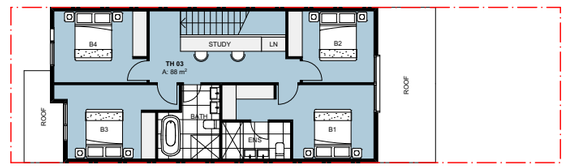
Access is provided via the internal laneway.

Dwellings located along Beryl Avenue will be provided with pedestrian access to the existing streets. It is envisaged that this pedestrian access will be the 'front door' for these dwellings.

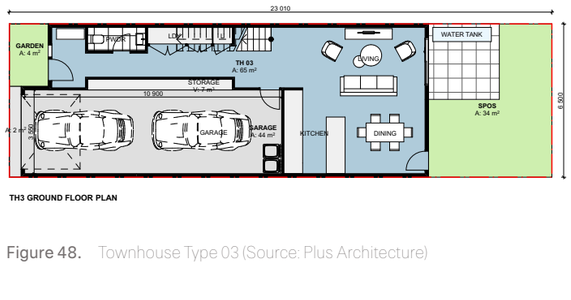
The key elements of this Townhouse Type are:

- A two storey built form;
- Four bedrooms;
- Open planned living, kitchen and dining area at ground with direct access to private open space;
- Ground floor private open space measuring 34 square metres in area with a minimum dimension of 6.5 metres; and
- Two car parking spaces via a secure tandem garage.

Refer to Figure 48.



TH3 1ST FLOOR PLAN



TH3 GROUND FLOOR PLAN

Figure 48. Townhouse Type 03 (Source: Plus Architecture)

4.3.4 Townhouse Type 04

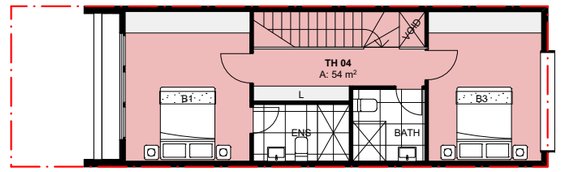
This townhouse type provides a three storey built form designed to activate the central public open space.

The dwellings are accessed via the internal access lanes to embrace the opportunity to orientate towards the open space enhancing passive surveillance and reducing the visual impact of garages fronting the proposed internal street.

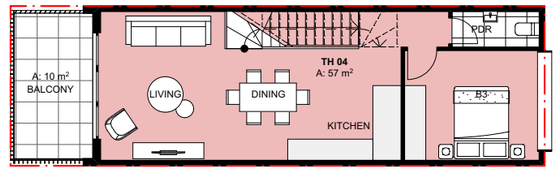
The key elements of this Townhouse Type are:

- A three storey built form;
- Study on ground with direct access to a courtyard fronting the public open space;
- Three bedrooms;
- Open plan living, kitchen and dining area on level 1 with direct access to private open space with a minimum area of 10 square metres; and
- Two car parking spaces via a secure tandem garage.

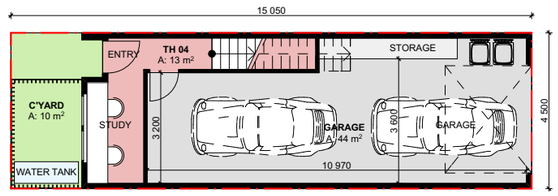
Refer to Figure 49.



TH4 2ND FLOOR PLAN



TH4 1ST FLOOR PLAN



TH4 GROUND FLOOR PLAN

Figure 49. Townhouse Type 04 (Source: Plus Architecture)

4.3.5 Townhouse Type 05 & 05b

Townhouse Type 05 provides a two storey built form and has been designed to face the public open space located in the eastern portion of the Site.

Townhouse Types 05b provides a two storey built form and has been designed to face the Metropolitan Golf Course.

Access to Townhouse Type 05 and 05b will be provided via the internal laneway and centre lane east.

The key elements of this Townhouse Type are:

- A two storey built form;
- Four bedrooms including one on ground;
- Open plan living, kitchen and dining area on ground with direct access to secluded private open space with a minimum area of 25 square metres; and
- Two car parking spaces via a secure double garage.

Refer to Figures 50-52.

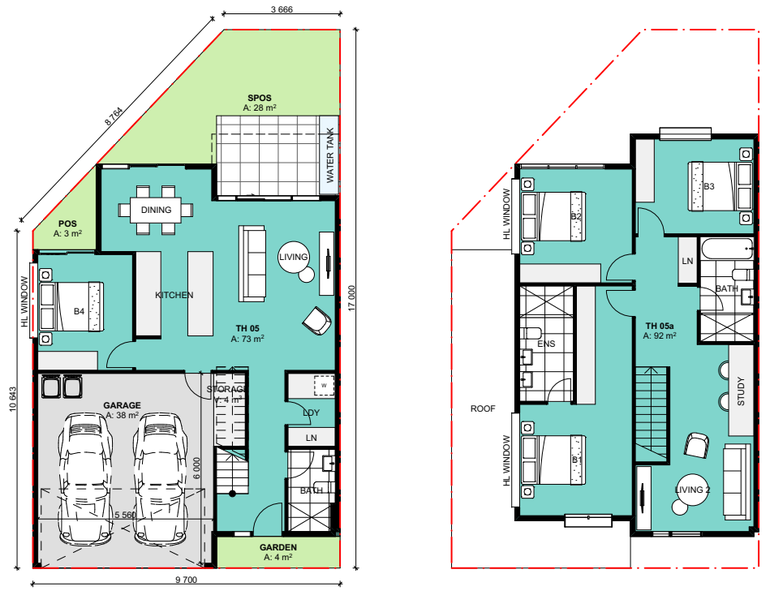


Figure 50. Townhouse Type 05 (Source: Plus Architecture)

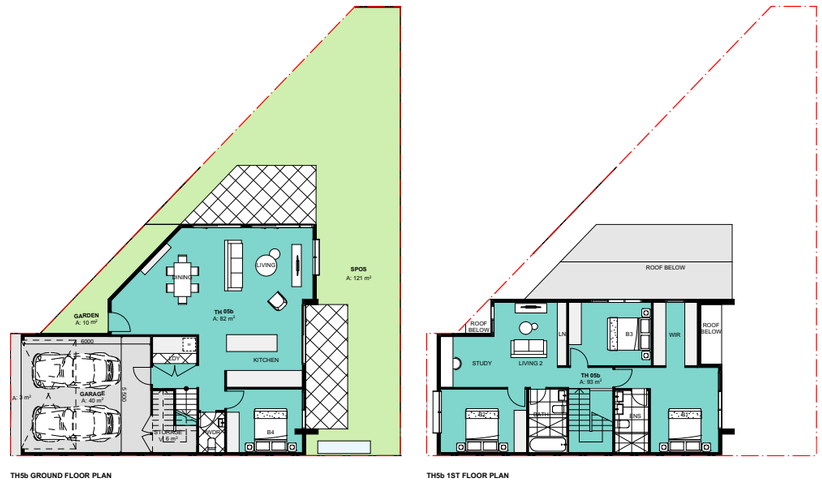


Figure 51. Townhouse Type 05b (Source: Plus Architecture)

4.3.6 Townhouse Type 06

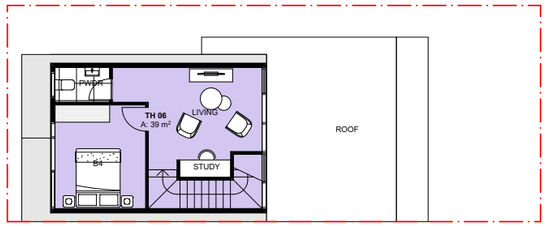
This townhouse type provides a three storey built form located along the eastern interface adjacent to the Metropolitan Golf Course. The dwellings are accessed via the internal access lane.

While the townhouse type provides a three storey built form, the third floor is setback 9.5 metres from the boundary to reduce the built form of the proposed townhouses as viewed from the golf course

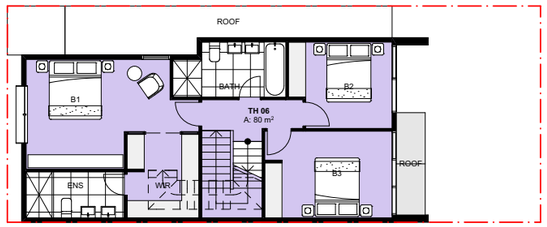
The key elements of this Townhouse Type are:

- A three storey built form;
- Four bedrooms;
- Open plan living, kitchen and dining area on ground with direct access to secluded private open space with a minimum area of 34 square metres; and
- Two car parking spaces provided via a secure double garage.

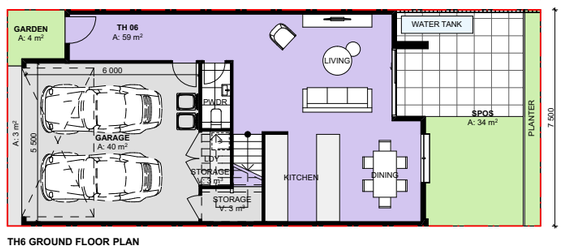
Refer to Figure 53.



TH6 2ND FLOOR PLAN



TH6 1ST FLOOR PLAN



TH6 GROUND FLOOR PLAN

Figure 52. Townhouse Type 06 (Source: Plus Architecture)

4.3.7 Townhouse Type 07

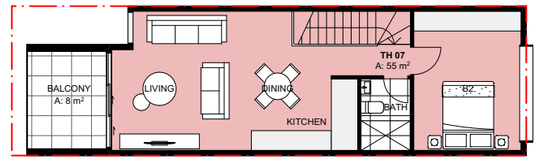
This townhouse type provides a two storey built form designed to activate the internal road network.

The dwellings are accessed via the internal access lanes to embrace the opportunity to orientate towards the internal road enhancing passive surveillance and reducing the visual impact of garages fronting the proposed internal street.

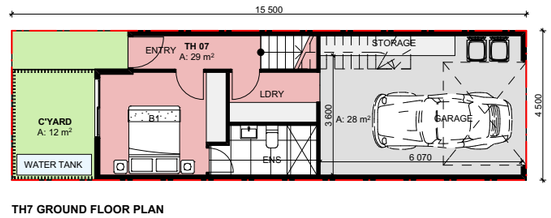
The key elements of this Townhouse Type are:

- A two storey built form;
- Two bedrooms including one on ground with direct access to a courtyard of 12 square metres,
- Open plan living, kitchen and dining area on level 1 with direct access to private open space with a minimum area of 8 square metres; and
- One car parking space via a secure single garage.

Refer to Figure 54.



TH7 1ST FLOOR PLAN



TH7 GROUND FLOOR PLAN

Figure 53. Townhouse Type 07 (Source: Plus Architecture)

4.4 SHADOW ANALYSIS

Shadow diagrams depicting shadows at 10am, 12pm and 3pm of the proposed dwelling typologies are provided in this Development Plan in accordance with Section 3.0 of Schedule 5 to the Development Plan Overlay.

Refer to Figures 55-57.

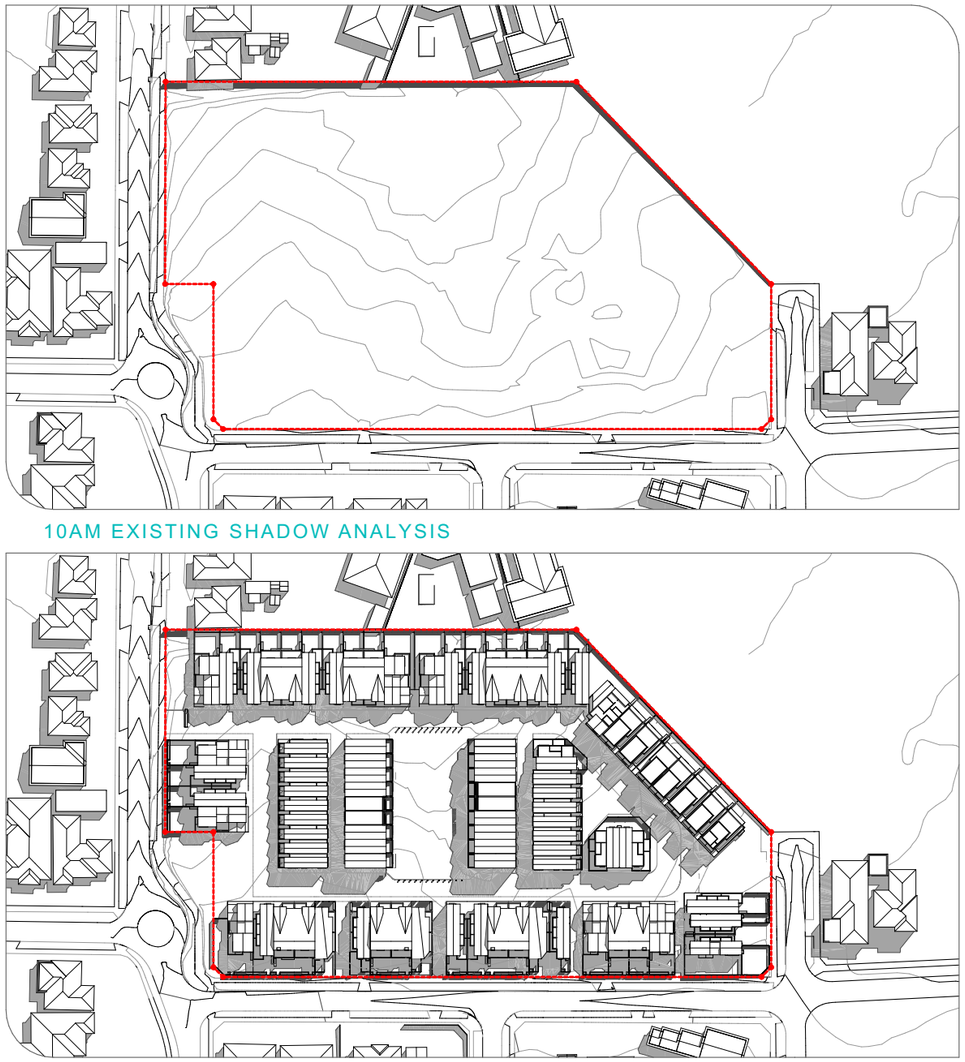
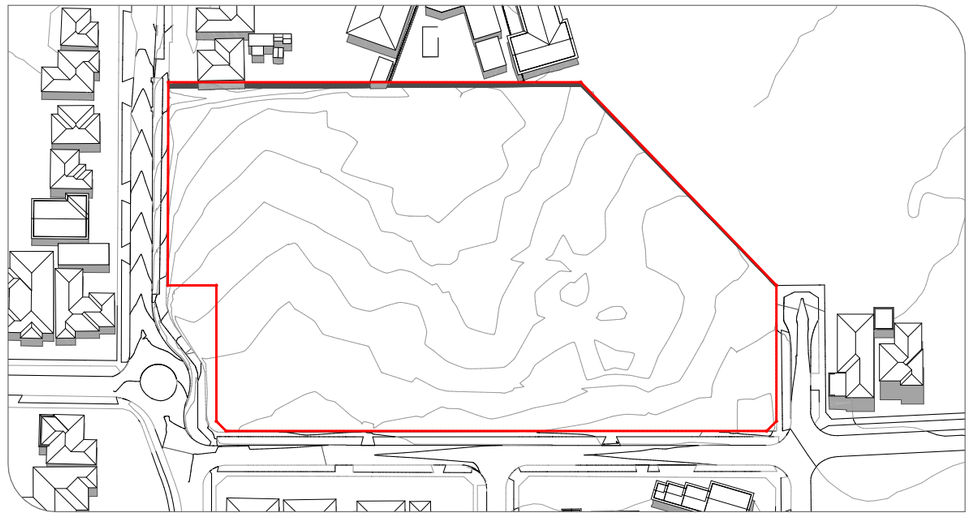
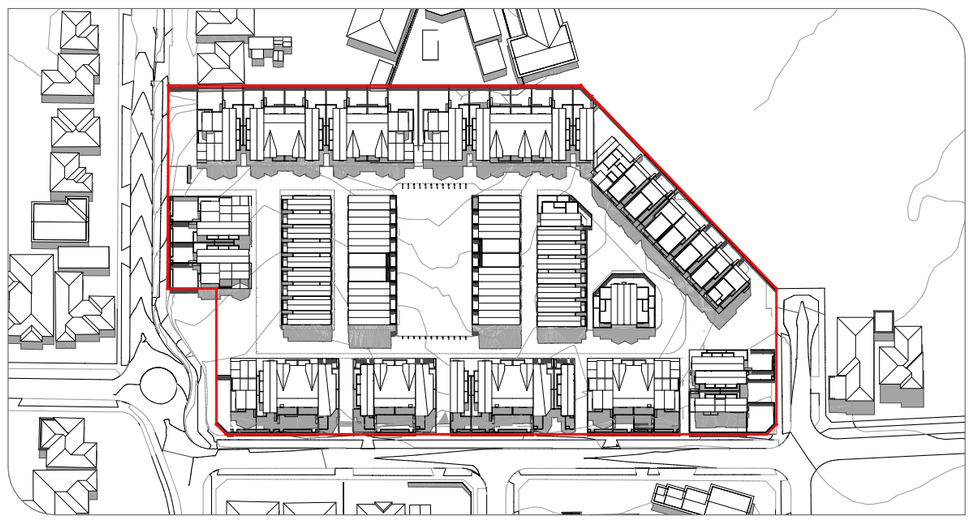


Figure 54. Shadow Analysis 10am (Source: Plus Architecture)

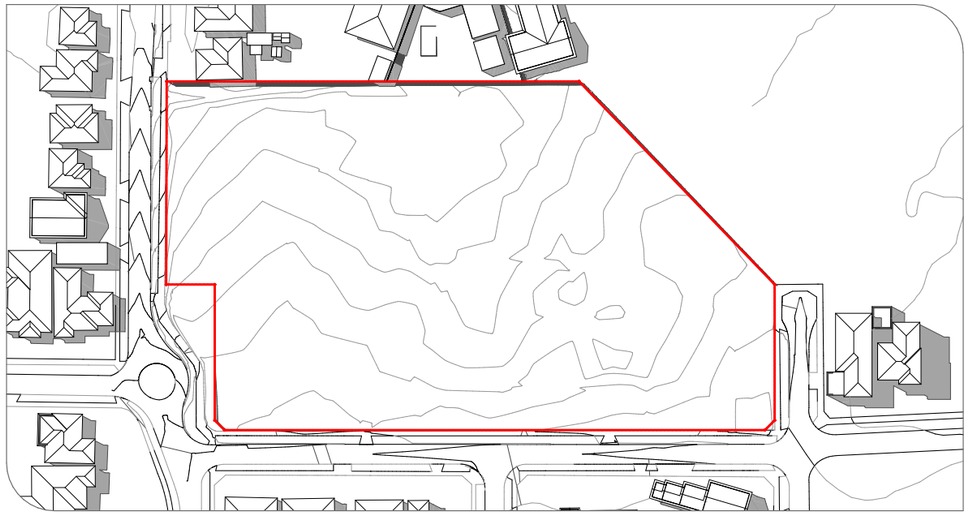


12PM EXISTING SHADOW ANALYSIS

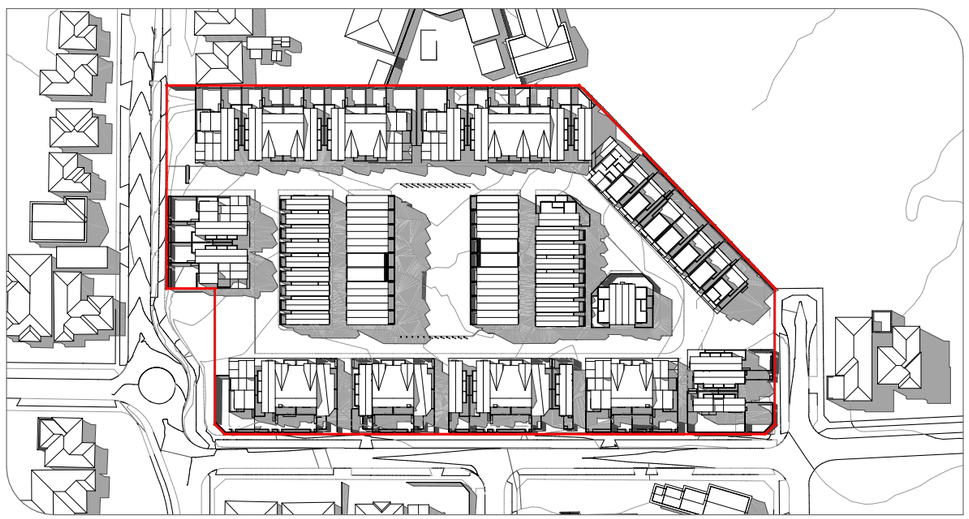


12PM PROPOSED SHADOW ANALYSIS

Figure 55. Shadow Analysis 12pm (Source: Plus Architecture)



3PM EXISTING SHADOW ANALYSIS



3PM PROPOSED SHADOW ANALYSIS

Figure 56. Shadow Analysis 3pm (Source: Plus Architecture)

Landscape & open space.

5 LANDSCAPE & OPEN SPACE

This section of Development Plan addresses the following requirement of the DPO5:

'A landscaping plan which:

- Shows the landscape concept for the Site.
- Incorporates any significant vegetation including trees rated as 'moderate' or 'high' in the 2013 Tree Logic assessment'

5.1 ARBORICULTURAL FINDINGS

Given the time that has elapsed since the 2013 Tree Logic Report, Landscape DEPT has prepared review and update on the arboricultural findings.

The original Tree Logic report identified 56 trees or groups of trees within the Site. One tree (Tree 1) has been since been removed. 55 trees or groups were re-assessed as part of the 2018 study. Trees with an arboricultural value of 'low' or 'none' were visually inspected but their dimensions were not re-measured. All trees assessed in the 2013 report of moderate arboricultural value have had their dimensions updated. No trees were assessed of high arboricultural value.

The re-assessment generally concurs with the 2013 Tree Logic Report and arboricultural values of the trees have been adopted from the 2013 report. The Landscape DEPT review has found the following:

- While many trees are highly visible within the landscape, many of the large specimens with high landscape contribution have structural/health issues that restrict their suitability for retention within a general residential context.
- No trees within the site were attributed high arboricultural value. Several large trees within the site have a high landscape contribution but have structural and/or health issues that require landscape constraints and ongoing management, limiting their arboricultural value within a general residential context.
- Tree 1 has been removed from the Site and no longer needs to be considered.
- Tree 35, Manna Gum, is now located outside the site boundary but will need to be considered as part of any development.
- Tree 12, Yellow Gum, was identified as being of moderate arboricultural value in the 2013 report. The tree has developed a broad, spreading form with over-extended branches that are prone to failure, which is typical of some specimens of Yellow Gum. Lastly, it is also noted that Tree 12 offers a low landscape value. Therefore, the tree was considered to have a low arboricultural value. The loss of amenity resulting from its removal could be easily replaced in the short term with appropriate landscaping.
- Tree 25, Southern Mahogany, is self-seeded and has developed as a suppressed specimen. As an individual specimen the tree was considered to have a low arboricultural value.
- While Trees 2, 22, and 24 are attributed a moderate arboricultural value, it has a high history of branch failure, deadwood and severe lerp infestation.

Figure 57. Arboricultural Plan (Source: Landscape DEPT)

5.2 TREE RETENTION

Figure 59 demonstrates the indicative trees proposed to be retained on the Site in accordance with the findings of the 2018 Arboricultural report.

Specifically trees 3, 16, 19, 29, 30, 31 and 32 are proposed to be retained on the Site.

Trees shown to be retained in Figure 54 can be removed at the planning permit application stage should there be arboricultural and / or Site construction circumstances that necessitates the response. In these circumstances, a replacement tree must be provided to the satisfaction of the Responsible Authority.

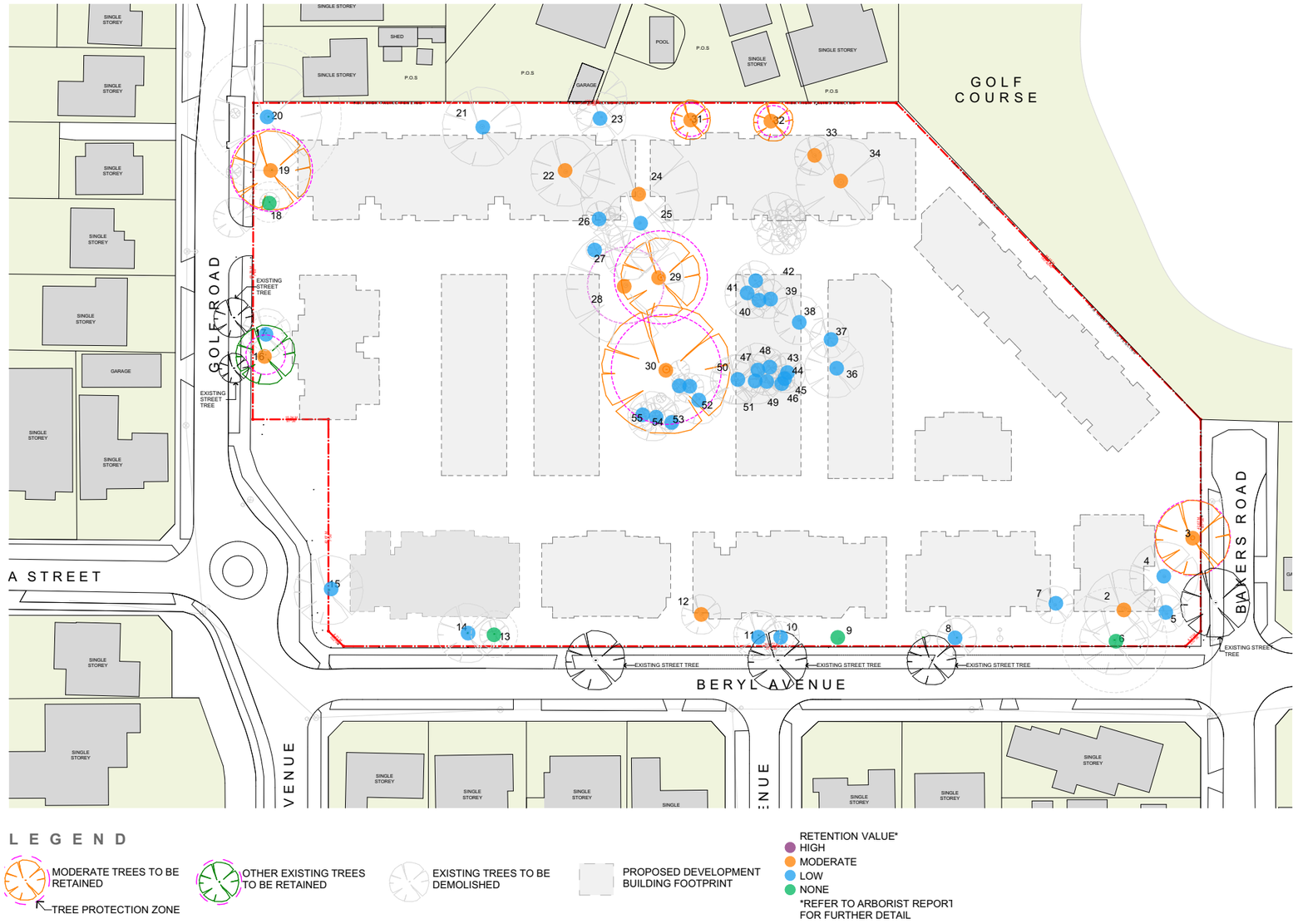


Figure 58. Tree Removal and Retention

5.3 DESIGN RESPONSE AND VISION

Landscape design comprises a key component of Oakmont Oakleigh South at the 52 Golf Roadd Development. The concept has been designed to create attractive, quality open spaces encouraging social engagement and community events. Oakmont will provide a high standard of amenity for residents and the surrounding existing community to share and enjoy.

The landscape treatment and strong vegetated character will provide 'green moments' throughout the open spaces. Landscape treatments will be consistent across the entire Site providing green relief and harmonizing with the proposed development.

In generating the design the following design objectives will be adopted:

- Provide communal landscape areas for outdoor retreat, quiet contemplation and social engagement.
- Abundance of gardens and planting - 'green' vegetated character.
- Integrate large evergreen trees to provide shade, shelter and a sense of pedestrian scale.
- Provide pedestrian linkages through the Site to the adjoining residential streets.
- Provide a considered arrangement of trees, shrubs and ground-covers that are drought tolerant and require a low watering and maintenance regime.

Refer to Figure 61.

Figure 59. Landscape Concept

MASTER PLAN
1:750 @ A1

Legend

SITE BOUNDARY

1. **MAIN COMMUNAL OPEN SPACE**
   Children's play with seating, barbecue, lawn and shade trees.
2. **EASTERN GARDEN**
   Intimate social/gathering space with lawn, trees and seating
3. **SHAREWAY**
   Shared laneway with priority to pedestrian and cyclist movements
4. **CENTRE LANES**
   Opportunity for planting along centre lanes
5. **'GREEN' LINKS**
   Feature low planting to allow passive surveillance
6. **LANDSCAPE BUFFER**
   Dense planting along the entire length of property boundary
7. **PRIVATE TERRACES**
   Outdoor courtyards providing green outlooks.
   Refer to private terraces detailed design
8. **PRODUCTIVE GARDEN**
   Opportunity for communal kitchen gardens accessible by residents and neighbours
   (area outside property boundary and subject to Council approval)

E **ENTRY FEATURE**

B **BIN COLLECTION**

30 **EXISTING TREE TO BE RETAINED**

Refer to Arboricultural report prepared by SEAN GENTRY CONSULTANT ARBORIST Dec 2018

| BH | **VISITOR BIKE PARKING**
12 bike hoops (24 bikes)

Figure 60. Landscape Concept Master Plan

5.4 OPEN SPACE - OPTION 1

Located in the centre of the Site will be a generous open lawn accessible from the north and south ends. Within this space there are two existing mature trees that will add to the quality of the landscape providing a soft outlook from the adjacent dwellings. They will also offer shade and shadow during the warmer summer months.

The open space also offers a place for communal outdoor retreat, social engagement and informal play. A barbeque and seating opportunities will be located south of the existing trees. Nature based play elements will be located under the existing Spotted Gum. A dedicated play zone will include sculptural and interactive play elements.

Refer to Figure 62-64.

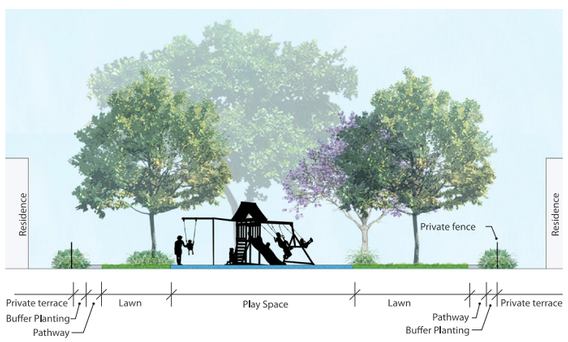


Figure 61. Open Space Section

OPEN SPACE PLAN
1:400 @ A1

Figure 62. Open Space Plan

Figure 63. Precedent Images

5.5 OPEN SPACE - OPTION 2

Option 2 presents an alternative option in regards to the landscaping of the central public open space. This option demonstrates how a landscape outcome could be achieved if the existing trees were to fail and be removed.

Option 2 provides in the order 75% more usable active space, expanses of flexible lawn and ample space to allow for the planting of 18 trees, semi-mature at installation.

As with option 1, the open space also offers a place for communal outdoor retreat, social engagement and informal play. A barbecue will be located to the central active space and seating opportunities are included throughout. A dedicated play zone will include sculptural and interactive nature based play elements.

OPEN SPACE PLAN_ OPTION 2
1:400 @ A1

5.4.1 Eastern Garden

Located to the east of the Site is the Eastern Garden framed by native trees. This area will provide a more intimate space for gathering and passive recreation.

Refer to Figure 65.

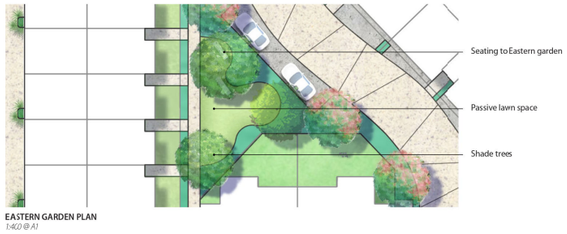


Figure 64. Eastern Garden

5.4.2 Production Garden

To the west side of the Site there is an opportunity for a productive garden accessible by residents and the broader community. The garden sits partially outside the title boundary and it is subject to Council approval.

The productive garden will provide hands-on opportunities for the local community to engage in organic food production in a dedicated and protected area for ease of management.

Key components include rotational vegetable beds for seasonal cropping, including dedicated beds for universal access, trellised fruit trees under planted with a diverse array of herbs, flowers and other companion species.

Refer to Figure 66.

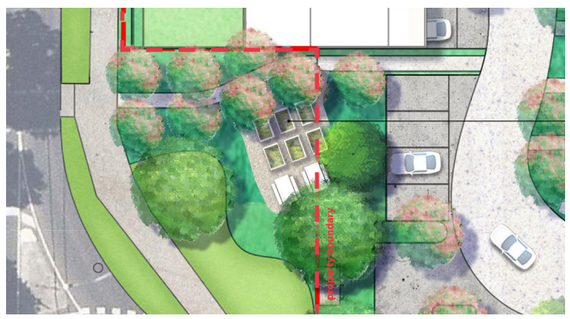


Figure 65. Production Garden

Figure 66. Precedent Images

5.4.3 Buffer Planting

Dense planting along the entire length of property boundary to the north and west side will provide adequate screening from the adjacent properties. Medium size trees and hedge type planting species will be selected.

Refer to Figure 68-69.

Figure 67. Buffer Planting

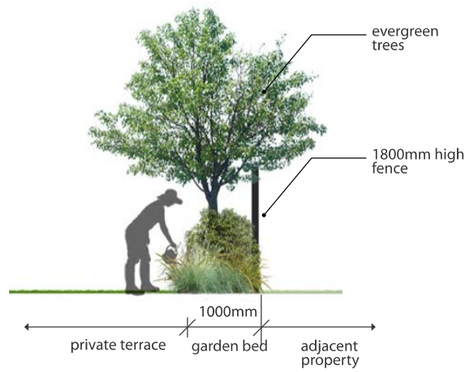


Figure 68. Buffer Planting Section

5.6 PRIVATE TERRACES

The private terraces will provide an extension to the indoor living spaces. Soft landscape areas will be integrated to the outdoor courtyards providing a green outlook for residents. The planters will support a selection of ornamental shrubs and ground covers.

Refer to Figures 70-79.

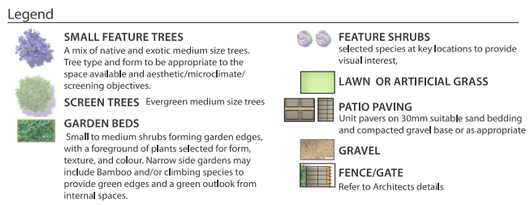


Figure 69. Private Terraces Planter Legend

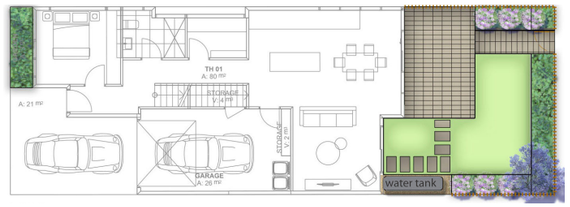


Figure 70. TH01

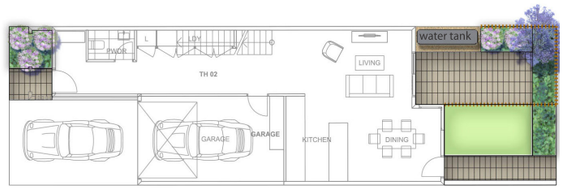


Figure 71. TH02

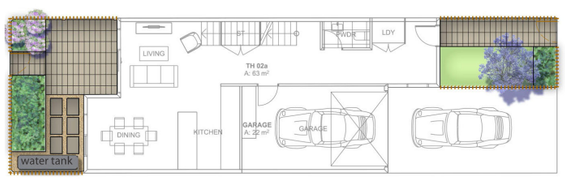


Figure 72. TH02a + TH02b

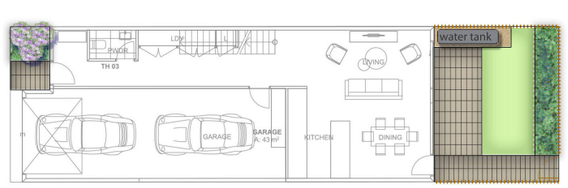


Figure 73. TH03

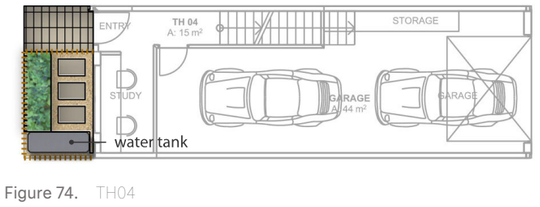


Figure 74. TH04

Figure 75. TH05

Figure 77. TH05b

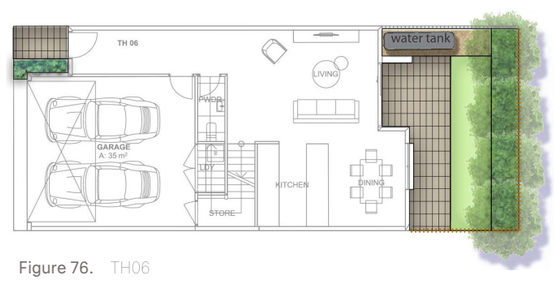


Figure 76. TH06

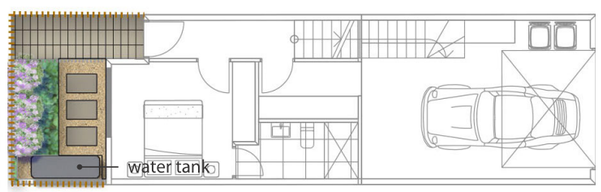


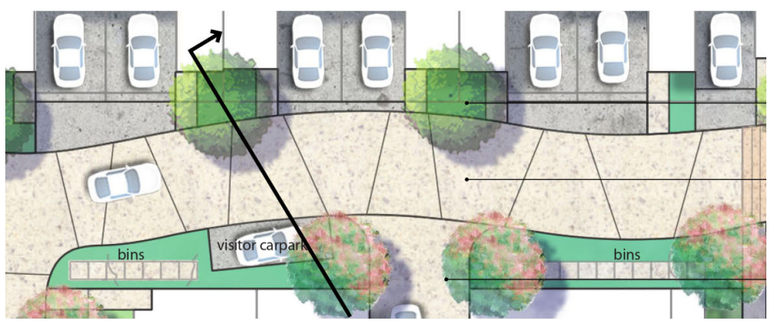
Figure 78. TH07

5.7 INTERNAL ROADS

The internal road is configured as a meandering 'shareway', providing priority to pedestrian and cyclist movements. Large planted areas increase tree planting opportunities. Feature paving to entry threshold and 'extension' of communal space to the north and south. Visitor car parks, waste collection areas and bicycle hoops are provided at key locations.

The internal laneways connect the internal shareway to the residential parking spaces to terraced housing. A urban laneway aesthetic is adopted with injections of greenery to soften the space. The shareway treatment will extend into the laneways to denote a continuation of shared, walkable spaces.

Refer to Figure 81-85.



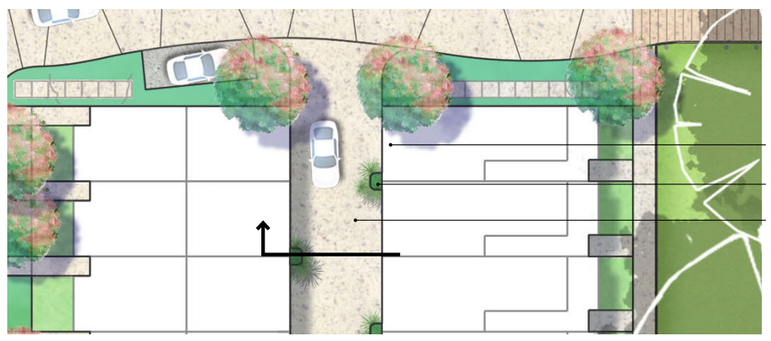


Figure 83. Access Laneway

Figure 81. Precedent Images

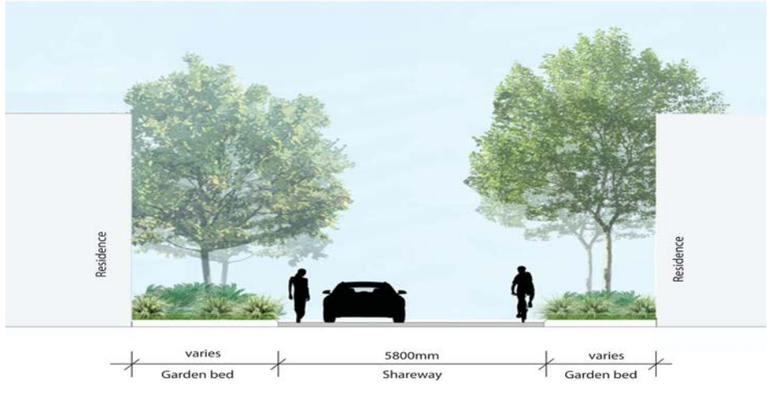


Figure 82. Internal Shareway Road Section

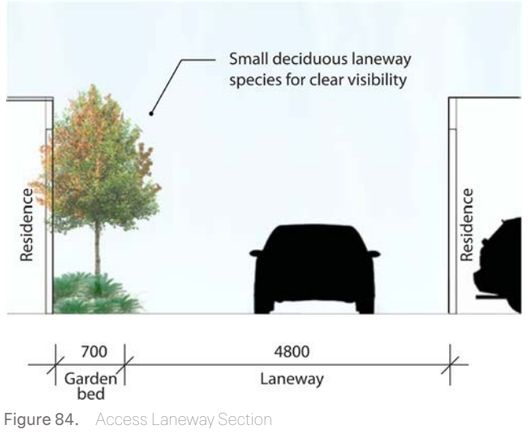


Figure 84. Access Laneway Section

5.8 PEDESTRIAN CONNECTIONS

Pedestrian linkages connect Beryl Avenue and the internal open space. An arrangement of plants along both sides of the paths will provide visual and physical separation to the adjacent townhouses, whilst allowing passive surveillance and creating a safe environment. The planted areas will support ornamental shrubs and ground covers and a rhythm of small size trees.

Refer to Figure 86-88.

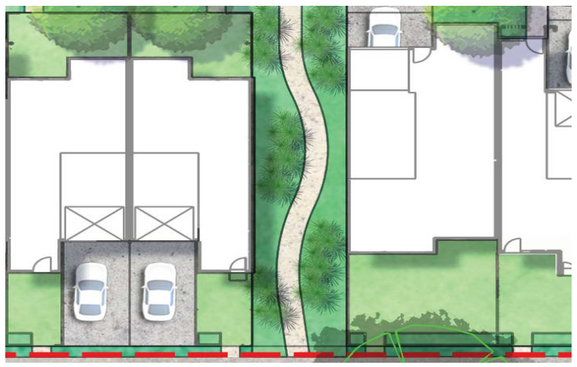


Figure 85. Pedestrian Path Link

Figure 86. Precedent Images

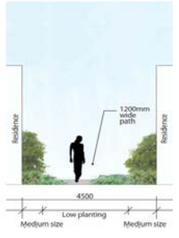


Figure 87. Pedestrian Path Link Section

5.9 PLANTING INTENTION

The planting palette takes inspiration from the 'garden of Eden' theme. Planting will be a naturalistic mix of textural shrubs, creeping ground covers and soft grasses that will flow in the breeze.

The planting palette results in a lush colour palette of silver and greens which will complement the high end architecture.

The planting palette will also provide a hardy landscape with minimal maintenance requirements, and low water consumption.

Refer to Figure 89 for indicative planting palette.

All landscape plantings will be irrigated by an underground automatic dripper system. Private Terraces will include water tanks for rainwater collection and reuse in garden irrigation.

Once established the plantings will require minimal maintenance. Maintenance activities undertaken, during and post establishment, will include: fertilizer application, herbicide spray (if appropriate), replenishment of mulch, and monitoring of plant health and performance and the implementation of appropriate horticultural measures to ensure optimal growth at times.

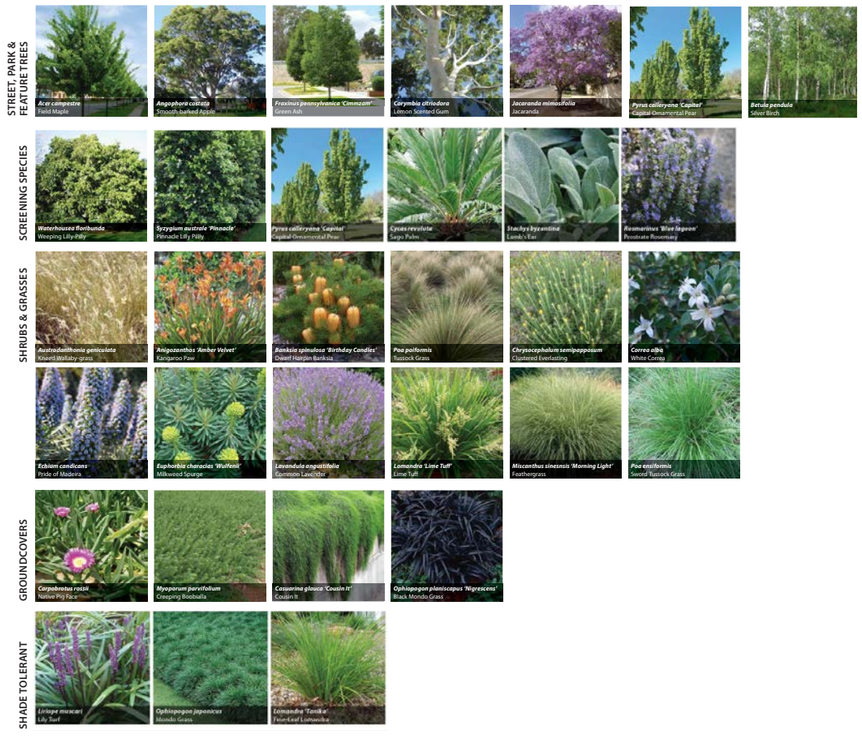


Figure 88. Planting Schedule

Traffic management.

6 TRAFFIC MANAGEMENT

This section of Development Plan addresses the following requirement of the DPO5:

'A traffic management report and car parking plan which includes:

- Identification of roads, pedestrian, cyclist and vehicle access locations, including parking areas, both internal and external to the Site.
- Traffic management measures, where required · Location and linkages to public transport. ·
- Car parking rates for all uses, including visitor parking.
- Provision for bicycle facilities.'

6.1 TRAFFIC ENGINEERING ASSESSMENT

The Traffic Engineering Assessment sets out the anticipated traffic and transport implications of the anticipated development, including consideration of the:

- Existing traffic conditions surrounding the Site;
- Traffic generation characteristics of the anticipated development;
- Proposed access arrangements and internal road network for the Site;
- Transport impact of the anticipated development on the surrounding road network; and
- Proposed pedestrian and bicycle links and facilities for the Site.

6.2 EXISTING CONDITIONS

6.2.1 Road Network

Golf Road is a Council collector road and is aligned in a north south direction between Beryl Avenue to the south (where it continues as Cameron Avenue) and North Road to the north. In the vicinity of the Site, Golf Road has a 7.8 metre carriageway accommodating a single traffic lane in both directions. Indented kerbside parking is provided to the north of the Site along the west side of Golf Road.

Beryl Avenue is a local road aligned in an east-west direction between Cameron Avenue to the west and Riley Street to the east. Beryl Avenue has a carriageway width of approximately 6.8 metres in the vicinity of the Site, which facilitates kerbside parking on both sides and a shared lane for through traffic. While kerbside parking is provided on both sides, it is noted that the carriageway width is considered insufficient for vehicles to park opposite one another and maintain a 3 metre clear width for through traffic.

The intersection between Beryl Avenue and Cameron Avenue is configured as an unsignalised T-intersection with priority given to Cameron Avenue via a Give Way sign.

Barkers Road is a local road aligned in a north-south direction between South Road to the south and a court bowl to the north.

Bakers Road has a carriageway width of approximately 6.8 metres in the vicinity of the Site, which facilitates kerb side parking on both sides and a shared lane for through traffic.

The intersection between Bakers Road and Beryl Avenue is configured as an unsignalised four-way intersection with priority given to Beryl Avenue via a Give-Way sign.

The default urban speed limit of 50 kilometres per hour applies to all three roads.

6.2.2 Car Parking

A total of 158 publicly available on-street car parking spaces are located within the area. This on-street parking is generally unrestricted, with small areas controlled by 'Permit Zone' restrictions.

There is a total of 26 unrestricted car spaces located along the Site's frontage to Beryl Avenue and 3 spaces along Bakers Road. Kerbside parking is not available along the Site's frontage to Golf Road.

A parking inventory survey undertaken by TraffixGroup indicated that on-street parking is in low demand with 16% of the 158 publicly available spaces occupied at the time of survey.

6.2.3 Public Transport

The Site is services by a number of public transport services, including several bus services located within walking distance of the Site.

The key facilities located within the nearby area include Bus Route 733, Bus Route 903 (SmartBus) and Bus Route 703.

The closest railway station (walking distance) is Huntingdale Station, located 2.3 kilometres from the Site. Oakleigh and Clayton Railway Stations are both accessible via the bus routes mentioned above.

6.3 PROPOSED CAR PARKING

Car parking for the indicative dwellings proposed are shown to be within single garages, single tandem garages and double garages for each respective dwelling, with access to these spaces provided via the internal road network, existing road network or from the rear laneways.

A total of 178 car parking spaces are proposed including 166 resident spaces and 12 shared visitor spaces (Table 3 indicates the statutory car parking requirement for each dwelling type).

Any overflow demands above the provision of 12 will be accommodated on-street. Post-development, a total of 27 car spaces will be available along the Site's combined frontages which could also accommodate overflow demands.

Table 3. Statutory Car Parking Requirement

Use	Size/ No	Car Parking Rate	Car Parking Provision
Two bedroom townhouse	16	1 space per one or two bedroom dwelling	16
Three bedroom townhouse	18	2 spaces per 3 or more bedroom dwelling	36
Four bedroom townhouse	55	2 spaces per 3 or more bedroom dwelling	110
Residential Visitors	89 dwellings	No requirement	12
Total			**174**

6.4 VEHICLE ACCESS AND INTERNAL ROAD NETWORK

Vehicle access to the development will be provided by a 5.8 metre wide accessway to Golf Road located at the approximate mid-point along the Site's frontage to Golf Road.

Five dwellings located along the southern boundary of the Site will have direct vehicle access to Beryl Avenue and a further four dwellings will have direct vehicle access to Bakers Road, along the eastern boundary.

The internal street network in will include access lanes and access streets. The proposed internal access road has a minimum carriageway width of 5.5 metres, which is akin to an Access Street - Level 1. The road width will allow two-way traffic throughout the Site. The width of the accessway is reduced to 3.6 metres along the interface of the central open space which allows for only one direction of traffic at a time.

6.5 BICYCLE PARKING

As this development is less than four storeys there is no statutory requirement to provide bicycle parking on Site.

Nonetheless, 24 visitor bicycle spaces will be provided for visitors within the development.

Further, given the nature of the development, informal bicycle parking can be accommodated within garages or elsewhere on the properties.

6.6 TRAFFIC GENERATION

Traffic generation estimates for the potential residential yield have been sourced from the RTA Guide to Traffic Generating Developments. The guide is referred to in the AustRoads Guide which is used by VicRoads, and is generally regarded as the standard for metropolitan development characteristics.

In this regard, for the purpose of providing a conservative analysis, TraffixGroup applied a rate of 5 vehicle trip-ends per dwelling per day for each of the two bedroom townhouses and a rate of 6.5 vehicle trip-ends per dwelling per day for each of the three and four bedroom townhouses, with 10% occurring during the road network peak hours.

This equates to a traffic generation rate of 568 vehicle trip-ends per day, with in the order of 57 vehicle trip-ends occurring during the road network peak hours.

This corresponds to one vehicle either entering or exiting the Site every minute on average, during the peak hours and less at other times of the day.

The report determined that the surrounding network has capacity to accommodate traffic generated by the Site, and that there will be no detrimental impact on traffic conditions in the surrounding area as a result of the development.

6.7 SERVICE AND EMERGENCY VEHICLE ACCESS

The vehicle circulation and access arrangement of the development will suitable accommodate Council's waste collection vehicle.

All trucks and emergency service vehicles will be adequately accommodated on the Site.

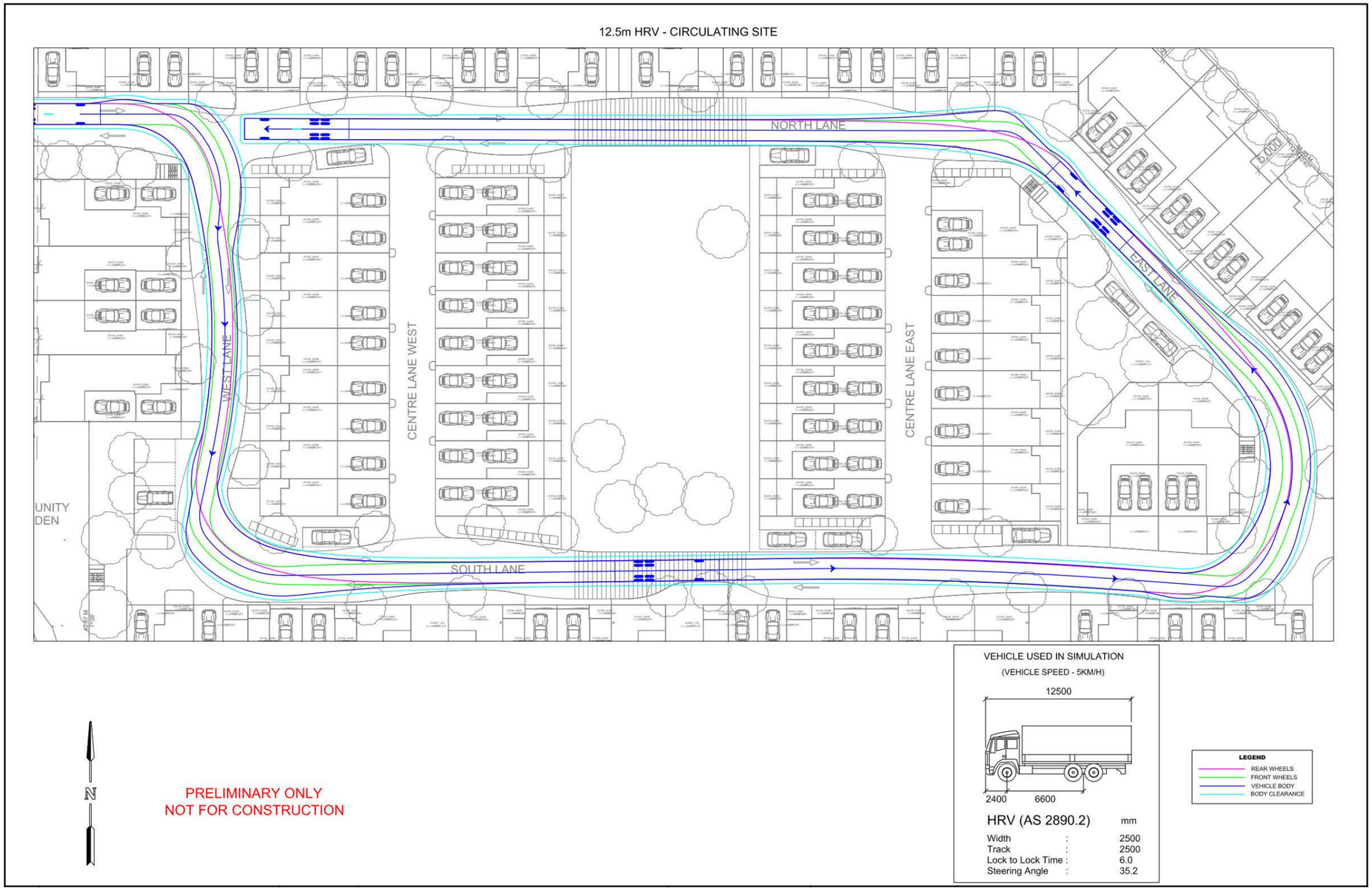


Figure 89. Swept Path Diagrams (Source TraffixGroup)

Sustainable management plan.

7 SUSTAINABLE MANAGEMENT PLAN

This section of Development Plan addresses the following requirement of the DPO5:

'Incorporate sustainable design features to address water and waste management, solar access and energy saving initiatives, to deliver lower living costs for future residents.'

7.1 OVERVIEW

The Sustainable Management Plan summarises the sustainable design initiatives being incorporated in the proposed development and benchmarks them against industry best practice.

To quantify the project's sustainability performance against an industry benchmark, this report uses the Built Environment Sustainability Scorecard (BESS), released by CASBE to support the Sustainable Design Assessment in the Planning Process (SDAPP) program. Importantly, the project achieves all the requirements under the BESS Assessment (refer to Table 4)

Key sustainable design strategies considered in the Development Plan include:

- Gas instantaneous hot water systems to all dwellings.
- 3 star rated efficient reverse cycle air conditioning.
- Installation of efficient water fixtures to minimise potable water consumption.
- Communal garden with composting facilities to manage food and garden organics.
- A 2,000L rainwater harvesting tank for each dwelling plumbed to all WC's for toilet flushing and landscape irrigation. Additionally, a series of stormwater pits providing treatment equivalent to 12 square metres of 300 mm deep rain gardens to treat the rainwater collected from the main driveway in the development.
- Low/ultra-low VOC paints, adhesives and sealants, and low formaldehyde wood products (e.g. E0/Super E0 MDF and plywood).
- Resident and visitor bicycle parking spaces, and shared electric bicycle facilities, charging stations, and a public bike repair station (including pump, tire lever, Allen keys and screw drivers).
- Electric vehicle charging bays for residents and the broader community.

Table 4. BESS Summary

Categories	Minimum Required	Category Score	Weighting	Overall Contribution	Compliance Achieved?
Management	-	83%	4.5%	3%	-
Water	50%	60%	9.0%	5%	Yes
Energy	50%	57%	27.5%	15%	Yes
Stormwater	100%	100%	13.5%	13%	Yes
Indoor Environment Quality (IEQ)	50%	50%	16.5%	8%	Yes
Transport	-	66%	9.0%	5%	-
Waste Management	-	50%	5.5%	2%	-
Urban Ecology	-	62%	5.5%	3%	-
Innovation	-	90%	9.0%	8%	-
Overall BESS Score	**50%**	**-**	**100%**	**67%**	**YES**

7.2 ESD FEATURES

7.2.1 Water Efficiency

The BESS result for mains water use is 60%, which exceeds the minimum required in this category. To achieve this rating, high efficiency fixtures were used throughout the development. Key water efficiency features include:

- Fixtures and fittings will have high efficiency WELS rating.
- Each dwelling will have an individual rainwater harvesting tank of 2,000 litres capacity to collect rainwater from 100% of roof areas. This rainwater will be used for toilet flushing and/or landscape irrigation for the dwelling it serves.
- Water efficient landscaping throughout the development including drought tolerant or low water demand plants and a water efficient system (e.g. sub-surface drip) will be used.

7.2.2 Energy Efficiency

Generally, the strategy includes high efficiency building fabric and design for thermal comfort. The energy consumption is further reduced through selection of efficient building services. This has yielded a BESS result of 57% for energy efficiency . Key energy efficiency features include:

- 3-star reverse cycle split systems for heating and cooling.
- Gas instantaneous hot water systems.
- An average weighted NatHERS star rating of 6.6 has been modeled for all thermally unique dwellings.
- External lighting throughout the development will be controlled by motion detectors.
- A private outdoor clothes line will be provided to each dwelling.
- The development will achieve a maximum illumination power density of 4W/sqm or less.

7.2.3 NatHERS Rating

As previously specified, NatHERS ratings have been completed for all thermally similar dwellings. On this occasion, seven townhouses were modeled (one for each type). The NatHERS Rating for each dwelling is show in Table 5. Importantly, this indicates that the dwellings will comfortably achieve the required 6.0 stars at the building permit stage.

Table 5. NatHERS Rating

Dwelling Type	No. of Dwellings in the Group	Heating Load (Mj/m2)	Cooling Load (Mj/m2)	Total Load (Mj/m2)	Star Rating
TH01	8	82.1	14.5	96.6	6.8
TH02	21	79.6	31.6	111.2	6.6
TH03	15	72.2	5.4	77.6	7.4
TH04	18	82.8	38.9	121.7	6.1
TH05a	4	94	20.7	114.7	6.3
TH06	7	106	13.9	119.9	6.1
TH07	16	80.7	32.1	112.8	6.4
Average (weighted)					**6.6**

7.2.4 Stormwater Management

Melbourne Water has developed the STORM calculator to provide an assessment of the rainwater/stormwater treatment methods and design score. This calculator assesses quality and quantity of the stormwater runoff from the development.

Based on the assumptions outlined in the SMP, the project achieves a 100% score in this category through the use of rainwater harvesting tanks of 2,000L to each dwelling, plumbed to all toilets. Additionally, a series of stormwater pits providing treatment equivalent to 12sqm of 300mm deep raingarden servicing a partial area of the driveway . The exact details of impermeable areas (other than roof) that will be treated will be finalised in the next phase of the design once the civil engineers are engaged.

Key stormwater management features include:

- A rainwater harvesting tank of 2,000L capacity for each dwelling capturing 100 percent of roof area for re-use in toilet flushing and landscape irrigation.
- A series of stormwater pits providing treatment equivalent to a total of 12sqm of 300mm deep raingarden treating runoff collected from a partial area of driveway.

7.2.5 Urban Ecology

The development will have a BESS score of 62% for urban ecology. Key urban ecology features include:

- Approximately 30% of Site area is covered with natural vegetation
- A tap and floor waste will be provided to balconies and terraces.

7.2.6 Indoor Environment Quality

The SMP finds that the dwelling layouts and glazed facades deliver good access to natural light and fresh air. The following features will provide an improved indoor environment quality in the dwellings:

- Double glazing used for all of the habitable rooms in the development.
- Good levels of daylight by good space layout and appropriately-sized untinted double glazing.
- Acoustic separation between dwellings and within dwellings.
- Good lighting design with the right Colour Rendering Index (CRI), optimum lighting contrast, feature/wall washing lighting, and localised lighting control.
- Low/ultra-low VOC paints, adhesives, sealants and carpets, as well as low formaldehyde wood products (e.g. E0/Super E0 MDF and plywood) will be used in the development.

7.2.7 Transport

The development will include the following sustainable transport features:

- 1 bicycle parking space will be provided for each dwelling.
- 24 bicycle parking spaces for visitors will be provided in the development.
- Electric bicycles and public bike repair station including pump, tire lever, Allen keys and screwdrivers will be provided in the development.
- Electric vehicle charging bay for residents and broader community will be provided in the development. Notably, service can be free for residents.

7.2.8 Waste Management

The development will include the following waste management features:

- Facilities are provided for on-site management of food and garden waste. This will be achieved with community garden and composting facilities.
- The development will make a commitment to divert 90% of Construction and Demolition waste from landfill, either through recycling or reusing.
- Waste bins will be provided for each dwelling individually. Bins will be provided for garbage, commingled recycling and green waste for the convenience of residents.
- Bins for e-waste including batteries, print cartridges and mobile phone are also considered at this stage.

7.2.9 Building Materials

BESS does not include a category dealing with sustainable building materials. As such, the project has reverted to the GreenStar TVOC Content Limit requirements. Materials include:

- Low / ultra-low VOC paints, adhesives and sealants.
- Low formaldehyde wood products.

Additionally, construction materials will be sourced with the following considerations

- Reduced Portland cement and virgin aggregate content, and nominate recycled water in all concrete mixes.
- Steel to be sourced from suppliers that are part of the World Steel Association's Climate Action Plan.
- Where used, PVC should be Best Practice PVC, or be an alternative material (e.g. HDPE etc)
- Use products that are:
  - Manufactured using recycled materials
  - Carry a "Green" certification
  - Are inherently durable and require minimal maintenance.

7.2.10 Community Education and Engagement

A Building Users Guide to be developed for the community, outlining the key environmental features of dwellings and shared space, and tips and hints on how to use features in their home to maximise their water/energy consumptions, and reduce waste. This information can be provided via an online portal, where they can see other shared information such as share car/bike bookings, BBQ bookings, and shared energy system generation, and will also provide a platform to encourage social gatherings.

The park will include public electric BBQ, children's play equipment, workout station to encourage community interaction and engagement with other residents.

Additional the development allows for space for a community garden that includes composting facilities. However, this requires community support to be successful.

Stormwater management plan.

8 STORMWATER MANAGEMENT PLAN

8.1 FLOOD MITIGATION SUMMARY

Water Technology Pty Ltd has provided an assessment on the impacts of flooding for existing and developed conditions for the proposed development and surrounding properties.

Flood mitigation scenario modeling was undertaken utilising an iterative approach with the goal of achieving no increase in flood risk to surrounding properties (both up-and-downstream) during the 1% AEP rainfall event as a result of the development. The design outcome of which is referred to as "Ultimate Conditions" which is to ensure:

- Safe conveyance of overland flow through the site (for events up to and including the 1% AEP)
- Suitable road and Finished Surface Levels (FSL) are nominated such that continuous grade is achieved
- The existing elevations surrounding trees nominated to be retained are not changed
- The need to upgrade the existing infrastructure surrounding the subject site is minimised
- That not only is the status quo (regarding the flood risk) of adjacent properties maintained but reduced or removed as a result of the development.

Figure 90 depicts the proposed Finished Surface Levels as 100mm contours and the proposed overland flowpaths through the Site.

Figure 91 shows the 1% AEP flood extents and contours for existing conditions (in blue) and ultimate conditions (in orange).

It is evident the movement of overland flow through the site and directly downstream has been significantly altered, with ultimate conditions overland flows contained within the proposed development's streetscape with continuous grade allowing for the conveyance of flow from east-to-west and ultimately out into Golf Road. This is in contrast to the movement of flow in existing conditions which has an approximate south-to-north orientation resulting in eight properties directly downstream being affected by flood to varying degrees

Figure 90. Proposed Finished Surface Levels - Ultimate Conditions

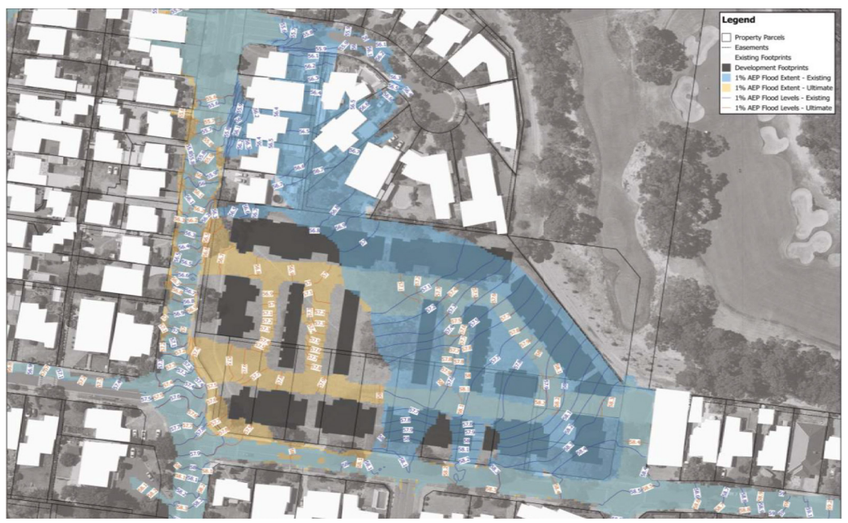


Figure 91. 1% AEP WSEL - Existing and Ultimate Conditions

Figures 92 and 93 depict the difference in flood extent and depth between the existing and ultimate scenarios for the 1% AEP event. Note the removal of overland flow through the eight properties to the north of the subject site which, within existing conditions, are impacted by overland flows of up to approximately 330 mm in depth.

By severing the flowpath to the north within ultimate conditions flows are being introduced to the road reserve earlier which results an increase in flow depth and a slight increase in extent directly adjacent to the subject site.

Figure 92. 1% AEP Flood Depth - Existing Conditions

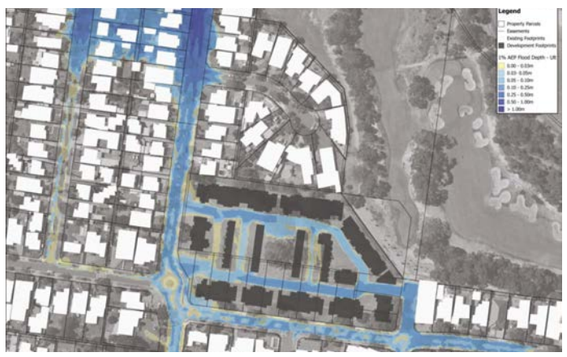


Figure 93. 1% AEP Flood Depth - Ultimate Conditions

Figure 94 is an afflux plot which provides detail in the changes in flood level `between the two scenarios in addition to nominating regions which either:

- Were wet in existing conditions and are dry in ultimate conditions (in purple), or
- Were dry in existing conditions and are wet in ultimate conditions (in pale blue).

As depicted, there are regions within both Golf Road and Beryl Avenue which are subject to an increase in localised flood level (and depth) as a result of the development.

Multi-point sampling yields an average increase in flood depth of 25 mm equating to an average flood depth of 120 mm within the road reserve of Golf Road. There are isolated pockets of increased flood depths of up to 100 mm, these however are most likely due to the utilisation of LiDAR elevation data which can result in poor representation of the road profile.

Localised flood levels within Beryl Ave also increase as a result of the development by an average of 15 mm, equating to an average flood depth of 85 mm within the road reserve. Even with the poor representation of the road profile it appears the increase in flood level has not resulted in any increase in actual flood extent.

Figure 94. 1% AEP WSEL Difference - Existing vs. Ultimate Conditions

In an attempt to further quantify the impacts of the increase in flood levels within Golf Road and Beryl Avenue, an assessment of changes in flood safety within the road reserve was undertaken. Figure 95 depicts the flood safety results for existing conditions during the 1% AEP event; the region is almost entirely classed as low risk with a peak velocity and depth product (or "v.d ratio") of less than 0.2. The only exception being a small pocket nominated to be of low to moderate flood safety adjacent to Barholme Crt where the "v.d ratio" is approximately 0.25.

As a result of the development the existing pocket of low to moderate flood safety is enlarged, extending southwards to the proposed point of vehicular ingress/egress of the development. See Figure 96 Whilst the "v.d ratio" within this region is increased to approximately 0.30 the associated flood safety risk is still considered within Melbourne Water's criteria of 0.35.

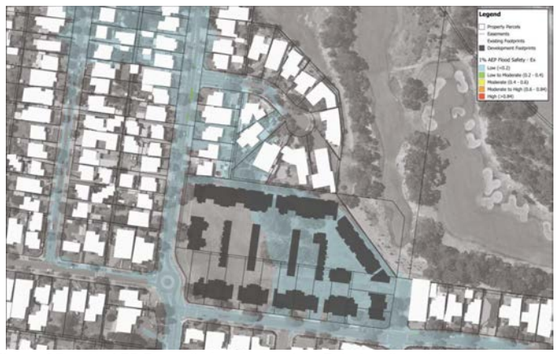


Figure 95. 1% AEP Flood Safety (v.d ratio) - Existing Conditions

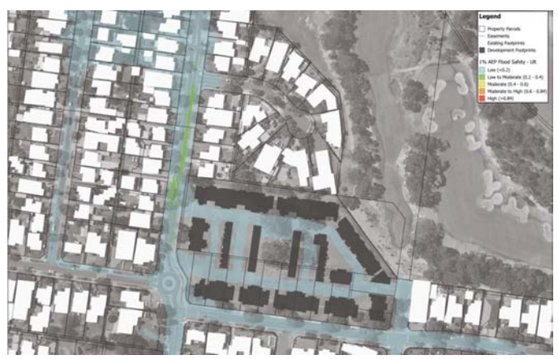


Figure 96. 1% AEP Flood Safety (v.d ratio) - Ultimate Conditions

8.2 SUMMARY

The proposed mitigation design is successful in the conveyance of overland flows through the development in a controlled manner with the major upshot of entirely removing the pre-existing flood risk to eight properties directly north of the subject site.

This is however at the cost of localised increases in flood depth within Golf Road to the south-west of the site.

This increase results in an altered (enlarged) flood extent which is, for the most part, contained within the road reserve with the exception of minor infringements in the frontages of 99-109 Golf Road

The increase in flood risk with respect to safety has been assessed with the impact considered to be low and well within acceptable limits.

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Waste management.

9 WASTE MANAGEMENT

9.1 10.1 WASTE SYSTEM SUMMARY

9.1.1 Residents

- Individual dwellings will manage their own garbage, commingled recycling, and food and garden organic (FOGO) waste using their own bins which will be stored in their private outdoor space or garage.
- Smaller bins may be used within their dwelling at the discretion of the individual residents.
- Individual residents will transfer the garbage and commingled recycling bins to the kerbside for regular collection by the local city council.
- Council kerbside collection for the Site will occur every Friday.
- Individual residents will transfer the FOGO bins to the composting facilities at the community garden, FOGO bins are to be emptied by the resident and bins returned to their dwelling.
- Hard waste storage area will be provided in their designated communal bin store area.
- Communal e-waste bins will be provided within the development in a suitable location (nearby to the communal composting facilities). Collection of this waste stream will be an 'at-call' basis.

9.1.2 Owners' Corporation Responsibilities

- The owners' corporation will ensure that the communal garden and composting facilities are tidy and well maintained for vermin and odour control.
- It is expected that the residential community will contribute to the ongoing maintenance of the communal garden and associated composting facilities.
- The owners' corporation will endure that the communal e-waste bin area is tidy and well maintained, and will arrange for collection as required.

9.1.3 Waste Stream Summary

Garbage

All garbage will be stored in individual private bins for Council collection.

Commingled Recycling

All commingled recycling will stored in individual private bins for Council collection. Recyclable items include paper, cardboard, PET, glass, aluminium, steel, and HDPE containers.

Food and Garden Organics (FOGO)

FOGO waste will be disposed of at the community compositing facility as required by users.

Hard Waste

Hard waste collection will be managed by the City of Monash. Hard waste will be stored within individual dwellings and during collection periods, hard waste will be placed on the kerbside by individual residents in accordance with local council guidelines.

Electronic Waste

E-waste, including batteries, print cartridges and mobile phones, will be stored in communal bins and collected on an 'at-call' basis.

Other Waste Streams

The disposal of other waste including paints and chemical shall be the responsibility of each dwelling. Collection of this waste can be arranged at an 'at-call basis' if required.

9.1.4 Collection Arrangements and Access to Site

- Garbage and commingled recycling waste collection will occur as per regular Council collection services.
- Council collection services shall access the Site under the conditions of the nominated license arrangement.
- Bins will generally be collected from the kerbside outside each townhouse dwelling.
- The truck size will be a Heavy Rigid Vehicle with the following maximum dimensions:
  4.5m(H) x 2.5m(W) x 12.5m(L).
- Should the collection arrangement details depart from the above requirements; the proposed alternative arrangement will be submitted to Council for prior approval.

9.1.5 Actions towards the Victorian Government's 'State-wide Waste and Resource Recovery Infrastructure Plan' (SWRRIP)

As per SWRRIP 2018, one of the aims is extracting the materials that can be recovered thus reducing the waste that goes to landfill. This aim can be achieved at the development and a local government level.

To comply with the requirements of SWRRIP, all dwellings and residents will:

- Separate household commingled recyclables and organics for recovery which is strictly as per the waste collector requirements.
- Generate recoverable material streams and residual waste.
- Improve operations and systems relating to sorting waste at the development level.

9.2 BIN SCHEDULE AND COLLECTION FREQUENCY

Based on the City of Melbourne waste generation rates, the anticipated waste volume for each dwelling is outlined in Table 6. Space for hard waste has been allocated to each bin store, and if necessary, the body corporate can arrange green waste collection at call.

The following tables outline the bin schedules including details of collection, required volume for the effective management of waste removal and colour coding. Subject to preference and Site constraints, bin sizes and quantities may be changed.

Table 6. Bin Schedule

Waste Stream	Frequency
Garbage	Weekly
Commingled Recycling	Fortnightly
Food and Garden Organics	N/A (managed with the development)
Hard Waste	Annually (or at-call user pays)
E-Waste	At-call

9.3 BIN STORAGE AND SIGNAGE

The town planning drawings provided show there is sufficient space for garbage and commingled recycling bins for each dwelling on the kerbside. The streetscape has allowed for a minimum of 2 lineal metres for each dwelling (i.e 1 metre per bin).

Communal FOGO composting facilities and e-waste bins will be clearly signposted to ensure all residents are aware of these facilities.

Site environmental considerations.

10 SITE ENVIRONMENTAL CONSIDERATIONS

This section of Development Plan addresses the following requirements of the DPO5:

'For the former Clayton West Primary School and former Oakleigh South Primary School, where a sensitive use is proposed (residential use, child care centre, pre-school centre or primary school), a risk assessment detailing the risk of landfill gas migration from nearby landfills must be undertaken. The risk assessment must be conducted by a suitably qualified professional, having regard to the EPA Publication 788.1 Landfill Best Practice Environment Management Guidelines, October 2010, to the satisfaction of the responsible authority.'

'For the former Oakleigh South Primary School Site, plans to implement the Site Development Management Plan developed by Prensa in their report dated August 2013.'

10.1 DESKTOP LANDFILL GAS INVESTIGATION REVIEW 2018

Prensa has conducted a review on the Landfill Gas Investigation previously completed by Prensa in 2014 for the Site to determine whether the investigation is still relevant for assessing landfill gas migration that may pose a potential human health risk to future occupants and users of the Site with regards to its proposed residential development.

10.1.1 Summary of 2014 Desktop Landfill Gas Investigation

The objective of the Desktop Landfill Gas Investigation previously completed by Prensa was to '*provide an indication of the potential for landfill gas to be present at the Site, which may represent a potential risk to the proposed future residential use of the Site'*.

As part of the Desktop Landfill Gas Investigation, Prensa undertook the following:

- A desktop review, including:
  - Review of environment assessment reports relating to the Site;
  - Liaising with EPA Victoria and the City of Monash.
- Site inspection and monitoring using a portable landfill gas monitor; and
- Preparation of a report outlining the findings.

The desktop review identified a former sand quarry, alternatively identified as the 'Cavanagh Sands Quarry' or the 'Centre Road Quarry', which was located on the corner of Centre and Warrigal Roads, approximately 200 metres south west of the Site.

In summary, the Desktop Landfill Gas Investigation identified that the quarry was:

- Used as a sand quarry;
- Backfilled with 'clean fill' according to the City of Monash and solid fill - inert according to the EPA Victoria, following its closure. Filling appeared to have begun in the 1980s and was completely backfilled by 1991.
- Rezoned from Industrial 1 Zone to a Business 3 Zone, in accordance with the City of Monash Planning Scheme;
- Redeveloped into a "Large Formal Home Improvement Store and Supermarket" in 2012, in accordance with the rezoning. The 'Construction Environmental Management Plan', prepared by Pellicano Builders (2011) for the redevelopment did not incorporate landfill gas collection or vapour mitigation systems, thereby indicating a low potential for landfill gas generation of migration.

A conceptual site model was developed for the site, including identification of source, pathway and receptor.

Preliminary landfill gas monitoring was undertaken by Prensa using a hand held landfill gas metre at the site in January 2014. The monitoring reported non-detectable concentrations of methane at the 9 locations sampled, which predominately comprised stormwater drains, service pits and a groundwater monitoring well at the site

Based on the site history review and landfill gas monitoring undertaken, Prensa considered it unlikely that the Cavanagh Sands Quarry has been filled with putrescible wastes and considered the potential was low for landfill gas to be present at the site that would pose a potential health risk to residential uses on the Site.

10.1.2 Assessment of Previous Investigation

Due to the time since the 2014 investigation, a review and update of desktop resources was completed in 2018. This included a review of publicly available information from EPA Victoria:

- A search of EPA Victoria audit reports indicated that an environmental audit had not been undertaken at the former Cavanagh Sands Quarry, nor within the vicinity of the former quarry since the 2014 review.
- Prensa reviewed the interactive Victorian Landfills Register Map on 5 December 2018. The map identified 1 solid inert landfill located at 19-71 Carroll Road, Oakleigh South, approximately 800 metres south east of the Site. A search of the EPA interaction portal indicated that a Post Closure Pollution Abatement Notice has been issued to this site on 6 September 2018.
- Prensa reviewed the Priority Site Register on 5 December 2018 (dated 31 October 2018). The landfill located at Carroll Road was noted to be on the Priority Sites Register as a former landfill requiring ongoing management. No other sites were listed in the vicinity of the Site.

Prensa submitted a 'Dial Before You Dig' application on 5 December 2018 for the area between the former quarry and the Site. A sewer main was identified to be running in a northwest - southwest direction between the landfill and the Site. Although no further information was collected it is considered likely that this infrastructure would provide a preferential pathway for landfill gas migration,.

Prensa considers that the conceptual site model developed for the Site in the 2014 investigation is still relevant.

Prensa undertook landfill gas monitoring from subsurface services and an onsite groundwater well in 2014. In reviewing the source, pathway and receptor risk factors of the conceptual site model, the following aspects mitigate the potential for unacceptable risk:

Source

- The potential source of the landfill gas is approximately 30 years old. As waste degrades over time, its ability to produce methane diminishes. Whilst the time will vary based on many factors, the key period of landfill gas production is generally within 30 years of waste placement. As such the likelihood of sites producing significant quantities of landfill gas that may migrate to the development Site is diminished and likely to be low;
- Information suggests the landfill was backfilled with either clean fill or solid inert fill, both of which have a low potential for methane gas generation; and
- Redevelopment of the landfill circa 2012 did not incorporate landfill gas collection or vapour mitigation systems, thereby indicating a low potential for landfill gas generation or migration having been identified by the developer at the time.

Pathway

- The distance to the Site from the Cavanagh Sands Quarry is approximately 200 metres, which is the buffer distance recommended for solid inert landfills;
- The geology at the site has been identified as a Quaternary aged high level alluvium, which is conducive to gas migration through the silty sand. The porous nature of the geology provides opportunity for vertical migration of the landfill gas rather than lateral migration.
- Underground services have the potential to create a preferential pathway from the former quarry towards or away from the Site. A sew main identified to run between the former quarry and the Site would likely provide a preferential pathway for landfill gas migration away from the Site.
- Groundwater monitoring previously completed at the Site indicated that groundwater was shallow. This limits the ability for landfill gas to migrate laterally in the subsurface soils.
- Landfill gas monitoring undertaken by Prensa in 2014 from the subsurface services and groundwater monitoring wells did not indicate the presence of landfill gas.

Receptor

- The proposed future development comprises residential townhouses with no basement levels.

10.1.3 Summary

Based on the conceptual model and review of the key risk factors, the Prensa report considers that the risk of landfill gas migration occurring and causes an unacceptable human health or environmental impact on the proposed residential development is low.

As such a further landfill gas investigation or assessment is not considered warranted.

10.2 DESKTOP REVIEW OF ENVIRONMENTAL RESOURCE MANAGEMENT AUSTRALIA PTY LTD TECHNICAL REVIEW

1-17 Beryl Avenue, Oakleigh South 2018

Environmental Resource Management Australia Pty Ltd prepared a technical review of Prensa's 2013 Environmental Site Assessment. The review concluded that the requirement or otherwise for an Environmental Audit will be generally determined in the first instance by the local Planning Authority. The environmental assessments described by Prensa (2013) suggested a low level of environmental risk and that an Environmental Audit is not required. However, this case will be strengthened by addressing the data gaps identified in the previous section, either by reference to historical reports or by completing additional works.

The data gaps identified in ERM's review include:

- Extent and quality of shallow fill- close either by review of historical data or by intrusive works, include potential presence of ACM buried in fill, utilities constructed from ACM and aesthetics;
- Groundwater quality at i) lead "hotspot'' and ii) in the western portion of the Site - close by installing at least two new wells in the western portion of the (no existing wells) and then complete a groundwater monitoring event; and
- Status of landfill gas risk assessment - close by review of existing report."

Given the amount of assessment work that has been conducted to date at the Site, and in light of the fact that ERM were provided with only three (3) of the eleven (11) previous environmental assessments of the Site as part of their review, Prensa conducted a detailed review in December 2018 to identify whether these gaps require further assessment work.

Prensa concluded that, based on soil logs provided within previous environmental assessment reports, ACM has not been identified within fill at the Site. While the review acknowledges that the presence of underground ACM piping has not been investigated at the Site, this type of infrastructure would normally be identified (if present) and removed during early works at the Site. Should such infrastructure or ACM within fill, be identified during development works, reference should be made to the SDMP plan developed for the Site.

The review also found that further groundwater monitoring at the Site is not considered necessary based on the history of the Site and in the context of the proposed residential land use with reticulated water supply available in the area.

The review considers that the risk of landfill gas migration occurring and causing an unacceptable human health or environmental impact on the proposed residential development at 52 Golf Road, Oakleigh South, is low, based on 2018 Prensa's Desktop Landfill Investigation Review.

10.3 SITE DEVELOPMENT MANAGEMENT PLAN IMPLEMENTATION

Prensa was commissioned by the Department of Treasury and Finance to develop a site-specific Site Development Management Plan (SDMP) for the Site. The SDMP was developed following the identification of asbestos containing material (ACM) debris within a soil stockpile onsite.

The SDMP was then updated in December 2018 for the new project entity for future construction at the Site, Golf Road Project Development Pty Ltd.

Any future development of the Site must implement the following recommendations of the Site Development Management Plan 2018:

10.3.1 Site Setup

- Prior to the commencement of works at the Site, workers undertaking soil related activities will be inducted in accordance with the SDMP and all works should be undertaken in line with the SDMP.
- If excavation or remedial works are to be undertaken in an area where asbestos has been identified, the area will be secure and signed appropriately. This boundary will be maintained throughout the duration of the remedial works. Contractors and site workers undertaking soil related activities and working in an asbestos work zone will be inducted into the SDMP.

10.3.2 Excavation

- Subsequent to the removal of vegetation from the Site surface, an inspection of the exposed surface will be conducted by a hygienist.

10.3.3 Removal of ACM

Unlicensed removal of minor asbestos is permitted in Victoria for non-friable ACM and quantities that require less than 1 hour a week per company to remove and total less than 10 m2 of ACM. The ACM identified at the Site is considered to comprise 'minor contamination'.

Where ACM contamination is identified in soil and comprises surface and sub-surface ACM, the following procedure will be followed:

- The asbestos work zone will be isolated with asbestos warning signage and barrier tape.
- Where the contamination is found to be localised, to exist in minor quantities, and it is deemed practicable to manually remove visible fragments, the ACM should be removed by a nominated person who is trained under the SDMP. If the quantities are not minor, a licensed contractor will be engaged.
- The asbestos removalist or nominated person will pick through the soil using a rake with teeth less than 7 millimetres apart and greater than 10 centimetres long. At least two passes of picking and raking should be made with 90 degree direction change between each pass. The ACM fragments will be placed into a 200 millimetre thick plastic bag;
- Visible asbestos must be removed from the soil under asbestos removal working conditions (refer to previous two dot points) at each stage the soil Is handled (i.e. following each occasion that it is moved);
- Where the nominated person has removed the visible asbestos fragments as far as reasonably practical, the soil may then be reused onsite, or disposed offsite in accordance with IWRG621based on the chemical contamination of the soil, if required;
- Should the nominated person or hygienist find at any stage that the contamination is extensive and the hand picking of the fragments is deemed impractical, it is recommended that a licensed asbestos removalist be engaged to remove the ACM and possibly the soil. The soil should not be reused onsite and should be loaded directly into a plastic lined skip for offsite disposal. The soil should be classified as Category C waste (depending on chemical contaminant concentrations) in accordance with IWRG611.2 (i.e. as asbestos waste) and disposed offsite;
- Where a licensed removalist has been engaged to remove the ACM, a hygienist must be engaged to inspect the soil and confirm that visible fragments have been removed so far as reasonably practicable. The soil may then be reused onsite, or disposed offsite, in accordance with EPA Victoria Publication IWRG621 based on the chemical contaminant concentrations in the soil, if required;
- Plastic bags containing ACM fragments should be disposed of at a licensed EPA landfill as Asbestos Waste (refer to Section 6.8 of this SDMP);
- Any skips containing ACM contaminated soil should be disposed to a licensed EPA landfill as Category C waste (refer to Section 6.8 of the SDMP); and
- When removal work Is being undertaken, site workers within the asbestos work zone must wear appropriate PPE (i.e. half face mask with particulate filter and disposable coveralls).

10.3.4 Previously Unidentified Contamination

Minor ACM debris has previously been identified during assessment works at the Site and, although unlikely, further ACM may be encountered in surface soils throughout the Site. Should significant ACM be identified during the potential redevelopment works, the works will be conducted under the supervision of a person competent in asbestos works. Should ACM be discovered that is consistent with the findings of this assessment, actions consistent with the above requirements will be adopted.

If previously unidentified asbestos contamination in the form of FA and AF is identified or suspected during the development works, the following procedure will be followed:

- Excavation works will cease immediately and a risk assessment should be undertaken by a hygienist (within the adjacent area);
- The area where the contaminated soil exists will be covered with plastic and isolated using barrier tape and asbestos warning signs;
- The asbestos removalist will work under asbestos removal working conditions. The conditions will include:
  - Isolating the removal area from other areas (i.e. public areas and other work areas);
  - The installation of asbestos warning signage at the entrances to the removal area; and
  - The use of appropriate PPE when removalists are within the work area (i.e. half face mask with a particulate filter and disposable coveralls).
- Where it is deemed impractical to remove the asbestos (due to the amount of contamination) the soil shall be disposed of as Category C waste; and
- Excavation works can recommence once the contaminated soil has been removed and a hygienist has conducted a satisfactory inspection.

10.3.5 Reuse of Soil Onsite

Where soil is proposed to be reused onsite, the following procedures will be followed:

- Where ACM is identified within the soil and it is deemed practicable to manually remove visible fragments, this will be done in accordance with Section 6.2.1 of the SDMP and under asbestos removal conditions. Where a licensed asbestos removalist is required to undertake the removal of asbestos, a hygienist must be engaged to inspect the soil and confirm that visible fragments have been removed so far as reasonably practicable. Following this, the soil may be reused onsite; or
- Where ACM is not visible within the soil, a hygienist will be engaged to inspect the soil and confirm that no visible fragments of ACM are present. Following this, the soil may be reused on Site; and
- The above procedure must be undertaken on each occasion that the soil is moved.

Should the contractor or hygienist find at any stage that the contamination is extensive and the hand picking of the fragments is deemed impractical, a licensed asbestos removalist will be engaged to remove the contaminated soil. The soil will not be reused onsite and will be loaded directly into a plastic lined skip for offsite disposal. The soil will be classified as Category C waste (depending on chemical contaminant concentrations) in accordance with IWRG611.2 (i.e. as asbestos waste) and disposed of offsite.

10.3.6 Decontamination

If asbestos removal works have been undertaken either by onsite contractors or a licensed contractor, the area will be left clean and safe for people to enter. If required, the licensed asbestos removalist will require access to water and power to adequately establish a decontamination area.

Before leaving the asbestos work area, employees will decontaminate any tools or equipment used during the works and remove visible dust from protective clothing and footwear using an asbestos vacuum cleaner, washing or wet wiping with a damp rag. While still wearing their respirator, employees will carefully peel off the coveralls and clothing inside out and place them into an asbestos-waste container for disposal.

Respiratory protective equipment must be worn until all contaminated coveralls and clothing has been removed and bagged for disposal. After removing their respirator, employees need to wash their face and hands and clean under their fingernails.

Any machinery working within an asbestos work zone will be inspected by the asbestos hygienist prior to it leaving the asbestos work zone.

Personal decontamination must be undertaken before employees leave the asbestos work area at any time. Asbestos-contaminated PPE must not be transported outside the asbestos work area except for disposal purposes where it is double bagged, sealed and labeled. These practices help to ensure contamination of other areas in the workplace does not occur.

10.3.7 Air Monitoring

Should non-minor quantities of asbestos or friable asbestos be identified at the Site, control airborne asbestos fibre monitoring will be considered along the boundary of the asbestos work zone.

If required, air monitoring will be undertaken each day excavation/soil disturbance works occur to soil containing asbestos. Air monitoring will also be undertaken in the cabin of an excavator operating in the asbestos work zone and in the worker's lunch room if such works are required. This monitoring would validate the adequacy of controls in place and highlight any areas where controls may need to be increased.

10.3.8 Personal Protective Equipment

The use of PPE is mandatory on the Site for workers involved in activities within an asbestos work zone. Environmental assessments identified minor ACM debris and the following will be worn by all workers at all times within the work zone, with the exception of those individuals in trucks/plant:

- Disposable nitrile or leather gloves, when in direct contact with the soil;
- Long pants;
- Long-sleeved shirt;
- Hard hat (when plant and machinery are in operation);
- High visibility fluorescent vest; and
- Steel-capped boots.

For workers working within the asbestos work zone the following PPE is also mandatory:

- Disposable coveralls;
- Disposable shoe covers or footwear that can be easily decontaminated (i.e. gumboots); and
- Half face respirator with P2 particulate filter or P2 disposable mask

10.3.9 Dust Suppression

Where ACM is suspected or identified, dust suppression techniques will be adopted to reduce the risk of generation of airborne asbestos fibres. Dust suppression techniques will include the following:

- If required, a water truck or hose should be will to keep the soil surface moist. Care will be taken to dispense the water as a mist to prevent run-off into stormwater;
- When excavators are being used onsite, the bucket will only be three quarter filled, ensuring soil does not fall out of the bucket, particularly when loading trucks;
- The excavator bucket will be emptied within the trucks tray (i.e not allowing the soil to fall from height into the tray);
- Dust-producing works will be suspended during exceptionally windy days;
- Machinery used in the work zone will be adequately decontaminated prior to leaving the Site to prevent the spread of contaminants and dust; and
- Any soil to be stockpiled, will be stockpiled on an impermeable surface and covered with weighted plastic. Soil should be stockpiled away from any sensitive receptors including residents and stormwater drains. Workers will stay upwind of stockpiles where practical.

10.3.10 Offsite Disposal

Asbestos waste must be transported and disposed of in accordance with EPA Victoria Publication Industrial Waste Resource Guideline, Asbestos Transport and Disposal, July 2009 (IWRG611.2). IWRG611.2 states that asbestos waste is required to be transported by vehicles with an EPA waste transport permit and that the asbestos waste must be transported with a waste transport certificate.

The ACM will be packed into a suitable container, which will then be sealed and labeled with asbestos warning marks. The asbestos waste can only be disposed of to a disposal facility licensed by EPA Victoria to accept waste asbestos.

10.3.11 Site Walkover

Following the completion of the development works, a site walkover will be undertaken by a qualified hygienist to confirm that no visible ACM remains on the surface soils at the Site, prior to access to this area being provided to the site users.

10.3.12 Personal Hygiene

It is important that good personal hygiene practices are adopted by workers involved in asbestos removal works. Workers are to ensure they follow the decontamination process specified in Section 6.4 of the SDMP. The workers will always wash their hands following the completion of works within asbestos work zones and will be within designated areas when eating, drinking and smoking.

10.3.13 Induction

As part of the development works, the head contractor will be responsible for conducting inductions of staff, contractors and visitors on the Site who will be involved in asbestos removal works. All contractors and workers on the Site will also be inducted to raise awareness regarding the potential exposure to asbestos in soil at the Site. The SDMP will be included in the site induction.

Conclusion.

11 CONCLUSION

The Development Plan for 52 Golf Road, Oakleigh South is consistent with the planning policy framework which supports infill residential redevelopment and urban consolidation.

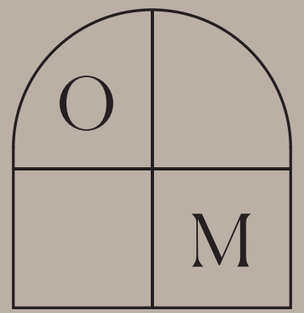
The development will offer a vibrant and sustainable residential community that will integrate with the existing urban environment.

The development will also provide community benefits in addition to residential facilities. In summary, the development will allow for the delivery of the following:

- Green links and 1,630 square metres of functional open space, contributing to the to the open space network of Oakleigh South and improves the pedestrian networks.
- A highly permeable pedestrian and cycling network that encourages slow moving vehicle traffic, walking and cycling.
- A contemporary and architecturally merited design which responds to the surrounding neighbourhood character and broadens housing diversity in Monash.
- A design which sets a benchmark in ESD performance in Oakleigh South
- An abundance of gardens and planting maintaining Monash's Garden City Character.

The land represents a significant opportunity for infill residential development that will provide a unique neighbourhood identity.

Development in accordance with this Development Plan ensures that the potential of the Site is realised in a manner which respects the existing character of the area whilst setting a new benchmark for infill development.

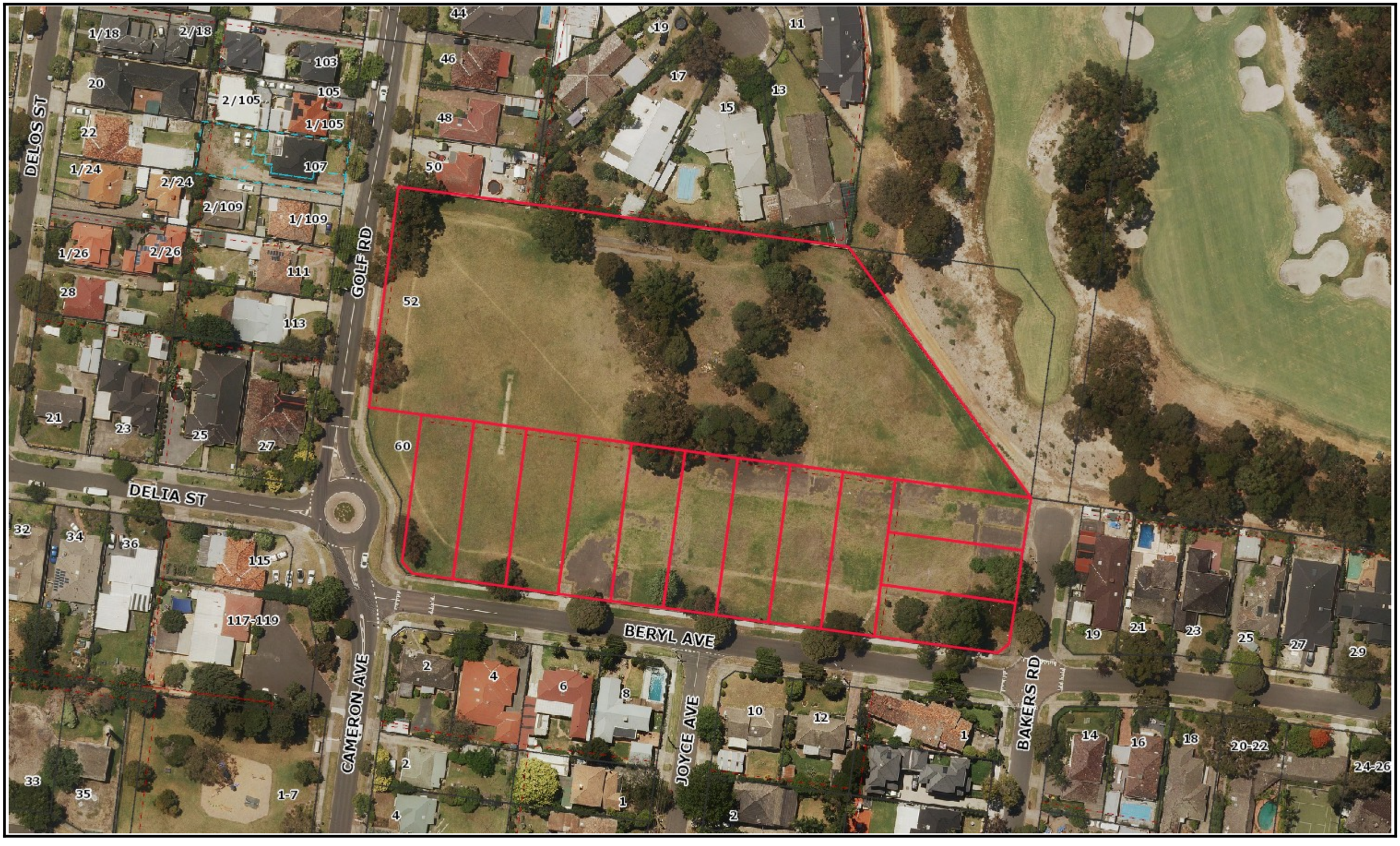


OAKMONT

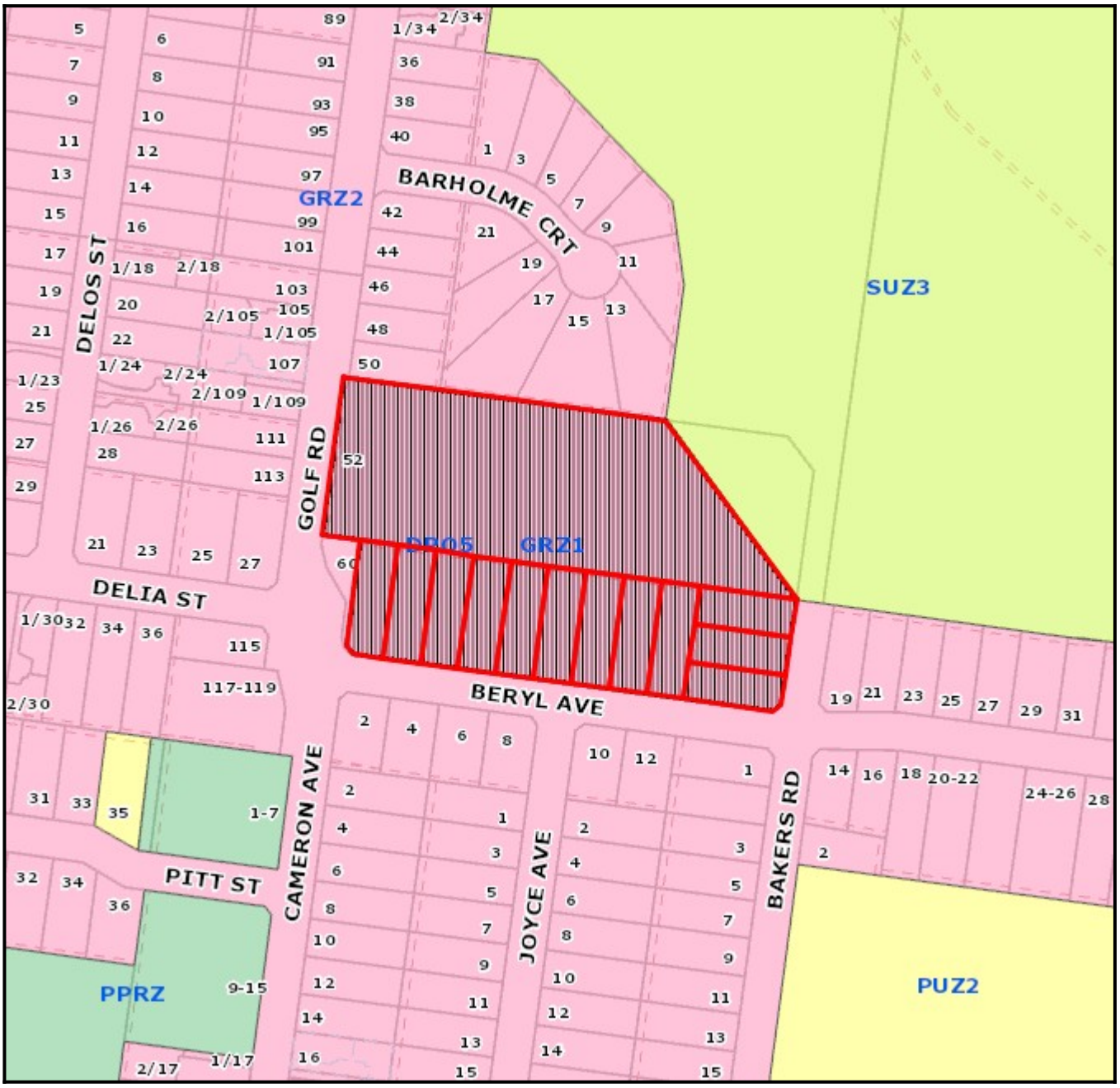
OAKLEIGH SOUTH

Prepared by **Tract** in conjunction with **Plus Architects**, **Traffix Group**, **Sustainability House**, **FMG Engineering** and **Landscape Dept** on behalf of Golf Road Project Development Pty Ltd.

Attachment 2: 52 Golf Road (1 Beryl Avenue), Oakleigh South



Planning Overlays and Zones



Legend

Planning Zones

C1Z	GRZ1	GRZ9	PCRZ	PUZ3	PUZ7	RGZ4	SUZ5	
C2Z	GRZ2	IN1Z	PPRZ	PUZ4	RDZ1	SUZ2	SUZ6	
CA	GRZ7	MUZ	PUZ1	PUZ5	RGZ1	SUZ3	UFZ	
CDZ1	GRZ8	NRZ1	PUZ2	PUZ6	RGZ2	SUZ4		

Planning Overlays

LSIO / SBO	DDO	DPO
NCO	VPO	PO
PAO	HO	
EAO	IPO	

N

1:2500

Address: 52 Golf Road OAKLEIGH SOUTH VIC 3167

Area: null sqm

Attachment 4: 52 Golf Road (1 Beryl Avenue), Oakleigh South

Objector Map

Subject land shaded light red. Objector properties shaded dark green and pinpointed. (Not all objector properties shown).

1:2500

N

Railway lines
Arterial Roads
Arterial Roads
Local Roads
Proposed Roads
Crown Open Space
Monash Reserve / Open Space
Non Monash Open Space
Pipe Track
Public Golf Course
Public Golf Course Crown Open Space
Monash Region
Leash Free Areas
Property & Address No.
Common Property