It is certified that this Structure Plan Amendment was approved by resolution of the Western Australian Planning Commission on 26 June 2023

This Structure Plan expires on 2/12/2029

Signed pp

Director, Planning and Development

File No. 110/240 Amendment. 1

LEGEND

- HLSP Boundary
- HLSP Lot Boundary
- Easement
- Residential R40
- Residential R50
- Residential R60
- Residential R80
- Public Open Space
- BAL - FZ
- BAL - 40
- Mixed-Use Site
- Potential Cockatoo Habitat Tree for Removal
- Potential Cockatoo Habitat Tree for Retention
- Other Trees for Retention

CURTIS STREET

DIARLE STREET

RALSTON STREET

STOCK ROAD

PURVIS STREET

BLACKWOOD AVENUE

FORREST ROAD

1 R40 0.59ha

2 R60 0.34ha

3 R60 0.30ha

4 R60 0.44ha

5 R60 0.50ha

6 R50 0.37ha

7 R60 0.48ha

8 R60 0.57ha

9 R40 0.29ha

10 R60 0.31ha

11 R40 0.91ha

12 R80 0.29ha

13 R80 0.83ha

14 R80 0.41ha

North:

0 80

STRUCTURE PLAN MAP NOTES

1. R60 within Lot 9 is permitted, subject to retention of the mature Tuart tree within the future road reserve. Landscaping and embellishment of this area may be required at subdivision stage.
2. Four-way intersection treatment to be determined having regard to the requirements of the City of Cockburn.
3. Further traffic calming treatments may be required in this area.

Figure 1: Structure Plan Map

HAMILTON SENIOR HIGH SCHOOL REDEVELOPMENT

LOCAL STRUCTURE PLAN

Hames Sharley
ENABLING COMMUNITIES TO FLOURISH

DevelopmentWA

MARCH 2023

Revision Letter	Date	Reason for Issue	CM
A	*25-08-2017*	Draft HLSP for Client Review	MS
B	12-09-2017	Draft HLSP for Client Review	MS
C	20-12-2017	Final Draft for Client Review	MS
D	02-02-2018	Final Draft for Lodgement	MS
E	10-05-2018	Final Draft for Lodgement	NS
F	12-06-2018	Final Draft for Lodgement	NS
G	22-06-2018	Final Draft for Lodgement - Environmental Updates	NS
H	11-11-2019	Final - WAPC Modifications	NS
I	28-11-2019	Final - WAPC Modifications (Minor Amendments)	NS
J	21-07-2022	Amended HLSP - for Lodgement with City	MB
K	02-03-2023	Amended HSLP Final - WAPC Modifications	MB

Prepared for:

DevelopmentWA

Prepared by Hames Sharley:

Hames Sharley
ENABLING COMMUNITIES TO FLOURISH

Amendments prepared by Taylor Burrell Barnett:

Taylor Burrell Barnett

In collaboration with Josh Byrne and Associates, Tabec, Transcore, PGV Environmental and Strategen Environmental.

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Project Ref. 21/040a

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LIST OF ABBREVIATIONS

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AHD	Australian Height Datum
BAL	Bushfire Attack Level
BMP	Bushfire Management Plan
CBD	Central Business District
CBEH	Centre for Built Environment and Health
CPTED	Crime Prevention Through Environmental Design
DFES	Department of Fire and Emergency Services
DWER	Department of Water and Environmental Regulation
DOP	Department of Planning (WA)
HSHS	Hamilton Senior High School
HLSP	Hamilton Senior High School Local Structure Plan
LWMS	Local Water Management Strategy
LPS	City of Cockburn Local Planning Strategy
MRS	Metropolitan Region Scheme
MRWA	Main Roads Western Australia
PAW	Public Access Way
PBN	Perth Bicycle Network
POS	Public Open Space
SMC	Strategic Metropolitan Centre
SPP	State Planning Policy
TPS3	City of Cockburn Town Planning Scheme No.3
UDIA	Urban Development Institute of Australia
VPD	Vehicles Per Day
WAPC	Western Australian Planning Commission
WSUD	Water Sensitive Urban Design

ENDORSEMENT PAGE

This Structure Plan is prepared under the provisions of the City of Cockburn Town Planning Scheme No. 3.

IT IS CERTIFIED THAT AMENDMENT NO. 1 TO THE HAMILTON SENIOR HIGH SCHOOL REDEVELOPMENT LOCAL STRUCTURE PLAN WAS APPROVED BY RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING COMMISSION ON:

26 JUNE 2023

Signed for and on behalf of the Western Australian Planning Commission:

An officer of the Commission duly authorised by the Commission pursuant to section 16 of the Planning and Development Act 2005 for that purpose.

TABLE OF AMENDMENTS

AMENDMENT NO.	SUMMARY OF THE AMENDMENT	AMENDMENT TYPE	DATE APPROVED BY CITY	DATE ENDORSED BY WAPC
+ 1 + (Document Revision K - 22-02-2023)	+ Urban design review necessitates the following minor amendments: + Part 1 + o Development Summary Table; + o Figure 1 – Structure Plan Map; + o Minor text edits to 1.4.4, 1.4.5, 1.5, + o 6.1.1; Include 'R50' density; and + o Figure 2 – Structure Plan Staging. + Part 2 + o Minor text edits to 2.4.2, 2.5.1, 6.1.1, 6.2.1, 6.3.2, 6.5.1 and 6.5.3; + o Figure 24 – Concept Plan; + o Figure 26 – Parking Plan; + o Figure 27 – Public Open Space Distribution and minor text edits to parts of section 6.3; + o Figures 28 – 30 (Landscape Masterplan, Proposed Trees Plan, WSUD Infrastructure Plan).; + o Figure 32 – Tree Protection Plan; Deleted + o Figure 34 – Noise Wall Opening Plan + Technical Appendices + o Appendix D updated.	+ Minor		+ 26 June 2023

TABLE OF DENSITY PLANS

DENSITY PLAN NO.	AREA OF DENSITY PLAN APPLICATION	DATE ENDORSED BY WAPC

EXECUTIVE SUMMARY

The Hamilton Senior High School Local Structure Plan (HLSP) has been prepared to facilitate the proposed redevelopment of the Hamilton Senior High School (HSHS) site, as depicted on **Figure 1**.

The HLSP site is generally bounded by Ralston Street to the north, Purvis Street to the west, Stock Road to the east and Forrest Road to the south. The site currently accommodates Hamilton Hill Senior High School, which closed down at the end of 2017 and amalgamated with the new Fremantle College, constructed on the South Fremantle Senior High School campus.

This presents an excellent opportunity to redevelop the site, and optimise its locational advantages whilst respenting and celebrating its unique history. The propsed development will allow for the revitalisation of the site by providing much needed residential infill to help cater for populatio grwoth and provide housing diversity and choice. This will be supported by the provision of high quality, site responsive public open space that will service future residents as well as the surrounding community.

Key components of the HLSP include:

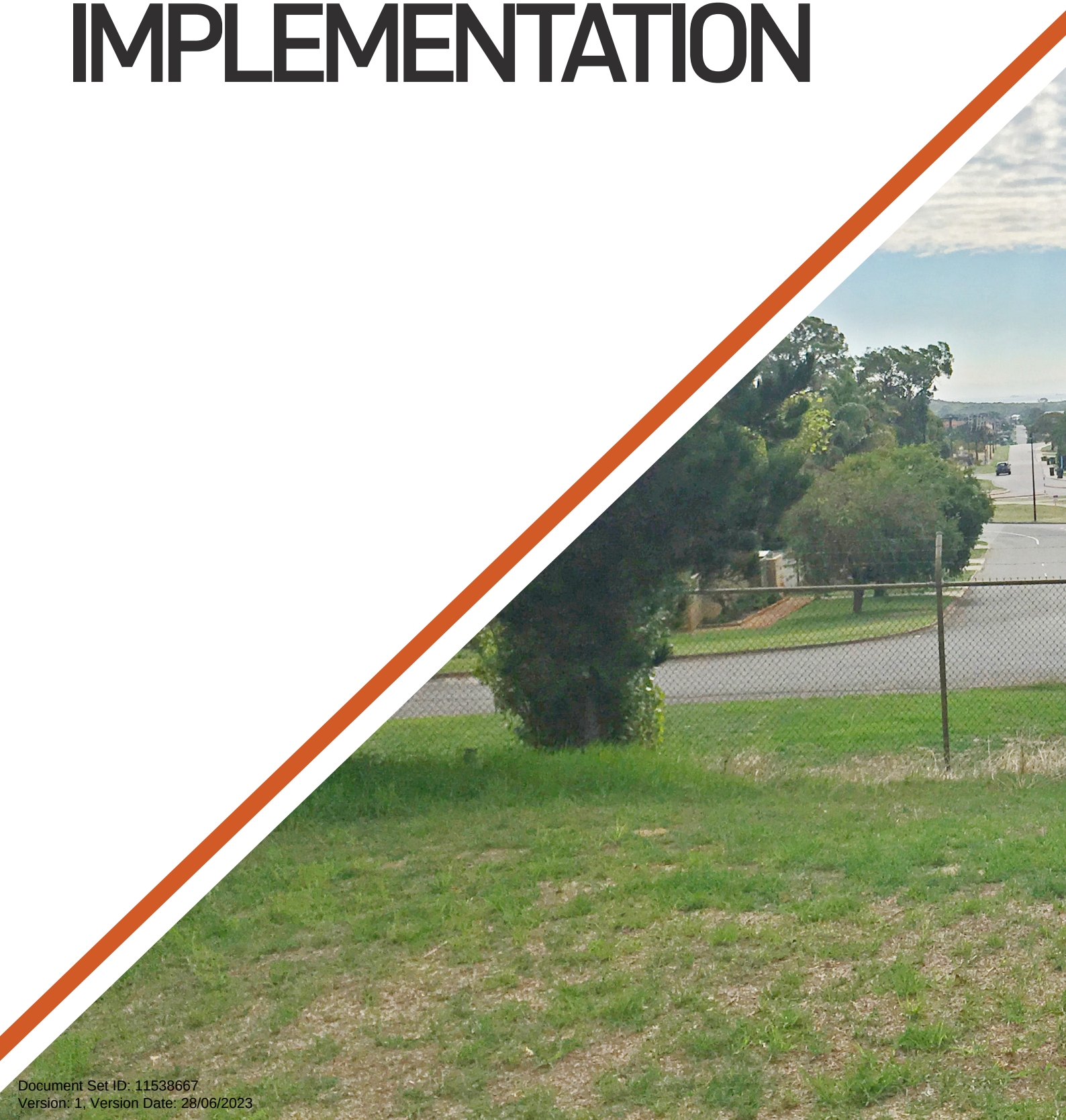
- A range of residential densities to promote a variety of of housing typologies;
- Provision of quality public open space that responds to the site as well as addressing a need for such amenity within the wider locality; and
- Striving to meet the requirements of UDIA's EnviroDevelopment initative through various measures including identification and retention of mature trees where possible as well as leading sustainability initiatives in water and energy as a thermally responsible development addressing the urban heat island effect.

The HLSP will assist with the detailed planning and design of the site and will also allow for the progression of a Local Scheme amendment and ultimately Local Development Plans over the site.

SUMMARY TABLE

Item	Data	Structure Plan Ref (section no.)
Total area covered by the structure plan	11.91 hectares	Section 1.4 'Subdivision and Development Requirements'
Area of each land use proposed:		Section 1.4 'Subdivision and Development Requirements'
+ Residential R40	1.79 hectares	
+ Residential R50	0.37 hectares	
+ Residential R60	2.94 hectares	
+ Residential R80	1.53 hectares	
Total estimated lot yield	244 lots	Section 6.1.3 'Yield Analysis'
Estimated number of dwellings	312 dwellings	Section 6.1.3 'Yield Analysis'
Estimated residential site density	26 dwellings per hectare 48 dwellings per hectare (based on total residential development area)	Section 6.1.3 'Yield Analysis'
Estimated population	811 people (at 2.6 people per household)	Section 6.1.3 'Yield Analysis'
+ Public Open Space		
Total estimated area and percentage of total structure plan area (11.91ha):	1.94 hectares (16.36% coverage).	Section 1.4 'Subdivision and Development Requirements'
Total estimated area and percentage of gross subdivisable area (11.07ha):	1.94 hectares (17.60% coverage).	Section 6.3 'Landscape Public Realm'

PART ONE
IMPLEMENTATION



1.0 LOCAL STRUCTURE PLAN IMPLEMENTATION

1.1 Structure Plan Area

The Hamilton Senior High School Local Structure Plan shall apply to the land contained within the inner edge of the line denoting the structure plan boundary as shown on **Figure 1.**

1.2 Operation

The Hamilton Senior High School Local Structure Plan shall come into operation on the day it is endorsed by the Western Australian Planning Commission.

1.3 Objectives

The objectives of the Hamilton Senior High School Local Structure Plan (HLSP) are as follows:

COMMUNITY AND WELLBEING

- Facilitate intergenerational equity and ageing in place through diverse housing typologies.
- Enhance shared amenity and the quality of the public realm to foster community cohesion.
- Utilise alternative design methods to be innovative in the provision of Public Open Space.
- Respect and respond to the indigenous and cultural history of the site.

ENVIRONMENTAL RESPONSIBILITY

- Maximise tree canopy coverage by replacing or retaining (where possible) existing trees.
- Direct sustainable practices through precinct wide water and energy sensitive initiatives.
- Apply innovative design strategies to address noise and air pollution.
- Apply best practice in water systems and seek Waterwise Development endorsement from Water Corporation.

DESIGN EXCELLENCE

- Create high quality development that reflects and respects the character of the place.
- Demonstrate adaptable and alternative building techniques within the development.
- Encourage innovative housing models through flexible site layouts.
- Ensure all dwellings address passive solar and ventilation principles.

ECONOMIC HEALTH

- Provide affordable housing and living opportunities in partnership with others.
- Optimise housing value of surrounding residential areas.
- Offer a streamlining process for planning applications which detail innovative solutions.
- Support local retail and commercial activities.

THIRD PARTY REVIEW OF DESIGN

- The project will target EnviroDevelopment accreditation under all six elements of the framework: Ecosystems, Waste, Materials Energy, Water and Community.
- The target will engage with leading heat stress researchers during the design phase in order to validate the design against best practice.
- Review the design for consistency with the Cooperative Research Centre for Water Sensitive Cities Strategic Plan to create a healthy, heat resilient community with best practice in water efficiency, sourcing and management.

Figure 1: Structure Plan Map

1.4 Subdivision and Development Requirements

The HLSP site was rezoned from 'Public Purposes' to 'Urban' via a Metropolitan Region Scheme amendment. The subsequent introduction of a 'Development' zoning under the City of Cockburn Town Planning Scheme No. 3 (TPS3) has been progressed in order to facilitate the vision of the HLSP. Development requirements for the Site will be set out broadly within the HLSP and through preparation of Local Development Plans (LDP).

1.4.1 LAND USE AND ZONING

Land use and development within the HLSP area is to be consistent with the prescribed zonings and reservations as detailed on the Structure Plan Map (**Figure 1**). Land use permissibility is to be in accordance with the relevant zone, and the land use permissibility's of the Zoning Table of Town Planning Scheme No. 3.

Subdivision and development of land will be in accordance with the relevant density coding allocated on **Figure 1**.

1.4.2 DESIGN GUIDANCE

To achieve Development WA's aspiration to deliver a high-quality example of integrated medium density infill development, all lots identified on **Figure 1** (in particular corner lots and lots abutting public open space and/or pedestrian access ways) will require LDP's.

The purpose of the LDPs will be to provide specific built form controls (including any necessary variations to R-Code provisions relating to setbacks, private open space, boundary walls, fencing and site access), and/or any specific requirements to address site levels and to achieve sustainable design initiatives.

Where LDPs are required, they should be prepared in accordance with the requirements of the Planning and Development (Local Planning Schemes) Regulations 2015, prior to determination of a development approval. LDP's may vary the R-Codes, in accordance with section 7.3 of SPP 7.3 - R-Codes Volume 1 and section 1.2 of SPP 7.3 - R-Codes Volume 2 - Apartments, where relevant.

LOT SPECIFIC GUIDANCE

+ A LDP prepared for development within Lot 9 should consider and address matters including, but not limited to, the following:
  - For the two R60 lots, consideration should be given to the interface with the Tuart tree to be retained within the Purvis Street road reserve, this should consider the provision of visually permeable fencing.
+ A LDP prepared for development within Lot 10 (being immediately adjacent to the existing lower density development along Purvis Street) should consider and address matters including, but not limited to, the following:
  - Development should be in accordance with SPP 7.3 - R-Codes Volume 2 - Apartments.
  - Potential impacts of building height, bulk and scale on neighbouring properties. The building height immediately adjacent to the boundary with Lot 6 Purvis Street and Lot 7 Forrest Street is to be limited to 2 storeys to enable the built form to transition between the areas of different densities.
  - Noise attenuation, in accordance with the recommended treatment packages in the accompanying Acoustic Assessment report.
+ Any LDPs prepared may be required to address noise attenuation, in accordance with the recommended treatment packages in the accompanying Acoustic Assessment report.

1.4.3 TREE RETENTION

All trees identified on **Figure 1** as 'Potential Cockatoo Habitat Tree for Retention' are to be protected during subdivisional and development works. The ceding of additional land to enable the Purvis Street Tuart tree to be retained within the road reserve and embellishment of this area may be required at subdivision stage.

1.4.4 TRAFFIC MANAGEMENT AND ROAD NOISE

The treatment of the intersection between the internal road network, Blackwood Avenue and Purvis Street will be finalised at subdivision stage. Additional traffic calming treatment may also be required when the internal road network is constructed, as shown on **Figure 1**.

A sound wall along the boundary of Stock Road is to be provided at subdivision of Stage 1, in accordance with the recommendations of Part 5 and Appendix B of the Acoustic Assessment report (**Appendix D**). Access to the relocated pedestrian bridge from the site will be respected.

Lots that are identified in the Acoustic Assessment for quiet house design package treatments will also be subject to a condition at subdivision stage requiring notifications to be placed on title.

An updated Acoustic Assessment is to be prepared and submitted at the time of subdivision to reflect any proposed subdivision reconfiguration.

1.4.5 BUSHFIRE PROTECTION

Figure 1 indicates the potential extent of Bushfire Attack Levels (BAL). A Bushfire Management Plan is to be prepared and submitted at the time of subdivision

1.4.6 HIGH VOLTAGE TRANSMISSION CORRIDOR

An existing 132 kV transmission line is located within the structure plan area, shown as 'Easement' on **Figure 1**. Protection of the infrastructure within the transmission line corridor is required to be formalised via an easement.

Prior to subdivision or development, Western Power will need to review, assess and provide prior written consent to any proposals within the transmission corridor.

1.4.7 ADDITIONAL REQUIREMENTS

Conditions may be imposed at subdivision stage to address a range of matters, including but not limited to the following:

- Bushland management;
- Urban water management;
- Significant tree retention;
- Notifications on title, where required in accordance with WAPC bushfire and road noise policies; and
- Easements and/or notifications on title for lots adjoining or effected by the existing high voltage transmission line, shown on the Structure Plan Map as 'Easement'.

1.5 Staging and Implementation

As indicated on **Figure 2**, staging for the HSHS redevelopment is proposed to be carried out as follows:

STAGE 1:

- Bulk earthworks will be undertaken, retaining wall construction and a road connection provided to Purvis Street.
- Connections to existing services on the western boundaries of the Site.
- An upgrade to the sewer in Halstead Street.
- The noise wall along the Stock Road boundary will be completed.

STAGE 2:

- A road extension through to Ralston Street will be completed, asset protection for the existing DN760 water main, creation of development of more POS areas.
- Pedestrian connections between POS areas will be completed.
- An upgrade to the existing water main in Ralston Street will be completed along with other general servicing extensions. Additional bulk earthworks and retaining wall construction.

STAGE 3:

- Protections around the existing Western Power transition tower, civil works servicing including bulk earthworks.
- Completion of all road and pedestrian connections.
- Extension of the noise wall to the required southern extent. Development of remaining POS areas.

Figure 2: Structure Plan Staging

PART TWO
EXPLANATORY SECTION

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VPD	Vehicles Per Day
WAPC	Western Australian Planning Commission
WSUD	Water Sensitive Urban Design

2.0 INTRODUCTION & PURPOSE

+ 2.1 Structure Plan Purpose
+ 2.2 Site History
+ 2.3 Land Description
+ 2.4 Planning Framework
+ 2.5 Pre-Lodgement Engagement

2.1 Structure Plan Purpose

The City of Cockburn (the City) is a rapidly growing local government area in the south metropolitan area of Perth. The key challenges associated with this growth are providing equitable access to essential economic, social and environmental services. The City is trying to address this challenge by promoting infill development, these aspirations are set out in the City's year Strategic Community Plan 2016-2026. The Strategic Community Plan sets a clear goal to facilitate the revitalisation of older urban areas to cater for population growth and provide greater housing diversity and choice for its residents. Limited land supply means focussing solely on greenfield development would be both short-sighted and unsustainable.

Redevelopment of the Hamilton Senior High School (HSHS) site presents a unique opportunity to meet the objectives of both the Strategic Community Plan and Hamilton Hill Revitalisation Strategy by providing infill development in Hamilton Hill. The role of the HSHS Local Structure Plan (HLSP) is to facilitate redevelopment of the HSHS site.

The purpose of the HLSP is to provide a strategic planning document that:

- Clearly defines and articulates a vision for the HSHS site;
- Establishes development principles and objectives; and
- Provides a framework for future land use and development of the HSHS site.

2.1.1 PROJECT VISION

The Hamilton Senior High School Redevelopment will set a new standard for residential infill development across the four elements of: Community Wellbeing, Environmental Responsibility, Economic Health and Design Excellence. The project seeks to demonstrate how urban infill can mitigate the effects of urban heat through design, material choices and water management to create a healthy, highly liveable community with a dramatically lower environmental footprint.

Figure 3 illustrates how the HLSP responds to both the project and EnviroDevelopment objectives.

Figure 3: HLSP EnviroDevelopment

2.1.2 OBJECTIVES

COMMUNITY AND WELLBEING

+ Facilitate intergenerational equity and ageing in place through diverse housing typologies.
+ Enhance shared amenity and the quality of the public realm to foster community cohesion.
+ Utilise alternative design methods to be innovative in the provision of Public Open Space.
+ Respect and respond to the indigenous and cultural history of the site.

ENVIRONMENTAL RESPONSIBILITY

+ Maximise tree canopy coverage by replacing or retaining (where possible) existing trees.
+ Direct sustainable practices through precinct wide water and energy sensitive initiatives.
+ Apply innovative design strategies to address noise and air pollution.
+ Apply best practice in water systems and seek Waterwise Development endorsement from Water Corporation.

DESIGN EXCELLENCE

+ Create high quality development that reflects and respects the character of the place.
+ Demonstrate adaptable and alternative building techniques within the development.
+ Encourage innovative housing models through flexible site layouts.
+ Ensure all dwellings address passive solar and ventilation principles.

ECONOMIC HEALTH

+ Provide affordable housing and living opportunities in partnership with others.
+ Optimise housing value of surrounding residential areas.
+ Offer a streamlining process for planning applications which detail innovative solutions.
+ Support local retail and commercial activities.

THIRD PARTY REVIEW OF DESIGN

+ The project will target EnviroDevelopment accreditation under all six elements of the framework: Ecosystems, Waste, Materials Energy, Water and Community.
+ The target will engage with leading heat stress researchers during the design phase in order to validate the design against best practice.
+ Review the design for consistency with the Cooperative Research Centre for Water Sensitive Cities Strategic Plan to create a healthy, heat resilient community with best practice in water efficiency, sourcing and management.

2.2 Site History

HSHS was built in 1962 having been identified as a high school site within the 1955 Stephenson and Hepburn Plan and later the 1963 Metropolitan Region Scheme. Ever since, it had been reserved accordingly as 'Public Purposes - High School' under the Metropolitan Region Scheme (MRS). This changed in May 2018 when the WAPC formally approved an amendment to the MRS which saw the Site rezoned to 'Urban'.

The school complex has been extended a number of times, primarily incorporating red brick two-storey buildings with ancillary sheds, pool, ovals and fencing.

HSHS Site - 1953

HSHS Site - 1962

HSHS Site - 2017

In December 2014 the Minister for Education announced that HSHS and the South Fremantle Senior High School sites would close towards the end of 2017 due to low current and projected enrolments. Both schools were amalgamated in 2018 to form Fremantle College located on the existing South Fremantle campus. The Department of Education has advised that anticipated growth and redevelopment in the Fremantle/ Cockburn area has been fully assessed in the planning for the amalgamation of the secondary schools. If further capacity is required in the longer term as a result of greater than anticipated population growth in the catchment, the Fremantle Campus site will be able to accommodate the additional demand.

The relocation presents a unique opportunity to repurpose the land for residential development. LandCorp executed a contract of sale to purchase the HSHS site from the Department of Lands in 2017. Settlement of the school site occurred on 8th of January 2018, therefore LandCorp are now the official owners of the HSHS site.

2.3 Land Description

The HLSP area is defined by the boundary indicated on **Figure 4**. The HLSP area comprises Lot 850 (8) Purvis Street (Reserve: 37938). The HLSP area (to be referred to as the Site) totals 11.9 hectares. It is bounded by Ralston Road to the north, Stock Road to the east, Forrest Road to the south, and Purvis Street to the west.

Figure 4: HLSP Area

2.4 Planning Framework

2.4.1 ZONING AND RESERVATIONS

METROPOLITAN REGION SCHEME

The Site was reserved under the MRS as 'Public Purpose – High School'. An MRS amendment request was lodged with the Department of Planning in November 2016. This request was approved by the Minister for Planning (on May 22, 2018). The MRS amendment includes the transfer of approximately 11.9 hectares of land from 'Public Purposes – High School' reservation to 'Urban' and 8,218m^2 to 'Primary Regional Road'. The MRS amendment will enable residential development to occur on the Site.

CITY OF COCKBURN TOWN PLANNING SCHEME NO.3

The City of Cockburn Town Planning Scheme No. 3 (TPS3) was gazetted on 20 December 2002. In order to understand the long term objectives for the locality, TPS3 has been read in conjunction with the City's Local Planning Strategy, which sets out the long-term planning directions for the municipality as well as the rationale for the zones and other provisions of TPS3.

Subsequent to the MRS amendment, an amendment to TPS3 was prepared. The amendment saw the Site rezoned to 'Development' necessitating the need for a structure plan to guide future planning and development.

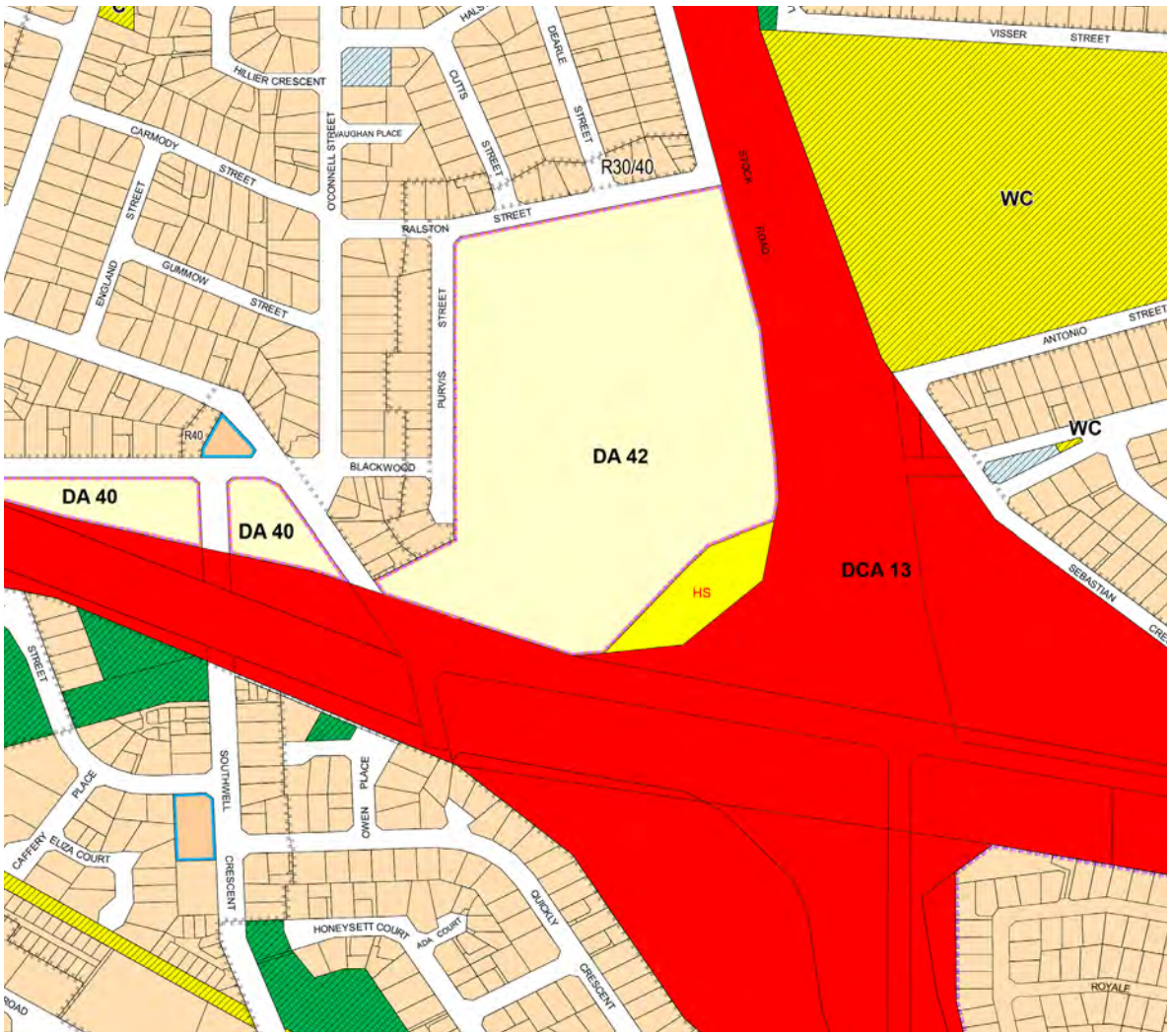


Figure 5: TPS3 Zoning Extract

2.4.2 STATE AND REGIONAL PLANNING FRAMEWORK

STATE PLANNING STRATEGY 2050 (2014)

The State Planning Strategy is the lead strategic planning document within Government. It acts as a guide and highlights principles, strategic goals and strategic directions that are important to future land-use planning and development in WA.

The document highlights the key drivers of change set to influence WA. 'Population' and 'urbanisation and regional expansion' are the two drivers most pertinent to the HLSP. Population growth and ageing will dramatically impact the social composition of our communities, whilst urbanisation is seeing a greater majority of the population living in urban areas.

The HLSP aligns with the State Planning Strategy by addressing the priorities of Strategic Goal 3 - Sustainable Communities, which are:

- Diversity - community-specific development, responsive to diverse needs, places and contexts;
- Liveability - communities with attractive, liveable environments;
- Connectedness - providing natural and built connections within and between communities; and
- Collaboration - collaborative and inclusive planning.

STATE PLANNING POLICY 3 - URBAN GROWTH AND SETTLEMENT

SPP 3 sets out the principles and considerations which apply to planning for urban growth and settlement in WA. The policy outlines the need to prioritise infill development in Perth to capitalise on existing infrastructure services and job opportunities, as well as building on the character of existing communities. Developing in established communities enables existing infrastructure, character and amenity to be leveraged off.

The HLSP is consistent with the intentions of SPP3 by providing redevelopment opportunities in an already established urban area.

STATE PLANNING POLICY 3.7 - PLANNING IN BUSHFIRE PRONE AREAS

The intent of SPP 3.7 is to implement effective, risk-based land use planning and development to preserve life and reduce the impact of bushfire on property and infrastructure. The Department of Fire and Emergency Services (DFES) map of bush fire prone areas indicates that a significant portion of the Site is situated within bushfire prone areas, therefore a Bushfire Management Plan (BMP) is required.

The HLSP is supported by a BMP which has been prepared by Strategen Environmental. The BMP indicates that the bushfire hazards within and adjacent to the Site and the associated bushfire risk is readily manageable through standard management responses outlined in the Guidelines and AS 3959. The BMP is supplied in **Appendix M**.

STATE PLANNING POLICY 5.4 - ROAD AND RAIL NOISE

SPP 5.4 sets out principles that apply to road and rail transport noise and considerations to the planning of land uses. The policy outlines the affects that such noise can have on amenity and human health and considers the management of transport noise and its impacts on development.

The policy specifically applies to cases where a proposed new noise-sensitive development is located in the vicinity of an existing major road. Due to the Site's location adjacent to Stock Road noise mitigation measures are required. A noise assessment was undertaken by Lloyd George Acoustics, provisions for a noise wall have been made. This is detailed in **Appendix D**.

STATE PLANNING POLICY 7.0 - DESIGN OF THE BUILT ENVIRONMENT

State Planning Policy 7.0 Design of the Built Environment (SPP 7.0) forms part of the State Government's Design WA initiative which seeks to ensure all development proposals promote good design. SPP 7.0 identifies ten overarching design principles which are required to achieve good design.

SPP7 outlines ten key principles of 'good design' - context and character, landscape quality, built form and scale, functionality and build quality, sustainability, amenity, legibility, safety, community and aesthetics. The HLSP takes into account these principles by providing a site responsive design. In addition, at the LDP stage grouped housing sites will have consideration for the State Planning Policy 7.3 - Residential Design Codes Volume 2 - Apartments.

STATE PLANNING POLICY 7.3 - RESIDENTIAL DESIGN CODES

The Residential Design Codes (R-Codes) provide a basis for administering the control of residential development in Western Australia. The R-Codes aim to address emerging design trends, promote sustainability, improve clarity and facilitate better residential design outcomes.

As mentioned in Section 2.4.1, an MRS amendment was approved by the WAPC in May 2018 to rezone the Site 'Urban'. This would enable an amendment to the City's TPS3 which would see residential development permitted on the Site. If residential development is permitted, the HLSP will have consideration for the provisions of the R-Codes.

PERTH AND PEEL@3.5 MILLION (2015)

The Perth and Peel@3.5million suite of strategic land use planning documents provide a framework for future growth in the Perth and Peel regions. The strategy recognises the benefits of a consolidated and connected city utilising the region's previous historic patterns of urban growth. It is divided into four sub-regional frameworks, which provide more detailed guidance on future land use and development for a city of 3.5 million people. The frameworks provide for different lifestyle choices, vibrant nodes for economic and social activity and a more sustainable urban transport network.

The City of Cockburn is guided by the South Metropolitan Peel Sub-Regional Framework. The framework outlines that the City has an urban infill dwelling target of 8,599 by 2031 and 14,678 by 2050. Whilst not identified as a location for urban infill, the HLSP provides a good opportunity to enable the City to meet its infill targets by contributing to urban consolidation through facilitating development in an already established area.

LIVEABLE NEIGHBOURHOODS

Liveable Neighbourhoods is a WAPC operational policy which aims to implement the objectives of the State Planning Strategy, guiding sustainable development in Western Australia. It addresses both strategic and operational aspects and can be applied in the design and assessment of structure plans and subdivision for new urban areas in the Perth Metropolitan Region. Liveable Neighbourhoods is applied in the City of Cockburn in the design and approval of urban development, structure planning and subdivision for greenfield sites and for the redevelopment of large brownfield and urban infill sites.

2.4.3 LOCAL PLANNING FRAMEWORK

CITY OF COCKBURN LOCAL PLANNING STRATEGY (2000)

The City of Cockburn Local Planning Strategy (LPS) sets out the long-term planning directions for the City and provides the rationale for the zones and other provisions of the Town Planning Scheme. The purpose of the LPS is to provide the strategic planning context for the Town Planning Scheme, reflecting the broader regional context. The LPS outlines future actions to achieve the objectives of the strategy within a 15-20 year timeframe. The LPS recognises a key strategic issue for the City is that of infill housing and recommends this be a key strategy in older established suburbs, specifically Hamilton Hill.

The opportunity for more infill is recognised in this area, as future infill housing development is limited in other suburbs. The HLSP recognises that redevelopment of Hamilton Senior High School provides a significant opportunity to address this key objective through the provision of increased density and housing diversity.

CITY OF COCKBURN COMMUNITY STRATEGIC PLAN 2016-2026

The City of Cockburn Strategic Community Plan 2016-2016 forms part of the local government integrated planning and reporting framework. The Strategic Community Plan provides a link between community aspirations and Council's vision and long term strategy. The Plan is underpinned by five strategic objectives:

- City Growth;
- Moving Around;
- Economic, Social and Environmental Responsibility;
- Community, Lifestyle and Security; and
- Leading and Listening.

The HLSP aligns with these objectives by providing an infill development in an established area that seeks to promote housing choice and diversity; protect the natural environment; manager water, energy and waste efficiency; and foster a sense of community through a network of public open spaces.

PUBLIC OPEN SPACE STRATEGY 2014-2024

The Public Open Space Strategy 2014-2024 was adopted by the City of Cockburn in October 2014. The document outlines the multiple benefits of public open space and provides guidance for the enhancement and management of open space as well as the future allocation of these spaces. The Strategy provides an opportunity to identify shortfalls in local and district open space within the City. To meet future population growth, the POS strategy outlines various greenfield and infill development sites suitable for provision of POS.

Despite the Site not being identified as one of these locations, the HLSP has made a conscious effort to celebrate the natural landscape.

HAMILTON HILL REVITALISATION STRATEGY (2012)

The City's Revitalisation Strategy outlines how infill development should be delivered in Hamilton Hill in response to regional requirements. The strategy includes proposed changes to residential densities, land consolidation bonuses, proposed changes to the Residential Design Guidelines Policy, a POS improvement strategy and recommendations for the local centre and movement networks. Hamilton Hill is recognised as an inner ring suburb well situated to contribute towards the City's infill targets.

The HLSP has capacity to facilitate approximately 312 dwellings as part of the redevelopment. This incorporates a diverse mix of lot and dwelling typologies suitable to a range of household types.

2.5 Pre-Lodgement Engagement

2.5.1 STAKEHOLDER ENGAGEMENT SUMMARY

An extensive stakeholder engagement process has been undertaken in the development of the HLSP. Preliminary engagement commenced in August 2016. As demonstrated in **Table 1** stakeholder engagement has involved collaboration with a variety of groups such as HSHS staff and students, local Indigenous and other community groups and the City of Cockburn.

Table 1: Pre-Lodgement Engagement Summary

DATE	EVENT	ATTENDEES	
19/08/16	Hamilton SHS Principal and Manager, Corporate Services – meeting	+ Donna McDonald + Suzanne Duncan + Naomi Lawrence (NL) Warren Phillips (WP) (LandCorp)	+ Catherine Bentley (CB), Paul Gazzone (PG) (LandCorp)
19/08/16	City of Cockburn (CoC) - on-site meeting	+ Daniel Arndt (CoC) + Ian McRae	+ CB, WP, NL, PG (LandCorp)
01/09/16	Department of Planning – meeting	+ Andrew Thomas + Ian McRae	+ PG, NL (LandCorp)
16/09/16	President Hamilton Hill Community Group (HHCG) – briefing	+ Tobias Busch + WP, NL, CB (LandCorp)	
19/09/16	CoC consultation group	+ Deanie Carbon (CoC) + Samantha Mourish (CoC)	+ Simone Sieber (CoC) + CB, NL
21/09/16	HHCG presentation	+ Carole Reeves-Fowkes (CoC Deputy Mayor) + Kevin Allen (CoC Ward Councillor)	+ Approx. 20 HHCG members + CB, WP, NL (LandCorp)
12/10/16	CoC – meeting	+ Donna Di Renzo (CoC) + Andrew Trosic (CoC)	+ NL (LandCorp) + Hames Sharley
14/10/16	Tour of White Gum Valley	+ Logan Howlett (CoC Mayor) + Simone McGurk (MLA) + Simone Sieber (CoC)	+ HHCG members + LandCorp Exec + WP
30/11/16	Community Forum	+ Community members + Logan Howlett (CoC Mayor) + Daniel Arndt (CoC)	+ LandCorp Community Relations & + Project Team
15/03/17	Presentation to SWALSC – Whadjuk Working Group	+ Ingrid Cumming (Codeswitch) + CB, WP, NL (LandCorp)	
05/04/17	Year 10 – 12 Hamilton SHS students	+ Ailsa Grieve (Landscript) + Ingrid Cumming (Codeswitch)	+ Year Ten and Twelve students + NL, WP (LandCorp)
05/04/17	Open forum for local Aboriginal Community	+ Mark Jumeaux (Josh Byrne and Associates) + Miles Draper (Fremantle College) + Claire Paddison (CP) (LandCorp)	+ Ailsa Grieve (Landscript) + Ingird Cumming (Codeswitch) + WP (LandCorp) + Prof Len Collard
16/05/17	CoC – Aboriginal Reference Group briefing	+ Samantha Mourish (CoC) + Sally Ann Gamble (Chair) + Len Thorn (Co-Chair) + Leah Bonson + Gail Bowman	+ Gail Thorn + Maisie Stokes + Saskia Mackay (SM) + WP, NL, CP, SM (LandCorp)

DATE	EVENT	ATTENDEES	
17/05/17	HHCG presentation	+ Logan Howlett (CoC Mayor) + Lyndsey Sweetman (CoC West Ward Councillor) + Chamonix Terblanche (CoC East Ward Councillor)	+ Rachel Seal (Hames Sharley) + Ingrid Cumming (CodeSwitch) + Approx. 25 HHCG members + Lauren Hurst (LH) + WP, NL, SM
08/06/17	Smart Cities Presentation	+ Keith Fitzpatrick, Andrew Trosic, Daniel Arndt, Nelson Mauricio, Charles Sullivan, Anton Lees, Don Green, Stuart Downing, Linda Seymour, Andrew Lefort, Samantha Seymour-Eyles, Margot Tobin (CoC)	+ Gail Bowman, Doug Vickery, Christopher Beaton and Hana Jestribek (CoC) + Josh Byrne and Mark Taylor (Josh Byrne and Associates) + NL and WP (landCorp
14/06/17	Meeting with City of Cockburn - Site Analysis and Concepts	+ Donna Di Renzo and Andrew Trosic (CoC) + NL and WP (LandCorp)	+ Rachel Seal and Ryan Dunham (Hames Sharley)
26/07/17	CoC – Presentation of Draft Concept Plan plus CBEH pilot trial demonstration	+ Andrew Trosic (CoC) + Donna Di Renzo (CoC) + Gail Bowman (CoC) + Simone Sieber (CoC) + Barbara Freeman (CoC)	+ Rachel Seal and Ryan Dunham (Hames Sharley) + Jonathon Small (Tabec) + Dr Paula Hooper (UWA CBEH) + WP, NL (LandCorp)
05/08/17	Community Information Session– Hamilton Hill, Memorial Hall	+ Approx. 70 members of the community + Josh Wilson MP, Federal Member for Fremantle + Logan Howlett (CoC Mayor) + HHCG members	+ Cockburn Wildlife Community Corridor members + Dr Paula Hooper (UWA CBEH) + Felicity Carlin (LandCorp) + Matt Read (MR) WP, NL, LH, CB (LandCorp)
19/09/17	Aboriginal Reference Group Briefing	+ Samantha Mourish (CoC) + Sally Ann Gamble (Chair) + Len Thorn (Co-Chair) + Leah Bonson + Gail Bowman	+ Gail Thorn + Maisie Stokes + LH & CP (LandCorp)
Apr / May - 2018	Pre Lodgement Stakeholder Briefing	+ Daniel Arndt, Donna Di Renzo and Andrew Trosic (CoC) + Minister for Planning + Cockburn Community Wildlife Corridor Representatives	+ Hamilton Hill Community Group (including Mayor, Deputy Mayor and 2 Ward Councillors) + MR and NL (LandCorp)
05/11/21	City of Cockburn (CoC) - Preliminary consultation workshop regarding LSP design review	+ Lorenzo Santoriello (CoC) + Donna Di Renzo (CoC) + David King (CoC) + Sabbir Hussain (CoC)	+ NL,KD (DevelopmentWA) + MB (TBB)
10/03/22	City of Cockburn (CoC) - Consultation workshop regarding refined Draft LSP design.	+ Lorenzo Santoriello (CoC) + Donna Di Renzo (CoC) + David Reynolds (CoC) + David King (CoC) + Sabbir Hussain (CoC)	+ NL,KD (DevelopmentWA) + MB (TBB) + Jonathon Small (Tabec) + Robin Burnage (JBA)

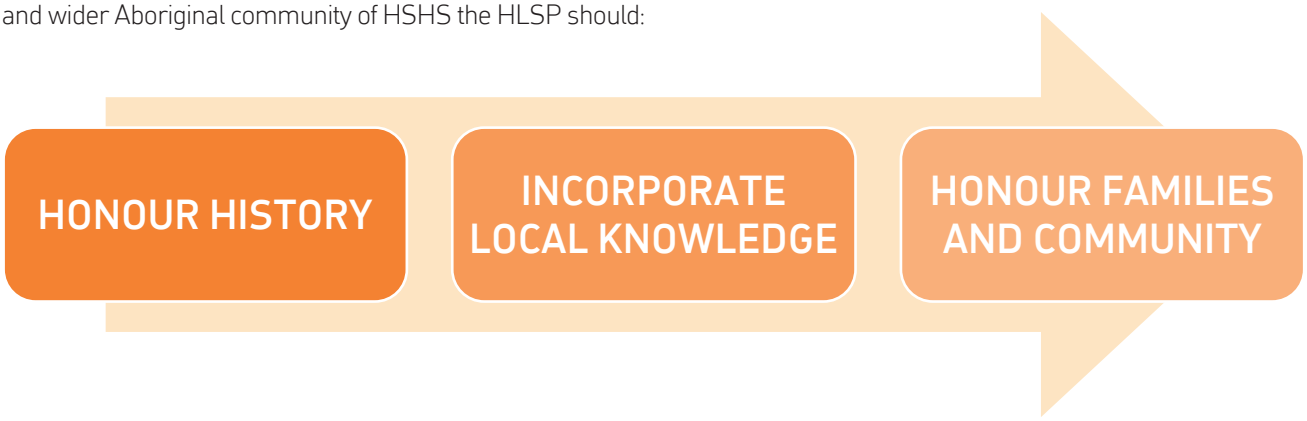
DATE	EVENT	ATTENDEES	
07/04/22	City of Cockburn (CoC) - Detailed design review (by correspondence)	+ Sabbir Hussain (CoC) + Lyall Davieson	+ NL (DevelopmentWA) + MB (TBB) + Jonathon Small (Tabec) + Robin Burnage (JBA)

2.5.2 ABORIGINAL ENGAGEMENT

Codeswitch were engaged to prepare and undertake an Aboriginal Engagement Strategy. The focus of the strategy was to work with the Noongar community, with aims to:

+ Create an environment that actively supports and drives Aboriginal participation in the HSHS Redevelopment project, which is appropriate to the needs and expectations of Aboriginal people and organisations; and
+ Ensuring that Aboriginal people have the opportunity to engage appropriately, including providing input into the design of the transformation of the school site.

The findings of the Aboriginal Engagement Strategy recommended that to adequately represent the Wadjuk, Noongar and wider Aboriginal community of HSHS the HLSP should:



HONOUR HISTORY

A chance to give more exposure to the stories both pre-and post-colonial period to be told through interpretive walks throughout the site and surroundings and inevitably connected to the site.

INCORPORATE LOCAL KNOWLEDGE

The project should consider the integration of local Wadjuk Noongar knowledge, in particular the celebration of the flora and fauna of the area, the uses and using the language in relation to these.

HONOUR FAMILIES AND COMMUNITY:

The project needs to honour the families who have contributed and been a part of the local area for generations. Some initial ideas given the past connections and history, heritage and feedback from community may be, but are not limited to:

+ Noongar specific procurement through the project from advisors, earthworks, site surveyors and artists;
+ Installation of acknowledgement plaques, installations or designs that celebrate Noongar sense of place and connection using the information in the attachments in this report;
+ Using language in street names, naming of parks and open spaces; and
+ Retaining and reintroducing native flora in the area to help the cultural and physical Noongar connection to country on the site.

A copy of the Aboriginal Engagement Strategy is provided in **"Appendix K - Aboriginal Engagement Strategy"**.

3.0 CONTEXT ANALYSIS

+ 3.1 Regional Context
+ 3.2 Local Context
+ 3.3 Demographic Profile
+ 3.4 Market Profile

3.1 Regional Context

The Site is located within the City of Cockburn in the suburb of Hamilton Hill. It is located at the intersection of Stock Road and Ralston Street and is approximately 17 km southwest of the Perth Central Business District (CBD), 6km southeast of the Fremantle Strategic Metropolitan Centre (SMC) and 7km northwest of the Cockburn Secondary Centre.

3.1.1 ACTIVITY

As illustrated on **Figure 6**, the Site is situated in close proximity to a number of activity centres which provide a range of employment, entertainment and social services. In 2011, 75.3% of the City's residents worked outside of the City, this low level of employment self-containment suggests that almost three quarters of local residents leave the area on a daily basis for work. As the largest activity centre, it is likely that a large proportion of residents travel to the Perth CBD for employment, however, it is unlikely that it is the primary centre for other services.

Due to its proximity, is assumed that the Fremantle SMC serves as the major employment and entertainment node for residents of Hamilton Hill. However, the Site also has access to a range of other centres including:

+ Booragoon and Cockburn Secondary Centres;
+ Spearwood and North Coogee District Centres:
+ Murdoch and Jandakot Specialised Centres; and
+ Henderson, Bibra Lake, O'Connor and Myaree Industrial Centres.

The above centres provide local residents with access to a number of diverse employment centres not often experienced in a 5-10km catchment. This diversity of access and choice could be attractive for future residents of the HSHS redevelopment.

3.1.2 MOVEMENT

From a public transport perspective, the closest train stations are located in Fremantle (6km) and Murdoch (5.5km). For access to Perth it is likely that people drive to Murdoch Station to utilise the 'park n ride' facilities as this route is significantly quicker than using the train from Fremantle which has less parking and a longer journey time.

The area is serviced by the TransPerth bus network, which provides links to key services in the surrounding area, including the Murdoch, Fremantle and Cockburn Train Stations.

The Site has access to a number of major arterial roads. Stock Road is the primary north-south connector, providing access to key east-west connectors such as Winterfold Road and South Street, which provides links to Fremantle, Murdoch and the Perth CBD (via South Street).

3.1.3 CHARACTER

The region has a predominantly urban character, however, the Site is in close proximity to key natural assets such as Bibra Lake (2.5km), Beeliar Regional Park (4.5km) and the coastline. Popular beaches in close proximity to the Site include CY O'Connor Reserve and South Beach.

The Site is also located close to key entertainment districts such as Fremantle, South Fremantle, Cockburn, and Adventure World which is Perth's only theme park.

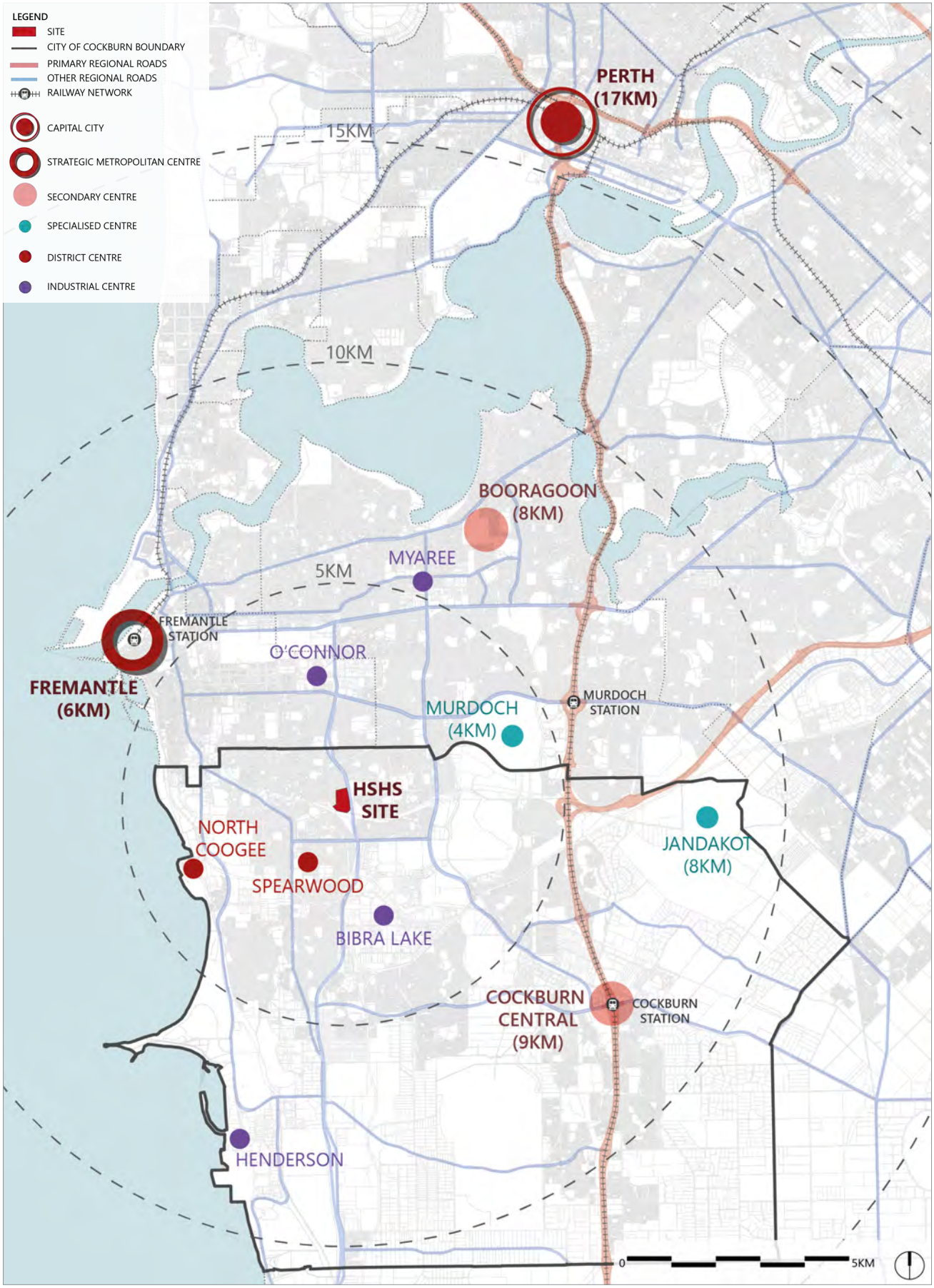


Figure 6: Regional Context

3.2 Local Context

3.2.1 ACTIVITY

Figure 7 highlights the findings of the data obtained from the University of Western Australia (UWA) Centre of Built Environment and Health (CBEH). It illustrates the dwellings in the local catchment that are within 400m of a local neighbourhood centre, and demonstrates that approximately less than half of the dwellings located within 3000m of the Site have access to a local neighbourhood centre.

The broader locality is generally well serviced by basic amenities including retail, education, open space and retail. The Spearwood District Activity Centre has the largest and most diverse offering in the local catchment. Phoenix Shopping Centre includes a Coles, Woolworths, Big W and a range of specialty tenancies, fast food restaurants and other supporting retail services.

A key challenge facing the Site is that the retail offering in the immediate walkable catchment is lacking. The closest shopping centres are Hamilton Hill IGA X-Press (600m) and Coolbellup IGA (1km). The IGA X-Press has a limited retail offering and access to Coolbellup IGA for pedestrians requires pedestrians to cross the Stock Road pedestrian bridge. There is an obvious need for amenities in the immediate catchment of the Site, as such opportunities to provide a small retail offer are being considered.

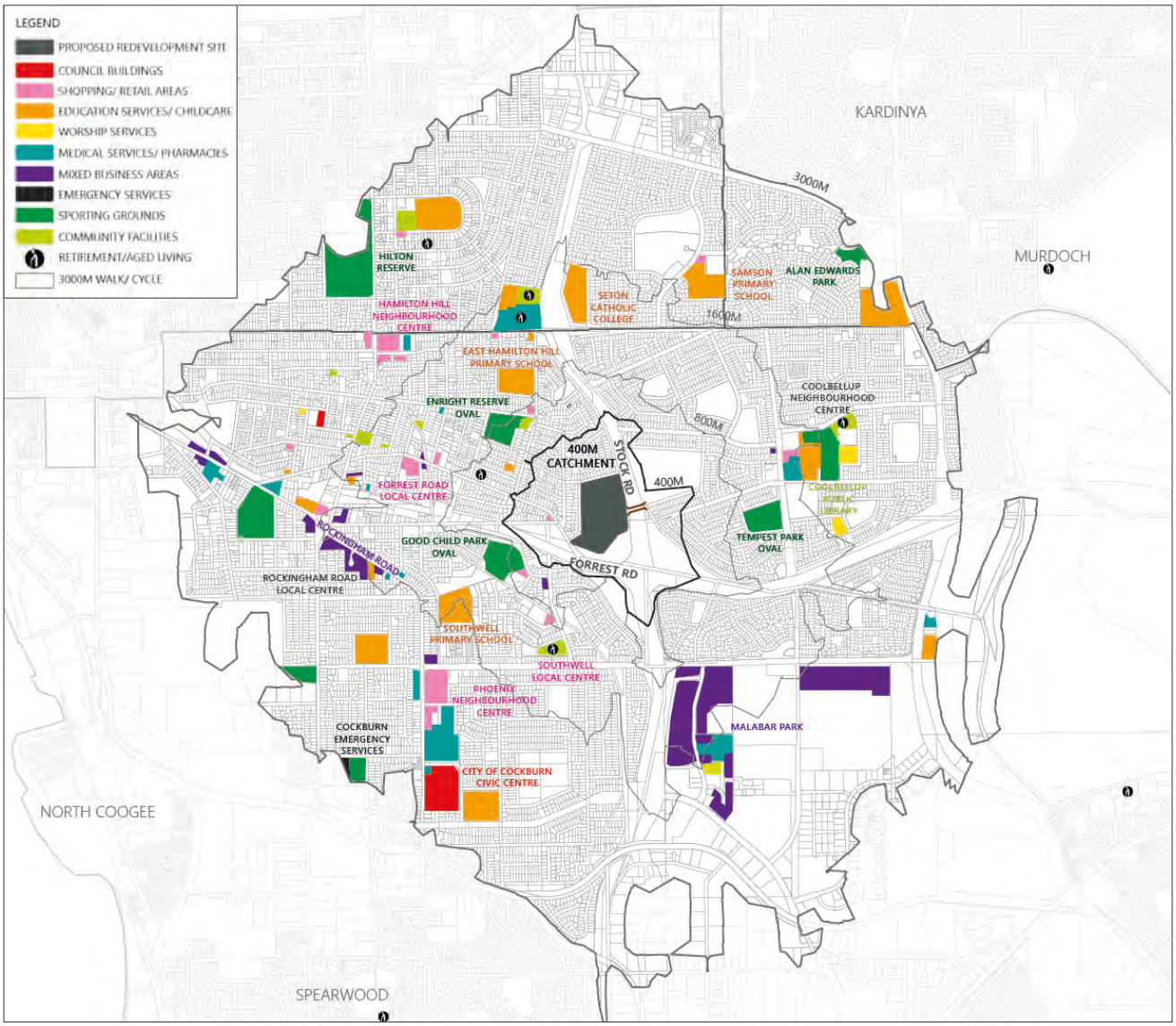


Figure 7: Walkability and Amenity
Source: UWA, CBEH 2017

3.2.2 MOVEMENT

PUBLIC TRANSPORT

As illustrated on **Figure 8**, the Site is serviced by four TransPerth bus routes. Transcore's assessment indicates that:

- Route 115 runs on Ralston Street connecting from Hamilton Hill to Perth via Booragoon Bus Station. It operates at 15-minute frequency during weekdays and half- hourly during weekday evenings and on weekends.
- Route 513 runs on Ralston Street connecting to Murdoch Station and Fremantle Station. It operates at 15-30 minute frequency during weekday peak periods and hourly throughout the day at other times and on weekends.
- Route 520 runs on Forrest Road south of the Site connecting to Cockburn Central Station and Fremantle Station. It operates at 15-20 minute frequency during weekday peak periods, half-hourly during weekday daytime periods and hourly during weekday evenings and on weekends.
- Route 531 runs on Forrest Road and Southwell Crescent, southwest of the Site, connecting to Cockburn Central Station and Fremantle Station. It operates at 10-30 minute frequency during weekday peak periods and hourly throughout the day at other times and on weekends. Route 531 is the only route that provides connections to the Phoenix Shopping Centre, which is the largest retail centre in the immediate catchment.

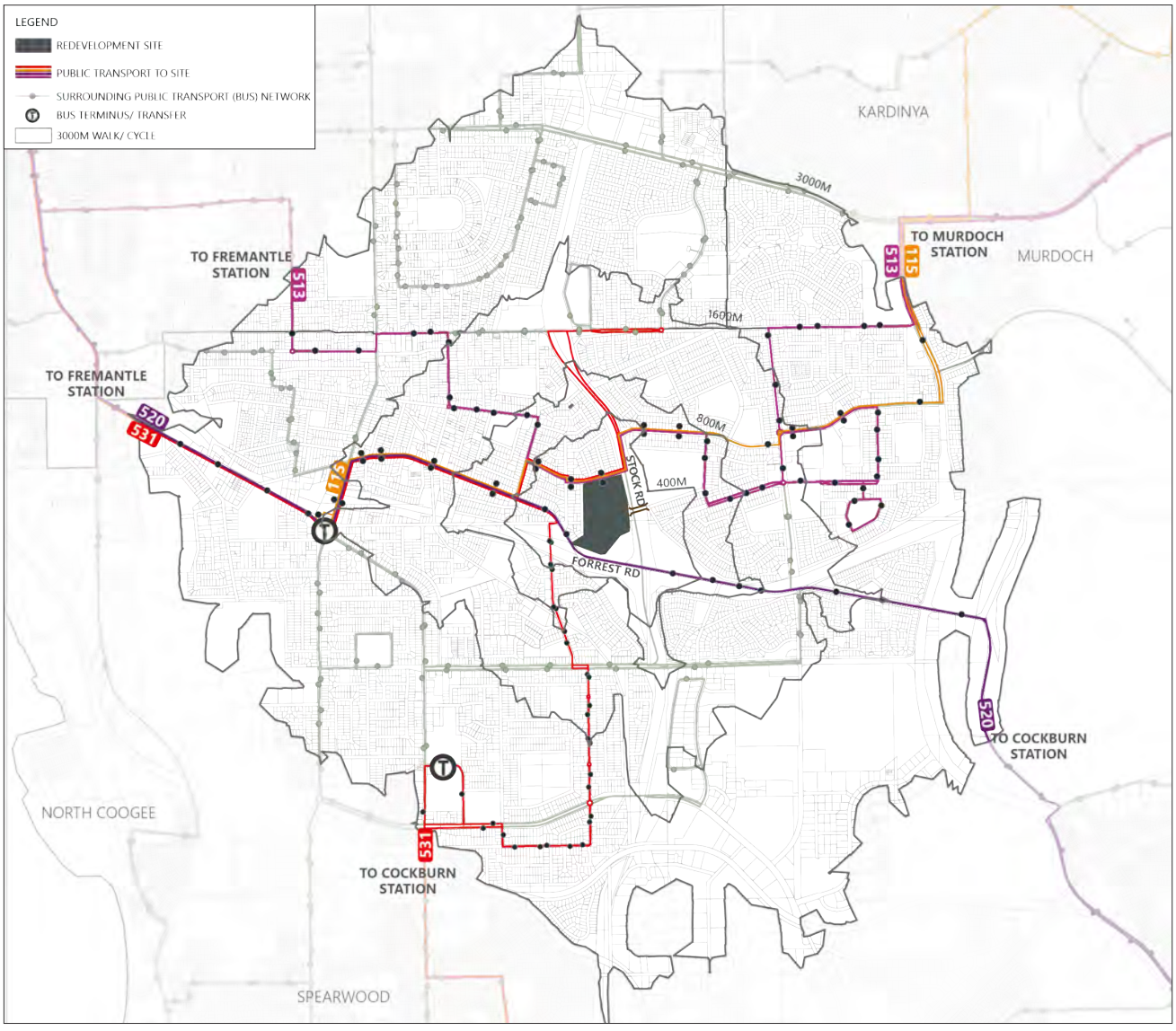


Figure 8: Public Transport
Source: Public Transport Authority

ACTIVE TRANSPORT

Existing active transport routes around the Site are shown on **Figure 9**, which is taken from the Department of Transport's Perth Bike Map series. There is a footbridge over Stock Road on the eastern side of the Site area with shared path connections northward on both sides of Stock Road. There are no on-road cycling facilities on Stock Road.

Ralston Street and the footbridge are part of Perth Bicycle Network route SW18. There are bicycle lanes or sealed shoulders on Forrest Road and Winterfold Road, whilst Curven Road, O'Connell Street and Redmond Road are classed as a good road riding environment providing links to Forrest Road and Winterfold Road. There are opportunities to reroute the PBN through the Site, via the existing pedestrian bridge, increasing connectivity and potentially attracting people to the open space provided in the redevelopment.

The existing urban structure of the local catchment is defined by the road network, which has significant impacts on pedestrian connectivity. Stock Road and Forest Road provide major barriers and limit pedestrian movement to the south and east. This highlights the importance of the footbridge across Stock Road as it is the only existing pedestrian connection east of the Site.

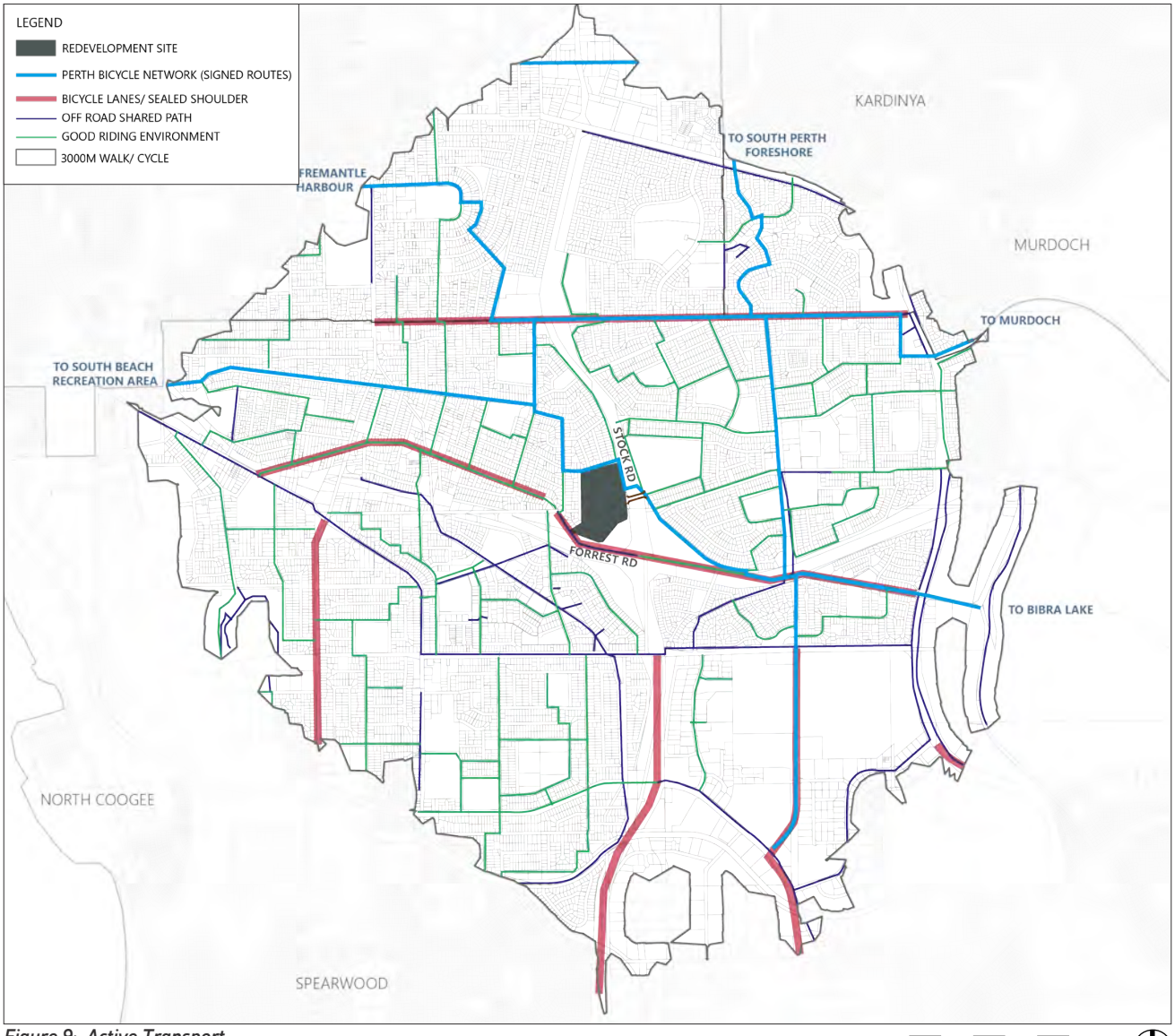


Figure 9: Active Transport
Source: Department of Transport

VEHICLE TRANSPORT

Stock Road is located to the east of the Site. It is classified by Main Roads WA (MRWA) as a Primary Distributor road in the catchment. It is a dual carriageway with two lanes in each direction. The central median varies in width but is approximately 6m wide adjacent to the Site. There are currently signalised 4-way intersections on Stock Road at Forrest Road (south of the Site) and Winterfold Road (over 900m north of the Site). Ralston Street connects to Stock Road at a full-movement T-intersection, which is the only intersection on the western side of Stock Road between Forrest Road and Winterfold Road.

As illustrated on **Figure 10** key roads in the local catchment include:

- Phoenix Road - Distributor A road providing east-west connection between Rockingham and North Lake Roads. 4-way signalled intersection with Stock Road;
- Rockingham Road - Distributor A road providing north-south connections between Kwinana and Fremantle;
- North Lake Road - Distributor A road providing north-south connections between Cockburn Secondary Centre and South Street; and
- Forest Road - Distributor B road providing connections between North Lake Road and Rockingham Road.

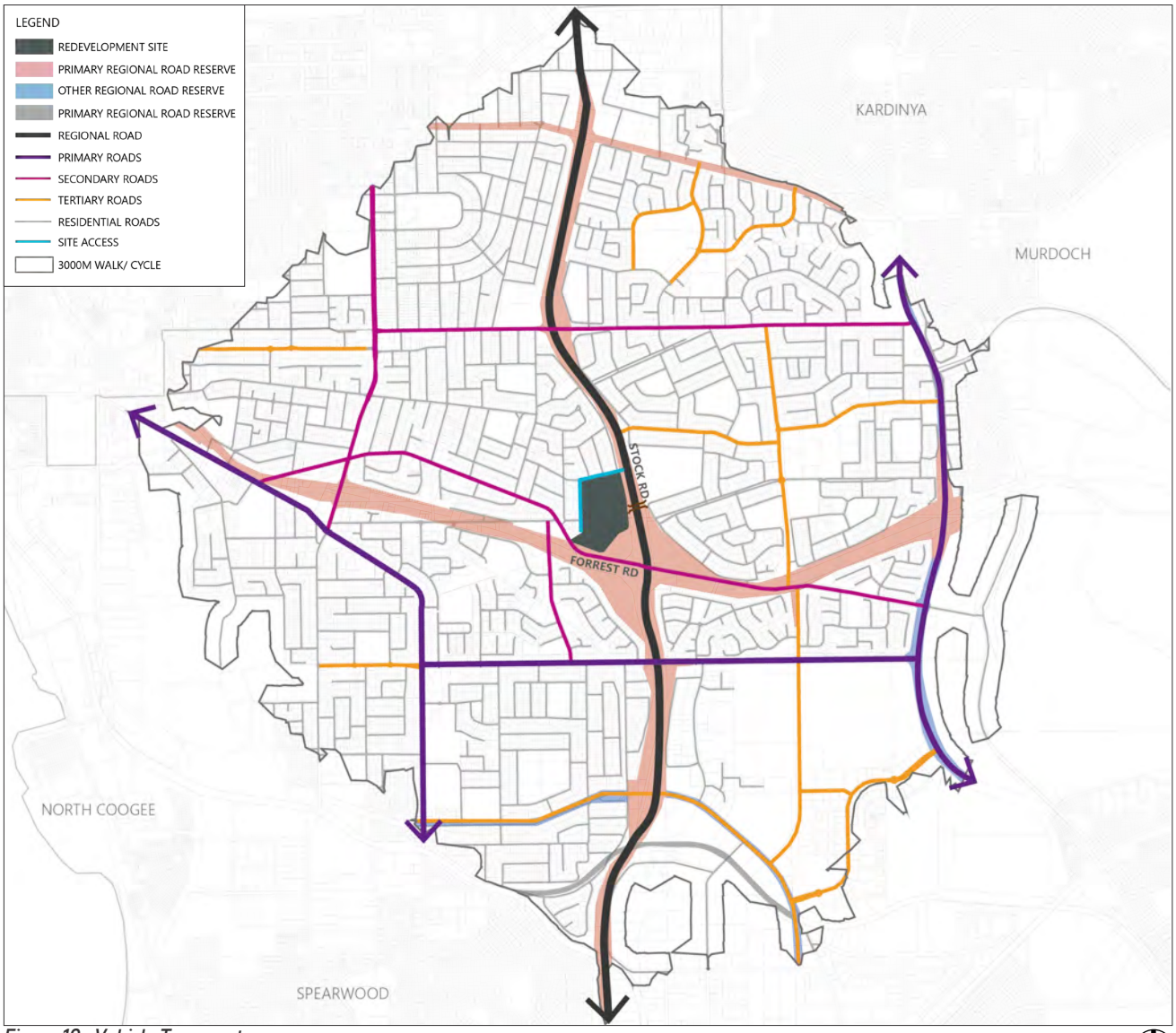


Figure 10: Vehicle Transport
Source: Main Roads Western Australia

3.2.3 CHARACTER

PUBLIC OPEN SPACE

For the purpose of this analysis Public Open Space (POS) is used to refer to all land identified within the City's TPS as 'Parks and Reservation" as well as any future POS identified in the City's Public Open Space Strategy 2014 - 2024. POS areas have been delineated as either active, passive or future. Active POS areas are identified as any areas which contain formalised sporting fields or equipment. Passive POS areas align with leisure and community needs and contain community facilities such as, a playground or gazebo. Future POS areas are as identified within the City's Public Open Space Strategy 2014 - 2024.

Figure 11 illustrates that there are currently no active or passive POS areas provided within the 400m walkable catchment of the Site, however, the natural bushland surrounding the intersection of Stock/Forrest Road contains a number of tracks suggesting these areas are used informally. Redevelopment of the Site should consider opportunities for provision of POS, to reflect its past history and character as a school and to improve community amenity and activation.

As mentioned in **"3.1.3 Character"**, the surrounding area has access to a number of regional open space areas and the coastline.

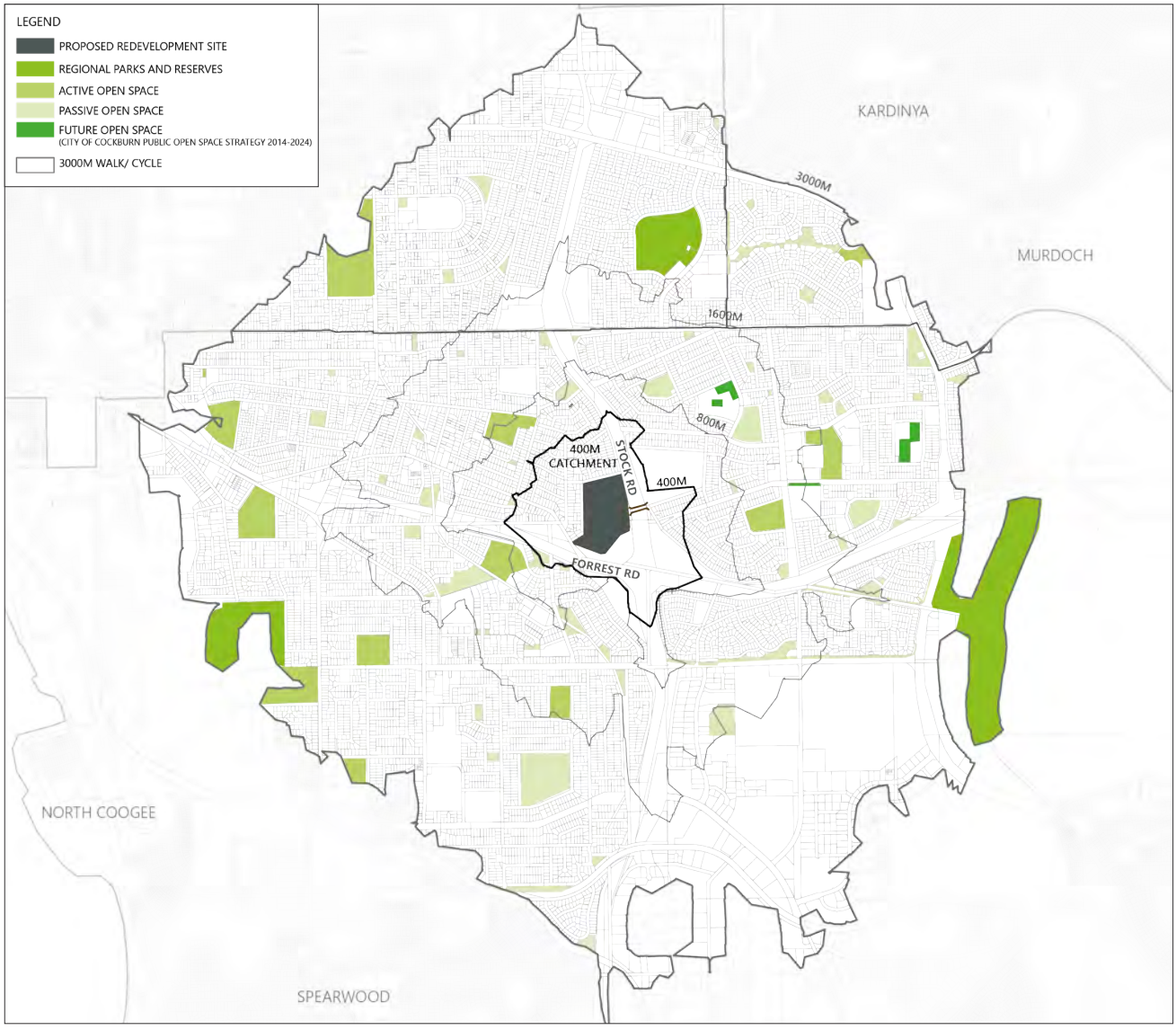


Figure 11: Open Space
Source: UWA, CBEH 2017

3.3 Demographic Profile

In order to understand the social context of the HLSP area, Australian Bureau of Statistics (ABS) 2016 Census data and REIWA data has been analysed. For the purposes of this study, the Hamilton Hill suburb has been analysed and benchmarked against City of Cockburn and Greater Perth data (study area illustrated on **Figure 12**).

All data has been sourced from the ABS 2016 census unless otherwise stated.

HAMILTON HILL	
Population	10,387
Median Age	40
Families	2,607
Dwellings	5,057
Household Size	2.3

CITY OF COCKBURN	
Population	104,473
Median Age	35
Families	28,305
Dwellings	42,827
Household Size	2.7

GREATER PERTH	
Population	1,943,858
Median Age	36
Families	515,328
Dwellings	818,081
Household Size	2.6

Figure 12: Study Area

3.3.1 DEMOGRAPHIC SNAPSHOT

POPULATION GROWTH

Population in Hamilton Hill increased from 9,257 in 2006 to 10,387 in 2016 representing a growth rate of 10.9%. Over the same period the City of Cockburn experienced a growth rate of 28.7%. The slower growth rate in Hamilton Hill can be attributed to the limited availability of land and reliance on infill redevelopment, in contrast much of the City of Cockburn's growth throughout this period occurred via greenfield subdivision.

Population forecasts by .idcommunity project the population in Hamilton Hill to reach 16,557 by 2036, representing a growth rate of 37.3%. The projected growth will likely be a result of the City's increased focus on infill development, the HLSP is an example of this development with potential to provide housing for over 800 people.

AGE PROFILE

Hamilton Hill has a much older population, its median age is 40 which is five and four years older than the City of Cockburn and Greater Perth median ages respectively. As illustrated in **Table 2** this is due to a much larger percentage of people aged 65 and over and smaller percentages of people aged 0-24. This presents opportunities to provide housing options in the HLSP that are better suited to young people.

Table 2: Age Profile Comparison

	Hamilton Hill	City of Cockburn	Greater Perth
0-14	15.6%	20.1%	19.0%
15-24	10.3%	12.5%	13.1%
25-44	30.5%	31.8%	29.7%
45-64	24.9%	24.1%	24.2%
65 and over	18.7%	11.7%	13.9%

FAMILY COMPOSITION

As demonstrated in **Table 3** Hamilton Hill has a higher percentage of families without children and single parent families, and a significantly lower percentage of couple families with children. The higher percentage of families without children is reflective of the suburbs older population which is likely to have a number of households that include either 'empty nesters' or retirees. The higher percentage of single parent families highlights the need to provide a range of dwelling options in the HLSP, that provide opportunities for a range of family types.

Table 3: Family Composition Comparison

	Hamilton Hill	City of Cockburn	Greater Perth
Couple family without children	40.0%	35.0%	37.5%
Couple family with children	35.5%	48.9%	46.3%
Single parent family	22.6%	14.5%	14.5%
Other family	1.9%	1.6%	1.8%

HOUSEHOLD TYPE

Hamilton Hill had a significantly lower proportion of family households and much higher percentage of single or lone person households compared to the City of Cockburn and Greater Perth. 56.3% of single person households in Hamilton Hill live in separate houses, yet 85.6% of separate houses are comprised of three bedrooms or more. This data indicates that there is a current gap in the housing market for single person households.

Table 4: Household Types

	Hamilton Hill	City of Cockburn	Greater Perth
Family	61.8%	75.8%	73.0%
Single or Lone Person	32.7%	20.7%	23.0%
Group Household	5.5%	3.5%	4.0%

INCOME

Compared to the City of Cockburn and Greater Perth Hamilton Hill is not a very wealthy suburb, it has much lower median weekly personal, family and household incomes. The lower incomes can be attributed to a number of elements such as the high percentage of single parent families and retirees, which is a byproduct of the high concentration of Department of Communities assets in the area.

Table 5: Income Comparison

	Hamilton Hill	City of Cockburn	Greater Perth
Personal	$608	$761	$728
Family	$1,520	$2,038	$1,955
Household	$1,166	$1,756	$1,643

LABOUR FORCE PARTICIPATION

Hamilton Hill had a lower percentage of people who worked full-time but higher percentage of people who worked part-time compared to the City of Cockburn and Greater Perth. However, it had a much higher unemployment rate.

Table 6: Labour Force Participation Comparison

	Hamilton Hill	City of Cockburn	Greater Perth
Worked full-time	56.6%	61.5%	60.2%
Worked part-time	30.1%	27.7%	28.9%
Away from work	7.2%	6.5%	6.1%
Unemployed	6.1%	4.3%	4.8%

Source: ABS, 2011 (2016 census data available in October 2017)

COUNTRY OF BIRTH

Hamilton Hill had a lower percentage of people born in Australia compared to both the City of Cockburn and Greater Perth. The top five countries of birth in Hamilton Hill are identified in **Table 7**. It had a much higher percentage of Italian and Portugese residents and comparable percentages of people from England, New Zealand and Philippines.

Table 7: Country of Birth

	Hamilton Hill	City of Cockburn	Greater Perth
England	6.4%	6.8%	8.6%
Italy	4.6%	1.5%	0.9%
New Zealand	2.9%	3.1%	3.2%
Philippines	2.4%	2.3%	1.3%
Portugal	1.5%	Not in top 50	Not in top 50

HAMILTON HILL SOCIAL CHANGE 2006-2016

Table 8: Social Transition in Hamilton Hill

ELEMENT	HAMILTON HILL 2006	HAMILTON HILL 2016	CHANGE	COMMENT
AGE STRUCTURE				+ The median age in Hamilton Hill increased from 39 to 40. + Reduction in people aged 15-24 could be a result of lack of housing choice. Increase in persons aged 65 and over reflective of Greater Perth trends.
0-14	16.4%	15.6%	-0.8%	
15-24	12.1%	10.3%	-1.8%	
25-44	28.5%	30.5%	+2.0%	
45-64	25.1%	24.9%	-0.2%	
65 and over	17.8%	18.7%	+0.9%	
MEDIAN INCOME[1]				+ Increase in median weekly personal, family and household incomes suggests the population in Hamilton Hill could be becoming wealthier.
Personal	$479	$608	+ $129	
Family	$1,180	$1,520	+ $340	
Household	$890	$1,166	+ $276	
FAMILY STRUCTURE				+ Reduction in single parent families and increase in both couples with and without children.
Couple no children	38.5%	40.0%	+1.5%	
Couple with children	34.5%	35.5%	+1.0%	
Single Parent	24.6%	22.6%	-2.0%	
Other	2.3%	1.9%	-0.4%	
INDIGENOUS STATUS				+ Reduction in both Indigenous and non-Indigenous persons and increase in persons who did 'not state' their Indigenous status. This skews the data, therefore meaningful assumption on changes cannot be made.
Indigenous	3.4%	2.2%	-1.2%	
Non-Indigenous	90.6%	90.2%	-0.4%	
Not Stated	6.1%	7.6%	+1.7%	
DWELLING TENURE				+ Decrease in the amount of people who own their home outright and increase of people with mortgages and renting. + Percentage of persons renting remains above average.
Owned Outright	32.0%	29.1%	-2.9%	
Owned w/Mortgage	26.0%	31.9%	+5.9%	
Renting	34.8%	35.8%	+1.0%	
EMPLOYMENT[2]				+ Unemployment rate decreased slightly and was still below Greater Perth averages.
Full-Time	57.4%	57.1%	-0.3%	
Part-Time	31.2%	33.1%	+1.9%	
Unemployed	3.8%	3.2%	-0.6%	
OCCUPATION[2]				+ Increasing percentage of 'professionals' and 'managers' suggests residents are now better qualified and have access to higher paying jobs. This is related to the increased wages and higher percentage of people with university qualifications.
Technicians/Trades	19.0%	17.2%	-1.8%	
Professionals	16.1%	20.7%	+4.6%	
Labourers	15.4%	12.7%	-2.7%	
Clerical/Administrative	13.3%	12.1%	-1.2%	
Community/Personal Services	9.8%	10.6%	+0.8%	
Sales Workers	8.9%	8.1%	-0.8%	
Machinery Operators/Drivers	8.4%	8.2%	-0.2%	
Managers	7.2%	8.4%	+1.2%	
QUALIFICATIONS[2]				+ Of people in Hamilton Hill with qualifications, there is a much higher percentage of residents with tertiary qualifications at the Bachelor level or higher. This enables greater access to higher paying employment and is likely related to the increased percentage of people employed as 'professionals' and 'managers'.
Post-Graduate	3.1%	4.7%	+1.6%	
Grad-Diploma/Grad-Certificate	2.3%	2.4%	+0.1%	
Bachelor Degree	16.5%	21.4%	+4.9%	
Advanced Diploma/Diploma	12.2%	13.9%	+1.7%	
Certificate Level	34.5%	32.8%	-1.7%	

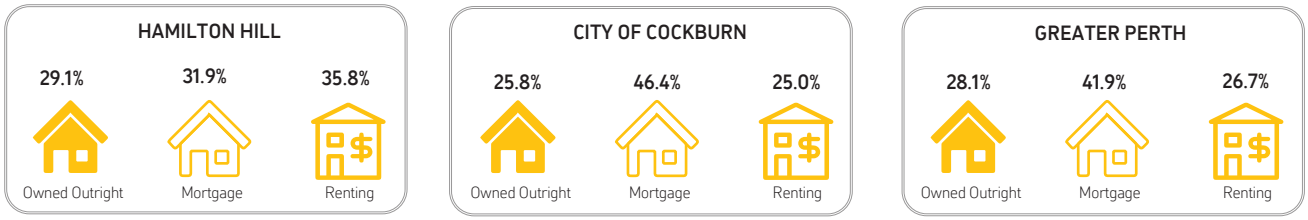
[1] 2006 figures adjusted for inflation using Reserve Bank of Australia inflation calculator.

[2] 2011 ABS data used, 2016 census data not available until October 2017.

3.3.2 HOUSEHOLD AND DWELLINGS STATISTICS

HOUSEHOLD TENURE

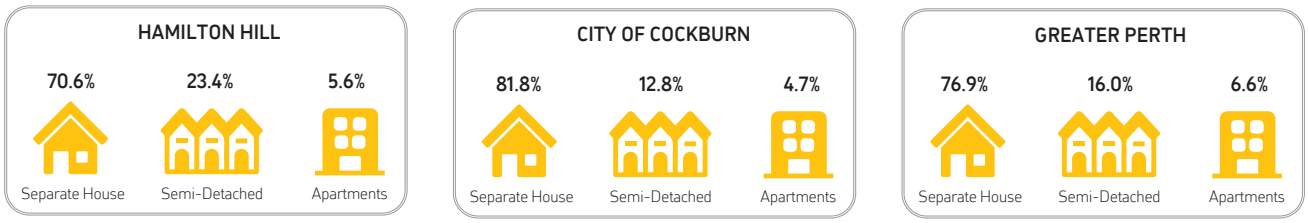
Hamilton Hill had the highest percentage of people who owned their home outright compared to the City of Cockburn and Greater Perth. Hamilton Hill also had the highest percentage of people renting which is relatively unique in Perth, but due in large part to the number of Housing Authority assets in the suburb. 24.0% of people renting in Hamilton Hill were in dwellings owned by the Housing Authority compared to only 10.7% in Greater Perth.



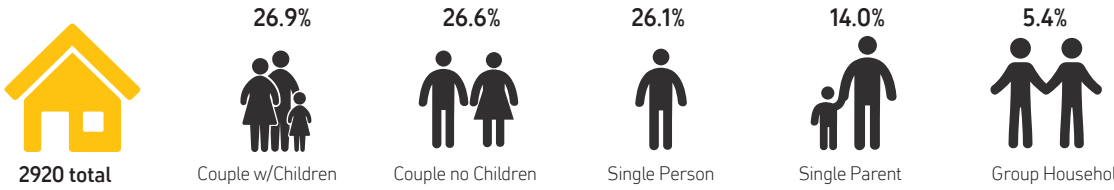
DWELLING STRUCTURE

There is a good mix of housing stock in Hamilton Hill. Single detached dwellings still comprise 70.6% of the market, however, there is a much higher percentage of grouped dwellings compared to the City of Cockburn and Greater Perth, and a comparable proportion of multiple dwellings.

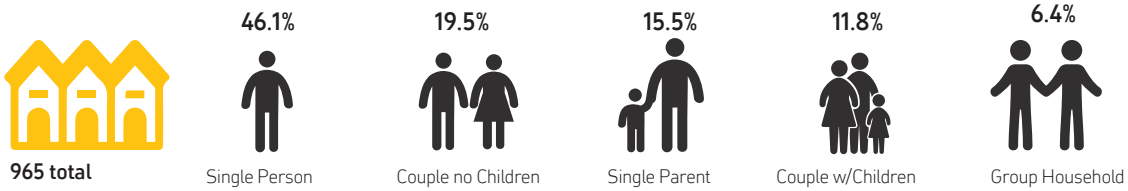
Of the grouped dwellings in Hamilton Hill, only 17.5% are two or more storeys and 44.4% have two bedrooms or less.



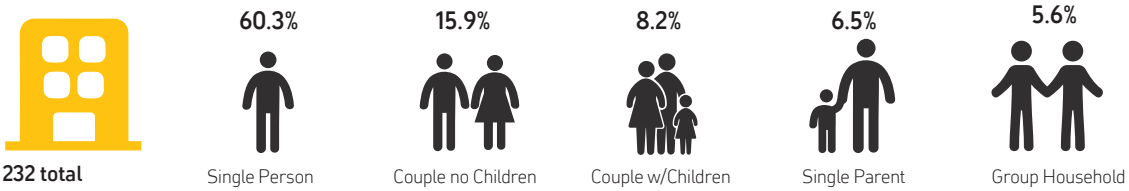
Separate Houses in Hamilton Hill



Semi-Detached in Hamilton Hill



Apartments in Hamilton Hill



3.4 Market Profile

HAMILTON HILL HOUSE SALES

- **Figure 13** indicates that the median sales price in Hamilton Hill decreased by -6.25% between 2013-2017. Over the same period the Perth Metropolitan region increased marginally by 1.5%.
- Current (2017) house prices in Hamilton Hill are -7.75% lower than the Perth median.
- 2016-17 recorded most sales per annum since 2013.
- Houses (REIWA definition includes semi-detached dwellings) remain the most common type of dwelling in Hamilton Hill, however, diversity is an issue. 77.5% of houses (detached and semi-detached) have three bedrooms or more, yet 30% of these are occupied by a single person. The HLSP provides opportunities for smaller houses.

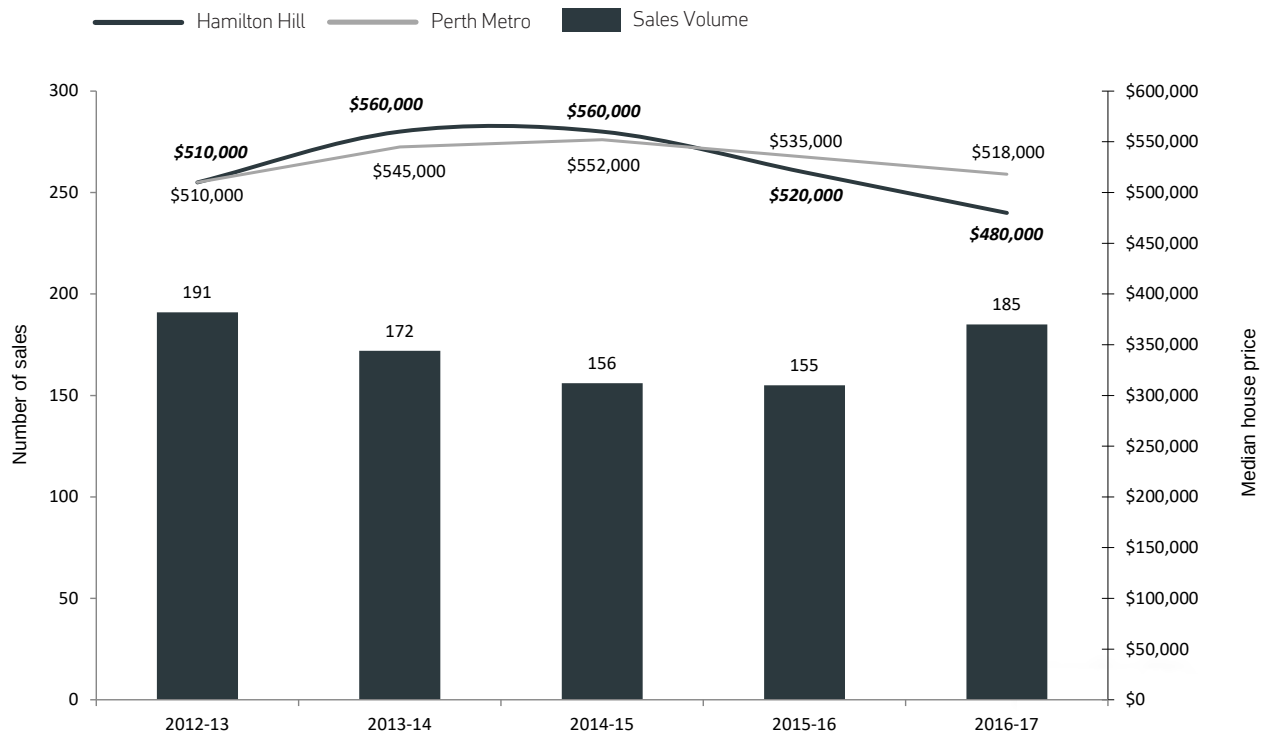


Figure 13: Hamilton Hill House Sales and Volume

Source: REIWA 2017

HAMILTON HILL UNIT SALES

- **Figure 14** indicates that the median sales price for units in Hamilton Hill has decreased by -6.7% between 2013-2017. Over the same period the Perth Metropolitan region decreased by -2.9%. In the last year unit prices have increased by 4.7%.
- Current (2017) unit prices in Hamilton Hill are -12.2% lower than the Perth median.
- Unit sales have remained around 50 sales per annum, with a low of 32 in 2015-16.
- Hamilton Hill has an above average percentage of single and lone person households. As such, the HLSP provides a number of grouped sites which are likely to include apartments.

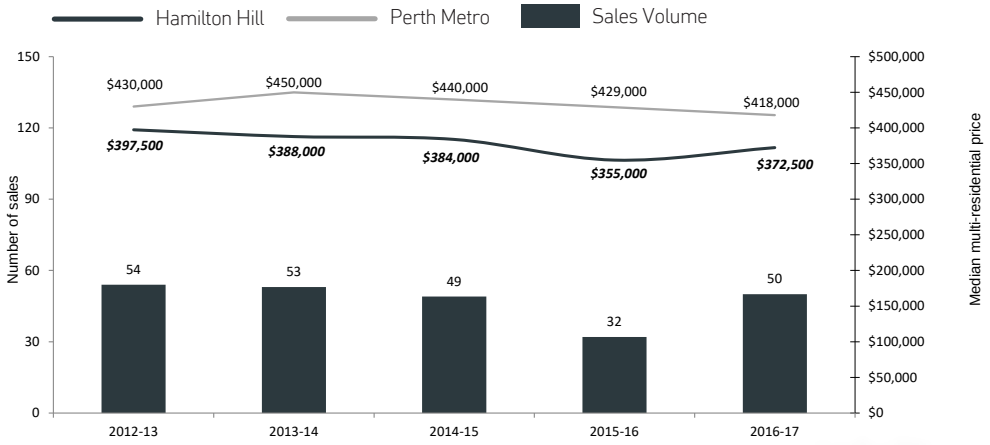


Figure 14: Hamilton Hill Unit Sales and Volume

Source: REIWA 2017

HAMILTON HILL LAND SALES

- **Figure 15** indicates that the median sales price for land in Hamilton Hill decreased by -18% between 2013-2017. Over the same period the Perth Metropolitan region increased by 4.8%.
- Current (2017) house prices in Hamilton Hill are the same as the Perth median.
- The volume of land sales has remained low since a high of 62 in 2013, likely due to the limited availability of land.
- The HLSP has potential to dramatically improve the volume of land sales in Hamilton Hill with over 200 lots projected.

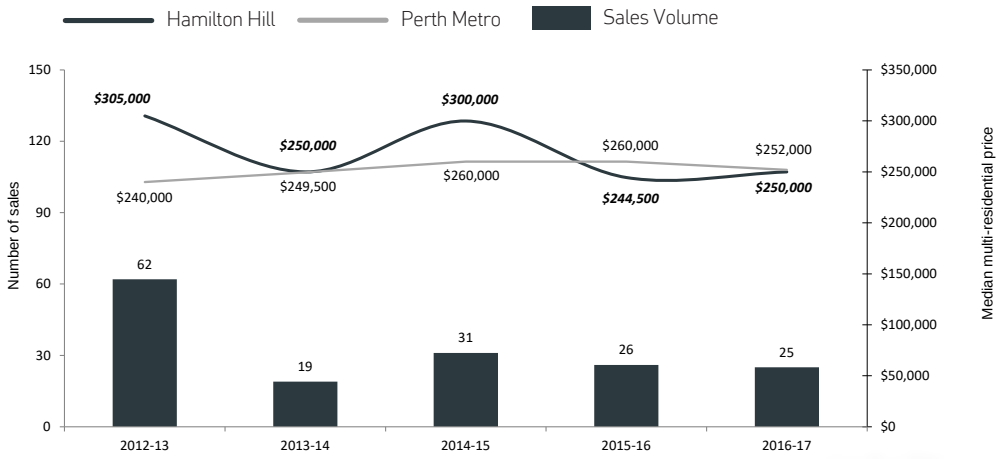


Figure 15: Hamilton Hill Land Sales and Volume

Source: REIWA 2017

4.0 SITE ANALYSIS

+ 4.1 Site Plan
+ 4.2 Environment and Landscape
+ 4.3 Servicing
+ 4.4 Opportunities and Challenges

4.1 Site Plan

Figure 16 illustrates the HLSP site area. The Site currently contains a number of one and two storey school buildings containing various facilities and classrooms, as well as a swimming pool, various outbuildings, hard court and grassed playing fields, shrub vegetation and trees (none of which are on the City's Significant Tree Register). The playing fields are located behind a fence limiting use for local residents.

Existing primary vehicle access points to the Site are located on Purvis Street, there is also a service access point on Ralston Street. Pedestrians can access the Site from various points to the north, south and west, however, Stock Road provides a major barrier to the east. There is an existing pedestrian bridge that connects to the neighbouring suburb of Coolbellup.

4.1.1 EXISTING SITE CHARACTER

Existing built form/landscape interface

Existing built form

Existing landscape

Existing topography, interface between built form and soccer pitch

Existing significant tree.

Existing school building overlooking 'The Quad'

Figure 16: Site Plan

4.1.2 ABORIGINAL HERITAGE AND CULTURE

An Aboriginal Heritage Survey was prepared for the HLSP by Terra Rosa in October 2017. The survey was comprised of three key components:

1. Desktop Assessment
2. Field Assessment
3. Consultation.

KEY FINDINGS

The results of the Aboriginal heritage survey are identified below.

+ No DPLH registered Aboriginal sites or OHPs intersect with the survey area;
+ No new heritage places or objects were identified within the survey area; and
+ No heritage information was provided that requires assessment under the Act.

KEY CONSIDERATIONS

Terra Rosa engaged with Traditional Owners to understand the Aboriginal heritage values of the site. The following list provides an overview of some of the key considerations identified by the Traditional Owners during the consultation process:

Hamilton Senior High School

The Traditional Owners asserted their knowledge of Hamilton Hill as part of a holistic system of high points, intrinsically connected with the Fremantle and Cockburn coasts and the lakes (Bibra Lake) and swamps to the east. The heritage value of the Site is connected to other landscape features by mythology, dreaming, and a personal relationship to country (drawn from a relationship to these features and the native animals and plants). The Traditional Owners consider the high point of land that the high school site is on was potentially used by their ancestors as being a strategic look out spot to the west and Wadjemup (Rottnest Island) and then to the east to the Darling Scarp.

Noongar Garden or Bush Tucker Garden

The Traditional Owners suggested that a Noongar Garden or Bush Tucker Garden (with native species like bluebells and pigface) could be an important asset in the redevelopment. A garden of local native plants (used by local Noongar people before European settlement of Western Australia) could be used to teach local residents and the broader community about Noongar culture and the importance of flora as food to the Noongar people.

Interpretative Signage

The Traditional Owners request that interpretive signage be incorporated throughout the redevelopment area. Interpretive signage was suggested for a Bush Tucker Garden, and look out spot to the coast or scarp with interpretation beyond the site itself and Noongar historical information to provide information to the public about the heritage values of the area and the native fauna and flora.

Aboriginal Engagement

During the consultation, Traditional Owners requested that LandCorp consider Aboriginal Engagement where possible throughout the redevelopment including for training, employment and business opportunities. The Traditional Owners suggested that many Noongar people have the skills and knowledge necessary to be engaged for demolition, construction, landscaping and art projects for the redevelopment works.

Noongar Heritage Monitors

The Traditional Owners deem the Site as having some potential subsurface cultural material. Because of this concern they request that due to the potential for subsurface cultural heritage material to be uncovered, LandCorp should consider engaging Noongar heritage monitors during any ground disturbing works at the high school site.

Mature Trees

The Traditional Owners are supportive of retaining the majority of the mature trees found within the Site. The trees are valuable habitat for native birds and provide shade and a green tree canopy for the Hamilton Hill area. More specifically:

- The Peppermint (Agonis flexuosa) trees found on site are used in traditional smoking ceremonies and medicine; and
- The Moreton Bay Fig (Ficus macrophylla) trees supply fruit and the milky sap, which exudes when the tree is cut was prepared as a medicine to treat infections and to dress small wounds.

Material Use

The Traditional Owners suggested that the use of natural, local and recyclable materials in the construction of infrastructure should be prioritised where possible. This includes the construction of buildings and landscaping. The Traditional Owners also requested that local native species are used for landscaping and re-vegetation in keeping with the original diversity of the Hamilton Hill area.

Recyclable Site Material

The Traditional Owners suggested the demolition materials, park benches and raised garden beds from the high school that will not be retained for the redevelopment could go to Aboriginal community groups to reuse and recycle.

Noongar Names and Themes

The Traditional Owners would like to utilise Noongar themes and names for streets and other areas within the HLSP.

Noongar Housing

The Traditional Owners would like the redevelopment project to provide housing opportunities for Noongar people.

Appendix L provides a detailed overview of the Traditional Owner heritage comments and Cultural heritage management recommendations arising from the consultation.

4.2 Environment and Landscape

4.2.1 BUSHFIRE

As illustrated on **Figure 17** a large portion of the Site is situated within a Bushfire Prone Area. The BMP prepared by Strategen identified the following bushfire hazard issues:

- The bushfire risk to the north and west of the Site is low due to the prevalence of residential land use and subsequent lack of classified vegetation and potential fire run in these areas. The school grounds have also been identified as having a low bushfire hazard level due to the well manicured green lawns, buildings and sealed areas.
- There is localised bushfire risk from forest, woodland and scrub vegetation contained within the southern portion of the Site. Effective slope will also play a role in the potential fire intensity should a bushfire occur in this area of the site because the vegetation is down-slope. Should this vegetation be retained, this bushfire risk will need to be managed through the provision of adequate separation and defendable space.
- There is a broader landscape scale bushfire risk to the Site from forest, woodland and scrub vegetation located opposite Forrest Road to the south and opposite Stock Road to the east. However, due to the existing road network, the fire run in these directions is significantly fragmented. Should a bushfire occur in these areas adjacent to the Site, direct fire suppression would be possible at the vegetation interfaces along road-sides, however, ember attack would remain the key issue with regards to potential bushfire impacts to future assets of the site.

It was considered by Strategen that the bushfire hazards within and adjacent to the Site are readily manageable.

4.2.2 TOPOGRAPHY

Figure 18 and **Figure 19** illustrate the surface elevations and surface slope for the Site.

The central area of the site is generally terraced with level areas for the various playing fields. The soccer field is the highest elevation on site at approximately 58.0mAHD. The eastern boundary along Stock Road is also elevated, generally between 51.0m to 54.0mAHD. The higher areas on site provide opportunities for views toward the coast (west), Fremantle northwest, and the Darling Scarp (east) . Beyond the centrally elevated areas, the site grades steeply to the southern, western and northern boundaries. The lowest area on site is in the north-west corner at the intersection of Ralston and Purvis Streets where the existing level is approximately 41.0mAHD.

The existing grades exceed 10% toward each existing road where the natural levels fall away from the central flat areas. The Site can therefore be considered a plateau where the school facilities are located. There is a ridge to the Purvis Street interface with the steep contours contained within the Site. The steep grades toward both the north and south, however, exist over an extended length and therefore create major level differences to be managed in the redevelopment of the Site. Slope south of Ralston Street and east of Purvis greater than 6%. North west corner of the site is the area of greatest slope.

WATER RUN OFF

As illustrated on **Figure 17** there is no overland drainage onto the Site and the majority of stormwater infiltrates naturally through the highly permeable sandy soils. A small portion of the northern side of the Site including bitumen driveways currently contributes to the catchment for the O'Connell Street sump.

4.2.3 GROUNDWATER

The historical maximum groundwater contour through the Site, as published on the Perth Groundwater Atlas, is in the order of 3.0mAHD. Based on the current surface elevations across the site, this provides a minimum of approximately 38.0m of depth before groundwater were encountered. Dewatering will therefore not be undertaken through the construction works to complete the subdivision of the Site.

The Department of Water and Environment Regulation mapping identifies the whole site as containing no known risk of acid sulfate soils (ASS) disturbance risk within 3m of the natural soil surface. Testing for potential acid sulfate soils (PASS) was not carried out during the geotechnical investigation.

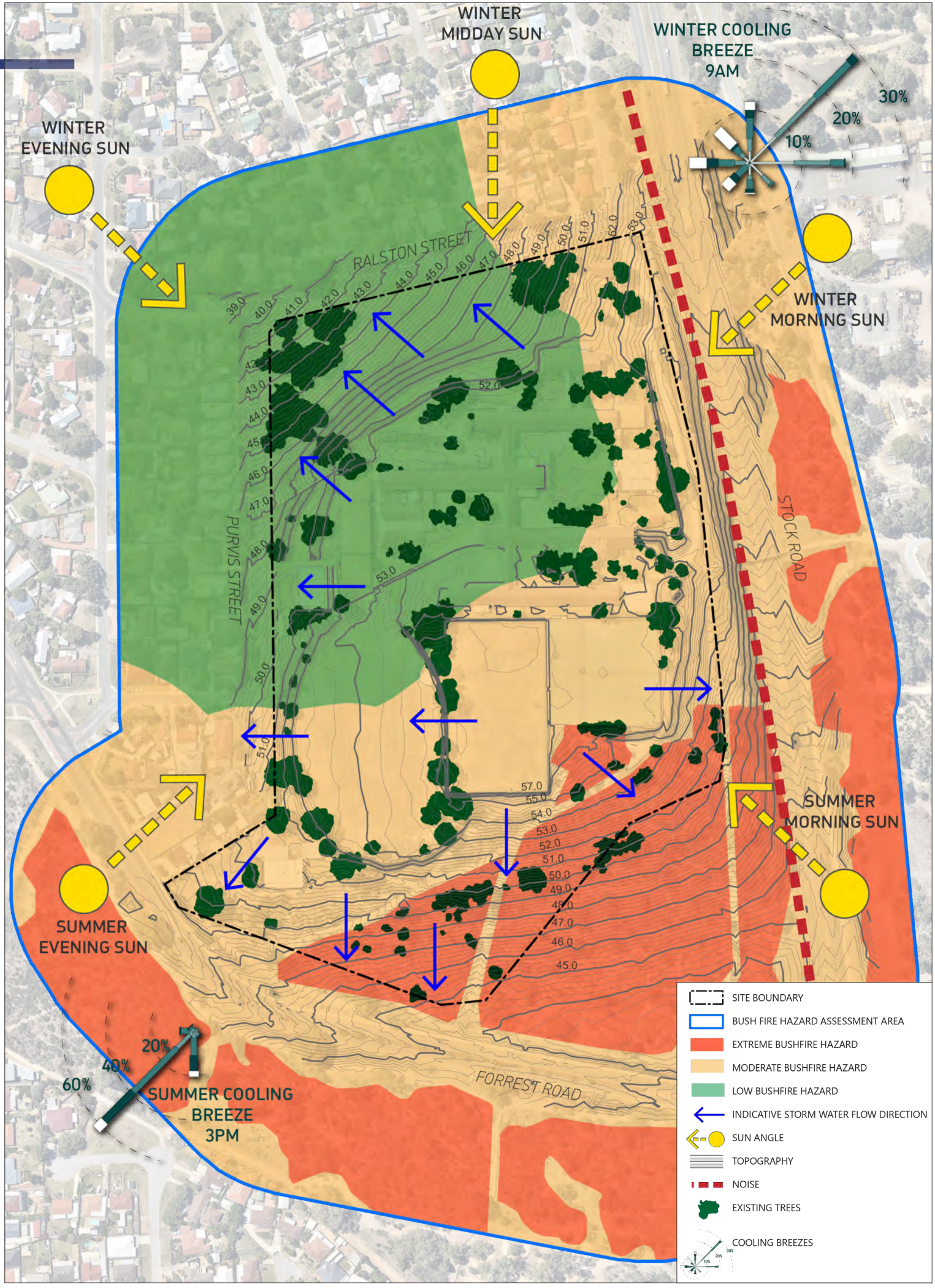


Figure 17: Microclimate and Environment

Source: Josh Byrne and Associates and Strategen

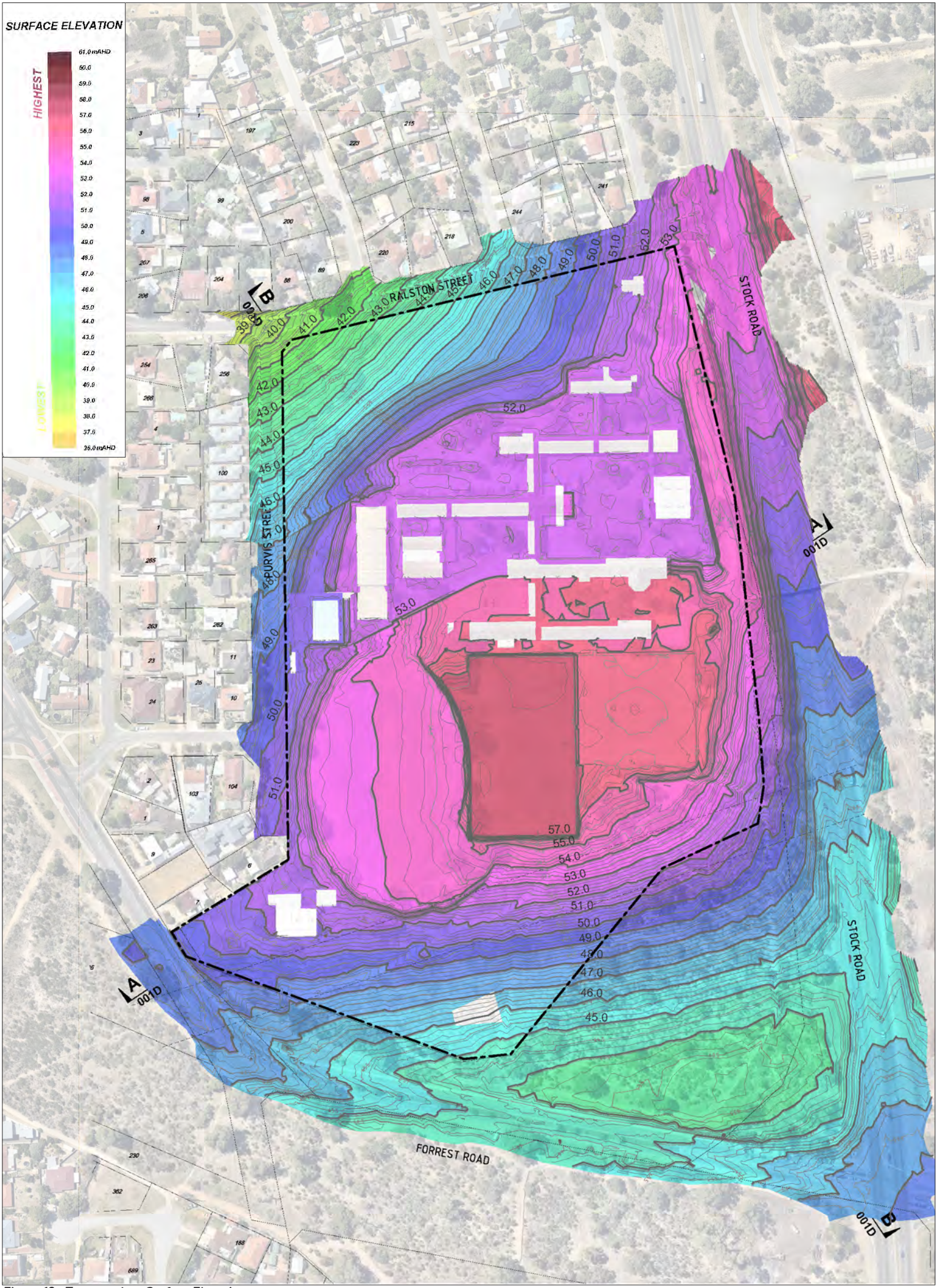


Figure 18: Topography - Surface Elevations

Source: Tabec

North:

0 80

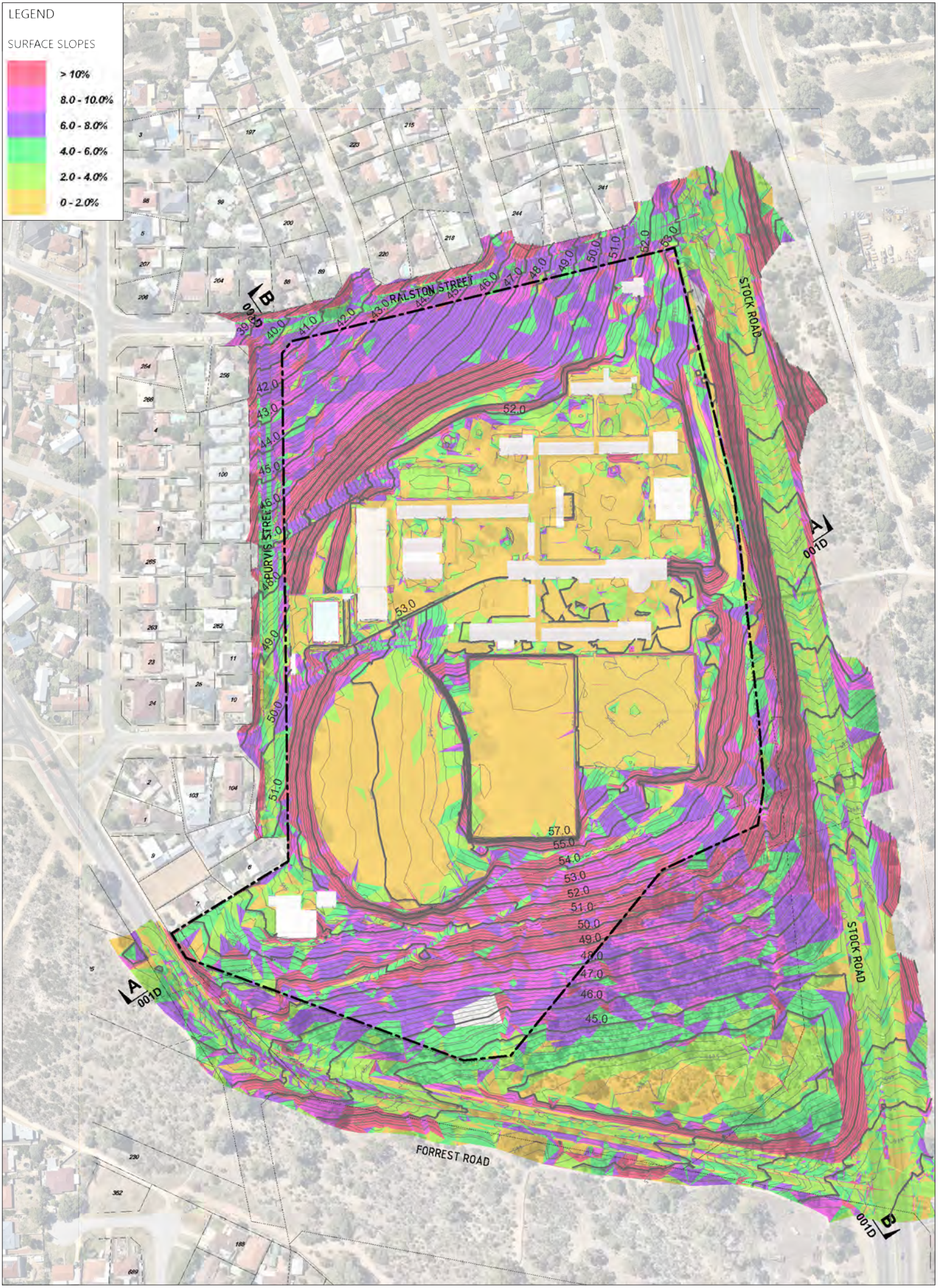


Figure 19: Topography - Surface Slopes

Source: Tabec

4.2.4 NATURAL ENVIRONMENT

A Flora and Fauna survey was undertaken on the site in 2016 by PGV Environmental (refer to **Appendix E**). Five native vegetation types were recorded in the southern part of the site. The vegetation types included woodlands of Jarrah and Banksia (Banksia attenuata and B. menziesii), Marri woodlands and some Tuart trees. Heathlands occurred in disturbed areas including in the power line easement. Most of the native vegetation was considered to be in Good or Degraded condition due to the high density of invasive weeds such as Veldtgrass, Lupins, Wild Oats, Oxalis, Couch and Victorian Teatree.

A total of 87 plant species were recorded during the 2016 flora survey consisting of 56 native species and 31 (36%) introduced species. The high percentage of introduced species reflects the degraded nature of some parts of the Site. There were no Threatened (Declared Rare) or Priority species recorded on the site. The planted trees and shrubs on the school grounds provide habitat for some species of birds, however overall the school site has low values as a fauna habitat. The native vegetation in the southern part of the site has the highest habitat values as it has retained some trees and native understorey, although the small size and low quality of a large amount of this area would limit the use of the site to birds, reptiles and invertebrates.

The existing Site has 229 identified trees, with a total of 16% existing tree canopy coverage. Ten species occur on the Site that could be used by Black Cockatoos for foraging, roosting or future breeding habitat. Carnaby's Black Cockatoos and Forest Red-tailed Black Cockatoos are listed under State and Commonwealth Legislation as Threatened species as such retention of relevant trees is important. As highlighted in the 'Flora, Vegetation and Black Cockatoo Habitat Survey' completed by PGV Environmental in January 2017, there are 27 trees within the site, primarily within the southern bushland area, that have the potential to be Cockatoo Habitat Trees, these are highlighted on **Figure 20**.

4.2.5 LANDSCAPE

HSHS is a conventional educational landscape with large grassed playing fields, a swimming pool, carparking, fenced tennis and basketball courts and a number of smaller paved communal areas, typically referred to as 'quadrangles' immediately adjacent the school buildings. Built in the 1960's, the schools' hard landscape elements; retaining walls, footpaths, stairs and ramps, embrace the use of concrete, red brick, breeze blocks symbolic of the modernist era. There may be opportunities to reuse some of these materials as features in the new landscape design. A detailed survey of useful salvage will be undertaken as part of the design process. Garden beds throughout the school are also reflective of this era, with popular tree and shrub species incorporated including Hibiscus, Ficus, Poinsettia, Acalypha, Meterosiderous, Callistemon and Phoenix to name a few.

In the southern portion of the site a 133kV power line easement runs east-west separating the school playing fields with a 2.7 ha area of existing Banksia bushland. This pocket of bushland forms part of a larger green corridor associated with the previously planned Roe 8 road extension and plays an important role in connecting local ecosystems.

4.2.6 GROUND CONDITIONS

Geology mapping for the area indicates the elevated areas of the Site consists of Tamala limestone and Safety Bay sands with other areas on site containing sand derived from Tamala limestone. To confirm the ground conditions a geotechnical investigation was carried out in July 2017 by Douglas Partners geotechnical engineers.

The ground conditions include topsoil up to depths of 150mm. The area south of the Western Power transmission line includes topsoil up to 250mm depths. Douglas Partners have identified that the sandy portion of stripped topsoil is able to be blended with clean sand for re-use onsite as structural fill. Underlying the topsoil, there is medium-dense to dense sand which is fine to medium grained with traces of silt. Loose sand however was encountered and this was predominantly in the south-west of the site. Loose sand was found up to depths of approximately 8m below existing surface elevations which may require additional works during the earthworks program to over-excavate and compact the loose material in order to adequately prepare the site for residential subdivision purposes. It is confirmed the sand material onsite is suitable for re-use as structural fill provided the site preparation requirements are completed.

Figure 20: Existing Landscape Conditions

4.3 Servicing

Figure 21 illustrates the existing servicing capacity for the Site.

4.3.1 POWER

There is an existing Western Power 132kV Transmission Line Dual Circuit traversing the Site. Western Power has confirmed that an easement of 28m in total width, being 14m either side of the structure centre line is necessary. There is a restricted zone for proposed development in proximity to the transmission line which is 12.5m horizontally either side of the easement centre line.

There is one existing Transmission Line tower located toward the eastern portion of the Western Power easement and a protection zone around the existing footings exists. Levels are not able to be modified within this zone. There is another tower at the western end of the power easement, on the boundary of the Forrest Road reserve. Similarly, protection zones around the existing footings will apply. On other site boundaries, there is existing underground power on the northern side of Ralston Street and the western side of Purvis Street with power crossings to the school side where appropriate.

4.3.2 COMMUNICATIONS

NBNCO is responsible for the installation of fibre in all broad acre developments over 100 dwellings. The Site has been identified by NBNCO as currently being within the rollout map with services available to surrounding areas. In order for NBNCO to rollout fibre services to the project, a developer agreement will be necessary prior to any construction works commencing. In addition to the NBN services, it is noted there is an existing Optus major optic fibre cable in the southern verge of Ralston Street. This existing asset will require adequate protection during civil works.

4.3.3 GAS

There is an existing DN100PVC medium pressure gas pipeline on the western side of Purvis Street and a DN110PE medium pressure gas pipeline on the northern side of Ralston Street. There is an existing 225PE high pressure gas line in O'Connell Street which is to the west of the Site. There are no existing ATCO gas assets on the southern or eastern boundaries in Forrest Road or Stock Road respectively. ATCO Gas has advised that on the 2018 forecasted model in severe winter conditions, the loading within the vicinity of the site is at 60% capacity.

4.3.4 WATER

There is an existing DN610 RC water main in the southern verge of Ralston Street on an approximately 3.5m alignment. On the northern side of Ralston Street is a DN100 RC water main which also connects to a larger water main which runs under Stock Road being a DN205 steel main. From the existing DN100 water main in Ralston Street, two 100mm diameter connections to the Site currently exist. There is also an existing DN100 water main along the western side of Purvis Street servicing existing homes fronting this road, however, it does not appear there are any connections to the Site School.

On an approximate 4.4m alignment inside the eastern boundary of the Hamilton Senior High School site is an existing DN760 steel water main that runs adjacent to Stock Road. There are two large air valves with concrete surface structures where mains connect in the north east portion of the site. It appears this main was constructed in 1956 and therefore, due to the age of these existing assets, accurate as-constructed records do not exist and additional survey to confirm the alignments and depths should be undertaken.

4.3.5 WASTEWATER

The Water Corporation has existing scheme planning that covers the project area and advises that the site can be serviced through the extension of a gravity sewer network. The Site falls within the catchment of the existing waste water pump station 'PS17' on Halstead Street which is approximately 215m north of the site. The surrounding residential developments are serviced with reticulated sewer and due to the steep topography of the area; easements with gravity sewer connections in the rear of existing properties are common.

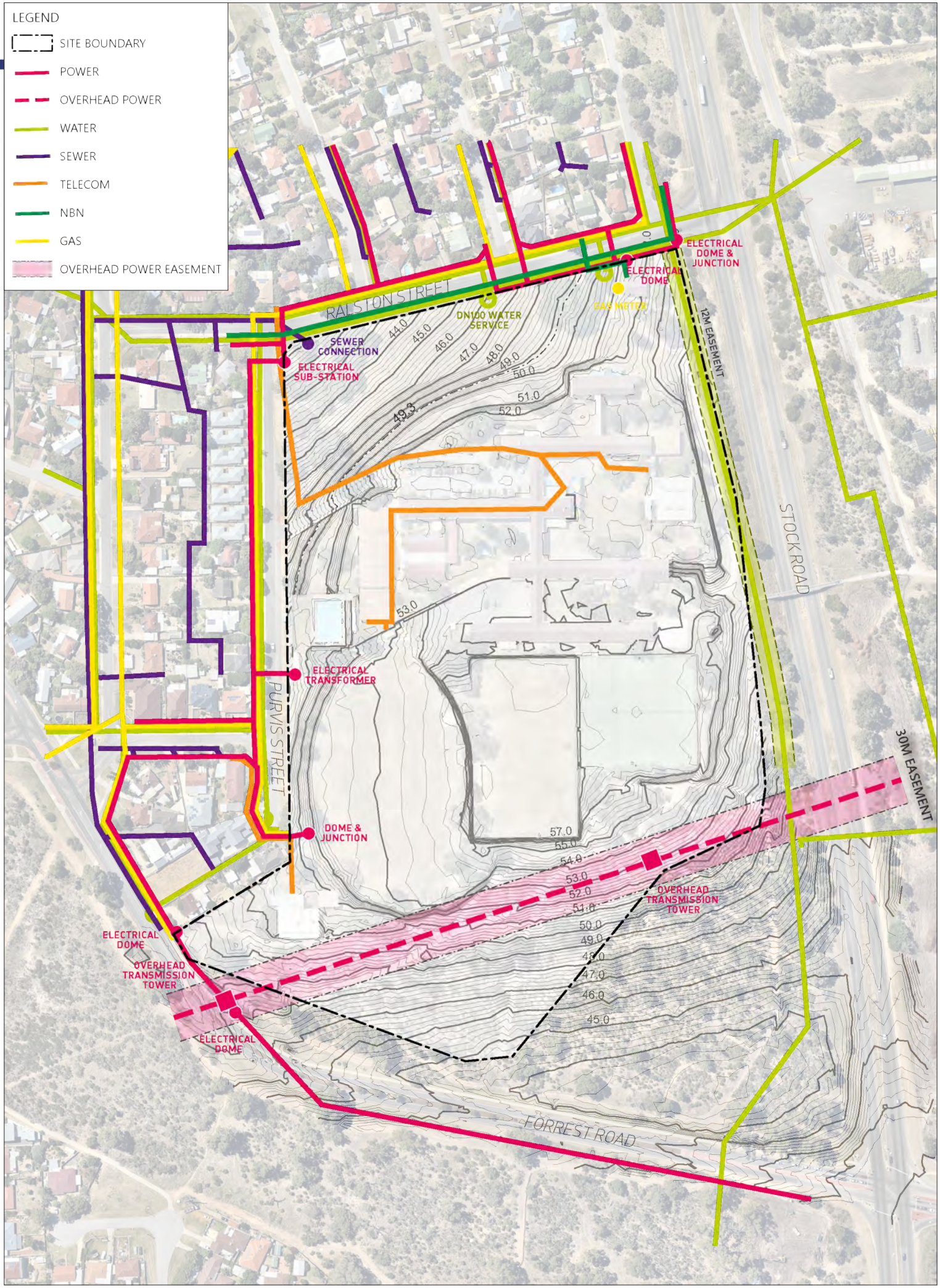


Figure 21: Servicing Capacity

North:

0 80

4.4.6 OPPORTUNITIES

+ Potential views of Fremantle Harbour, Rottnest Island, Indian Ocean, Garden Island and Darling Escarpment. There is an opportunity to enjoy the views through a number of public areas;
+ Significant green canopy to link a number of open spaces;
+ Maintain access to bus services where possible;
+ Retain links across Stock Road through existing pedestrian bridge;
+ Opportunity to link the site to wider cycle networks;
+ Retain numerous mature trees through the site to enhance green links; and
+ Promote active and healthy communities through cycle and pedestrian connectivity.

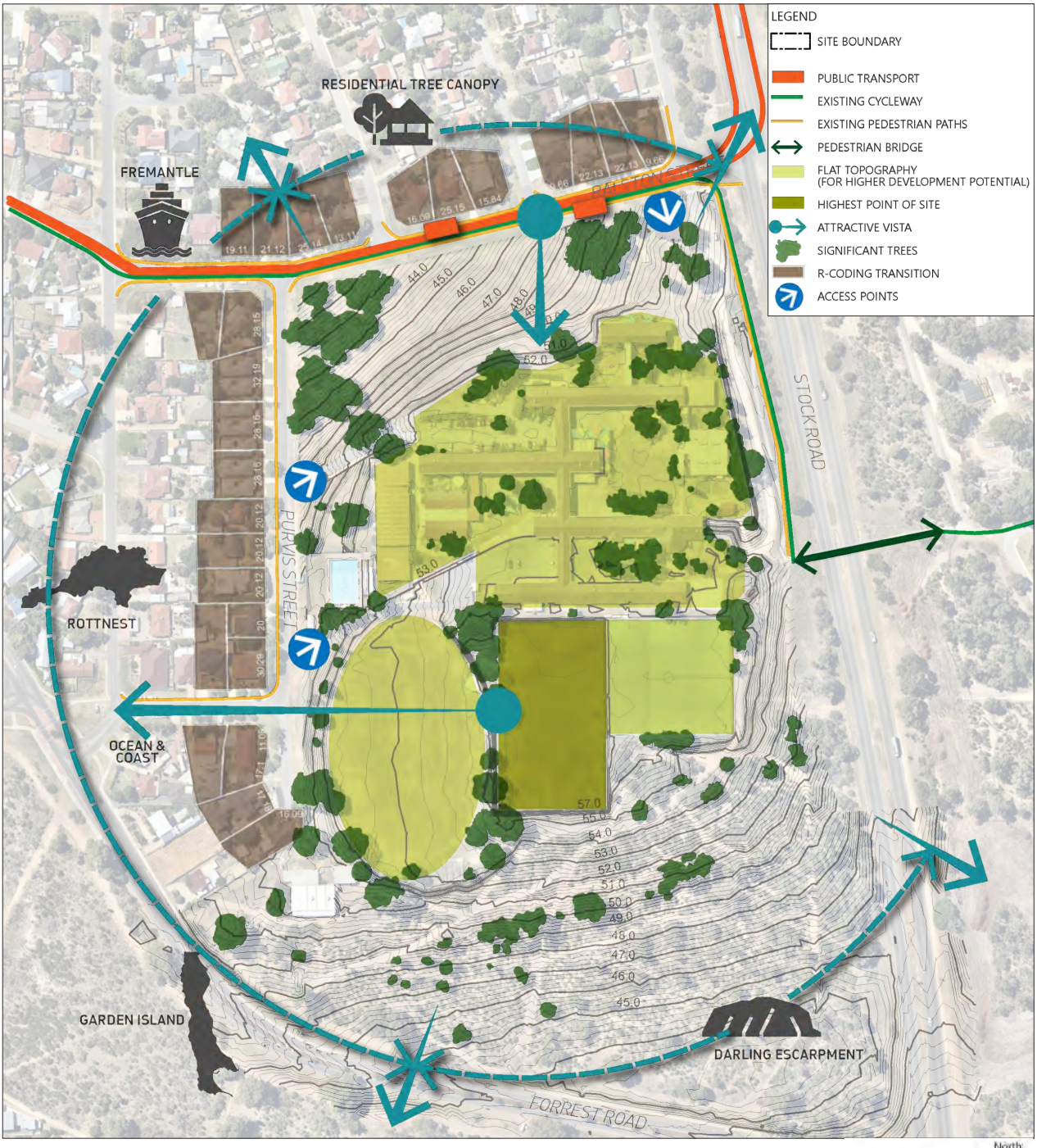


Figure 22: Opportunities

4.4.7 CHALLENGES

- Age, presence of hazardous materials and condition of school buildings makes them unsuitable for re-use;
- Steep slope along northern and western edges;
- High Voltage power easement (28m);
- Water main easement along eastern boundary (12m);
- Bushfire buffers to eastern and western boundary;
- New development needs to work with existing drainage points;
- Sound-wall required on Stock Road; and
- No local shops or services within 400m walking catchment.

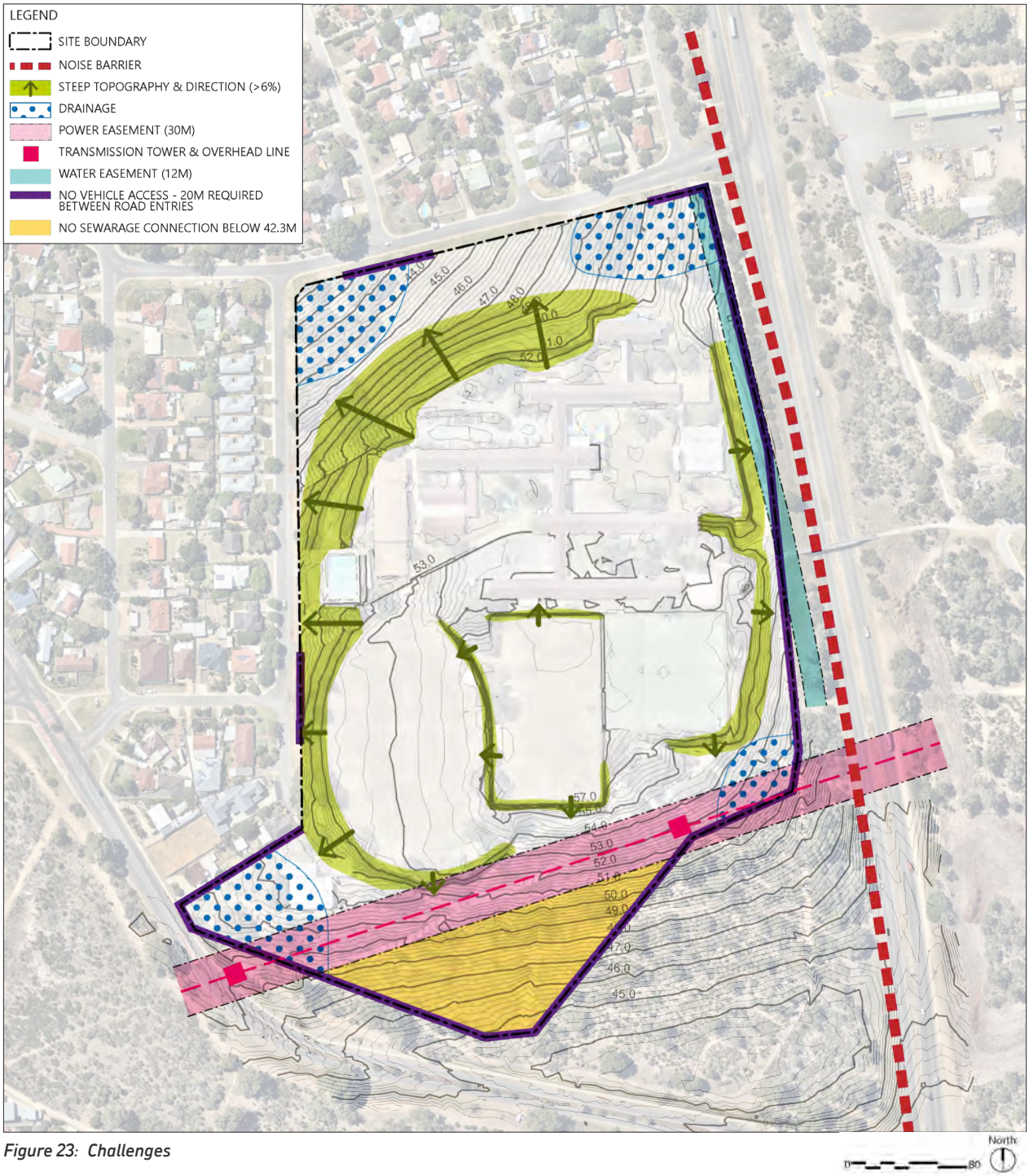
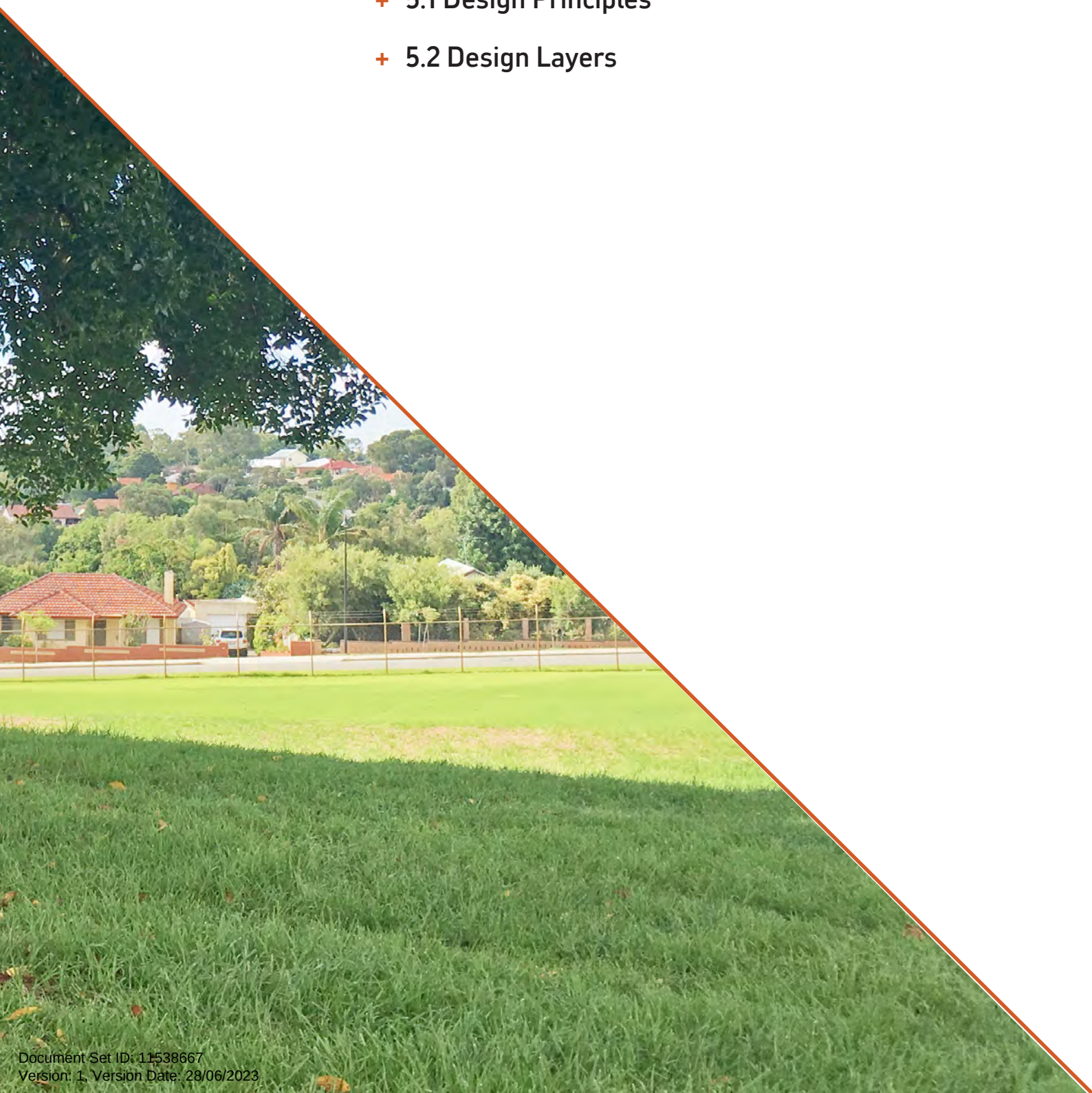


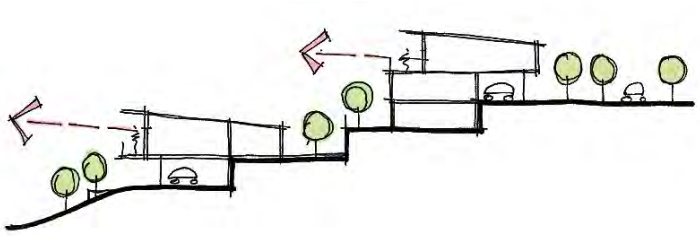
Figure 23: Challenges

5.0 CONCEPT DESIGN

+ 5.1 Design Principles
+ 5.2 Design Layers



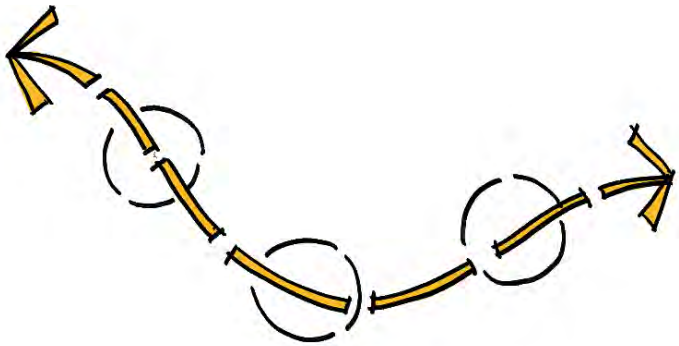
5.1 Design Principles



HILLSIDE TOWN

Urban form that responds to the drama of topography and views.

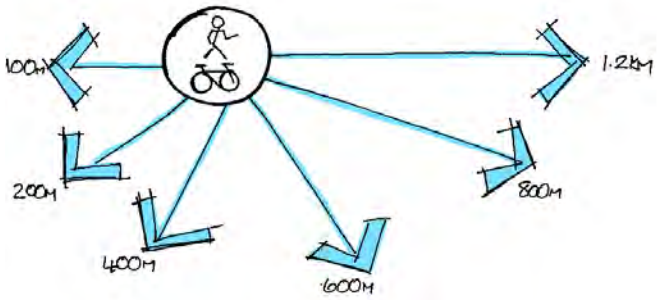
+ Steep areas - larger dwellings
+ Flat areas - small lots
+ Split level sites
+ Balance cut and fill
+ Typologies designed for sloping sites



CONNECTED LANDSCAPE 'STRING OF PEARLS'

Provide a cohesive and manageable open space network.

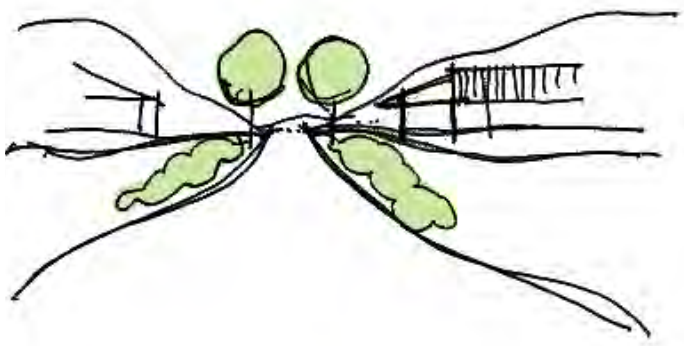
+ Maintain significant trees
+ Improve the tree canopy cover
+ The 'third place'
+ Inviting the neighbours to experience and enjoy
+ Access to open space from front of homes



PEDESTRIAN AND CYCLE LINKAGES

Strengthening desire lines, nodal activation and linkages through to Stock Road Bridge.

+ Perth Bicycle Network (PBN) linking through development
+ Promote cycling for everyone, enable casual cycling
+ Active and healthy community



SENSE OF ARRIVAL AND JOURNEY

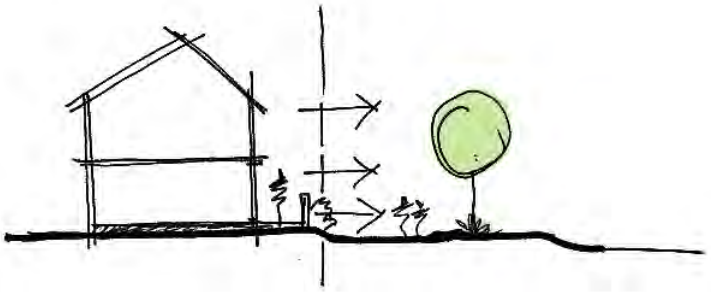
Linking views and vistas from public and private places.

+ Defined gateway
+ Distinctive character
+ Delight and intrigue
+ Experience of place
+ Vistas towards the site
+ Integrate built edge and landscape

A NEIGHBOURLY EDGE

Blur edges by integrating the suburban edge, with the street and amenity.

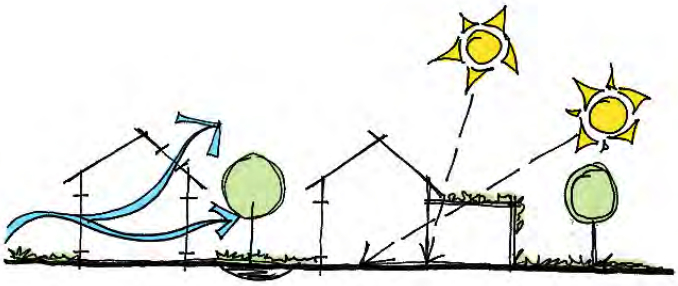
+ Building scale
+ Safety and surveillance
+ Strengthen community
+ Amenity of adjoining neighbours
+ Outlook to public places



CLIMATE RESPONSIVE URBAN FORM

Respond to local micro-climate.

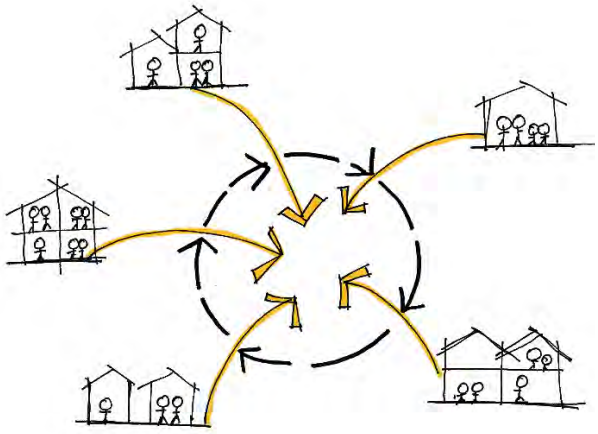
+ Green canopies reduce urban heat island effect
+ Solar access in summer and winter
+ Breeze paths
+ Orientation to maximise usable space
+ Minimise road crossings within site



DIVERSITY OF LIFESTYLE OPPORTUNITIES

Offering diverse lot sizes, dwellings types, and arrangements.

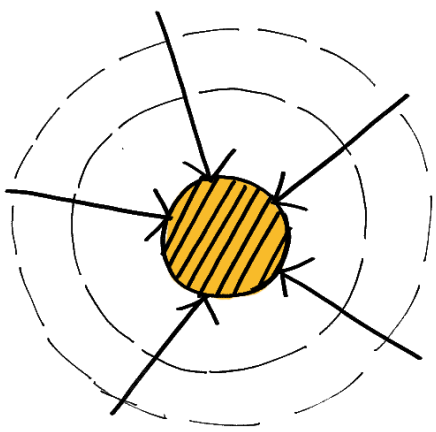
+ Multi-generational housing
+ Ancillary uses
+ Adaptability
+ Shared housing
+ Shared developments
+ Different price points



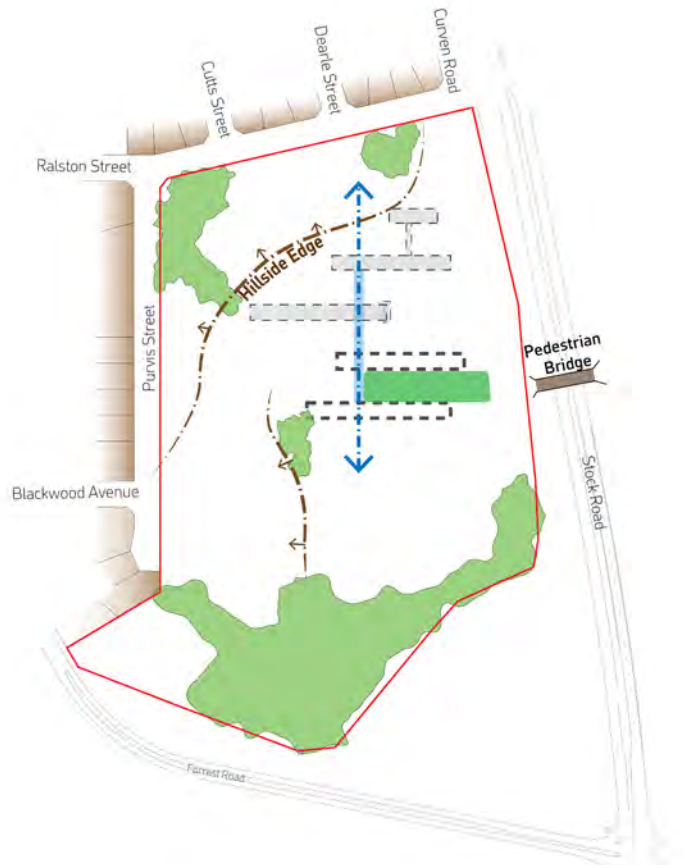
A COMMUNITY HUB THAT INVITES LOCALS IN

Community hub, nature, location and co-location of open space.

+ Legible connections
+ Connected to open space
+ Suitability for location
+ Easily accessible



5.2 Design Layers



SITE CHARACTER

The site is situated on a hill overlooking the suburb of Hamilton Hill and beyond to the Indian Ocean. The topography enables extensive views from many locations on the site and a hillside edge is clearly evident as a contour running through the site.

There are numerous mature trees on the site and the school campus layout offers a rectilinear formality with buildings located along a north- south circulation spine.

The key character elements underlying the concept plan are:

+ Retention of trees
+ Hillside edge
+ School memory (spine)
+ Views

LANDSCAPE CORRIDORS

A hierarchy of open spaces has been set up that prioritises retention of trees and permeability and connectivity across the site. The primary landscape connections are the east- west connection that references an indigenous Bidi track as well as a desire line to the Stock Road pedestrian bridge and the north south alignment of the hillside edge contour with its terraced topography and trees.

TERRAIN

In addition to careful design of the cut and fill for the development, the terrain has been used to create outlook to landscape corridors and views. Higher density housing on small lots is located on the flatter parts of the site while group housing is located where building form can be used to accommodate level changes.

MOVEMENT

The hierarchy of landscape spaces combined with the school spine provide the basis of the pedestrian movement network within the site and connections out to the suburb and over the Stock Road bridge. The' Bidi track' memory of indigenous connections strengthens the rationale for the east-west connection while the north south connections lead through to the open space in the south of the site.

Pedestrian movement is provided for both along streets and through the open space network with an intent to encourage active lifestyles and reduce car dependency.

NEIGHBOURING EDGE

An important design layer is the response to the surrounding residential suburb and the quality of the development edge. Wider lots are located to the frontages of Purvis and Ralston Streets reflecting the existing urban pattern.

Placement of connections into the site considers the permeability and alignment of the urban grid while celebrating the hillside as a distinct urban element that is treated differently in response to the terrain.

HILLTOP

Above the hillside contour the street pattern responds primarily to the school spine and rectilinear grid while capturing views from both the public domain and private homes, preserving buffers required to the east and optimising access and outlook to open spaces.

VEHICLE MOVEMENT

A hierarchy of vehicle movement is defined through the site with the primary access road following the hillside contour. Convenient and permeable access is provided to all homes from this road which is accessed via Ralston Street and Blackwood Avenue.

Priority is given to pedestrian movement with street environments intended to calm traffic, discourage any through traffic and respect the community who live in the precinct.

PARKING

On street parking is located to minimise impacts on residents and offer convenience for users of open space.

6.0 THE STRUCTURE PLAN

+ 6.1 Land Use and Urban Form
+ 6.2 Movement and Access
+ 6.3 Landscape
+ 6.4 Environment
+ 6.5 Engineering and Servicing

6.1 Land Use and Urban Form

6.1.1 LAND USE

MIXED-USE

Two mixed use sites are proposed within the HLSP. The two sites provide opportunity for a level of amenity currently not available to residents in Hamilton Hill. The potential mixed use site on Purvis Street (Superlot 11) will likely accommodate a small convenience store, providing small scale retail within the 400m walkable catchment of the Site. The benefit of this location is that it can capitalise on the embayed parking already provided on Purvis Street.

The second mixed use site is envisaged within Group Site 3 (Superlot 14) and would likely provide a cafe, co-located with the central POS site, to provide residents with a local meeting place that fosters social interaction.

RESIDENTIAL

As illustrated on **"Figure 1: Structure Plan Map"**, the primary land use incorporated within the HLSP is residential. The HLSP is comprised of 14 superlots, each of which has been assigned either R40, R50, R60 or R80 residential densities. This range of residential densities is proposed to support a variety of housing and lot typologies. **Section "6.1.3 Built Form Character"** provides guidance on the design intent and preferred character of these typologies.

YIELD ANALYSIS

Figure 24 illustrates how the Site could be developed based on the HLSP. The proposed development yields, are summarised in **Table 9**.

Table 9: Yield Analysis

Total Site Area 11.91 HA		
PAW	0.03 HA	(<1% Coverage)
POS (incl. south)	1.94 HA	(16.3% Coverage)
Road Reserve	3.84 HA	(31.7% Coverage)
Total	**5.82 HA**	

Lot Mix

Lot Type	Lots	Dwellings	Area
Corner Lots	27	27	0.57 HA
Large Individual Lots	72	72	2.14 HA
Terrace / Small Lots	141	141	2.34 HA
Group Dwellings	4	72*	1.02 HA
Total Development Area	**244**	**312**	**6.08 HA**

***Grouped Sites Dwelling Yield**

Site	YIELD	Area
Group Site 1	23 (R80)	0.29 HA
Group Site 2	23(R60)	0.33 HA
Group Site 3	7 (R80)	0.08 HA
Group Site 4	19 (R60)	0.31 HA
Total Dwellings	**72**	**1.02 HA**

ESTIMATED POPULATION

Based on an average household size of 2.6 persons, the HLSP has potential to cater for a population of approximately 800 people.

Figure 24: Concept Plan

6.1.2 URBAN FORM

HEIGHTS

Building heights within the HLSP are proposed to be in accordance with the R-Codes. R40 lots are deliberately located opposite existing residential areas to provide a coherent streetscape and enable the creation of split-level lots (on the larger lots).

The design response seeks to take advantage of the topography by optimising opportunities for views. Grouped Housing Sites 2 and 3 in particular are located in the highest points of the Site to maximise opportunities for coastal views. Grouped Housing Sites have the potential to be 3-4 storeys, however, it is likely that 3 storeys would be preferred to minimise the requirements for lifts (reducing potential development costs).

SETBACKS

Setbacks to lots will vary throughout the HLSP (these will be specified in Local Development Plans). Setbacks in R40 areas will provide a deeper setback in keeping with the surrounding built form. Setbacks in R60 areas will be minimised to enable greater interaction between the built form with the streetscape and public open space areas.

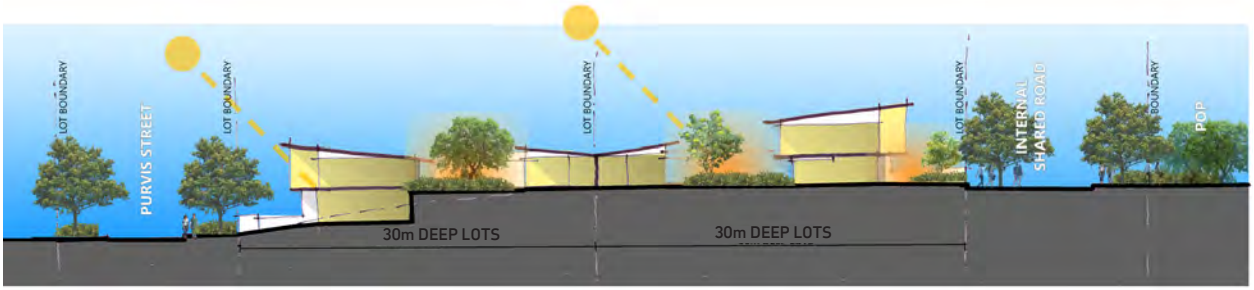
TOPOGRAPHY

The HLSP design response has treated the natural topography as an opportunity rather than a challenge. The slope has enabled opportunities for views to both the coastline and the Darling Escarpment.

The proposed housing typologies deal with existing levels as appropriate, enabling houses to utilise site levels to their advantage.

Figure 25 illustrates indicative site sections which demonstrate the design response to the site's topography.

SECTION A



SECTION B

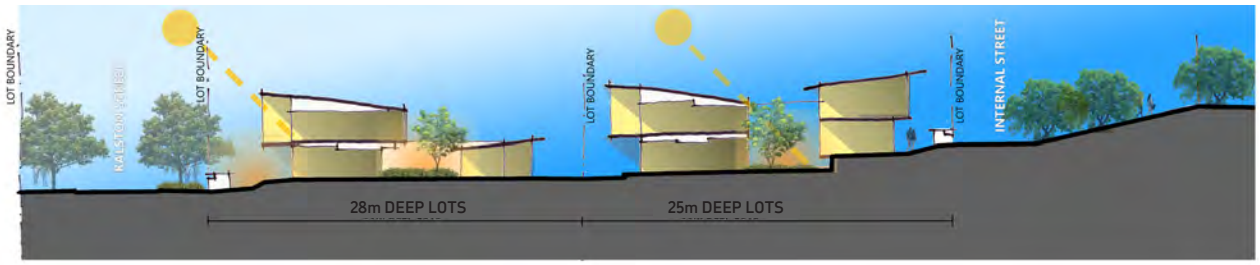


Figure 25: Sections

6.1.3 BUILT FORM CHARACTER

The HLSP promotes a diverse built form character that supports a range of residential densities and typologies. The desired character is outlined below.

RESIDENTIAL R40

In areas zoned R40 proposed lots will range from 250m^2 to 580m^2. As described in **Section "5.2 Design Layers"** these lots have been deliberately located adjacent to existing residential areas on Purvis and Ralston Streets to reflect the existing residential character. These lots are primarily 30m x 10m and can accommodate separate detached houses which are the most common dwelling type currently found throughout Hamilton Hill.

Desired Built Form Character R40 Areas

RESIDENTIAL R60

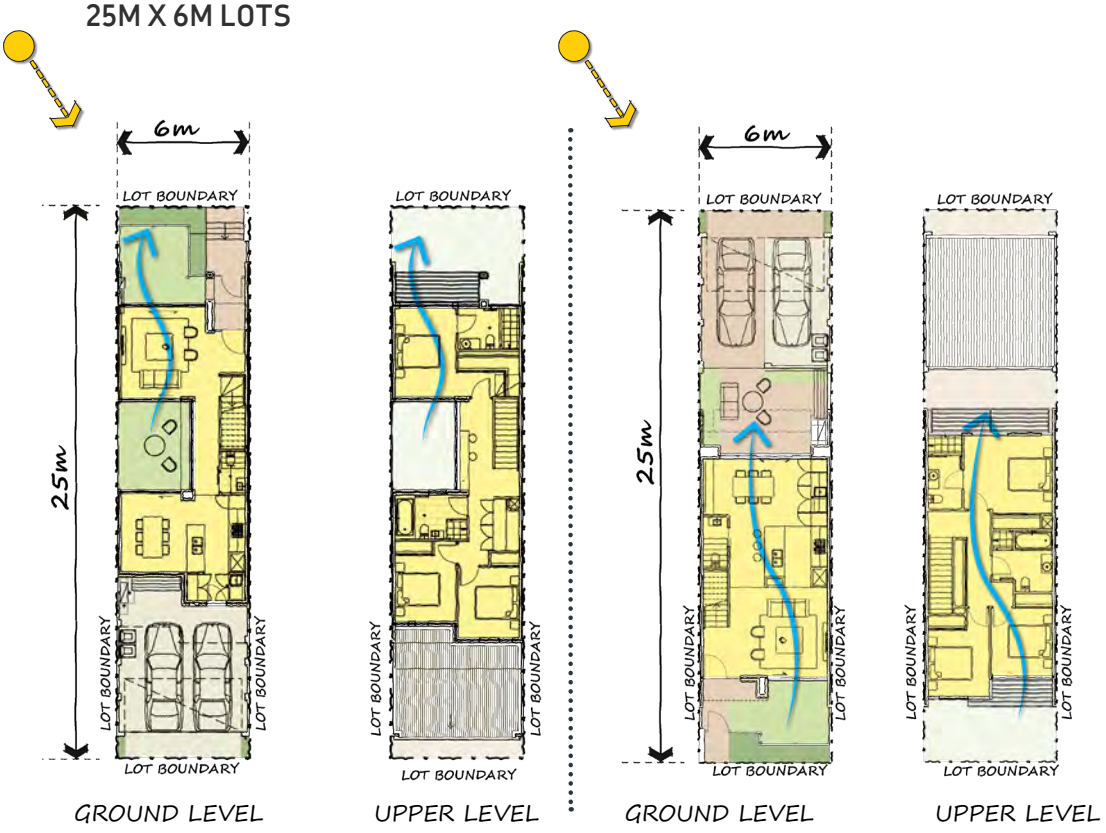
In areas zoned R60 a variety of lot and dwelling types are proposed. They typically range from 150m^2 to 175m^2 dependent on lot depth. These lots are longer and narrower which provide opportunities for semi-detached dwelling typologies, such as terrace, row or townhouse developments. The majority of lots are either 29m x 6m, 25m x 6m or 20m x 8m (indicative floor plans are provided below).

Housing typologies consider the existing residential neighbourhood character and focus on optimising liveability. Through the use of laneways these typologies provide opportunities for homes to obtain direct frontage to landscape corridors and open spaces. View of garages are limited from the street, and generous tree planting will optimise the visual quality of internal streets. Directing cars to laneways gives the streets back to pedestrians, promoting active transport and healthy lifestyles. The proposed lot/dwelling typologies also consider the needs of the diverse demographic in the area. Certain lots provide opportunities for ageing in place, by enabling the ground floor of terrace homes to accommodate bedrooms. This is attractive to older residents who have reduced mobility.

All typologies seek to enable an appropriate environmental response. Private open space and courtyards should capitalise on environmental conditions by allowing good cross ventilation and access to natural daylight, this minimises potential operating costs of homes. These lots enable the house design to achieve Liveable Housing Australia silver status to promote ageing in place.

Desired Built Form Character R60 Areas

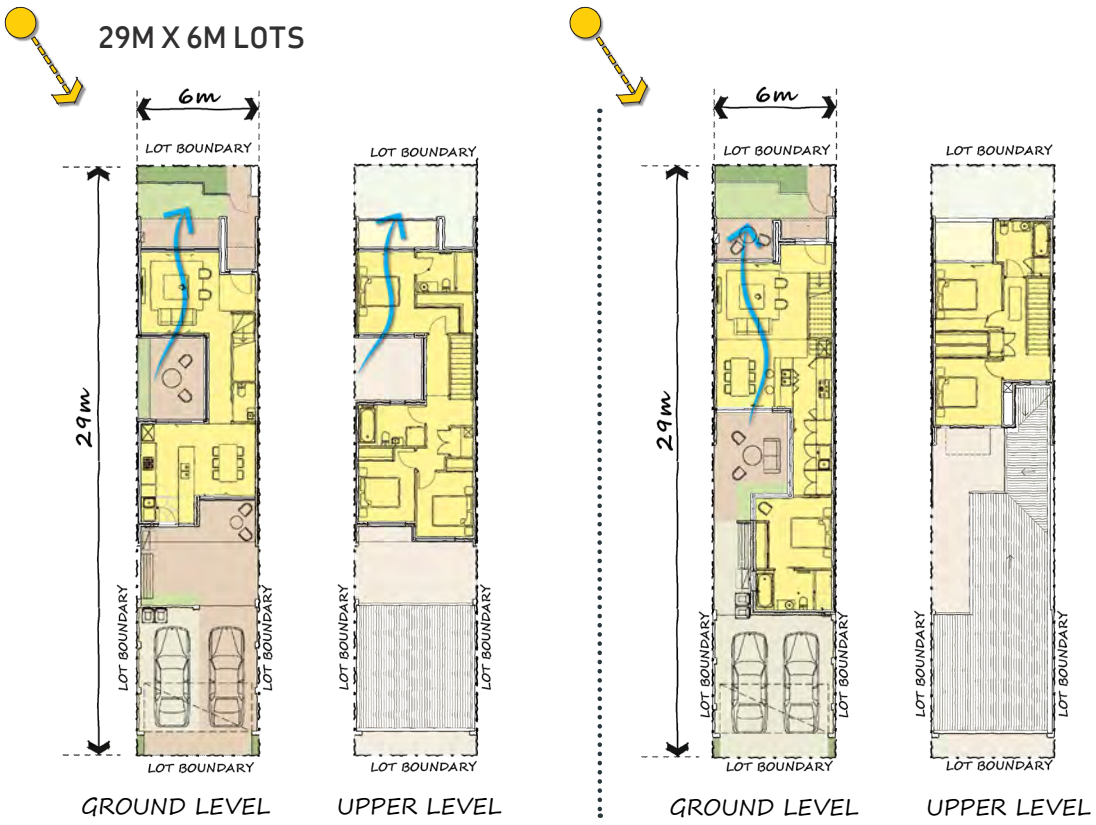
25M X 6M LOTS



OPTION 1

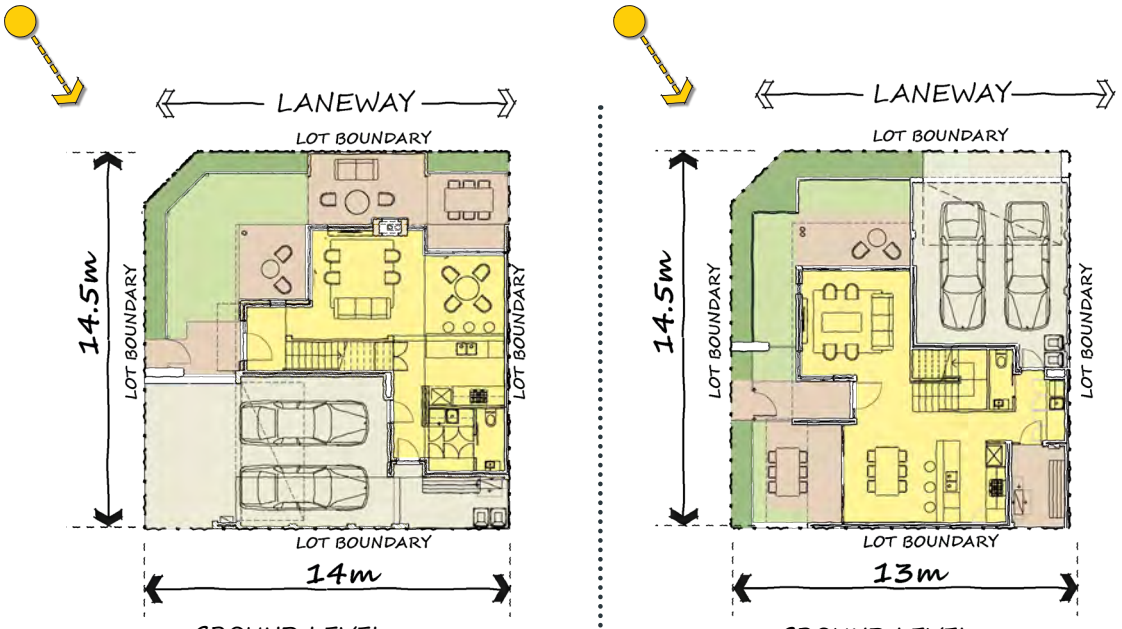
OPTION 2

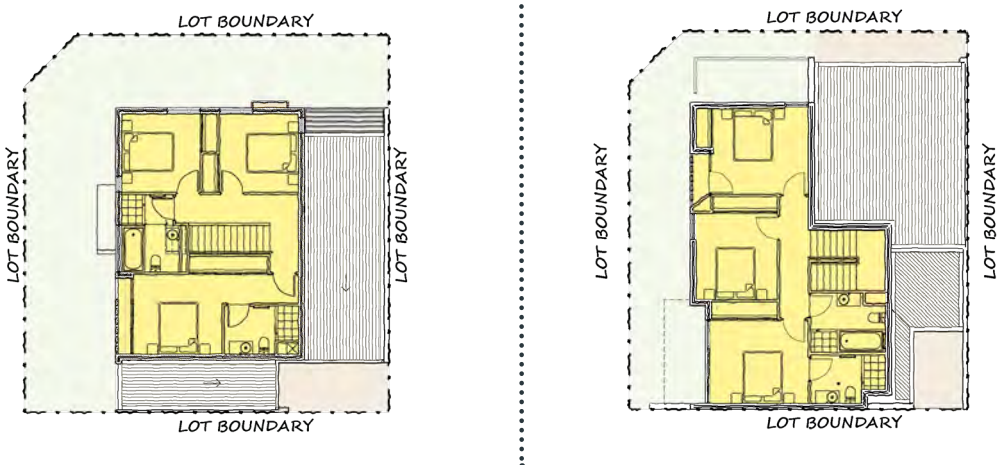
29M X 6M LOTS



CORNER LOTS

The corner lot typology has been designed to provide good access to the front of the home while the garage can be accessed from the laneway or the street. In comparison to the terrace lots, the corner lots are much wider. The increased width has been provided to create a specific design response, that provides wider frontages, similar to existing dwellings in the area.





OPTION 1

OPTION 2

RESIDENTIAL R80

Grouped housing sites have been specifically located to capitalise on surrounding views. They also provide a higher density urban form and character, promoting choice and diversity within the HLSP. Each grouped housing site provides flexibility with regard to built form type, character, yield and access.

Group Housing Site 3 provides for a small scale retail offering (likely to be a cafe). This will both add value to the HLSP area by providing localised amenity, and address the current shortfall of retail in the surrounding area.

Desired Built Form Character R80 Areas

6.2 Movement and Access

The proposed movement and access network is summarised below, for detailed analysis refer to **Appendix C.**

6.2.1 PROPOSED TRANSPORT NETWORK

ROADS

The engineering design of the streets within the HLSP will be based on the City's subdivision and engineering guidelines, Liveable Neighbourhoods recommendations and storm water drainage requirements. Street cross-sections will be designed to consider utility services, street trees, parking and paths. Road pavements will be constructed with an asphalt surface and kerbed to control and drainage. Permeable paving solutions and light coloured asphalts will be proposed for various streets throughout the subdivision for the purpose of achieving water sensitive urban design initiatives and also to reduce heat impact for the estate.

All internal roads are proposed to be Access Streets. The standard Access Street is proposed to have a 6m sealed road width (kerb to kerb) within a 15m road reserve. This leaves 4.5m verges on both sides which can accommodate embayed parking where required and a footpath on at least one side of all Access Streets.

A number of rear laneways are proposed within the HLSP for access to rear parking for proposed R60 and R80 residential development sites. The proposed road reserve width of laneways in the HLSP area is 6.0 metres. These would typically be designed with flush kerbing (i.e. at the same level as the laneway pavement) and central drainage, and can accommodate two-way vehicle movement and rubbish collection.

PARKING

Parking for the HLSP has been provided on the following basis:

- Residential bays as per the R-Codes;
- Residential visitor bays (excluding grouped housing and R40 lots) applied at a rate of 1 parking bay per 3 dwellings. This equates to a minimum requirement for 60 visitor bays serving 182 dwellings.
- Parking for mixed-use requires 6 total bays.

As illustrated on **Figure 26** the proposed HLSP layout accommodates the potential for 111 total parking bays.

PUBLIC TRANSPORT

Existing bus services will be leveraged off, therefore no new bus routes would be required within the HLSP area.

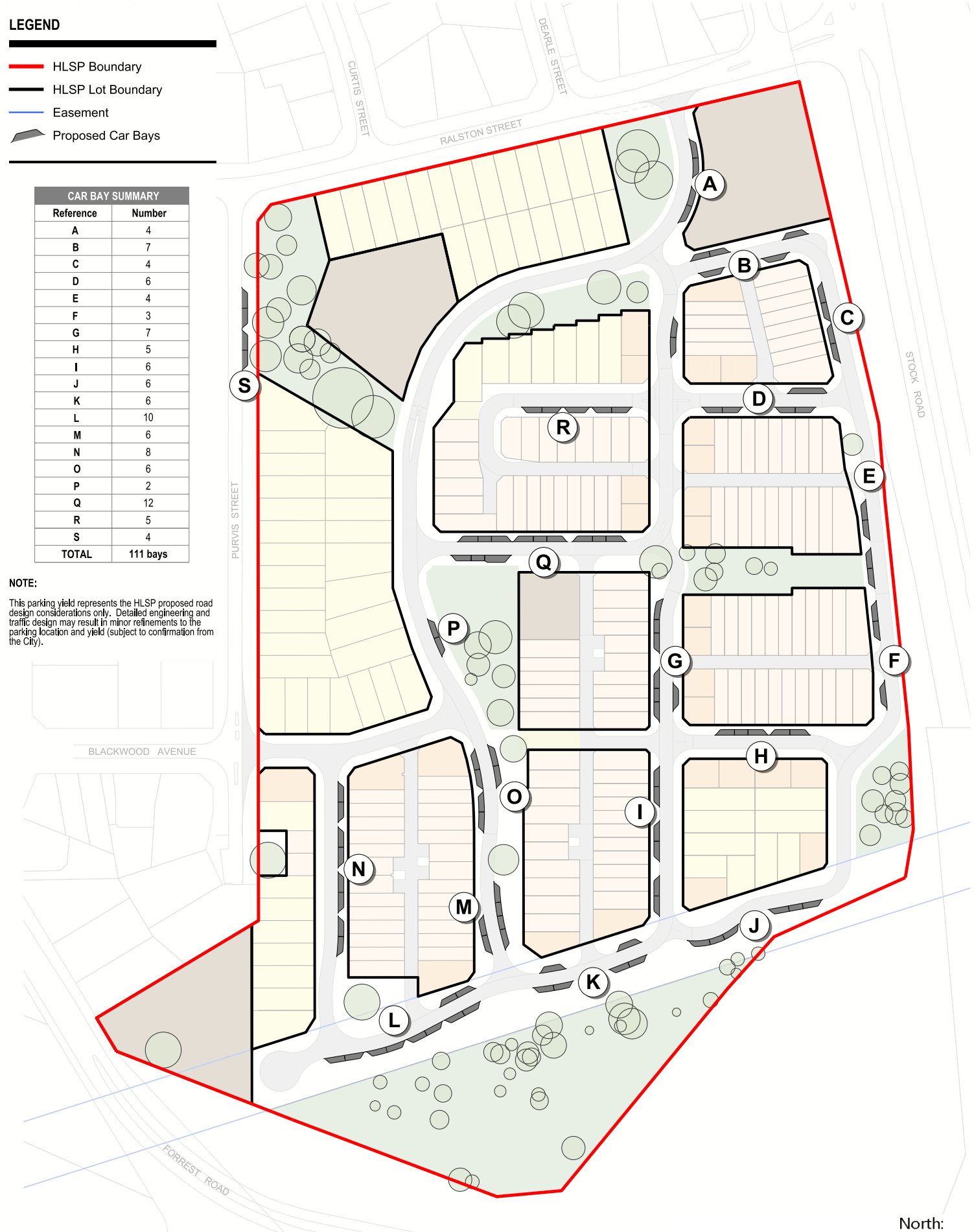
PEDESTRIAN AND CYCLIST FACILITIES

Permeability and connectivity is at the heart of the design, underpinned by the following principles:

- A cohesive and interconnected open space network that is linked via defined connections; and
- Strengthened desire lines and linkages that promote legible connections and accessibility both to and through the site.

The design ensures a number of defined active travel routes are provided to link all key destinations (e.g. public open space areas and community nodes). It also facilitates movement and connections east outside of the HLSP area to the suburb of Coobellup. The 'Bidi track' memory of indigenous connections strengthens the rationale for the east-west connection while the north south connections lead through to the public open space in the south of the site. .

The network of paths proposed in the HLSP are to be provided in accordance with **Appendix C** and the City's subdivision guidelines. Footpaths at least 1.5m wide would be provided on at least one side of all Access Streets within the HLSP area in accordance with WAPC Liveable Neighbourhoods policy requirements. Laneway lots are to have footpath access to the visitor parking bays provided for them in the road reserve.



CAR BAY SUMMARY	
Reference	Number
A	4
B	7
C	4
D	6
E	4
F	3
G	7
H	5
I	6
J	6
K	6
L	10
M	6
N	8
O	6
P	2
Q	12
R	5
S	4
TOTAL	111 bays

NOTE:

This parking yield represents the HLSP proposed road design considerations only. Detailed engineering and traffic design may result in minor refinements to the parking location and yield (subject to confirmation from the City).

Figure 26: Proposed Parking Plan

6.2.2 INTEGRATION WITH SURROUNDING AREA

The proposed HLSP road network will connect to the adjacent local road network at two points:

- A new T-intersection on Ralston Street approximately 35m west (centreline to centreline) from the existing Curven Road intersection; and
- A new access street connection to the existing Purvis St / Blackwood Ave intersection, creating a 4-way intersection.

The path network of the HLSP area (on all Access Streets and PAWs) will provide convenient connection to the existing path network of the adjacent streets including the relocated footbridge across Stock Road adjacent to the HLSP area.

Residential development of the subject site is consistent and compatible with the existing residential land uses directly opposite the site to the north and west, so traffic patterns generated by the proposed residential redevelopment will be of the same nature as those generated by the surrounding land uses in this area.

6.2.3 FINDINGS AND RECOMMENDATIONS

The HLSP redevelopment would generate traffic flows of approximately 2,400 vehicles per day (vpd) and 240vph during peak hours, compared to approximately 800vpd (400vph before and after school). If the existing site was utilised to its full potential as a high school (standard high schools now are typically designed for approximately 1,450 students) it would potentially generate even higher daily traffic flows than the proposed residential development of the HLSP area.

Traffic analysis of the proposed redevelopment indicates that there will generally be a reduction in AM peak hour traffic flows on the surrounding road network due to removal of school traffic and only a very small increase at the Stock Road / Ralston Street intersection adjacent to the HLSP area. There will be an overall increase in daily traffic generation from the HLSP area but generally this results in relatively low volume changes in daily traffic flows on the surrounding road network. The only change that may be considered significant would be an increase of approximately 1,080vpd on the eastern end of Ralston Street (from Stock Road to the proposed new HLSP area access road intersection), which would represent approximately a 50% increase in daily traffic on that short section of Ralston Street.

MRWA has advised that the existing Stock Road / Ralston Street intersection could be closed when the Site is redeveloped. That intersection closure would result in significant redistribution of existing traffic flows in this area as well as affecting the traffic patterns to and from the HLSP area. Traffic flows on the local road network around the HLSP area would generally experience a net reduction but there would be traffic increases on Redmond Road (for access to Winterfold Road to the north) and on Blackwood Avenue (for access to Forrest Road to the south) as alternative routes to and from Stock Road.

It is important to note the different traffic impacts associated with the proposed change of land use of the Site (from school to residential) versus the effects of closure of the Stock Road / Ralston Street intersection. Closure of that intersection is not required for the residential development proposed in the HLSP. Closure of that intersection is recommended by MRWA due to long term planning for Stock Road to be upgraded to freeway standard; this local access road connection is not compatible with a freeway standard road carrying high volumes of traffic as anticipated in that long term scenario. Closure of that intersection may be required in the long term but should not be seen as a required condition for approval of the proposed HLSP.

It should also be noted that Ralston Street and the Forrest Road / Ralston Street intersection are currently utilised by Transperth bus routes 115 and 513, which together provide high frequency public transport access to this area.

6.3 Landscape Public Realm

6.3.1 PHILOSOPHY

The landscape design intent for the HLSP is to create an attractive and innovative network of green spaces, which provide a range of functions and amenities for the local community. The site will feature approximately 1.94 hectares of public open space, inclusive of a Nature Based Open Space, Neighbourhood Parks and Green Nodes. The connections between these nodes will be important, with roads acting as legitimate public domain. There will be an emphasis on developing green corridors across the development, including green public access ways and verges.

The Site will integrate with the surrounding suburban tapestry, by creating new opportunities for community interaction and strengthen existing pedestrian and bicycle connections. It also aims to capture and enhance Hamilton Hill's unique character, as well as the history of HSHS, which currently operates on the Site.

The project will target EnviroDevelopment accreditation under all six elements of the framework: Ecosystems, Waste, Materials, Energy, Water and Community. In order to achieve this, the landscape design will aim to utilise climate response design principles and incorporate best practice water and energy efficient initiatives. It will reduce urban heat island effects through increased tree canopy coverage, and careful selection of products and materials.

Crime Prevention Through Environmental Design (CPTED) principles have informed the landscape concept design as part of developing a healthy, safe environment.

6.3.2 LANDSCAPE TYPOLOGIES

Figure 27 illustrates the public open space distribution for the HLSP. A further breakdown with a schedule of areas and the total POS provision represented as a percentage of the gross subdivisable area, is provided in **Table 10**.

Table 10: Public Open Space Schedule

Total LSP Site Area	**11.91 ha**
Deductions	0.84 ha
Transmission Corridors	8,382 m^2
Gross Subdivisible Area	**11.07 ha**
Unrestricted POS No.	
1	1,223 m^2
2	3,326 m^2
3	2,143 m^2
4	1,460 m^2
5 & 6	10,114 m^2 *
7	1,216 m^2
Total.	19,482 m^2 | 17.60%

*Includes: 600m^2 of amenity and paving, 1,300m^2 nature play, 1,600m^2 kickabout/drainage and 8,112 m^2 existing bush and revegetation.

As shown on **Figure 28**, there are four distinct landscape typologies which comprise public open space areas within the HLSP area, these are:

+ Nature Based Open Space;
+ Neighbourhood Parks;
+ Green Nodes; and
+ Green Access Ways.

Further detail on these landscape typologies is provided below.

Figure 27: Public Open Space Distribution

NATURE BASED OPEN SPACE

The Nature Based Open Space will be the largest of the landscape typologies taking up approximately 1.4ha with the majority set aside as retained Banksia woodland. This woodland sits directly north of the previously planned Main Roads Roe 8 road extension/bushland reserve, strongly linking into this much larger ecological bushland reserve creating an excellent habitat corridor and opportunities for bush/dog walking.

In parts where the current bushland is degraded or in poor health, local, native tree and shrub species will be planted with informal walking paths to connect the development to Forrest Road. Requirements around the current Bushfire Regulations and Western Power requirements for the powerline easement will see parts of the existing bushland maintained and managed at a higher level to ensure the safety of locals.

In addition to the existing retained bushland, a range of public amenities will be incorporated to attract a broad demographic of users. Amenities will include a kick-about space, a nature play space and associated facilities, including parkland shelters, BBQ's, picnic tables, bicycle parking, waste disposal bins and drink fountains.

The play space will be the main feature this public open space, with the layout and custom play elements cleverly complementing the adjacent bushland. The design of this play space will aim to use natural and repurposed materials from the site, where possible.

Vegetated stormwater swales will also be introduced into this area to capture and locally infiltrate storm water from the southern portion of the development.

NEIGHBOURHOOD PARKS

There are three Neighbourhood Parks within the Landscape Master Plan - notionally titled the Fig Tree Park, the Peppermint Tree Park and the Central Park. These spaces are smaller than the Nature Based Open Space and therefore designed to cater for a more specific activity and/or demographic.

As its name suggests, Fig Tree Park is located along the northern edge of site amongst a number of significant existing fig trees (Ficus macrophylla). The park is located at the northern vehicular entrance and adjacent to the Ralston Street bus stop therefore making it a great, accessible location to create a statement landscape. This park is proposed to include a second, smaller nature play space as well as BBQ's, picnic tables, bicycle parking racks and potential artwork.

Similarly, the Peppermint Tree Park is located to retain a stand of mature peppermint trees (Agonis flexuosa), in the north-western corner of site. Due to the number of trees and the area of their associated root protection zones, there will be limited space for active recreational facilities, therefore it is intended that this park will become a passive space with informal seating and paths. A series of vegetated stormwater infiltration swales will also be a key feature in this park that will weave their way between the trees and down the hillside.

Lastly, the Central Park is intended to become the conceptual heart of the development due to its easily accessible central location and range of community focused amenities. This park will look to offer a small kick-about area and informal play area, as well as a public toilet, picnic shelter and BBQ's. Within the group housing site adjacent, a small cafe is proposed, making this park a convenient meeting spot for locals.

THE QUAD

The existing HSHS consists of a series of quadrangles bound by rectangular school classroom blocks. In order to respect this history, one of the quadrangle's (known as The Quad) has been retained and will be transformed into a small public open space. The Quad, will be regularly trafficked by both pedestrians and cyclists due to its location adjacent to the existing Stock Road pedestrian bridge which connects this development to Coolbellup and beyond. The adjacent residential properties that overlook this space with good passive surveillance will provide a safe environment for its users.

The Quad open space also presents an opportunity to depict the Bidi Track, a historical account of the local Indigenous groups traversing east-west, from the wetlands to the ocean, as the seasons changed. This notion can be communicated

in the Quad and throughout the development as artwork, as it is likely this site would have been regularly traversed due to its high vantage point offering views of both the ocean and escarpment. This will be further developed with consideration of user experience, functionality and materials.

GREEN NODES

Green Nodes are widened road reserves located throughout the development to retain aesthetically valuable trees and/or pick up areas of relatively steep topography. They often play an important role in connecting other larger landscape spaces, however are typically too small to incorporate any significant activity areas or amenities. Most of these nodes will be planted with local tree and shrub species with opportunities for small informal gathering spaces linked by a simple path network. Some of these spaces will also perform a drainage function with vegetated stormwater swales.

GREEN ACCESS WAYS

There are three Green Access Ways proposed within the Landscape Master Plan, providing important pedestrian and cycle routes through the development. They offer opportunities for capturing ocean vistas and retaining significant mature trees, as well as one being cleverly aligned to reflect a portion of the existing school's central north-south corridor axis.

The Green Access Ways will typically have parkland lighting to assist with minimising antisocial behaviour and may incorporate seating, bins and/or cycle racks.

6.3.3 PUBLIC AMENITIES

The Landscape Master Plan for the HLSP will look to incorporate a cohesive suite of public amenities thoughtfully positioned within the various landscaped spaces of the development. These will offer both active and passive recreational activities as well as opportunities for community/family gatherings. Amenities will include; a kick-a-bout space, play space(s), universally accessible toilet, BBQ and picnicking facilities, pedestrian/cycle paths, informal seating, parkland lighting and associated street furniture.

The public amenities will be a combination of custom designed, manufactured (i.e. off-the-shelf) and repurposed items all consciously selected for their durability, vandal resistance and universal accessibility. Their visual and functional aesthetic will complement and strengthen the neighbourhood's 1960's character as well as reflect the site's former use as a school by repurposing items such as drink fountain troughs, school directional signage and steel balustrading, adding to the rich landscape fabric. Students and local not-for-profit organisations, such as the Cockburn Menshed, will be encouraged to be involved in developing and constructing some of the bespoke landscape elements.

There will be an opportunity to utilise the harvested timber from the felled trees across the site in the proposed landscape elements including fencing, street furniture and signage in addition to providing mulch supplies to garden beds.

Figure 28: Landscape Master Plan
Source: Josh Byrne and Associates

6.3.4 PUBLIC ART

The public art within the development will look to reflect a number of attributes of the site and adjacent community with a focus on the local Indigenous and European cultural heritage, local flora/fauna and the former school and its history. There may be an opportunity to engage with current HSHS students, teachers and alumni, as well as local art groups in Cockburn and not-for-profit organisations, to develop and create the art pieces.

The public art will aim to embrace a range of mediums including mosaic, metalwork, print, timber carving and utilise locally sourced or repurposed materials that are vandal resistant and durable.

6.3.5 CULTURAL HERITAGE OPPORTUNITIES

There is a rich history within the site and the surrounding Hamilton Hill suburb which will be cleverly woven into the landscape fabric through public art installations, paving treatments material and plant selection. Both the local Indigenous and European communities need to be accurately reflected and represented within the development. Local community groups and individuals are encouraged to assist in the development of these concepts. Opportunities include:

- Capturing and representing stories from residents, and/or former students and teachers of the school;
- Incorporating school paraphernalia including signage, drinking troughs, artwork;
- Depiction of the Bidi Track through the site in different mediums;
- Encompassing local bush tucker plant species within the development;
- Incorporating 'backyard' European food production with grape vine covered pergolas and olive trees typical in the Hamilton Hill area; and
- Utilising breeze blocks, columns and other typical European architectural styling elements common throughout the Hamilton Hill area.

For more information refer to the Aboriginal Heritage Survey and Consultation Report prepared by Terra Rosa Consulting (**Appendix L**).

Bike Parking, Artwork by Sustainable Housing for Artists and Creatives

Indigenous Cultural Heritage Example

Bus Stop, Artwork by Stormie Mills

European Cultural Heritage Example

6.3.6 TREES

Figure 32 illustrates that of the 27 Potential Cockatoo Habitat Trees on site, the HLSP ensures 21 can be retained. Of the 6 potential habitat trees marked to be removed, 3 are positioned within lot boundaries, 1 has been identified by the arboriculturalist (PVG Environmental) as having 'fire damage, epicormic growth and basal decay', and 2 have been recommended for removal due to bushfire concerns. Overall, 38% of the mature site trees are proposed to be retained within the Landscape Master Plan. The road layout has been designed to be efficient, but also to retain as many existing trees as possible and, along with new planting, create pleasant links between the green nodes of the precinct.

In addition to this, as illustrated on **Figure 29** over 350 new trees are proposed across the site in the public landscape areas, street verges and laneways. The target is to achieve 20% canopy coverage in the public realm and an additional 10% in private lots through the controls set in the design guidelines. Overall, the aim is to achieve 30% canopy coverage across site to create an aesthetically pleasing, biodiverse and cooler development.

A rich variety of local and exotic tree species will be incorporated across the development. There will be a focus on habitat trees, edible trees and deciduous trees which will assist in creating summer cooling/winter warming of the private properties. Careful selection of street and parkland trees will be considered to assist in wayfinding across the development as well as providing vital shade to footpaths, seating areas and play spaces.

Figure 29: Proposed Trees Plan
Source: Josh Byrne and Associates

6.3.7 LANDSCAPE BASED WSUD OPPORTUNITIES

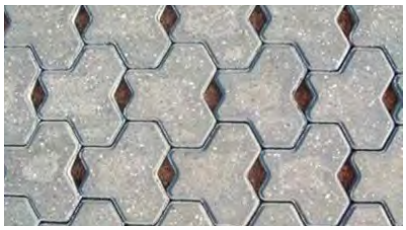
Figure 30 demonstrates that a range of landscape features have been proposed to contribute to at-source infiltration and treatment of stormwater and local replenishment of groundwater. A variety of systems such as tree pits, biofilters, vegetated swales and buffer strips will be included as part of the green corridors and streets. These systems will be vegetated with appropriate plant species to enable the treatment of stormwater. Where suitable, the front yards of lots will conform to the water sensitive design of verges for adequate provision of street-side landscape treatments where space is limited. The site's final topography will be considered to enable stormwater to naturally flow into these green systems during minor and major rainfall events. Maximising on site retention and infiltration of stormwater in this manner will enhance soil moisture content, plant health and tree growth and substantially contribute to urban cooling via a greener landscape.

There will be the provision for public open space areas to accommodate the flows and volumes from larger rain events. These spaces will be designed to infiltrate stormwater while still serving an amenity function for the community. Other features that will be considered in the landscape design are the provision of permeable paving and underground storage under verges and roads to allow greater at-source infiltration of stormwater.

A description of the overarching integrated approach which has been adopted for stormwater management on the site is provided in **"6.4 Environment"**.

Figure 30: WSUD Infrastructure Plan
Source: Josh Byrne and Associates

WSUD Example: Tree Pits



WSUD Example: Permeable Paving

WSUD Example: Sump (White Gum Valley)

6.4 Environment

6.4.1 URBAN WATER MANAGEMENT

This section of the Structure Plan has been informed by the Local Water Management Strategy (LWMS) prepared by Josh Byrne & Associates (refer **Appendix G**). The LWMS provides the platform for a suite of integrated, water-related sustainability initiatives to be implemented at this site and demonstrates the capacity of the land to sustain the proposed development in line with aspirations to be a leading water sensitive urban development. Implementation of the strategy will be undertaken in accordance with WAPC (2008) through the development and implementation of Urban Water Management Plans for individual stages of development within the site.

WATER EFFICIENCY INITIATIVES

It is envisaged that the project will seek to achieve accreditation under all six elements of the UDIA EnviroDevelopment sustainability accreditation framework including the water leaf. Water-related sustainability initiatives are described in full in the LWMS and include:

- Maximised water efficiency measures;
- Implementation of a coordinated approach to water sensitive landscaping including balanced hydrozoning and appropriate irrigation;
- Maximising on site retention and infiltration of stormwater to enhance soil moisture content, plant health and tree growth;
- Developing an estimate of overall water use with opportunities to displace mains water with alternative fit-for-purpose water sources; and
- A community bore for public and private irrigation

A key design philosophy is to ensure that the landscape, and hence liveability, is not adversely impacted by the need to be water efficient.

STORMWATER MANAGEMENT

Integrated stormwater management will allow for passive treatment and infiltration of stormwater. A range of landscape features have been designed to contribute to the at-source infiltration and treatment of stormwater and local replenishment of groundwater. A variety of systems such as tree pits, biofilters, vegetated swales and buffer strips will be included as part of the green corridors and streets. These systems will be vegetated with appropriate plant species to enable the treatment of stormwater. Where suitable, the front yards of lots will conform to the water sensitive design of verges for adequate provision of street-side landscape treatments where space is limited. The site's final topography will be considered to enable stormwater to naturally flow into these green systems during minor and major rainfall events.

There will be the provision for public open space areas to accommodate the flows and volumes from larger rain events. These spaces will be designed to infiltrate stormwater while still serving an amenity function for the community. Other features that will be considered in the landscape design are the provision of permeable paving and underground storage under verges and roads to allow greater at-source infiltration of stormwater.

Stormwater management is proposed to be undertaken consistent with Department of Water and Environmental Regulation water sensitive design practices. The system will consist of lot soakwells, permeable pavement, verge infiltration swales or gardens, ephemeral detention basins and underground storage areas within road reserves and POS to provide water quantity and quality treatment for stormwater generated from the proposed development.

Due to the constraints provided by the steep contours of POS areas, in particular in the northern section of the site, above ground storage typically adopted for stormwater management purposes was not practical to implement. Therefore, the use of above ground ephemeral storage areas within POS has been minimised for stormwater storage. Instead, the strategy has been to include underground storage as far up in the catchment as possible, to provide at source treatment of stormwater for storm events up to and including the 100 year ARI. Several basins have still been included across the site in areas where the topography would allow. Several catchments use a combination of underground and above ground storage to manage the major events.

The proposed stormwater management design has taken into consideration the existing trees that will be retained on site to form parts of the POS areas. Infiltration areas have been located in and around tree lines that will utilise the stormwater as a natural watering source, while the areas will also provide the necessary conveyance of stormwater away from the lots and roads.

No run-off to the road drainage system has been assumed from individual lots for events up to the 20 year 5 minute ARI. Consistent with City of Cockburn (2015), it has been assumed that each individual lot will retain all flows up to and including the 20 year 5 minute ARI event. A stormwater depth of 15mm has been allocated to this event for modelling purposes.

Within each catchment, road runoff will be collected through a series of pits and pipes for frequently occurring events (up to the 5 year ARI) with greater events travelling via overland flow paths. Storage will be via infiltration cells installed in an underground road reserve and/or in an aboveground infiltration basin located in POS.

The depth to groundwater in the development area is in excess of 40m from the existing natural surface and therefore imported fill and subsoil drainage will not be required for the site.

6.4.2 SUSTAINABILITY STRATEGY

The HSHS redevelopment project by LandCorp has the potential to be a leader, showing that excellent environmental outcomes can be combined with affordability in a high quality, desirable infill residential development. The project HAS BEEN designed in accordance with the City's position on sustainability:

> *"Pursuing governance excellence to meet the needs of current and future generations through an integration of environmental protection, social advancement and economic prosperity."*

Some key sustainable development commitments at HSHS include:

- A commitment to an independent assessment of the project's environmental credentials using the UDIA's EnviroDevelopment tool, targeting the highest level in all 6 elements including ecology, waste, energy, materials, water and community.
- Energy and Water strategies developed to ensure that best practice in these areas is embedded in the design. See project documents Energy Strategy Report and Water Strategy Report.
- Ecological restoration of the landscape onsite, retaining healthy trees, and adding more vegetation and canopy. See project document Landscape Report.
- Landscape areas at the site are of both traditional indigenous and ecological importance, and will connect with the surrounding and nearby green spaces. Local management and conservation groups have already been identified and will be engaged with to support the site ecology ongoing.
- Strong integration of the landscape design with WSUD principles.
- Energy efficiency and renewable energy systems sized such that the total annual consumption of electricity will be matched by the annual renewable energy production - Nett Zero Operational Energy – with guidance on roof design and electrical infrastructure to enable these systems. The systems will also be 'storage ready' and may include energy storage capacity if the technology is sufficiently mature and financially viable at the time of procurement.

The Sustainability Strategy Report is provided in **Appendix H**. It is supported by the Energy Strategy (**Appendix I**) and Water Strategy (**Appendix J**) which provide recommendations for implementation. Both strategies are summarised below.

ENERGY

Energy Vision:

A successful residential development with industry leading energy performance, supported by dwellings that are zero-energy-buildings. A heat resilient, future proofed community that provides a high standard of living with reduced cost and lower environmental impact.

Key Objectives:

+ Build on the work done at WGV by LandCorp to achieve excellent performance, and to embed successful piloted innovations from that project as scaled up initiatives on this project.
+ Taking the work done at the WGV project as a foundation for both scaling up and for further innovation.
+ Reduce energy use without impacting amenity, and meet remnant energy requirements with renewable energy.
+ Minimum 60% reduction in precinct-wide electricity consumption compared to a compliant, business-as-usual approach.
+ All single and double story buildings to be Zero Energy Buildings (ZEBs).
+ A development that seeks to reduce overall emissions compared to business as usual.
+ A development that provides a test-bed for innovations in energy.
+ Peak energy demand to be reduced through both efficiency and energy storage.
+ Citizen energy trading to be assessed against energy storage to capture excess electricity generation by dwellings.
+ Research partnerships to be in place to test new ideas.
+ Performance to be verified in annual reports for minimum 5 years after the build-out is complete.
+ Address both public and private realms.
+ Incentivise electric vehicle uptake.

WATER

Water Vision:

A successful residential development with industry leading performance across the water cycle achieved by adopting a fully integrated approach to water management. A water efficient, future proofed community that provides a high standard of living with reduced cost and lower environmental impact.

Key Objectives:

+ Consider the work done at WGV by LandCorp as a foundation for both scaling up and further innovation;
+ Identify and challenge barriers to innovation;
+ Become an accredited Waterwise development, certified by the Water Corporation, that seeks to reduce overall water consumption compared to business as usual;
+ Become a development that provides a test-bed for innovations in water capture, storage and water-use efficiency;
+ Become a development where water use is optimised to maintain and enhance a healthy ecosystem;
+ Implement best practice water design to support excellent outcomes in heat stress management, primarily through landscape and public realm design;
+ Identify research partnerships to test new ideas;
+ Address both public and private realms; and
+ Implement both the water-related and energy-related initiatives and innovations in a co-ordinated manner.

6.4.3 BUSHFIRE MANAGEMENT

Strategen Environmental have prepared a Bushfire Management Plan (BMP) (**Appendix M**) based on the HLSPs proposed lot layout.

BUSHFIRE ATTACK LEVEL (BAL) CONTOUR ASSESSMENT

The BAL contours provided on **Figure 31** are based on post-development conditions and take into consideration the proposed clearing extent, vegetation retention, landscaping and management of POS, resultant vegetation exclusions and separation distances achieved in line with the indicative subdivision plan. As only a small portion of the proposed subdivision design falls within the BAL-40 zone, it is recommended that building setbacks be used to mitigate the bushfire hazard.

Should there be any changes in development design or vegetation/hazard extent that requires a modified bushfire management response, then the above BAL contours will need to be reassessed for the affected areas and documented in a brief addendum to this BMP prepared to accompany future subdivision applications.

BUSHFIRE MANAGEMENT MEASURES

Appendix M provides a detailed assessment of the proposed bushfire management measures for the HLSP. Key management measures include:

- Asset Protection Zones, which consider;
  - On-site fuel management
  - POS fuel management
  - Road reserve fuel management
  - On-site staging buffers
- Increased building construction standards;
- Vehicular access management; and
- Reticulated water supply.

EMERGENCY VEHICLE ACCESS

As shown on **Figure 26** a cul-de-sac is proposed in the southwest corner of the site, to service Group Site 4 (Superlot 10). The BMP (**Appendix M**) prepared by Strategen identified that the cul-de-sac is compliant with acceptable solutions in that it is less than 200 m in length and has a suitable sized turn-around head. Further, inclusion of the cul-de-sac has been deemed unavoidable due to access restrictions onto Forrest Road to the southwest. The challenges associated with this connection can be summarised as follows:

- A connection at the southwest corner of the site would be located on the inside of a bend on Forrest Road. Intersection locations on the inside of a bend should generally be avoided due to sight line problems.
- Stock Road and the section of Forrest Road abutting the site are currently covered by Primary Regional Road Reservations in the MRS. Stock Road is identified as a future freeway in the Perth Transport Plan for 3.5 Million, so the Stock Road / Forrest Road intersection would ultimately be a grade-separated interchange (irrespective of the outcomes of Roe 8).

  Advice from Transcore suggests that allowing new road connections close to future freeway interchanges is not typically supported, as such providing an additional road connection to Forrest Road within the frontage of the site should be avoided.

Figure 31: HSHS BAL Contour Map
Source: Strategen Environmental

6.5 Engineering and Servicing

Based on the servicing infrastructure review completed by Tabec in **"Appendix A - Engineering Infrastructure Report"** there does not appear to be engineering related constraints preventing redevelopment of the Site. However, there are a number of design issues to be resolved in further detail at subdivision stage.

6.5.1 SITE WORKS

Siteworks for the HLSP generally comprise the clearing of existing vegetation, stripping topsoil and the earth working of existing ground surfaces to facilitate a required form of development. Notwithstanding the above, there is an appreciation of the importance to retain significant existing vegetation and topography within the HLSP area.

TREE PROTECTION

As many as possible of the significant trees currently located within the Site have been retained in the HLSP. Typically, vegetation within 150mm earthwork band and outside the service trenching requirements can be retained. In addition, POS areas that don't have a drainage function provide opportunities for the retention or incorporation of significant vegetation into their design.

The major level variations and grades across the Site add complexity to the retention of existing vegetation. The preliminary earthworks design attempts to match existing levels at the nominated trees for retention. Trees for retention are located within widened verges and POS locations which are visible on **Figure 32**.

Figure 32: Tree Protection
Source: Josh Byrne and Associates

DEMOLITION AND REMEDIATION

Upon closure of the High School, all existing buildings and improvements are proposed to be demolished and removed. It is anticipated that due to the age of the buildings, it is likely at the time of construction that asbestos containing materials were used. Therefore, a Detailed Site Investigation and Hazardous Material Survey will be undertaken by a qualified environmental consultant once the school closes which will inform the preparation of the Remediation Action Plan. Removal of hazardous materials will be undertaken by licensed contractors, prior to demolition where possible, and validated by the environmental consultant. Dust monitoring will be undertaken throughout the demolition phase by accredited consultants.

There are various materials which will be salvaged from the existing buildings for reuse on-site to minimise waste disposal and be used in various landscape treatments. The required materials which are identified for re-use, will be removed and protected at the commencement of demolition works.

6.5.2 EARTHWORKS

Tabec have identified that significant earthworks will be required to enable development of the Site. A preliminary earthworks design has been undertaken for the HLSP it demonstrates the following:

- Finished development levels will need to account for existing road and interface levels on each boundary. This includes road intersections onto both Ralston and Purvis Streets which will both be accessible for direct lot access for lots fronting those roads.
- Existing levels need to be maintained along the Stock Road boundary, where an existing water main and pedestrian footbridge determine interface levels. Also, the existing levels beneath the Western Power transmission line easement are not able to be raised and are sought to be maintained as closely as practical to the current elevations.
- In terms of the site preparation, after stripping of existing pavements, vegetation and topsoil, the exposed ground shall be proof compacted. The loose sand requires additional treatment, particularly at the location of grouped sites where up to three (3) storey buildings are proposed.
- Significant cut-to-fill will be undertaken during the earthworks program. The final earthworks design will seek to maintain existing levels around trees identified for retention, which introduces fixed design levels to be maintained throughout the project area. As a result, while re-contouring is necessary there are major level differences between lots which are to be managed through an approach which includes a combination of both retaining walls and split-level lots.
- Split level lots are nominated up to 3m in height to allow for 2 storey construction stepping to a single storey at either the front or rear. This includes over-garage living areas for lots fronting Ralston and Purvis Streets. It is envisaged that retaining walls would be constructed to create the split-level lots during the civil works program rather than during the house construction stage.
- Despite the re-contouring necessary, existing site features such as the north-south aligned 2.5m high ridge separating the playing fields will be retained in a widened road verge. Higher areas on-site are also sought to be maintained without significant cut, as there is potential for various view corridors toward the coast and Darling Scarp.

Preliminary earthworks concepts are provided in **Appendix A**.

6.5.3 ACOUSTIC ASSESSMENT

A Transportation Noise Assessment was completed by Lloyd George Acoustics in response to the requirements of *State Planning Policy No.5.4 Road and Rail Noise* due to the Site's location next to Stock Road.

Noise monitoring was undertaken on both Forrest Road and Stock Road, adjacent to the Site. The monitoring was undertaken between 15 and 19 June 2017, to obtain 5 full weekdays of data.

To mitigate the traffic noise it is recommended that a noise barrier be constructed on the eastern site boundary. The material used for the barrier would require a surface density of at least 15 kg/m^2. The required location and minimum height of the barrier is shown in **Appendix D**. which illustrates that a 3.0m high noise wall along Stock Road will be necessary to adequately mitigate noise from future traffic conditions (**Figure 33).**

Figure 33: Noise Wall Extent
Source: Lloyd George Acoustics

PART THREE
TECHNICAL APPENDICES

Appendix A - Engineering Infrastructure Report

TABEC
Civil Engineering Consultants

HAMILTON SENIOR HIGH SCHOOL
Engineering Infrastructure Report

TABEC Pty Ltd

October 2019

Appendix B - Geotechnical Investigations

Douglas Partners
Geotechnics / Environment / Groundwater

Integrated Practical Solutions

Report on
Geotechnical Investigation

Proposed Residential Development
Hamilton Senior High School

Prepared for
Tabec Pty Ltd

Project 88913
July 2017

Appendix C - Transport Impact Assessment

Hamilton Senior High School Redevelopment

Transport Impact Assessment

PREPARED FOR:
LandCorp

July 2017

Appendix D - Transportation Noise Assessment

Lloyd George Acoustics
PO Box 717
Hillarys WA 6923
T: 9401 7770
www.lgacoustics.com.au

Transportation Noise Assessment

Hamilton Senior High School Redevelopment

Reference: 16103756-01D

Prepared for:
Development WA

Appendix E - Flora and Fauna Survey

HAMILTON SENIOR HIGH SCHOOL, HAMILTON HILL

FLORA, VEGETATION AND BLACK COCKATOO HABITAT SURVEY

Prepared for:	LandCorp
Report Date:	12 June 2018
Version:	2
Report No.	2016-304

pgv ENVIRONMENTAL

Appendix F - Landscape Master Plan

Appendix G - Local Water Management Strategy

JOSH BYRNE & ASSOCIATES

TITLE	Local Water Management Strategy - Hamilton Senior High School Redevelopment
AUTHOR	Josh Byrne & Associates
PREPARED FOR	LandCorp
DATE	April 2018

Appendix H - Sustainability Strategy Report

JOSH BYRNE & ASSOCIATES

TITLE	SUSTAINABILITY STRATEGY Hamilton Senior High School Redevelopment
AUTHOR	Josh Byrne & Assoc.
PREPARED FOR	LandCorp
DATE	March 2018

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Appendix I - Energy Strategy Report

TITLE	Energy Strategy - Hamilton Senior High School Redevelopment
AUTHOR	Josh Byrne & Associates
PREPARED FOR	LandCorp
DATE	November 2017

Appendix J - Water Strategy Report

JOSH BYRNE & ASSOCIATES

TITLE	Water Strategy - Hamilton Senior High School Redevelopment
AUTHOR	Josh Byrne & Associates
PREPARED FOR	LandCorp and Water Corporation
DATE	November 2017

Appendix K - Aboriginal Engagement Strategy

C000258 LandCorp

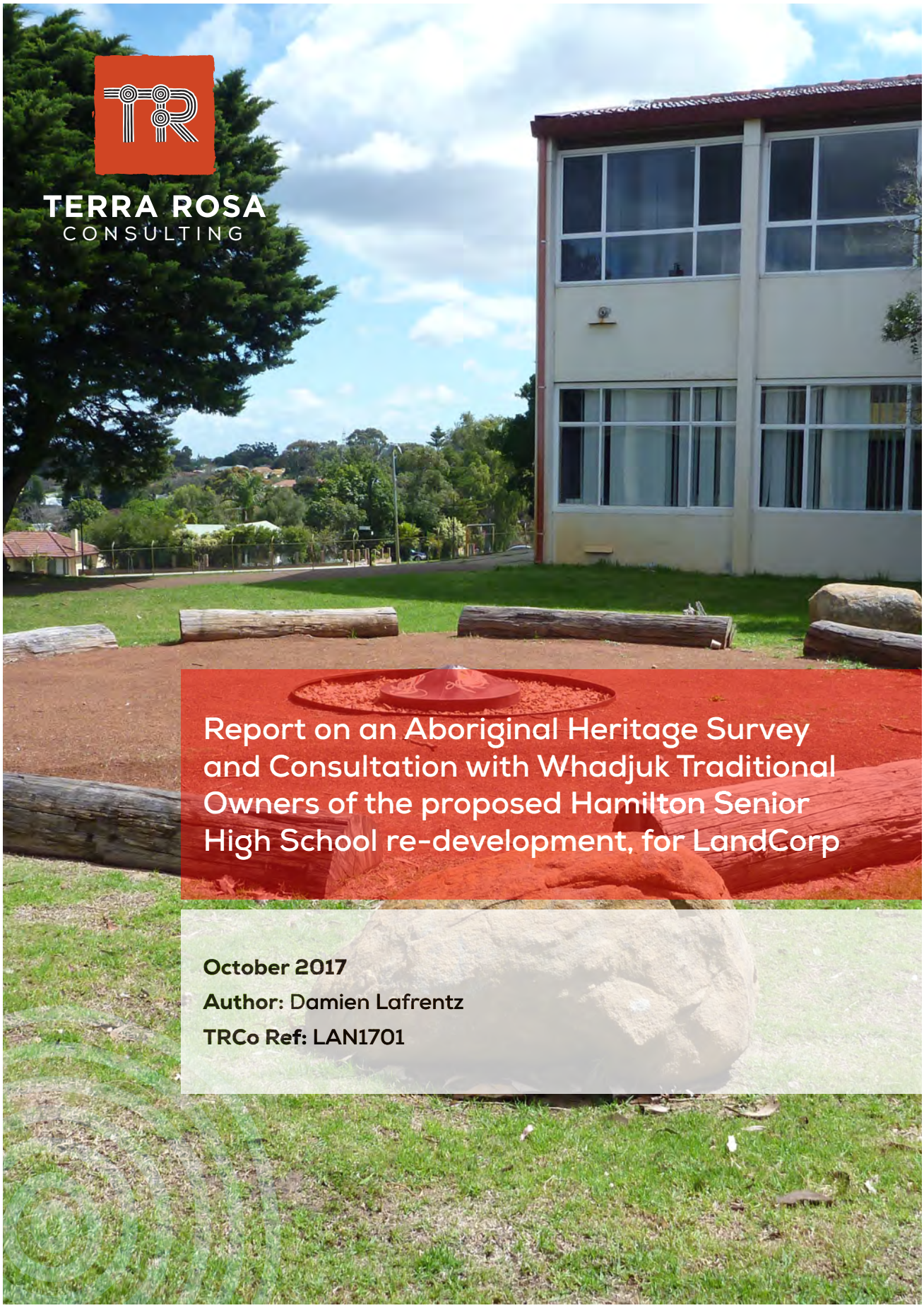
2017

Hamilton Hill Senior High School Project Aboriginal Engagement Strategy

23 AUGUST 2017

AUTHOR: INGRID CUMMING

Appendix L - Aboriginal Heritage Survey



Appendix M - Bushfire Management Plan

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Bushfire Management Plan Addendum
Structure Plan: Hamilton Hill High School site

1. Background

LandCorp (the developer) is progressing planning approval for proposed urban development over the former Hamilton Hill High School site. The proposal encompasses land contained within Crown Reserve 37938, including Lot 2687 Purvis Street and Lots 2716 and 2717 Stock Road, Hamilton Hill in the City of Cockburn (hereon referred to as the project area).

A Metropolitan Region Scheme (MRS) amendment has been lodged to rezone the project area from 'Public Purposes (High School)' to 'Urban', informed by a Bushfire Management Plan (BMP) prepared by Strategen in August 2016. As part of the next planning stage, a Structure Plan (SP) is proposed. The indicative subdivision plan prepared as part of the SP process (Figure 1) identifies 224 single residential lots, four grouped housing lots, areas of Public Open Space (POS), internal road layout and Public Access Ways (PAWs).

A portion of the project area is designated as bushfire prone on the WA *Map of Bush Fire Prone Areas* (DFES 2017) due to the extent of on-site and adjacent vegetation. Strategen has prepared this BMP addendum as an update to the previous BMP to accompany the SP and address the following requirements of *State Planning Policy 3.7 Planning in Bushfire Prone Areas* (SPP 3.7; WAPC 2015) Policy Measure 6.3:

- since indicative lot layout is known, a Bushfire Attack Level (BAL) contour map to determine the indicative acceptable BAL ratings across the subject site, in accordance with *Guidelines for Planning in Bushfire-Prone Areas* (the Guidelines; WAPC 2017)
- identification of any bushfire hazard issues arising from the BAL contour map
- re-assessment against the bushfire protection criteria requirements contained within the Guidelines demonstrating compliance with the Guidelines can be achieved in subsequent planning stages.

This BMP addendum has been prepared in accordance with the Guidelines and addresses all of the above information requirements to satisfy SPP 3.7.