Government of **Western Australia**
Development Assessment Panels

Metro Outer Joint Development Assessment Panel Agenda

Meeting Date and Time: Friday, 29 January 2021; 11:00am
Meeting Number: MOJDAP/64
Meeting Venue: City of Cockburn
9 Coleville Crescent, Spearwood

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Attendance

DAP Members

Mr Ian Birch (Presiding Member)
Ms Sheryl Chaffer (Deputy Presiding Member)
Mr Jason Hick (Third Specialist Member)

Item 8.1
Cr Carol Adams (Local Government Member, City of Kwinana)
Cr Wendy Cooper (Local Government Member, City of Kwinana)

Item 8.2
Cr Chontelle Stone (Local Government Member, City of Cockburn)
Cr Charmonix Terblanche (Local Government Member, City of Cockburn)

Officers in attendance

Item 8.1
Mr Sam Lissiman (Western Australian Planning Commission)
Ms Alice Brown (Western Australian Planning Commission)

Item 8.2a
Mr Lorenzo Santoriello (City of Cockburn)

Item 8.2b
Mr Aiden O'Brien (Western Australian Planning Commission)

Minute Secretary

Ms Sue D'Agnone (City of Cockburn)

Applicants and Submitters

Item 8.1
Mr Scott Jeffrey (Department of Finance)
Ms Chloe Johnston (City of Kwinana)

Item 8.2
Ms Kareena May (SITE Planning + Design)

Members of the Public / Media

Nil

1. Opening of Meeting, Welcome and Acknowledgement

The Presiding Member declares the meeting open and acknowledges the traditional owners and pay respects to Elders past and present of the land on which the meeting is being held.

2. Apologies

Cr Matthew Rowse (Local Government Member, City of Kwinana)

3. Members on Leave of Absence

Nil

4. Noting of Minutes

Signed minutes of previous meetings are available on the DAP website.

5. Declarations of Due Consideration

Any member who is not familiar with the substance of any report or other information provided for consideration at the DAP meeting must declare that fact before the meeting considers the matter.

6. Disclosure of Interests

Nil

7. Deputations and Presentations

The Western Australian Planning Commission and City of Cockburn may be provided with the opportunity to respond to questions of the panel, as invited by the Presiding Member.

8. Form 1 – Responsible Authority Reports – DAP Applications

8.1 Lot 520 (No. 288) Orton Road, Casuarina

Development Description:	Accommodation expansion to Casuarina Prison
Applicant:	Department of Finance
Owner:	Minister for Corrective Services - Department of Justice
Responsible Authority:	Western Australian Planning Commission
DAP File No:	DAP/20/01910

8.2a Lots 19 and 9001 Clarence Beach Road, Henderson

Development Description:	Marine Engineering Facility
Applicant:	SITE Planning and Design
Owner:	Western Australian Land Authority
Responsible Authority:	City of Cockburn
DAP File No:	DAP/20/01893

8.2b Lots 19 and 9001 Clarence Beach Road, Henderson

Development Description:	Marine Engineering Facility
Applicant:	SITE Planning and Design
Owner:	Western Australian Land Authority
Responsible Authority:	Western Australian Planning Commission
DAP File No:	DAP/20/01893

9. Form 2 – Responsible Authority Reports – DAP Amendment or Cancellation of Approval

Nil

10 State Administrative Tribunal Applications and Supreme Court Appeals

Current SAT Applications				
File No. & SAT DR No.	**LG Name**	**Property Location**	**Application Description**	**Date Lodged**
DAP/19/01708 DR 138/2020	City of Kwinana	Lot 108 Kwinana Beach Road, Kwinana	Proposed Bulk Liquid Storage for GrainCorp Liquid Terminals	01/07/2020
DAP/01729 DR 176/2020	City of Kalamunda	Lot 130 (74) Warlingham Drive, Lesmurdie	Aged Residential Care Facility	28/8/2020
DAP/20/01764 DR 204/2020	City of Swan	Lot 780 (46) Gaston Road, Bullsbrook	Proposed Stock Feed Grain Mill	8/09/2020

Finalised SAT Applications*				
File No. & SAT DR No.	**LG Name**	**Property Location**	**Application Description**	**Date Lodged**
DAP/20/01738 DR 225/2020	City of Kwinana	Lot 15 Mason Road, Kwinana	Proposed Lithium Plant	6/10/2020
DAP/20/01803 DR 226/2020	City of Joondalup	Lots 208 & 207 (122 & 124) Coolibah Drive, Greenwood	Development and use of a Child Care Premise and associated car parking, access, and signage	6/10/2020

* Matters finalised during the last meeting cycle.

11 General Business

In accordance with Section 7.3 of the DAP Standing Orders 2020 only the Presiding Member may publicly comment on the operations or determinations of a DAP and other DAP members should not be approached to make comment.

12 Meeting Closure

Government of **Western Australia**
Development Assessment Panels

Form 1 – Responsible Authority Report

(Regulation 12)

Property Location:	Lot 520 (No. 288) Orton Road, Casuarina
Development Description:	Accommodation expansion to Casuarina Prison
DAP Name:	Metro Outer JDAP
Applicant:	Ms Sandra McLeish, Department of Finance
Owner:	Mr Chris Williams, Minister for Corrective Services - Department of Justice
Value of Development:	$65 million
LG Reference:	DA9850
Responsible Authority:	Western Australian Planning Commission
Authorising Officer:	Planning Director - Metropolitan South and Peel
DAP File No:	DAP/20/01910
Report Due Date:	22 January 2021
Application Received Date:	3 December 2020
Application Process Days:	50 Days
Attachment(s):	**Attachment 1** – MRS Zones and Reserves **Attachment 2** – Development Plan **Attachment 3** – Location Plan **Attachment 4** – Aerial Image

Officer Recommendation:

That the Metro Outer JDAP resolves to:

Approve DAP Application reference DAP/20/01910 and the accompanying plan dated 15 January 2021 by the Department of Planning, Lands and Heritage (drawing number: A-00-1000), pursuant to clause 30(1) of the Metropolitan Region Scheme subject to the following conditions:

Conditions

1. This decision constitutes planning approval only. If development has not substantially commenced within two years of this approval being granted, the approval shall lapse and be of no further effect.

2. All stormwater being suitably contained and disposed of onsite.

ADVICE:

1. The applicant is advised that this planning approval is not a building permit giving authority to commence construction. Prior to any building work commencing on site either a building permit must be issued or the applicant should apply to the state building permit authority for a building permit exemption under 70(2)(c) of the *Building Act 2011*.

2. Notwithstanding the BAL-Low rating for the proposed development, consideration should be given to upgrading construction to a minimum BAL-12.5

rating to improve the protection for occupants and the building's survivability, as recommended within the Bushfire Management Plan Addendum provided by Bushfire Prone Planning (20 October 2020).

3. Drainage systems should be designed and constructed consistent with the *Stormwater Management Manual for Western Australia* (DoW, 2004-2007). The first 15 mm of stormwater runoff from road and car park surfaces (1 Exceedance per year runoff) should undergo water quality treatment via bio-infiltration.

4. Gas mains exist within the property and ATCO request the proponent to commence early Dial Before You Dig applications to determine the impact of the project on the network. Anyone proposing to carry out construction or excavation works must contact 'Dial Before You Dig' (Ph 1100) to determine the location of buried gas infrastructure. Refer to ATCO document AGA-O&M-PR24- Additional Information for Working Around Gas Infrastructure at https://www.atco.com/en-au/for-business/natural-gas/safety.html

Details: outline of development application

Insert Zoning	MRS:	Parks and Recreation and Public Purposes - Prison (**Attachment 1** - MRS Zones and Reserves)
	TPS:	No Zone
Insert Strategy Policy:		South Metropolitan Peel Sub-regional Planning Framework
Insert Development Scheme:		Metropolitan Region Scheme
Insert Lot Size:		Approximately 172.75 hectares
Insert Existing Land Use:		Approximately one-third bushland and two-thirds prison

The development proposes the expansion of Casuarina Prison (the prison) to accommodate 344 additional beds for high need cohorts (ie. those who are aged, high risk, protection and mentally ill) (**Attachment 2** - Development Plan). Additional upgrades to support facilities within the prison are also proposed. The development represents Stage 2 of the prison expansion, with Stage 1 approved by the Metro Outer JDAP on 18 July 2018 (Ref: DAP/18/01401). Stage 1 works included 512 additional beds and car parking.

All of the proposed development for Stage 2 is within the prison's existing boundaries and comprises the following:

- Two new two-storey accommodation units consisting of 124 beds each, with a shared support building, at a maximum height of 9.86 metres. The accommodation units are to be designed similar to those previously constructed at the prison which were based on accommodation at Hakea and Albany prisons.

- A new high security unit to accommodate high threat prisoners at a maximum height of 8 metres.

- Two new single-storey support buildings with a maximum height of 7 metres. One support building is to be located adjacent to the new accommodation units and the other support building will be located near existing accommodation

units in the east of the site. The buildings will contain facilities for education and training programs.

- A new building that includes a laundry, kitchen and industry workshop. The building will also provide several amenities (toilets and group rooms) to be shared between all three industries which are located around a common courtyard.

- Minor building extensions to the western industries building including upgrades to the laundry, bakery, property store, administration and supporting infrastructure.

The development constitutes a public work by a public authority. Section 6 of the *Planning and Development Act 2005* exempts a public authority (the Department of Finance in this case) from the requirement to obtain development approval for a public work under the local planning scheme, but not the Metropolitan Region Scheme (MRS). This Responsible Authority Report provides an assessment of the application under the MRS. By virtue of the approximate $65 million cost of the proposed development, its determination is to be made by the Metro Outer Joint Development Assessment Panel (JDAP).

Background:

The prison, which opened in 1991, is located approximately 35 kilometres south of the Perth central business district and 14 kilometres south of Cockburn Central in the rural area of Casuarina within the City of Kwinana (the City) (**Attachment 3** - Location Plan). It is the main maximum-security prison for male prisoners in Western Australia. The prison occupies approximately two-thirds of the subject land (Lot 520 Orton Road), and bushland, designated as a Bush Forever area (Site 273), exists on the remaining portion of the land (**Attachment 4** - Aerial Image).

Legislation and Policy:

Legislation

- *Planning and Development Act 2005*
- *Public Works Act 1902*
- *Metropolitan Region Scheme*
- *City of Kwinana Town Planning Scheme No.2*

State Government Policies

- *South Metropolitan Peel Sub-regional Planning Framework;*
- *State Planning Policy 2.3 - Jandakot Groundwater Protection Policy*
- *State Planning Policy 2.8 - Bushland Policy for the Perth Metropolitan Region*
- *State Planning Policy 3.7 - Planning in Bushfire Prone Areas*

Consultation:

Consultation with other Agencies

The City of Kwinana supports the proposal and recommends a number of conditions and advice. This includes conditions specifying stormwater is to be contained and disposed of on site, and provision of a four year approval period. The condition relating

to stormwater has been included, however a two year commencement period has been retained. As this is a COVID recovery project with completion estimated in December 2022 there are not anticipated to be construction delays necessitating a longer timeframe in this instance.

The Department of Water and Environmental Regulation (DWER) has no objection to the proposal, however, provided a number of comments relating to contamination on the site and stormwater management. The site has been reported to DWER as a known or suspected contaminated site, but is yet to be classified. Based on the available information, DWER has advised that the site is considered to be suitable for the proposed development and did not recommend the inclusion of a contamination condition. DWER's stormwater management advice has been included.

The application was also referred to the following agencies and servicing authorities who provided no objections or comment:

- Department of Planning, Lands and Heritage (Heritage and Property services);
- Department of Biodiversity, Conservation and Attractions; and
- ATCO Gas.

The applicant has viewed the draft conditions and advice and raised no concerns.

Planning Assessment:

Metropolitan Region Scheme

Clause 30 of the MRS requires the WAPC to have regard to the following factors when determining a development application on land zoned or reserved under the MRS:

- the purpose for which the land is zoned or reserved under the MRS;
- the orderly and proper planning of the locality; and
- the preservation of the amenities of the locality.

In this regard, the following comments are provided:

- the proposed development is consistent with the Public Purposes - Prison reservation of the land under the MRS;
- the proposal is consistent with the orderly and proper planning of the locality as it will integrate with the existing infrastructure located on the prison site to accommodate an increased prison population; and
- the proposed expansion of the prison is contained within the existing prison boundary, as such, there will be no adverse impacts on the amenities of the locality.

The proposal is consistent with the nature and purpose of the site and is in accordance with the requirements of Clause 30 as above.

Subregional Planning Framework

The *South Metropolitan Peel Sub-Regional Planning Framework* (Framework) designates the site as ‘Prison’ and 'Nature/Passive Recreation'. In this regard, the proposal is for works specifically within the prison site, and therefore is consistent with the Framework.

Bushfire Risk

The prison is located within a bushfire prone area as designated by the Commissioner for Fire and Emergency Services. *State Planning Policy 3.7: Planning in Bushfire Prone Areas* designates the prison use to be a 'vulnerable' land use as occupants are prevented from evacuating in an emergency.

The *Bushfire Management Plan, Location: Casuarina Prison, 288 Orton Road, Casuarina* dated 13 April 2017 (BMP), and the addendum prepared by Bushfire Prone Planning, addresses the bushfire risk (BMP addendum). The BMP was originally submitted as part of the Stage 1 application for an expansion to the prison site.

The BAL Contour Map included within the BMP addendum depicts all of the proposed new buildings within a BAL-Low area. Notwithstanding this, the City of Kwinana has requested that advice be included which recommends the consideration of upgrading construction to a minimum BAL-12.5 rating to improve the protection for occupants and the buildings survivability. This advice was also recommended by Bushfire Prone Planning within the BMP addendum and accordingly, has been included.

As a result of the BAL-Low rating for the development, it was not necessary to refer the proposal to the Department of Fire and Emergency Services (DFES), however, it is acknowledged that DFES previously recommended an emergency evacuation plan (EEP) be prepared to support the BMP for the Stage 1 proposal in 2018 prior to a decision being made. An EEP has since been prepared and is in place.

Traffic Assessment

A Transport Impact Statement (TIA) for the proposed development was prepared by the applicant to evaluate the effect of the anticipated increase in traffic due to the expansion of the prison.

The TIA concludes that the proposed prison expansion and subsequent increase in staff numbers is expected to have a negligible impact on the operation of roads and intersections surrounding the site. The overall increase in traffic volumes generated from the two stages of the prison expansion is less than 10% of the network volumes.

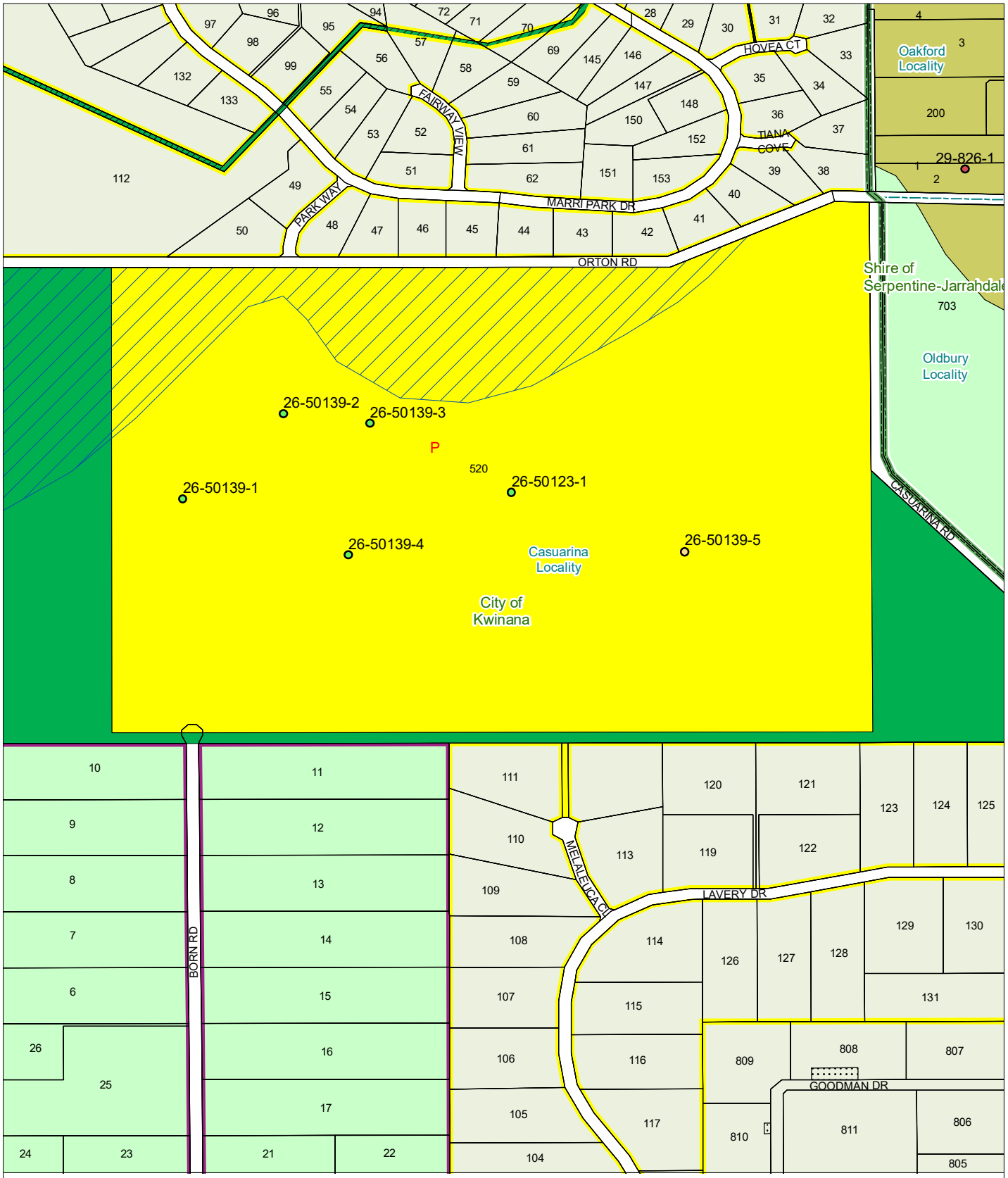
Water Catchments

A small area inside the prison site falls within the Water Catchments reservation in the MRS (**Attachment 1** - MRS Zones and Reserves). The Water Catchments area is within the Jandakot Underground Water Groundwater Protection area and is informed by *State Planning Policy 2.3 Jandakot Groundwater Protection Policy* which aims to protect the Jandakot Groundwater Protection area from development and land uses that may have a detrimental impact on the water resource. No development is proposed in the Water Catchments reservation inside the prison site.

Conclusion:

The development is consistent with the Public Purposes - Prison reservation under the Metropolitan Region Scheme, and integrates with existing infrastructure on the site.

It is recommended that the Metro Outer JDAP approve the proposed development, subject to the conditions and advice stated above.



Location Plan for: Development Application

This data is to be used only for the processing of Development Application

Application Number: **26-50139-5**
Decision: OUTSTANDING
Printed: 9/12/2020

Western Australian Planning Commission

Produced by Data Analytics,
Department of Planning, Lands and Heritage, Perth WA

Base information supplied by
Western Australian Land Information Authority SLIP 1180-2020-1

Application Status
- Approved
- Outstanding
- Cancelled

Existing LPS Zones and Reserves
- Park recreation and drainage
- Rural
- Rural A
- Rural groundwater protection
- Special rural

Easements and Referrals
- Easements

Region Scheme Reserves
- Water catchments
- Parks and recreation
- Public purposes - prison

Localities & Local Government Boundaries
- Local government boundary
- Locality

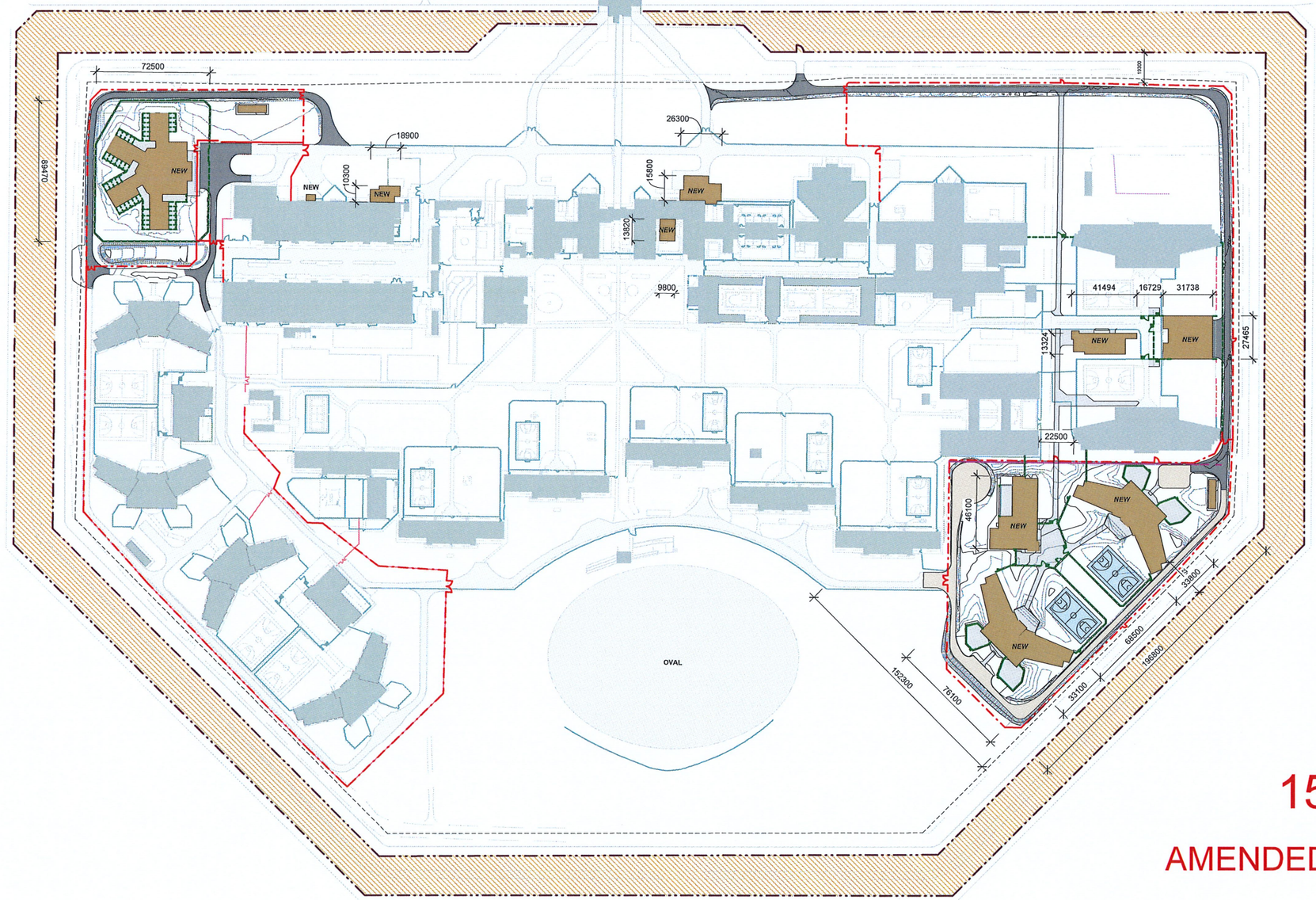
N
0 60 120 180 240
meters

REVISION SCHEDULE		
NO.	DATE	DESCRIPTION
A	11.09.2020	ISSUE FOR INFORMATION
B	15.01.2021	LABELS REMOVED FOR DAP AGENDA

ORTON ROAD

ORTON ROAD

GATEHOUSE



15/01/2021

AMENDED SITE PLAN

LEGEND

- PROPOSED NEW BUILDING / EXPANSION
- EXISTING BUILDING
- FENCE
- FENCE
- FENCE

DEPARTMENT OF PLANNING, LANDS AND HERITAGE

DATE	FILE
15-Jan-2021	26-50139-5

DETAILED DESIGN

COX

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Perth, WA 6000, Australia
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F + 61 8 9322 1664
www.coxarchitecture.com.au

CONSULTANTS

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Email: perth@lucidconsulting.com.au

Government of Western Australia
Department of Finance

CASUARINA - STAGE 1

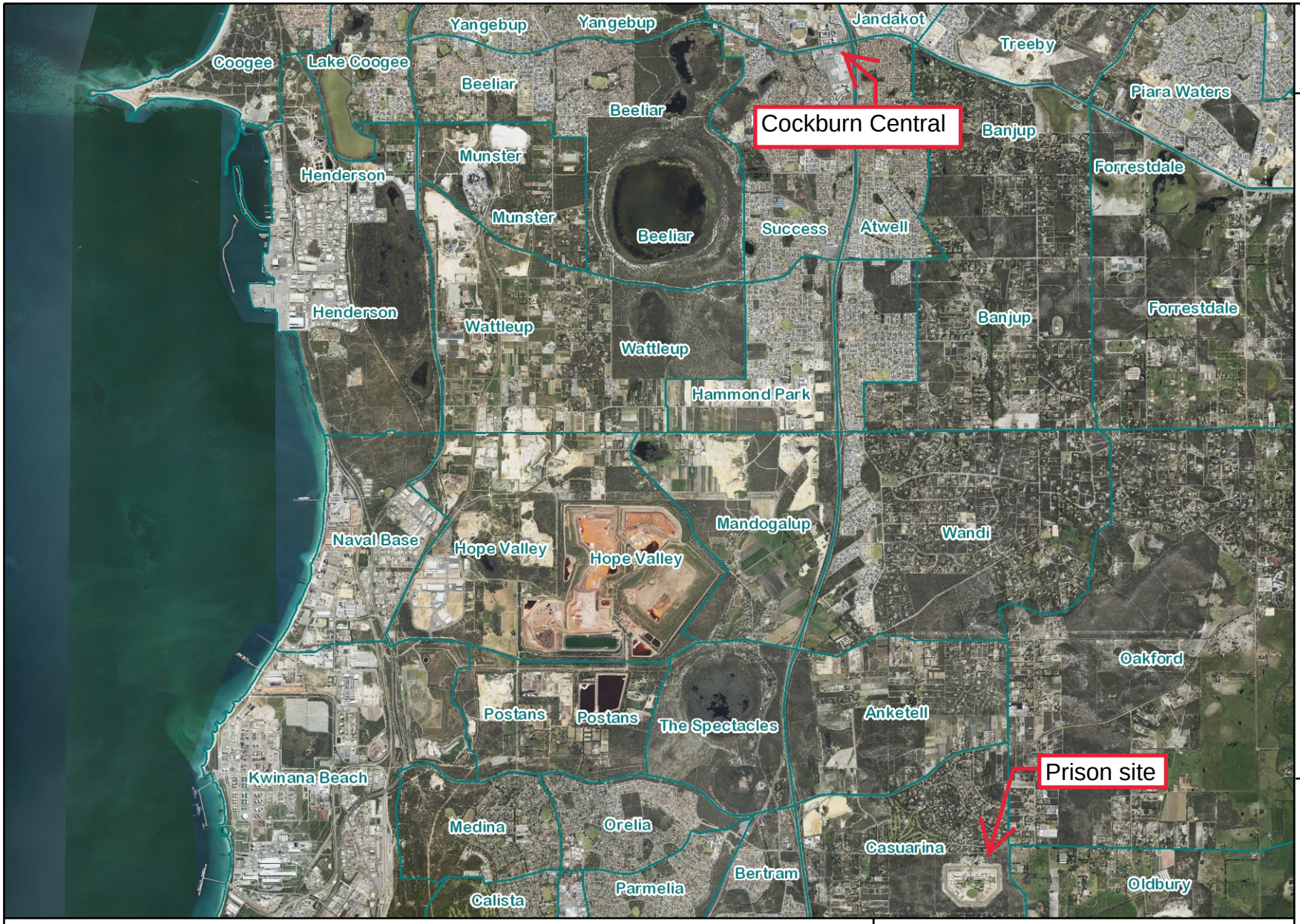
SITE PLAN - PROPOSED NEW WORKS

DRAWN	Author	DESIGNED		SCALE	1 : 1500@A1
CHECKED	JB	PRINCIPAL	MH		
APPROVED	MH				
SCALE 1 : 1500		DATE 13/10/2020 4:59:04 PM		Job No 620024 DRAWING No	REV A
BMW TENDER No XXX		BMW FILE No XXX		A-00-1000	

THIS IS A CADD DRAWING DO NOT AMEND MANUALLY

15/01/2021

AMENDED SITE PLAN



Department of **Planning, Lands and Heritage**

GOVERNMENT OF WESTERN AUSTRALIA

Legend

- Localities

Notes:

* The data that appears on the map may be out of date, not intended to be used at the scale displayed, or subject to license agreements. The map should only be used in matters related to Department of Planning, Lands and Heritage business.

* This map is not intended for measurement purposes.

Map was produced using DPLH's InQuiry.

InQuiry Map

DPLH BUSINESS USE ONLY

Internal Spatial Viewer

N

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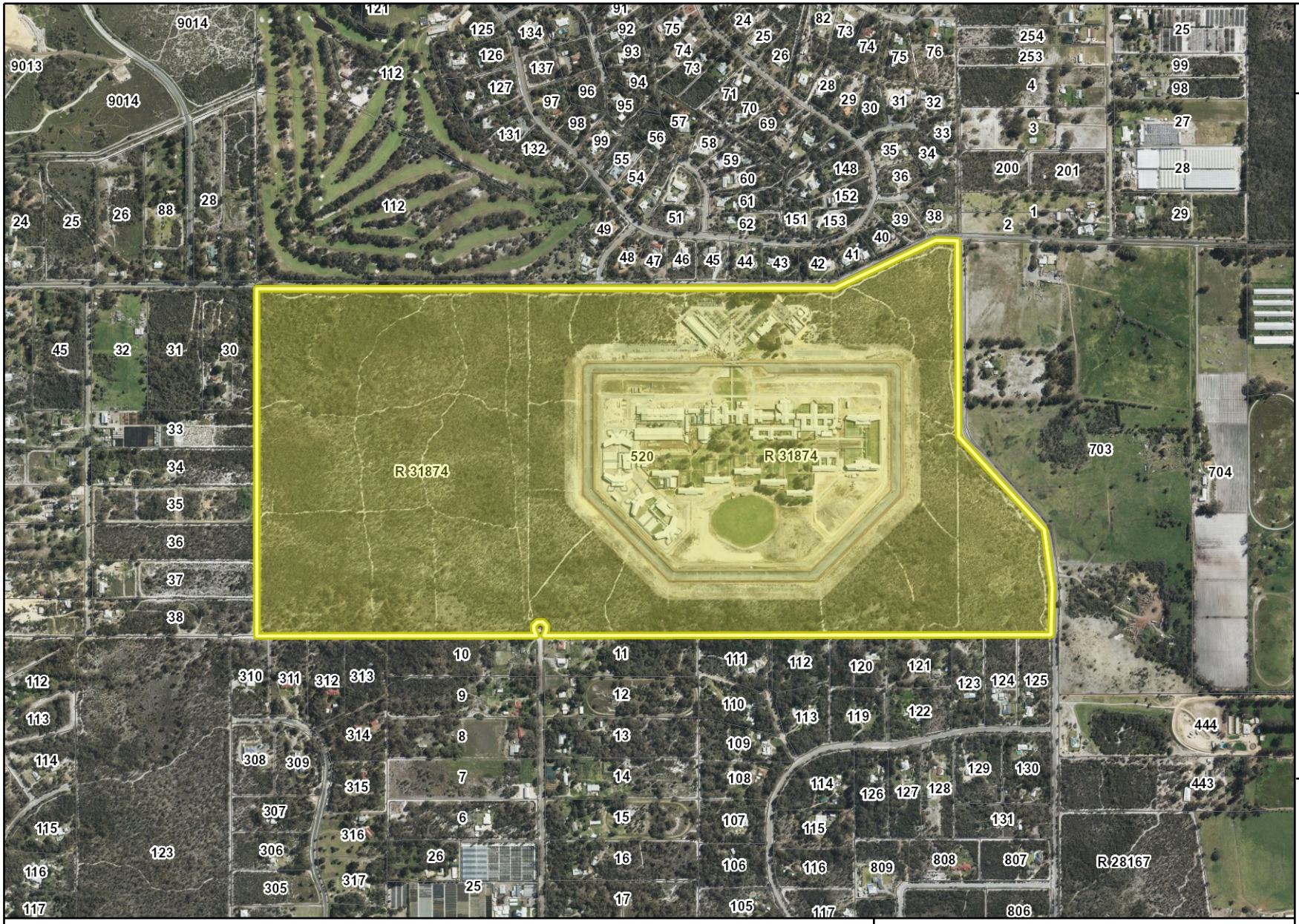
1: 100,000

at A4

Projection: WGS 1984 Web Mercator Auxiliary Sphere

Date produced: 15-Jan-2021



Department of **Planning, Lands and Heritage**

GOVERNMENT OF WESTERN AUSTRALIA

Legend

- [ ] Cadastre (View 1)

Notes:

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* This map is not intended for measurement purposes.

Map was produced using DPLH's InQuiry.

InQuiry Map

DPLH BUSINESS USE ONLY

Internal Spatial Viewer

N

0 0.37 0.74 Kilometres

1: 17,136

at A4

Projection: WGS 1984 Web Mercator Auxiliary Sphere

Date produced: 12-Jan-2021

Lot 19 and 9001 Clarence Beach Road, HENDERSON – Marine Engineering Facility

Form 1 – Responsible Authority Report
(Regulation 12)

DAP Name:	Metro Outer JDAP	
Local Government Area:	City of Cockburn	
Applicant:	Site Planning and Design	
Owner:	Western Australian Land Authority	
Value of Development:	$25 million ☒ Mandatory (Regulation 5) ☐ Opt In (Regulation 6)	
Responsible Authority:	City of Cockburn	
Authorising Officer:	David King	
LG Reference:	DAP20/008	
DAP File No:	DAP/20/01893	
Application Received Date:	15 October 2020	
Report Due Date:	20 January 2021	
Application Statutory Process Timeframe:	90 Days	
Attachment(s):	1. Location Plan; 2. Zoning Plan; 3. Development Plans; 4. Applicants report 5. DWER comments; 6. Bushfire Attack Level Report; 7. Traffic Impact Assessment; 8. Landscape Plan	
Is the Responsible Authority Recommendation the same as the Officer Recommendation?	☒ Yes ☐ N/A	Complete Responsible Authority Recommendation section
	☐ No	Complete Responsible Authority and Officer Recommendation sections

Responsible Authority Recommendation

That the Metro Outer JDAP resolves to:

1. **Accept** that the DAP Application reference DAP/20/01893 is appropriate for consideration as a "Marine Engineering" land use and compatible with the objectives of the zoning table in accordance with Clause 3.4.2 of the City of Cockburn Town Planning Scheme No. 3.

2. **Approve** DAP Application reference DAP/20/01893 and accompanying plans in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015*, and the

provisions of the City of Cockburn Town Planning Scheme No. 3, subject to the following conditions:

Conditions

1. Pursuant to clause 26 of the Metropolitan Region Scheme, this approval is deemed to be an approval under clause 24(1) of the Metropolitan Region Scheme.

2. This decision constitutes planning approval only and is valid for a period of 2 years from the date of approval. If the subject development is not substantially commenced within the specified period, the approval shall lapse and be of no further effect.

3. **Prior to the issue of a Building Permit**, a construction management plan (CMP) shall be submitted to and approved by the City. The CMP shall be implemented to the satisfaction of the City.

4. **Prior to the lodgement of a Building Permit**, a schedule of the materials finishes and colours shall be submitted to and approved by the City. The schedule shall include details of the type of materials proposed to be used, including their colour and texture. The development shall thereafter be maintained in accordance with the approved materials schedule.

5. All services and service related hardware, including antennae, satellite dishes and air conditioning units, being suitably located away from public view and/or screened to the satisfaction of the City.

6. **Prior to the initial occupation of the building hereby approved**, the 44 parking bays, driveways and points of ingress and egress in the eastern carpark and the 257 parking bays, driveways and points of ingress and egress in the western carpark shall be sealed, kerbed, drained, line marked and made available for use in accordance with the approved plans.

7. Crossovers are to be located and constructed to the City's specifications. Redundant crossovers shall be removed and the verge reinstated prior to or at the time of the installation of the approved new crossover(s).

8. Landscaping including verge planting shall be installed, reticulated and/or irrigated in accordance with the/an approved plan and maintained thereafter to the satisfaction of the City. The landscaping shall be implemented during the first available planting season post completion of development and any species which fail to establish within a period of 12 months from planting shall be replaced to the satisfaction of the City.

9. The car parking areas, access ways and landscaping located in front of the building shall be maintained to the satisfaction of the City, and shall not to be used for storage of any type.

10. Where a driveway and/or parking bay abuts a public street, associated walls, fences and/or adjacent landscaping areas shall be truncated within 1.5 metres thereof or limited in height to 0.75 metres.

11. Industrial liquid wastes, including wash-down wastes, are not permitted to enter any stormwater system.

12. **Prior to the commencement of the approved use**, a detailed stormwater drainage plan shall be submitted to and approved by the City. The development shall thereafter be maintained in accordance with the approved stormwater drainage plan.

13. **Prior to the commencement of the approved use**, a compaction certificate shall be submitted to and approved by the City.

14. **Prior to the lodgement of a building permit** details of a minimum of 10 bicycle stands/racks that conform to Australian Standard 2890.3 shall be provided in close proximity to the entrance. The bicycle parking shall be installed prior to the occupation of the building.

15. The street number, or where there is no street number, the lot number, shall be clearly displayed on the façade of the building prior to occupation of the building hereby approved and remain in perpetuity to the satisfaction of the City.

16. **Prior to the issue of a building permit**, a Waste Management Plan (WMP) shall be submitted to and approved by the City. Provisions included within the WMP, shall include the size and location of the bin store, and are to be implemented and maintained thereafter to the satisfaction of the City.

17. All waste and recycling materials must be contained within bins. These must be stored in an internal enclosure within the buildings or within an external enclosure located and constructed to the satisfaction of the City. This information shall be submitted to and approved by the City prior to the lodgement of a Building Permit Application.

18. All abrasive blasting and/or spray painting activities shall be carried out within a suitable booth/ enclosure in accordance with the requirements of the Australian Standard for spray painting booths and the Environmental Protection (Abrasive Blasting) Regulations 1998.

Advice Notes

a. This is a Planning Approval only and does not remove the responsibility of the applicant/owner to comply with all relevant building, health and engineering requirements of the City, or with any requirements of the City of Cockburn Town Planning Scheme No. 3 or with the requirements of any external agency.

b. The Construction Management Plan (CMP) shall be in accordance with the City's CMP guidelines accessed on the City's Website and shall address the following items:
   i. Access to and from the site;
   ii. Delivery of materials and equipment to the site;
   iii. Storage of materials and equipment on the site;
   iv. Parking arrangements for contractors and subcontractors;
   v. Management of construction waste; and
   vi. Other matters likely to impact on the surrounding properties.

c. Any wash-down of plant, vehicles or equipment must be carried out over a wash down pad with waste water treated to remove solids and hydrocarbons prior to discharge to the environment. A Health Act application including detailed plans and specifications of the facility and the appropriate fee must be submitted together with building plans to the City's Health Services prior to the lodgement of a Building Permit Application.

d. With regard to Condition 6, copies of crossover specifications are available from the City's Engineering Services or from the City's website www.cockburn.wa.gov.au.

e. With regard to Condition 12, the detailed stormwater plan shall be discussed with DWER and ensure that discharge into the ocean avoids any contaminants/pollutants.

f. With regard to Condition 15, the bin store shall be proposed internal or external to the building and the external enclosure must be and of an adequate size to contain all waste bins, at least 1.8 m high, fitted with a gate and graded to a 100mm diameter industrial floor waste with a hose cock, all connected to sewer. The minimum provisions for internal bin storage is a concrete wash-down pad of at least 1m^2 graded to a 100mm diameter industrial floor waste with a hose cock, all connected to sewer. This can be centrally located within the development.

g. With regard to Condition 17, the booth/enclosure for spray painting should be constructed in accordance with AS 4114.1:2003 entitled "*Spray painting booths, designated spray painting areas and paint mixing rooms*". In respect to Abrasive Blasting the booth/enclosure should be constructed in accordance with the provisions of the Environmental Protection (Abrasive Blasting) Regulations 1998. The completed premises shall be inspected by one of the City of Cockburn's Environmental Health Officers prior to use of the booth/enclosure.

h. The development shall comply with the noise pollution provisions of the Environmental Protection Act 1986, and more particularly with the requirements of the Environmental Protection (Noise) Regulations 1997. The installation of equipment within the development including air-conditioners, spas, pools and similar equipment shall not result in noise emissions to neighbouring properties exceeding those imposed by the *Environmental Protection (Noise) Regulations 1997* (as amended).

i. The City's Health Services advises that it will require the cessation of any process, activity or equipment employed on the site if it is causing a dust nuisance, until such time as the process, activity or equipment has been satisfactorily modified.

j. A plan and description of any signage and advertising not exempt under Town Planning Scheme No. 3 shall be submitted to and approved by the City prior to the erection of any signage on the site/building. It is strongly advised to liaise with the City's Planning Services prior to any installation of signage to confirm what approvals, if any, are required.

k. The operations shall comply with all environmental standards as specified in any works approvals, licence, conditions of approval applied under the *Environmental Protection Act 1986*. The applicant is advised to refer to the information and

Guideline: Industry Regulation Guide to licensing available at http://der.wa.gov/our-work/licenses-and-works-approvals and/ and/or to contact the Department of Water and Environment Regulation for information on applications for works approval.

l. The development site must be connected to the reticulated sewerage system of the Water Corporation before commencement of any use. An approval by the Water Corporation's Building Services section prior to the commencement of works on site will be required and standard infrastructure contributions and fees may be required. The applicant is encouraged to contact the Water Corporation to complete the relevant approvals.

m. Due to the nature and extent of soil contamination identified at the site, the Department of Water and Environment Regulation recommends that development works are undertaken in accordance with an appropriate site specific health and environmental management plan.

Details: outline of development application

Region Scheme	Perth Metropolitan Region Scheme
Region Scheme - Zone/Reserve	Industrial zone and Waterways reserve
Local Planning Scheme	City of Cockburn Town Planning Scheme No. 3
Local Planning Scheme - Zone/Reserve	Strategic Industry
Structure Plan/Precinct Plan	N/A
Structure Plan/Precinct Plan - Land Use Designation	N/A
Use Class and permissibility:	Marine Engineering – "P"; Office – "D"
Lot Size:	Lot 19 Clarence Beach Road – 2.2798ha (22,798m^2) Lot 9001 Clarence Beach Road – 2.4678ha (24,678m^2) Total land size = 4.7466 Hectares (47,466m^2) Total development area = 2.6398ha (26,398m^2)
Existing Land Use:	Vacant land
State Heritage Register	No
Local Heritage	☒ N/A ☐ Heritage List ☐ Heritage Area
Design Review	☒ N/A ☐ Local Design Review Panel ☐ State Design Review Panel ☐ Other
Bushfire Prone Area	Yes
Swan River Trust Area	No

Proposal:

The proposal submitted for Lot 19 (65) Clarence Beach Road and Lot 9001 Clarence Beach Road, Henderson (the subject site) consists of one (1) large Industrial building for the purposes of Marine Engineering and Office (refer **Attachment 1 – Location Plan)**. The building itself is proposed solely on Lot 19 Clarence Beach Road which is zoned Industrial under the Metropolitan Region Scheme (MRS) and Strategic Industry under the City's Town Planning Scheme No. 3 (TPS 3). Minor works including hardstand and stormwater outfall into the ocean are proposed with Lot 9001, which is zoned Industrial and reserved for Waterways under the MRS (refer **Attachment 2 – Zoning Plan)**.

The details of the Marine Engineering building on site include the following:

- Fabrication Halls – 5,750m^2;
    - A Finished Floor Level of 3.2 AHD, requiring excavation on the eastern portion of the site;
    - A northern fabrication hall of 25.2m width and 110m length and identical southern fabrication hall separated by an internal wall;
    - Wall height of 25.655m and Roof height of 27.940m.
- Administrative office – 1,265m^2;
    - A three storey office component fronting Clarence Beach road, the lower storey not being visible from Clarence Beach road;
    - The second floor aligns with the Clarence Beach Road carpark and provides the primary pedestrian entrance to the site, although the office can be accessed via stairs from the fabrication hall;
    - The office, where viewed from the street, has a curved roof with a height of 6.855m on the northern end and 10.53m on the southern end.
- Workshops – 8,550m^2;
    - The workshops are divided into two separate areas of three levels each, adjoining the northern and southern fabrication hall;
    - The northern workshop area includes an Engineering workshop on the ground level, Heating, Ventilation and Air-conditioning (HVAC) on the middle level and the stainless steel workshop on the third level;
    - The northern workshop has a length of approximately 83.5m, width of 16.1m and height of 13.5m.
    - The southern workshop area includes the paint workshop on the ground level with the upper two levels being fitout workshops;
    - The southern workshop area has a length of 107m, width of 16.1m and height of 13.5m;
    - Both upper floor workshop areas include annexe floor and walkways into the fabrication hall.

Refer **Attachment 3 – Development Plans**.

The proposed occupant of the development is 'Silver Yachts' who specialise in the design and fabrication of 'super yachts' which can be up to 100m in length. Silver Yachts has been in operation within the Henderson area for the past 15 years and are relocating from their existing site on Quill Way, 1km north to the subject site (refer **Attachment 4 – Applicants report)**.

The proposal is consistent with the definition of 'Marine Engineering' from the City's land use definitions, which "*means the carrying out of any process for and incidental to the fitting out, maintenance and repair of ships, including the construction of boats,*

but excluding all blasting other than wet slurry blasting operations as defined by Clean Air Act Regulations".

Background:

Physical description of site

The subject site is bound by Clarence Beach Road to the east and the Indian Ocean to the west. To the north of the site is vacant land (under the same ownership as the subject site) and to the south of the site is an existing Marine Engineering facility.

Lot 19 has direct access to Clarence Beach road, is 2.2798ha in area and rectangular in shape. Lot 9001 is 2.4678ha, however the development area of the lot is restricted to that abutting Lot 19 Clarence Beach Road being 0.36ha, and is of an irregular shape.

The site is largely vacant however does include an existing electrical substation in the north-eastern corner of the site which is to be retained, there is a sewer easement with a width of approximately 5m that extends in a north-south orientation across the Lot 19 and runs across the adjoining southern and northern lots also. No development, other than hardstand, is proposed upon the easement.

The site has a significant slope on the eastern boundary which levels out be relatively flat for the majority of the site. An application for Earthworks and Retaining was previously determined by the City for the purposes of excavation of much of the eastern slope to establish the buildings Finished Floor Level and construction of the access leg and its required retaining. These works are indicated on the Development Plans.

Australian Marine Complex (AMC)

The AMC is a leading Marine Industrial Estate planned by the State Government for the purpose of developing activities related to the marine, defence, oil and gas and resource industries. It is one of only two locations within Australia identified for naval shipbuilding and maintenance.

In August 2020, the Department of Jobs, Tourism, Science and Innovation (DJTSI) released the AMC Strategic Infrastructure & Land Use Plan (SILUP) with the purpose of guiding current and future requirements of the defence, resource and marine industries within the AMC. The 5 precincts within the AMC are:

- Shipbuilding precinct;
- Technology Precinct;
- Support Industry Precinct;
- Fabrication Precinct;
- Recreational Boat Precinct.

The proposal is located within the shipbuilding precinct which has a focus on the construction and maintenance of commercial and smaller defence vessels. Its location along the waterfront allows for individual operators to develop their own marine infrastructure and utilise the existing Common User Facilities (CUF).

Key infrastructure to be developed within the next 5 years in the northern harbour of the Shipbuilding precinct includes:

- CUF north development – vessel fabrication hall to support commercial shipbuilding;
- Maintenance of the southern Jervoise Bay breakwater, to ensure the harbour is protected for years to come;
- A vessel transfer path from CUF north to berth facilities in the southern CUF.

The CUF north vessel transfer path is nominally shown on the development plans, however the detailed design, planning and required acquisitions for the path through adjoining lots, is still being undertaken. The vessel transfer path will provide the intended transport method for getting the completed vessels to the floating dock within the southern CUF. Notwithstanding the vessel transfer path, alternate methods for launching vessels from the subject site itself are available to the operator.

Scheme Amendment 144

On 17 November 2020, Scheme Amendment 144 received final approval from the Western Australian Planning Commission (WAPC) which amended the City's Town Planning Scheme No.3 in the following manner:

- The AMC area was rezoned from 'Special Use 2' to 'Strategic Industry';
    - The objective of the 'Strategic Industry' zone is "*to provide for Strategic Industrial areas of State or Regional Significance; and to provide for a range of industrial activities associated with defence, resource and marine activities.*
- Strategic Industry being included into the Zoning Table and the relevant land use permissibility's being represented on the zoning table;
- Development Area 15 and 17, and their relevant provisions being removed.

The proposal is consistent with both the current and previous zoning of the land.

Legislation and Policy:

Legislation

Planning and Development Act 2005

Planning and Development (Development Assessment Panel) Regulation 2011

Planning and Development (Local Planning Scheme) Regulation 2015

City of Cockburn Town Planning Scheme No. 3

State Government Policies

State Planning Policy 2.6 – Coastal Planning

State Planning Policy 3.7 – Planning in Bushfire Prone Areas

Structure Plans/Activity Centre Plans

N/A

Local Policies

Local Planning Policy 1.14 – Waste Management in Multiple Unit Developments

Local Planning Policy 3.9 – Industrial Development

Consultation:

Public Consultation

The proposed use is permitted within the Strategic Industry zone and is considered to be consistent with the objective of the zone. Furthermore, from a broad level strategic perspective the proposal is consistent with the SILUP. The variations to Local Planning Policies sought, which are discussed further below, are considered relatively minor and are supported. On this basis, no public consultation was undertaken.

Referrals/consultation with Government/Service Agencies

The proposal was referred to the Western Australian Planning Commission for dual determination due to works within the Waterways reservation on Lot 9001, subject to Instrument of Delegation (DEL2017/02) Powers of Local Government and Department of Transport.

Water Corporation

The proposal was referred to the Water Corporation who do not object to the proposal, however did provide the following comments.

- The site is near (660m) the Woodman Point Waste Water Treatment Plant (WPWWTP) and may occasionally experience odour;
- The development will require an approval by the Water Corporations Building Services prior to the commencement of works on site and standard infrastructure services may be required;
- Arrangements shall be made at the building stage to adequately protect the gravity sewer within the hardstand and parking area designated on the plans.

The development will be required to connect to reticulated water and sewage requiring an approval from the Water Corporation, an advice note is recommended to be imposed to satisfy the above and advise the applicant of the separate approvals required by the water corporation.

Department of Water and Environment Regulation (DWER)

The proposal was referred to the DWER who did not object to the proposal however provided the following comments relating to contaminated sites, prescribed premises and stormwater management (refer **Attachment 5 – Referral comments).**

Contaminated sites

- The site was classified as '*contaminated – remediation required' under the Contaminated Sites Act 2003 based upon the presence of various metals and organotin compounds found on site;*
- Based upon further investigation completed in 2020 the site is considered suitable for the proposed development and an advice note for a site specific health and environmental management plan be imposed.

Industry Regulation - Prescribed premises

- A Boat Building and Maintenance premises requires a works approval from the DWER as it is considered a prescribed premises under Schedule 1 of the *Environmental Protection Regulations 1987*;
- The DWER recommends an application for works approval or license is lodged for the premises. This is recommended to be imposed as an advice note.

Stormwater management

- The premises proposes stormwater discharge into Cockburn Sound which does not meet best practice measures for water sensitive design principles;
- DWER recommends a revised stormwater drainage plan be imposed to treat stormwater as close to the runoff site as possible;
- Stormwater is discussed further within the report.

Design Review Panel Advice

Under the City's Local Planning Policy 5.16 – Design Review Panel, industrial development is not required to be presented before the Design Review Panel (DRP) unless referred by the City's Planning and Development Director. In this instance, the proposal is considered to meet the intent of the Strategic Industry zone and review by the DRP is not required and was not undertaken.

Other Advice

The proposal was referred internally within the City to various other business units, comments received are as follows:

Waste
The City's Waste Services has requested a covered bin store of 175m^2 to be provided, consistent with the City's Industrial Development policy. The applicant advises that the detailed design and tendering of the development is being finalised and the bin store can be conditioned along with a Waste Management Plan.

Transport and Engineering
The applicant has provided a Traffic Impact Assessment completed by Flyt for assessment by the City's Transport Engineers. The City's Traffic Engineers have reviewed the documentation provided and agree with the report's findings that the surrounding road network can accommodate the increase in traffic without detrimentally increasing congestion or creating safety issues.

Planning Assessment:

State Planning Policies

State Planning Policy 2.6 – Coastal Planning (SPP 2.6)

The proposal is subject to SPP 2.6 as it directly abuts the Indian Ocean. The City's Coastal Adaptation Plan was prepared in association with the Cockburn Sound Coastal Alliance and provides a framework and recommendations for decision-makers to assist the City adapt to coastal risks in the immediate to long-term.

The proposal is located within Management Unit 8 – Australian Marine Complex, which indicates the area is well adequately prepared for medium term (up to 2070) inundation events, and from 2070 areas along the water front are expected to be under threat from sea level rise and inundation. The Coast Adaptation plan recommends port infrastructure such as the breakwater to be upgraded – a recommendation also within the SILUP.

Summary of coastal vulnerability and preferred adaption response			
Coastal Management Unit	**Coastal Vulnerabilities**	**Immediate Planning Horizon (to 2030)**	**Long term planning horizon (to 2110)**
Australian Marine Complex	Adequately prepared for inundation and erosion events in the short to medium term (up to 2070)	Do nothing Monitor	Do nothing Monitor

Further to SPP 2.6, the AMC area is considered as 'infill development' given the existing context of the AMC area, development either side of the proposal and the Strategic Industry zoning which permits the proposed development.

State Planning Policy 3.7 – Planning in Bushfire Prone Areas (SPP 3.7)

The eastern most portion of Lot 19 Clarence Beach road is designated as a Bushfire Prone Area under SPP 3.7 stemming largely from existing vegetation on privately owned land road reserve to the north of the site.

In accordance with SPP 3.7, a Bushfire Attack Level report has been submitted by an accredited Bushfire Practitioner, which identifies Lot 19 as having a BAL rating of 12.5. Additional construction standards will be required at the building permit stage (refer **Attachment 6 – Bushfire Attack Level Report)**.

The proposal was not referred to the Department of Fire and Emergency Services as neither a 'high risk land use' nor 'vulnerable land use' is being proposed.

Local Planning Policies

Local Planning Policy 3.9 – Industrial Development (LPP 3.9)

The City's LPP 3.9 is currently being amended and was adopted by Council for advertising at the 10 December 2020 Ordinary Council Meeting. The purpose of the policy is to provide guidance for Industrial development in achieving coordinator and quality outcomes and to protect the state and national significance of the AMC area.

The draft LPP does include additional details specific to the AMC area, in that it divides the AMC into two precincts being;

- Precinct A – Core Strategic Marine and Defence; and
- Precinct B – Strategic Industry Frame.

The subject site is within Precinct A – Core Strategic Marine and Defence and meets the objectives and requirements for that precinct as set out with the draft policy.

The draft policy has not yet commenced advertising and is therefore not considered to be 'seriously entertained'. Notwithstanding the above, the proposed changes within draft LPP 3.9 do not impact the proposal as it relates to the existing LPP 3.9.

Built Form

The proposed building has a significant Gross Floor Area of 17,500m^2 and maximum building height of 27.94m; however the planning framework does not designate maximum building heights for Industrial development. Notwithstanding the significant building itself, the proposal reflects the surrounding development context and intent of the Strategic Industry zone where large fabrication halls and workshops are integral to the use and overall intent of the AMC.

The development minimises its impact upon Clarence Beach road and adjoining properties by centralising the large fabrication hall within the centre of the subject site and presenting the smaller workshops to the northern and southern adjoining owners, and the smaller office with its curved roof to Clarence Beach Road.

The proposal complies with the City's LPP 3.9 in the following ways:

- The building presents well to the street, particularly with its curved roof design reflective of the hull of a super yacht, the pedestrian entrance faces the primary street and is easily accessible;
- The entrance is covered via an awning/canopy providing additional shelter for pedestrians and articulation of the front elevation;
- A condition for the street number to be displayed upon the front elevation will be recommended;
- A condition for a schedule of materials, colours and finishes is recommended to be imposed.

Setbacks

Provision	Requirement	Proposal	Assessment
Local Planning Policy 3.9 – Industrial Development	Primary street frontage – 15m setback	13.5m minimum setback to north; 23.1m setback to south. An average of 18.5m setback is achieved across the primary street	The minimum setback to the primary street is varied for a portion of approximately 10m in length of the proposed office. See comment below.

The 1.5m variation to the primary street frontage is considered relatively minor in the context of the remaining development, which provides a 23.1m setback to the southern portion of the building. The proposed setback is similar to that of existing development north of the subject site, at Lot 302 & 303 Clarence Beach Road, and the built form, as noted above, minimises the overall bulk of the proposal by locating the larger fabrication hall behind the office which fronts the street.

Parking

Provision	Requirement	Proposal	Assessment
Car Parking			
Local Planning Policy 3.9 – Industrial Development City of Cockburn Town Planning Scheme No. 3	Marine Engineering 1 car parking space per employee = 156 fabrication staff Office 1 car parking space per 50m^2 of Gross Leasable Area 1,126m^2 GLA/50m^2 = 22.5 Visitor bays = require 1 bay per 200 employees Total = 179 car parking bays required	441 car parking bays are provided on site. 44 bays are provided between Clarence Beach road and the building, with the remaining 397 bays provided at the rear of the site.	The proposal meets the requirement for 179 car parking bays to be provided on site.

A surplus of 262 car parking bays is proposed. The surplus of bays is proposed due to the requirement for the hardstand to be utilised at various points throughout the fabrication process, with staff vehicles being required to be move from one area to another during the fabrication process.

Furthermore, upon completion of each vessel, the completed vessel will be required to be transported from the fabrication hall to the relevant launch site via the vessel transfer path. During this time the majority of private commuting vehicles must be out of the hardstand area. This process is only likely to occur twice every 18 months, given the maximum of two vessels on site and timeframes for completion of a vessel.

It is considered that the infrequent nature of the movement is able to be taken into account via staff rostering from the occupant themselves on those particular days to ensure only essential staff being required on site, and, where necessary, the use of public parking facilities on the eastern side of Clarence Beach Road. The proposal is not considered to result in parking issues for adjacent sites or the surrounding road network on the infrequent occasions when vessels are transferred to the launch sites.

There are 53 car parking bays shown within the nominal vessel transfer path, the exact location and further detailed design of which is still being undertaken. Given the surplus of 262 bays being provided on site, the City considers parking within the area shown as vessel transfer path will not detrimentally impact the subject site itself or the future development of the vessel transfer path.

Provision	Requirement	Proposal	Assessment
Bicycle Parking			
Local Planning Policy 3.9 – Industrial Development City of Cockburn Town Planning Scheme No. 3	Marine Engineering 1 bicycle rack per 200m^2 GLA 12,361m^2/200m^2 = 75.9 (76) bicycle racks required. Office 1 bicycle rack per 200m^2 GLA 1,126m^2 GLA/ 200m^2 5.6 (6) bicycle racks required. Total = 82 bicycle racks required	10 bicycle racks are proposed to be conditioned.	There are no bicycle racks shown on the plans provided. Rather, the applicant proposes 10 bicycle racks to be provided within a secured location on-site to be applied via condition.

There is a shortfall of 72 bicycle parking spaces provided on site. The applicants Traffic Impact Assessment provides justification for the reduced bicycle parking provision which outlines the lack of cycling infrastructure upon the existing road network, in particular noting the following (refer **Attachment 7 - Traffic Impact Assessment)**:

- There is no existing on-street cycling infrastructure within the AMC area, nor is there planned upgrades for cycling lanes;
- The nature of the AMC, a large Industrial area, means it experiences significant heavy vehicle traffic which further reduces the likelihood of people cycling to the workplace;
- The subject site is approximately 2km from the closest residential area;

Considering the above factors the recommendation for 10 bicycle racks, in lieu of the 82 required under TPS 3, is supported.

Stormwater management

Provision	Requirement	Proposal	Assessment
Local Planning Policy 3.9 – Industrial Development	Development shall be designed to contain stormwater on-site.	Stormwater will be treated on site through a series of Gross Pollutant Traps prior to	The City requires stormwater to be retained on site to ensure drainage issues do not

		being discharged through three outfalls into the ocean.	present themselves to adjoining owners and City infrastructure. The City does not object to stormwater outfall into the ocean subject to any further third party licences and approvals being sought from the relevant agencies.

The development proposes three rock pitch outfalls of 5m by 3m within the waterways reservation, by which stormwater will be discharged into the ocean. The stormwater drainage system utilises Gross Pollutant Traps, which catch stormwater pollution such as litter and debris prior to it entering waterways.

The City's standard method is for all stormwater to be contained on site or connected into the local drainage system where available. The subject site and surrounding AMC area is unique in that a number of sites discharge stormwater into the ocean as identified with the AMC SILUP.

Comments received from DWER advises that the proposed method does not meet best practice standards for stormwater retention and a revised stormwater management plan is recommended to address this. The applicant advises within their justification report that stormwater details are to be addressed in further detailed design.

Landscaping

Provision	Requirement	Proposal	Assessment
Local Planning Policy 3.9 – Industrial Development & City of Cockburn Town Planning Scheme No. 3	A minimum of 10% of the total area of the lot shall be set aside, developed and maintained as landscaped area. 10% of the developable area being 2,639.8m^2.	A total of 892m^2 of on-site landscaping is proposed, which equates to 3.37% of the site.	See comments below.
	The required 10% of the site landscaped area may be reduced to 5%, where the applicant agrees to	The abutting verge is proposed to be landscaped as is the verge on the eastern side of Clarence Beach	The total amount of landscaping, including western and eastern verges of Clarence Beach road is 1,551m^2

	landscape the abutting verge also.	Road which abuts an existing car park. Verge landscaping Clarence Beach Road west = 400m^2 Verge landscaping Clarence Beach Road east = 259m^2 Total verge landscaping of 659m^2	which would equate to 5.87% of the site. See comments below.
	Landscaped areas shall have a minimum width of 1.5m^2 and minimum area of 4m^2.	Due to the lot boundary not being squared to the street there are areas of landscaping that does not meet the 1.5m width.	See comments below.
	1 shade tree is required for every 10 car parking spaces.	16 trees are provided in lieu of the 41 trees required by the policy.	A shortfall of 25 trees are proposed, however when accessed against the required number of car parking bays the shortfall proposed is only 2 trees.

The applicant has submitted a landscape plan per the requirements of LPP 3.9 (refer **Attachment 8 – Landscape Plan)** which proposes landscaping upon 3.37% of the development area and both sides of Clarence Beach Road as it abuts the subject site. The above noted variations to the planning framework are supported for the following reasons;

- The majority of landscaping provided is well presented to Clarence Beach Road and the variation to landscaping will not be noticeable from the street interface;
- The nature of the proposal is such that significant area of hardstand is required for the movement and transfer of vessels into the different fabrication processes. The requirement for a shade tree every 10 car parking spaces would create manoeuvring issues for vessel movements;
- The 1.5m depth required per landscaping area is only varied for an area of approximately 8m^2 of the total 892m^2 of on-site landscaping provided. This is considered minor and capable of support;

The City considers that landscaping provided enhances the existing streetscape and additional landscaping in the rear car parking areas is not feasible for this type of development, nor is it commonplace within the majority of the AMC area.

Waste Management

Provision	Requirement	Proposal	Assessment
Local Planning Policy 3.9 – Industrial Development & Local Planning Policy 1.14 – Waste Management in Multiple Unit Developments	The proposal shall include internal or external bin storage of an appropriate size for the development. Industrial development shall provide an area of waste storage equating to 1m^2/200m^2 GFA.	The proposal seeks to utilise private waste contractors and propose the use of several commercially sized skip bins, including a cardboard recycling facility.	The bin store required by the GFA is 175m^2, and this is recommended to be imposed via condition for a Waste Management Plan.
	An internal bin store shall be adequately sized to contain all waste generated within a one week period and a minimum of 1.8m high, fitted with a gate and graded to a 100mm diameter industrial floor waste with a hose cock, and connected to sewer	The proposal seeks to utilise private waste contractors and propose the use of several commercially sized skip bins, including a cardboard recycling facility.	Similar to the above, a condition for a WMP is recommended to be imposed. A subsequent advice note is recommended to be imposed which details the bin store requirements.

The City's Waste Services recommend a 175m^2 bin store area to be provided to ensure waste can be accommodated on site, in accordance with LPP 3.9. The applicant recommends a WMP be imposed as a condition of approval to satisfy the requirements at the building permit stage. Considering the private contractor collection of waste proposed and significant size of the site it is considered acceptable that a WMP be conditioned as the bin store is able to be located on site satisfactorily given the substantial site area available.

Signage
Signage is not included as part of this application. The City's Local Planning Policy 3.7 – Signs and Advertising advises when signage requires approval due to different variables such as location and size. The applicant states that signage will form part of a future development application, an advice note is recommended to inform the future applicant to liaise with the City's Statutory Planning Services as to whether a development approval will be required for any proposed signage.

Conclusion:

The development is holistically considered to meet the provisions of the State and Local government planning framework. In addition, the proposal supports the State's strategic intent of the area under the AMC SILUP and the development is consistent with SPP 2.6 and the City's Coastal Adaptation Plan. Some variations to the City's LPP 3.9 are proposed however the City considers the measures to mitigate and address the variations, as proposed by the applicant and conditioned by the City, will ensure minimal impact to the surrounding area and the variations will not present detrimentally to the surrounding area or the site itself.

The AMC is a significant employer within the Western Australian economy and the relocation of the existing Silver Yachts facility to the subject site will facilitate future investment from marine, defence and resource industries into the area. Subsequently, the City recommends approval subject to the abovementioned conditions and advice notes.

City of Cockburn
G.I.S Services Department

Attachment 1 – Location Plan

SCALE = 1:5000

NORTH

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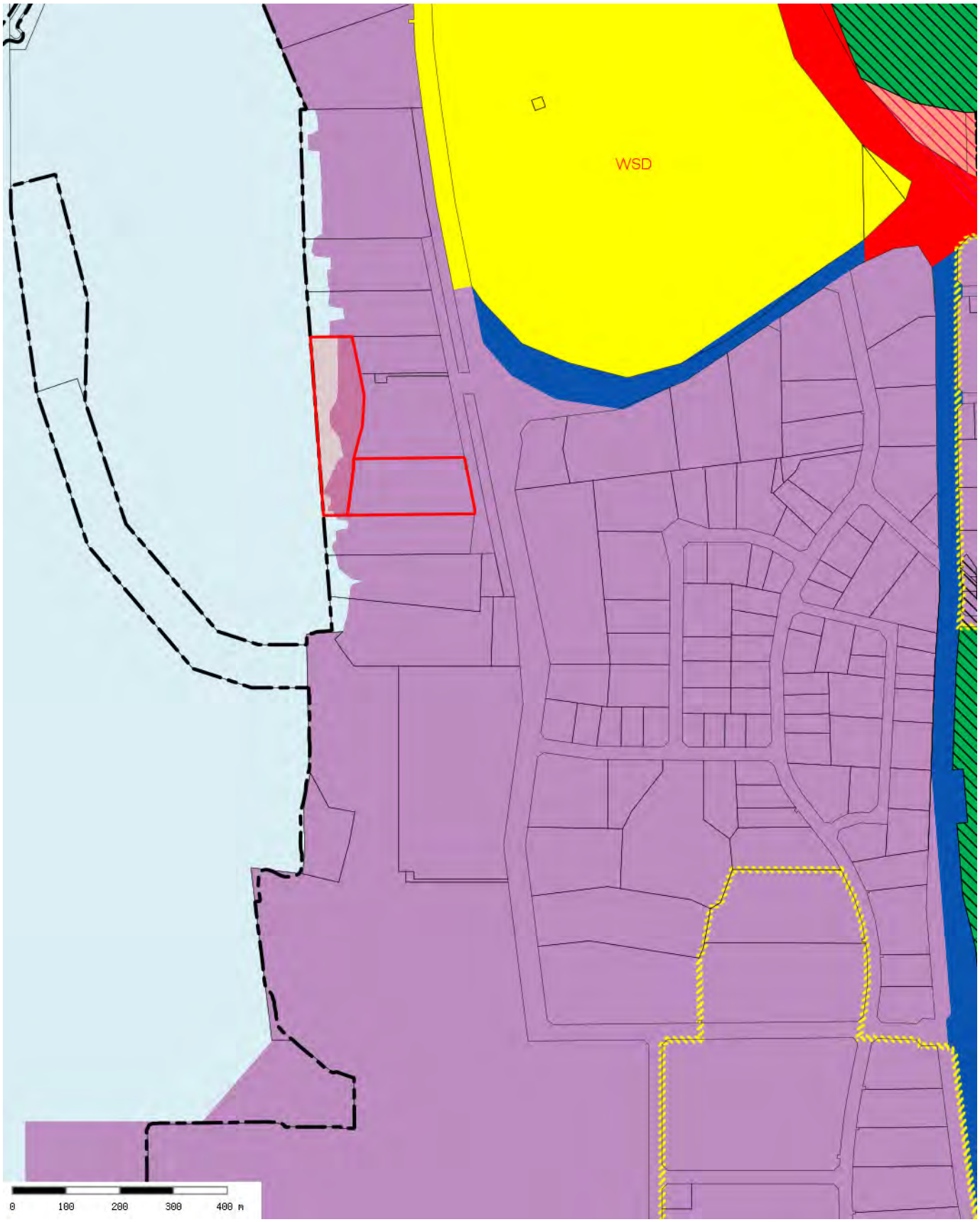


City of Cockburn
G.I.S Services Department

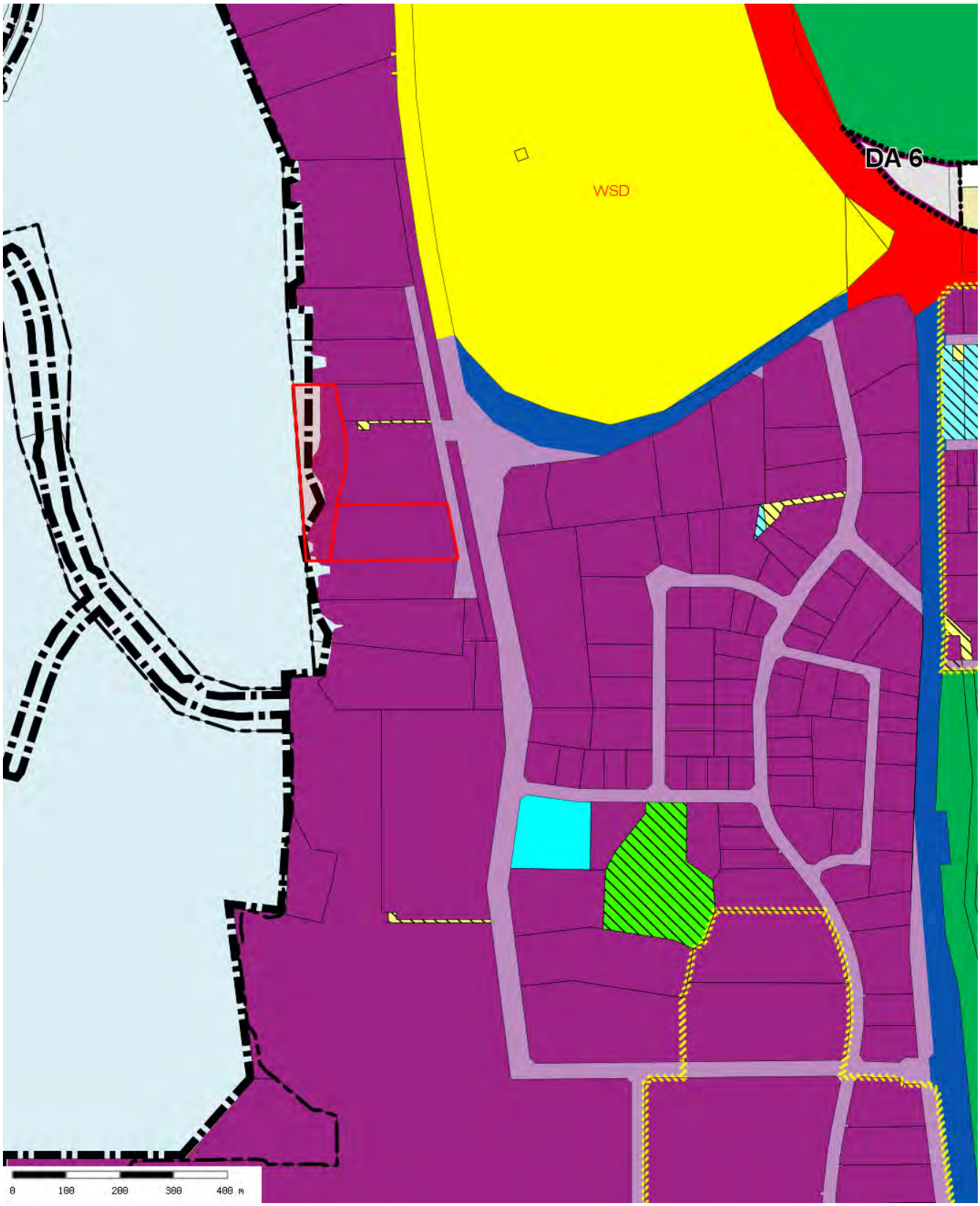
Attachment 2 – Zoning Plan (MRS)

Legend
Industrial
Waterways

SCALE = 1:10000

NORTH

DISCLAIMER - The City of Cockburn provides the information contained herein and bears no responsibility or liability whatsoever for any errors, faults, defects or omissions of information contained in this document.



City of Cockburn
G.I.S Services Department

Attachment 2 – Zoning Plan (TPS 3)

Legend

- **Strategic Industry**
- **Other Regional Road**
- **Local Centre**
- **Public Purpose**
- **Local reserve (Parks and Recreation**

SCALE = 1:10000

NORTH

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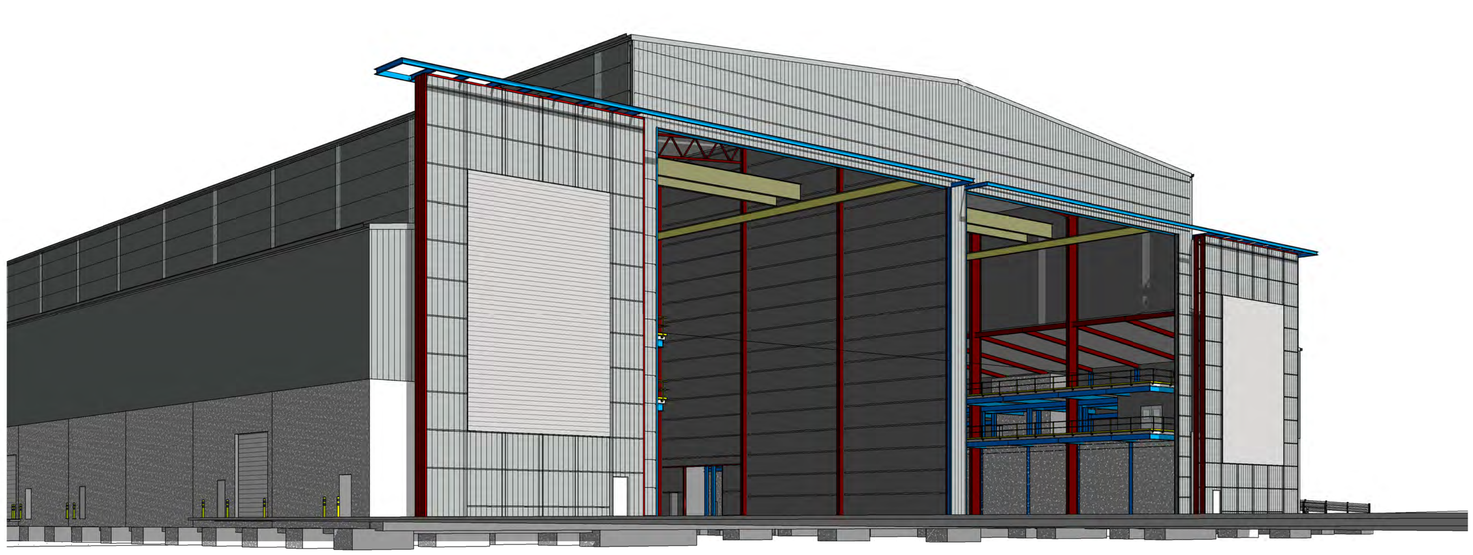
SILVERYACHT

LOT 19 CLARENCE BEACH ROAD HENDERSON WA

DRG No.	DRAWING TITLE
A0.00	COVER SHEET
A1.01	SITE LAYOUT PLAN
A2.00	KEY PLAN
A2.01	GROUND FLOOR GENERAL ARRANGEMENT - SHEET 1
A2.02	GROUND FLOOR GENERAL ARRANGEMENT - SHEET 2
A2.11	LEVEL 1 ANNEXE GENERAL ARRANGEMENT
A2.21	LEVEL 2 ANNEXE GENERAL ARRANGEMENT
A2.30	OFFICE GENERAL ARRANGEMENT
A2.40	ROOF PLAN
A3.01	ELEVATIONS - SHEET 1
A3.02	ELEVATIONS - SHEET 2
A4.01	SECTIONS
A5.01	3D IMAGES & PERSPECTIVES



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CLIENT

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admin@pfeng.com.au

TITLE: COVER SHEET

SCALE	DATE	DESIGNED	DRAWN	CHECKED
@ A1	15.06.20	MDJ	DWS	

JOB No	DRG No	REV
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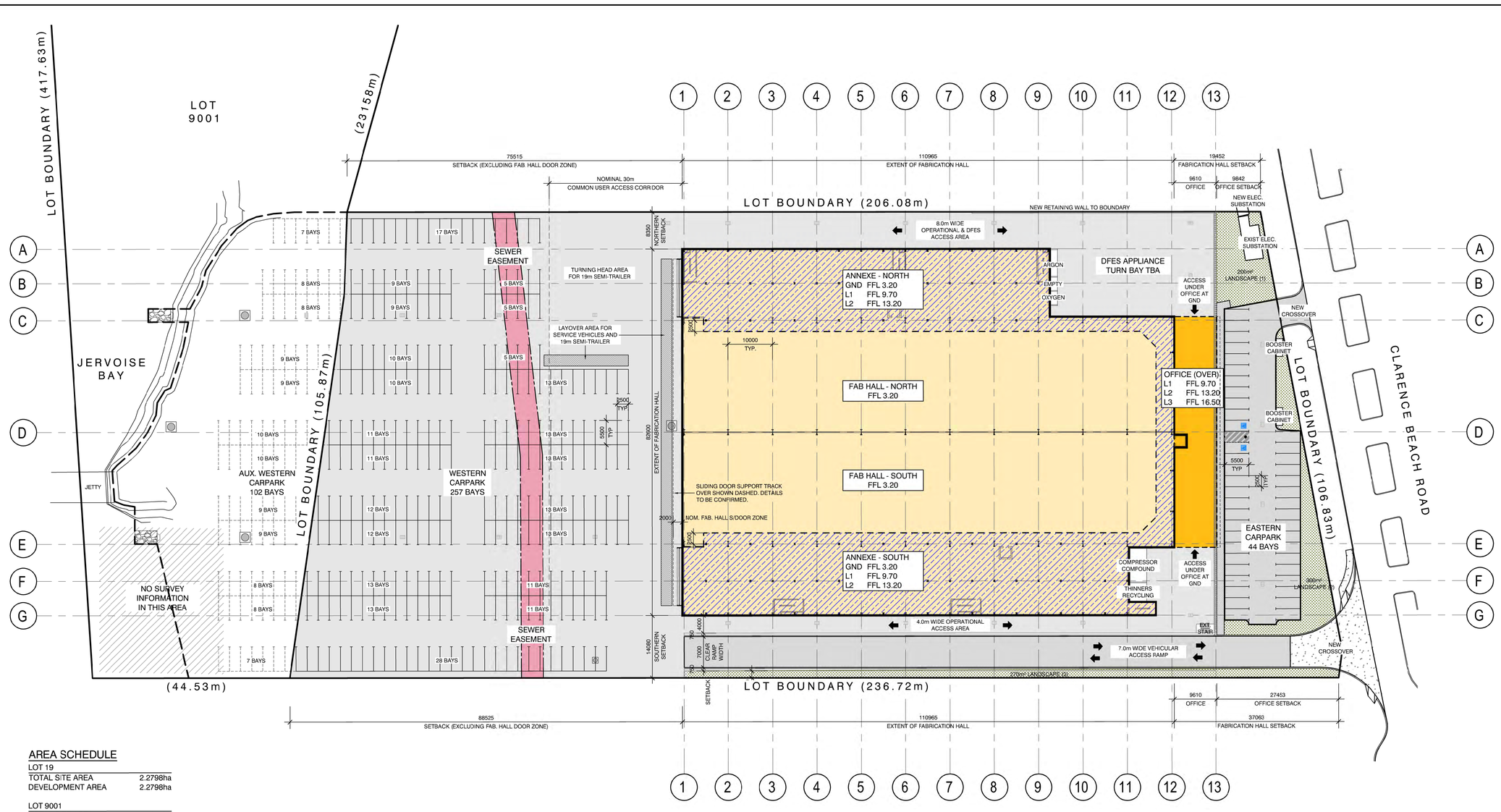


AREA SCHEDULE

LOT 19	
TOTAL SITE AREA	2.2798ha
DEVELOPMENT AREA	2.2798ha

LOT 9001	
TOTAL SITE AREA	2.4678ha
DEVELOPMENT AREA	0.3600ha
TOTAL DEVELOPMENT AREA	2.6398ha

GROUND FLOOR
FFL 3.20
GFA 8,608m²

LEVEL 1 (L1)
FFL 9.70
GFA 500m² OFFICE
GFA 3,730m² ANNEXE (INC WALKWAYS)
SUB TOTAL 4,230m²

LEVEL 2 (L2)
FFL 13.20
GFA 500m² OFFICE
GFA 3,730m² ANNEXE (INC WALKWAY)
SUB TOTAL 4,230m²

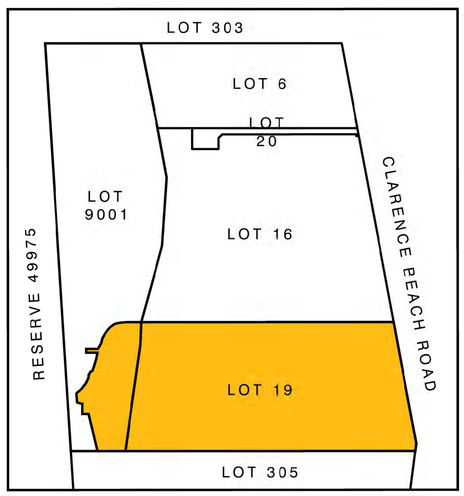
LEVEL 3 (L3)
FFL 16.70
GFA 500m² OFFICE

LANDSCAPING / PAVING

LANDSCAPE (1)	200m²
LANDSCAPE (2)	300m²
LANDSCAPE (3)	270m²
PAVING	122m²
TOTAL	892m²

CARBAYS

EASTERN CARPARK	44 BAYS
WESTERN CARPARK	257 BAYS
SUB TOTAL	301 BAYS
AUX WESTERN CARPARK	102 BAYS
TOTAL	403 BAYS



REV	DATE	DESCRIPTION	BY	APPD
DA.1	02.10.20	Development Application	DWS	DWA

STATUS
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CLIENT
DEVELOPMENT WA

PROJECT
SILVERYACHT
LOT 19 CLARENCE BEACH ROAD HENDERSON WA

TITLE
SITE LAYOUT PLAN

SCALE	DATE	DESIGNED	DRAWN	CHECKED
1:500 @ A1	15.06.20	MDJ	DWS	KH

JOB No	DRG No	REV
20-042	A1.01	DA.1

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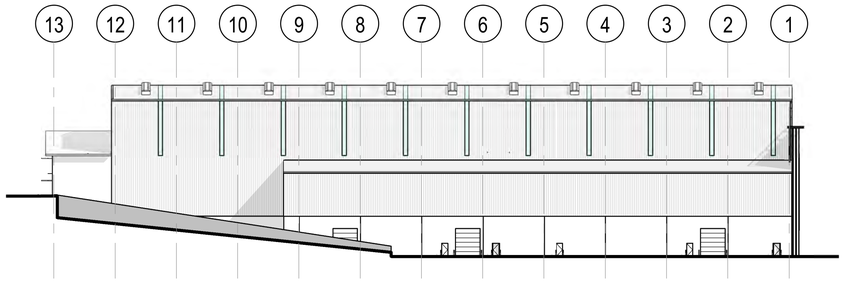

E2 -- ELEVATION - NORTH
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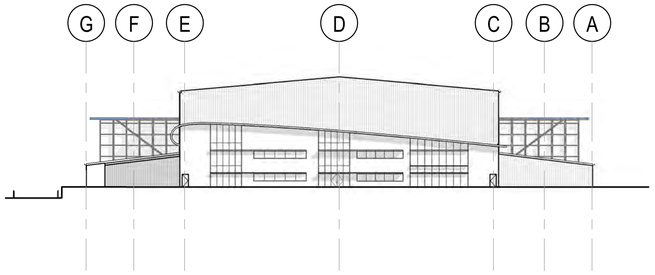

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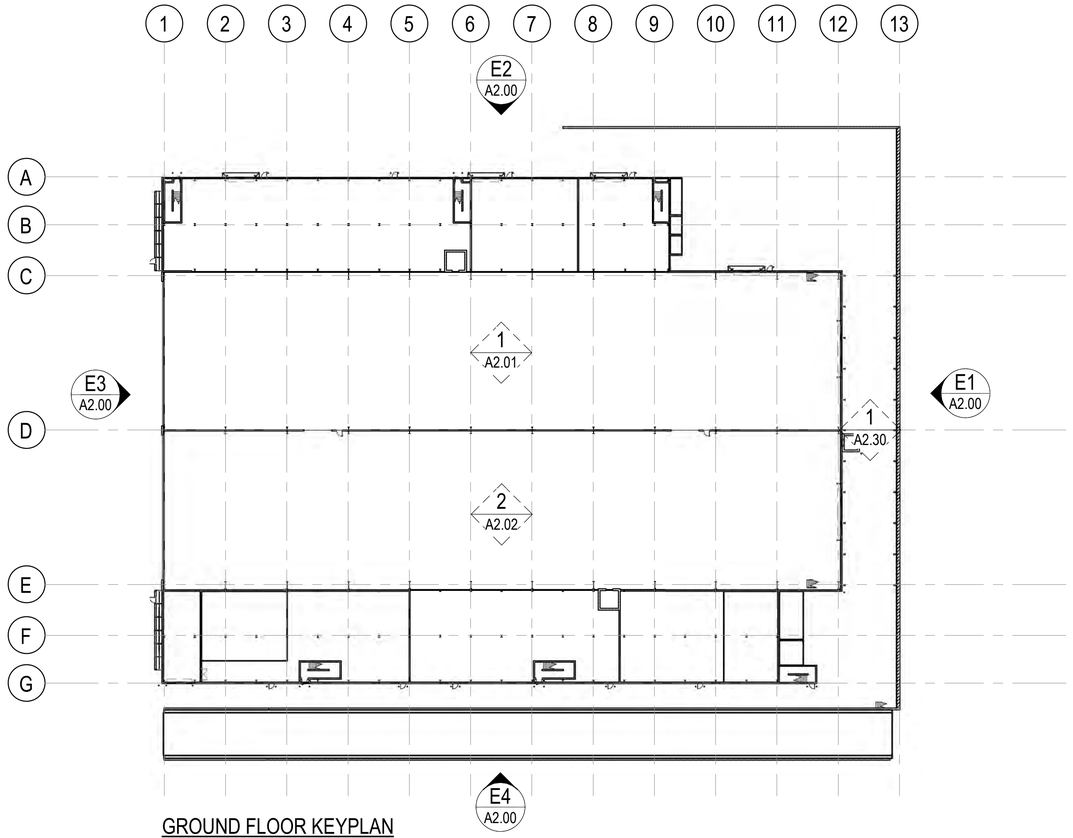

GROUND FLOOR KEYPLAN
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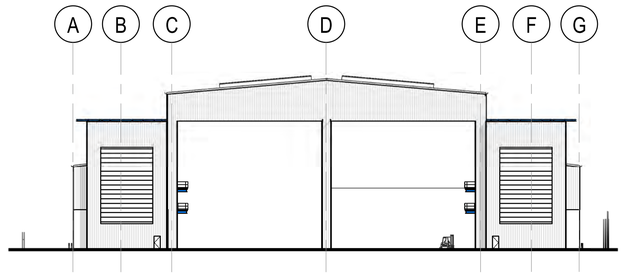

E3 -- ELEVATION - WEST
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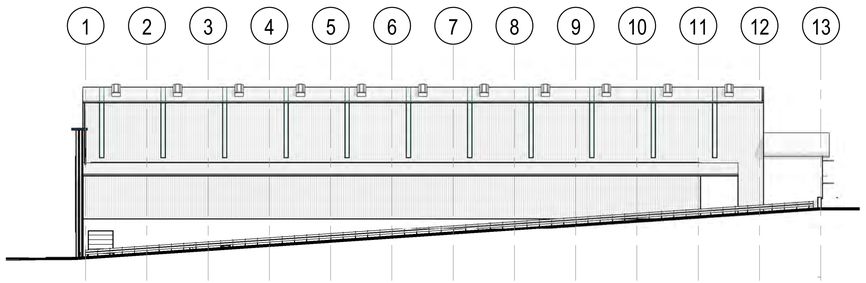

E4 -- ELEVATION - SOUTH
1 : 500

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REV	DATE	DESCRIPTION	BY	APPD
DA.1	02.10.20	Development Application	DWS	DWA

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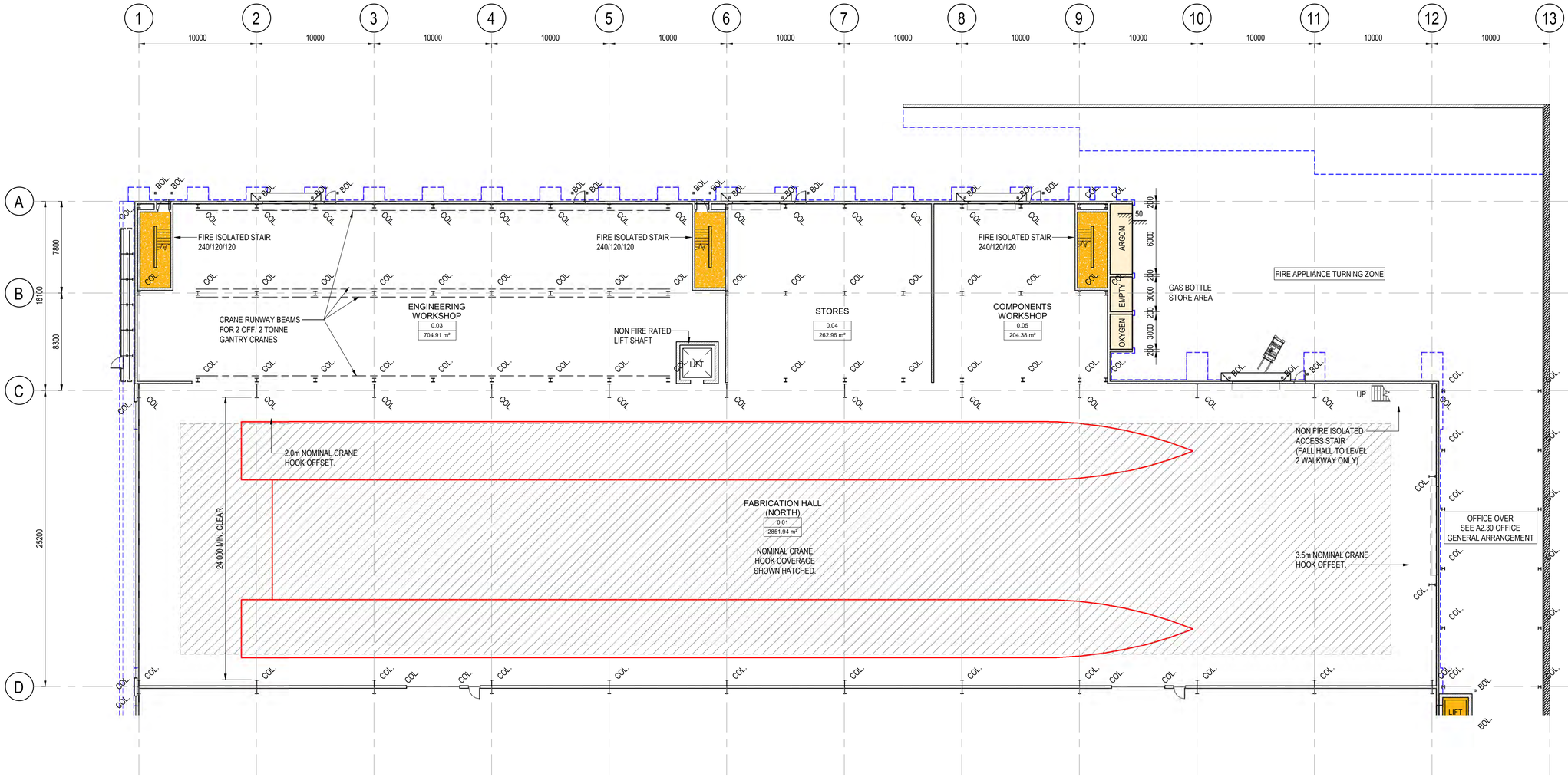
TITLE
KEY PLAN

SCALE	DATE	DESIGNED	DRAWN	CHECKED
1 : 500@ A1	15.06.20	MDJ	DWS	KH

JOB No	DRG No	REV
20-042	A2.00	DA.1



GENERAL NOTES

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   - SECOND FLOOR ANNEXE: 3.0m
   - FAB HALL/S U/S HOOK: 21.0m
6. FLOOR LEVELS MAY VARY AND ARE SUBJECT TO FINAL DESIGN BY CONTRACTOR.
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8. TENANT FITOUT BY OTHERS.

AREA SCHEDULE - GROUND FLOOR (L00)

Number	Name	Area	Comments
0.01	FABRICATION HALL (NORTH)	2851.94 m²	
0.02	FABRICATION HALL (SOUTH)	2865.60 m²	
0.03	ENGINEERING WORKSHOP	704.91 m²	
0.04	STORES	262.96 m²	
0.05	COMPONENTS WORKSHOP	204.38 m²	
0.06	PAINT BLAST RM	90.18 m²	
0.07	PAINT WORKSHOP	482.34 m²	
0.08	FITOUT WORKSHOP	478.55 m²	
0.09	FITOUT PAINT WORKSHOP	384.58 m²	

REV	DATE	DESCRIPTION	BY	APPD
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LOT 19 CLARENCE BEACH ROAD HENDERSON WA

TITLE
GROUND FLOOR GENERAL ARRANGEMENT - SHEET 1

SCALE	DATE	DESIGNED	DRAWN	CHECKED
As indicated@ A1	15.06.20	MDJ	DWS	KH

JOB No	DRG No	REV
20-042	A2.01	DA.1

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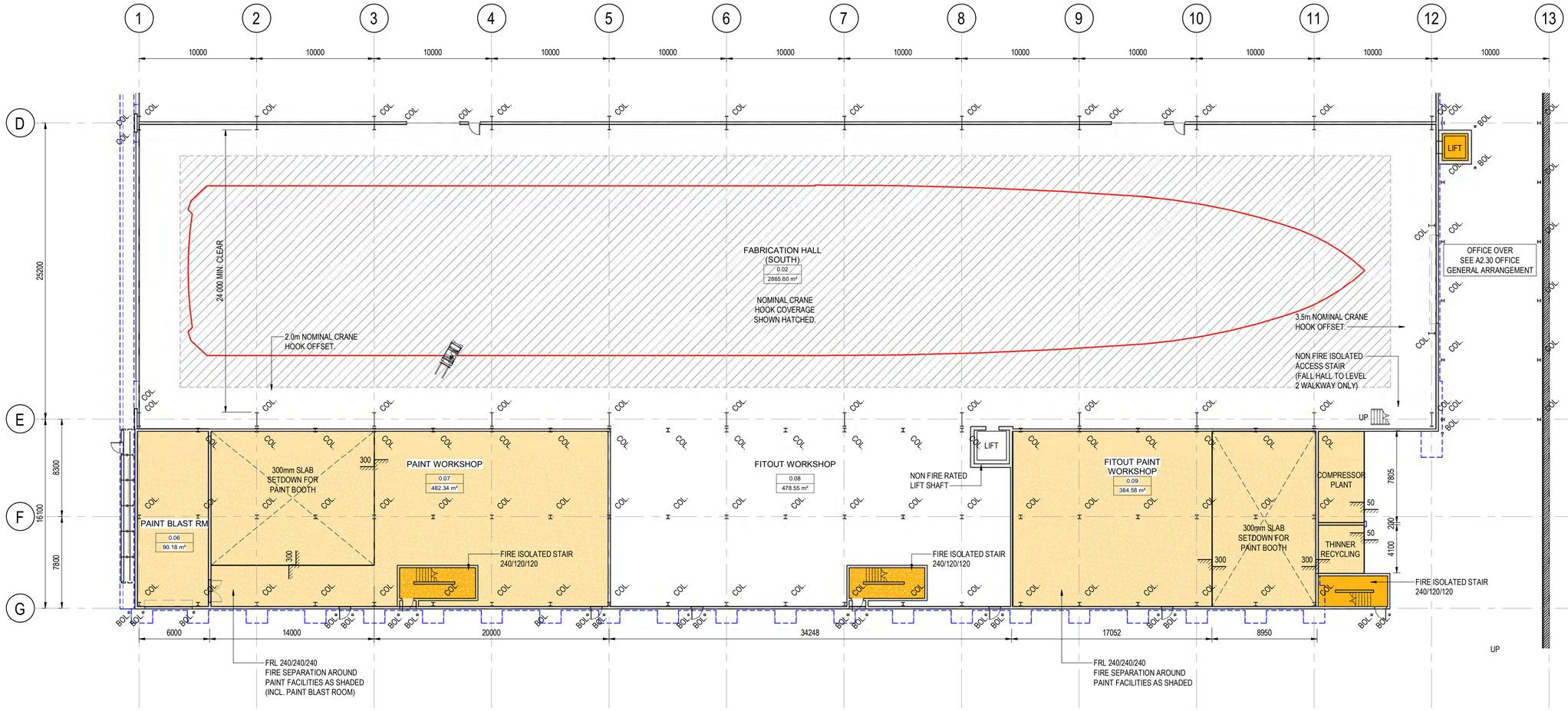

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AREA SCHEDULE - GROUND FLOOR (L00)

Number	Name	Area	Comments
0.01	FABRICATION HALL (NORTH)	2851.94 m²	
0.02	FABRICATION HALL (SOUTH)	2865.60 m²	
0.03	ENGINEERING WORKSHOP	704.91 m²	
0.04	STORES	262.96 m²	
0.05	COMPONENTS WORKSHOP	204.38 m²	
0.06	PAINT BLAST RM	90.18 m²	
0.07	PAINT WORKSHOP	482.34 m²	
0.08	FITOUT WORKSHOP	478.55 m²	
0.09	FITOUT PAINT WORKSHOP	384.58 m²	

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LOT 19 CLARENCE BEACH ROAD HENDERSON WA

TITLE
GROUND FLOOR GENERAL ARRANGEMENT - SHEET 2

SCALE	DATE	DESIGNED	DRAWN	CHECKED
As indicated@ A1	15.06.20	MDJ	DWS	KH

JOB No	DRG No	REV
20-042	A2.02	DA.1

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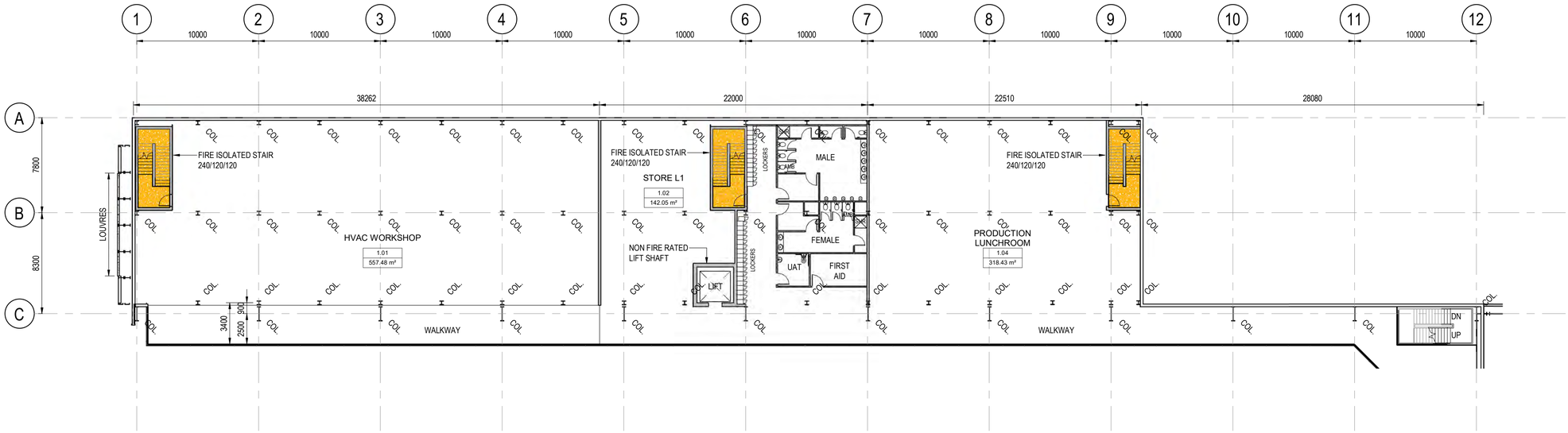
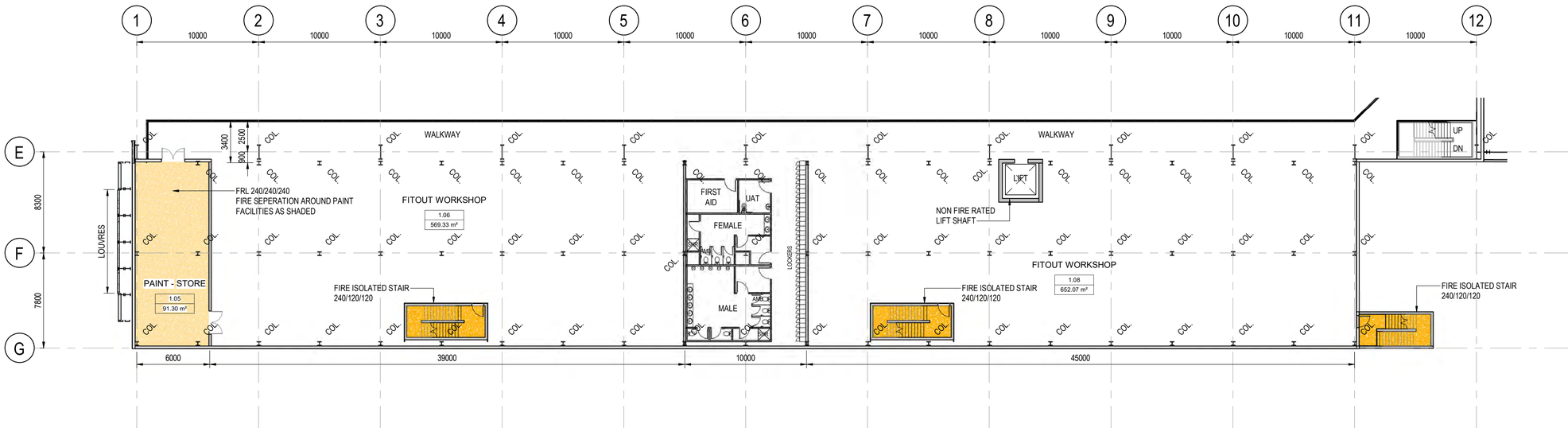


LEVEL 1 GENERAL ARRANGEMENT - PART 1

1 : 200



LEVEL 1 GENERAL ARRANGEMENT - PART 2

1 : 200

AREA SCHEDULE - FIRST FLOOR (L1)

Level	Number	Name	Area	Comments
L1	1.01	HVAC WORKSHOP	557.48 m²	
L1	1.02	STORE L1	142.05 m²	
L1	1.04	PRODUCTION LUNCHROOM	318.43 m²	
L1	1.05	PAINT - STORE	91.30 m²	
L1	1.06	FITOUT WORKSHOP	569.33 m²	
L1	1.08	FITOUT WORKSHOP	652.07 m²	
L1	1.09	OFFICE L1 (NORTH)	180.33 m²	
L1	1.10	OFFICE L1 (SOUTH)	170.37 m²	

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CLIENT: DEVELOPMENT WA

PROJECT: SILVERYACHT
LOT 19 CLARENCE BEACH ROAD HENDERSON WA

TITLE: LEVEL 1 ANNEXE GENERAL ARRANGEMENT

SCALE	DATE	DESIGNED	DRAWN	CHECKED
As indicated@ A1	15.06.20	MDJ	DWS	KH

JOB No	DRG No	REV
20-042	A2.11	DA.1

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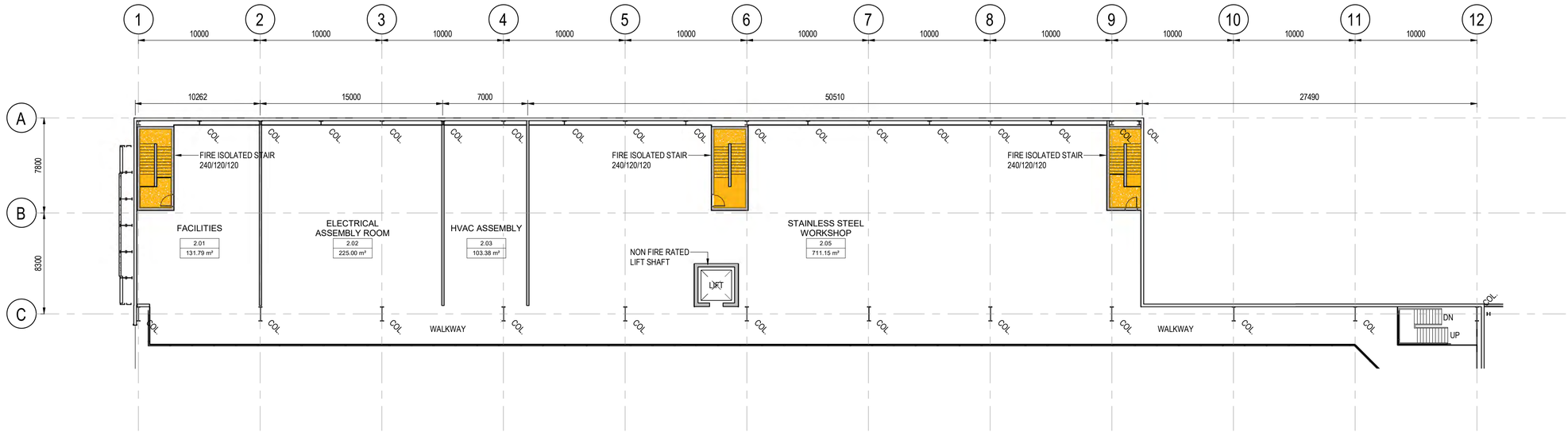

LEVEL 2 GENERAL ARRANGEMENT - PART 1

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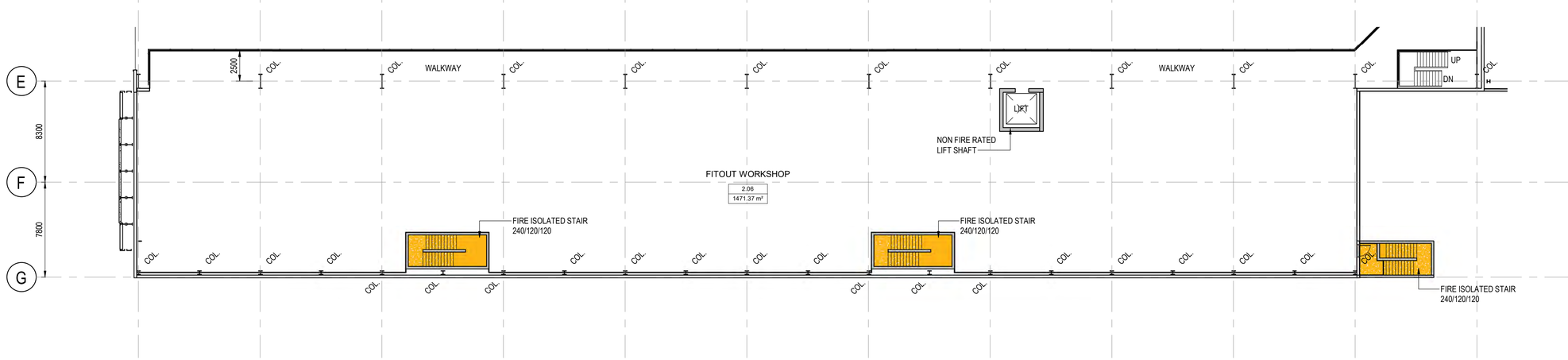

LEVEL 2 GENERAL ARRANGEMENT - PART 2

1 : 200

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AREA SCHEDULE - SECOND FLOOR (L2)

Level	Number	Name	Area	Comments
L2	2.01	FACILITIES	131.79 m²	
L2	2.02	ELECTRICAL ASSEMBLY ROOM	225.00 m²	
L2	2.03	HVAC ASSEMBLY	103.38 m²	
L2	2.05	STAINLESS STEEL WORKSHOP	711.15 m²	
L2	2.06	FITOUT WORKSHOP	1471.37 m²	
L2	2.07	OFFICE L2 (NORTH)	180.63 m²	
L2	2.08	OFFICE L2 (SOUTH)	173.72 m²	

REV	DATE	DESCRIPTION	BY	APPD
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CLIENT: DEVELOPMENT WA

PROJECT: SILVERYACHT
LOT 19 CLARENCE BEACH ROAD HENDERSON WA

TITLE: LEVEL 2 ANNEXE GENERAL ARRANGEMENT

SCALE	DATE	DESIGNED	DRAWN	CHECKED
As indicated@ A1	15.06.20	MDJ	DWS	KH

JOB No	DRG No	REV
20-042	A2.21	DA.1

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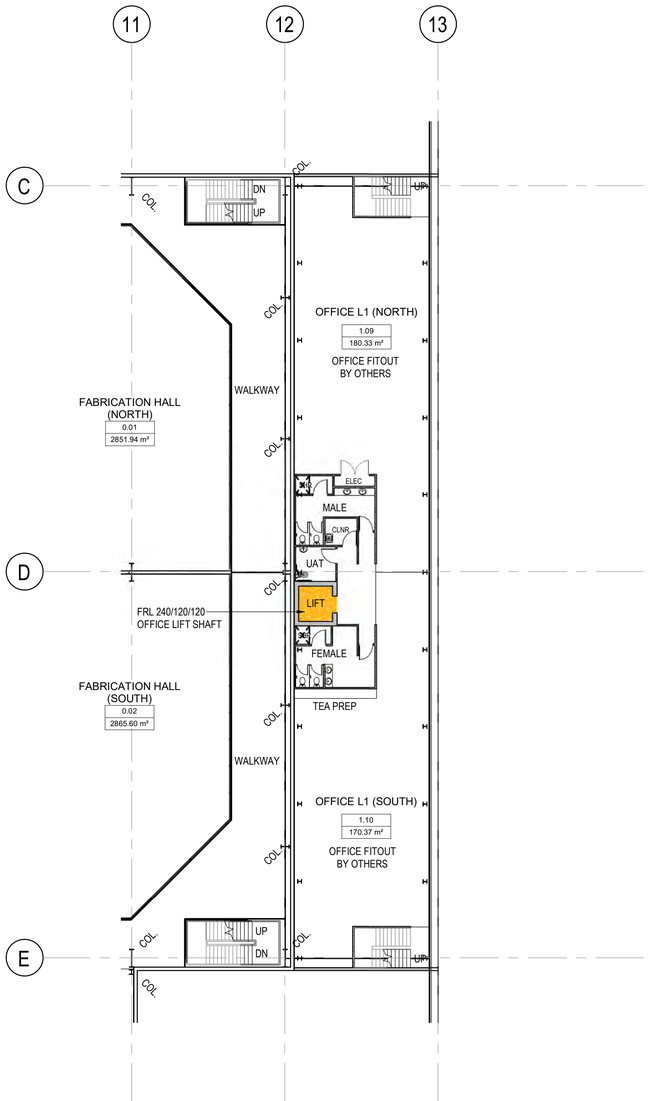

'BUNKER OFFICE'
LEVEL 1 GENERAL ARRANGEMENT - OFFICE
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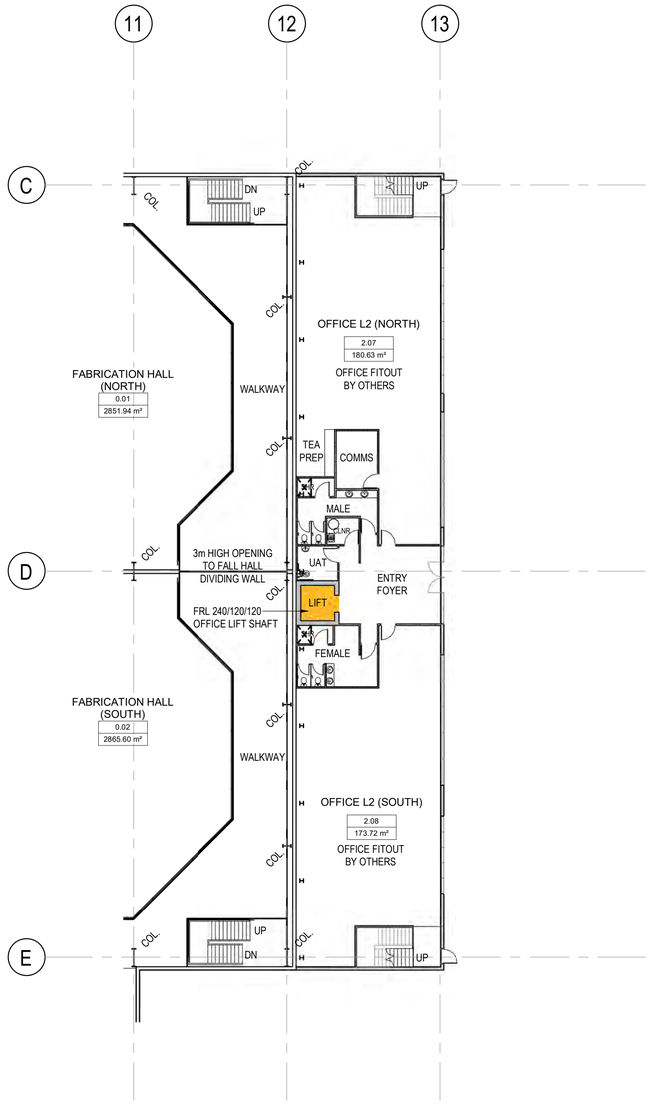
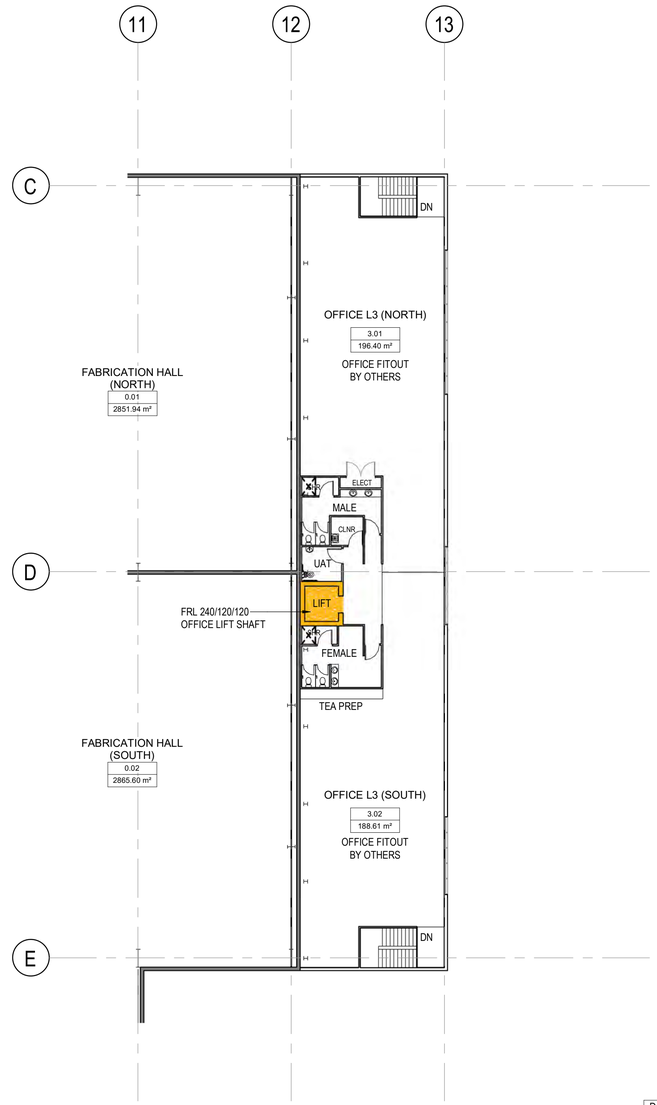


'HENDERSON ROAD ENTRY LEVEL'
LEVEL 2 GENERAL ARRANGEMENT - OFFICE
1 : 200



'UPPER LEVEL'
LEVEL 3 GENERAL ARRANGEMENT - OFFICE
1 : 200

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LOT 19 CLARENCE BEACH ROAD HENDERSON WA

TITLE
OFFICE GENERAL ARRANGEMENT

SCALE	DATE	DESIGNED	DRAWN	CHECKED
As indicated@ A1	15.06.20	MDJ	DWS	KH

JOB No	DRG No	REV
20-042	A2.30	DA.1

PRINT IN COLOUR

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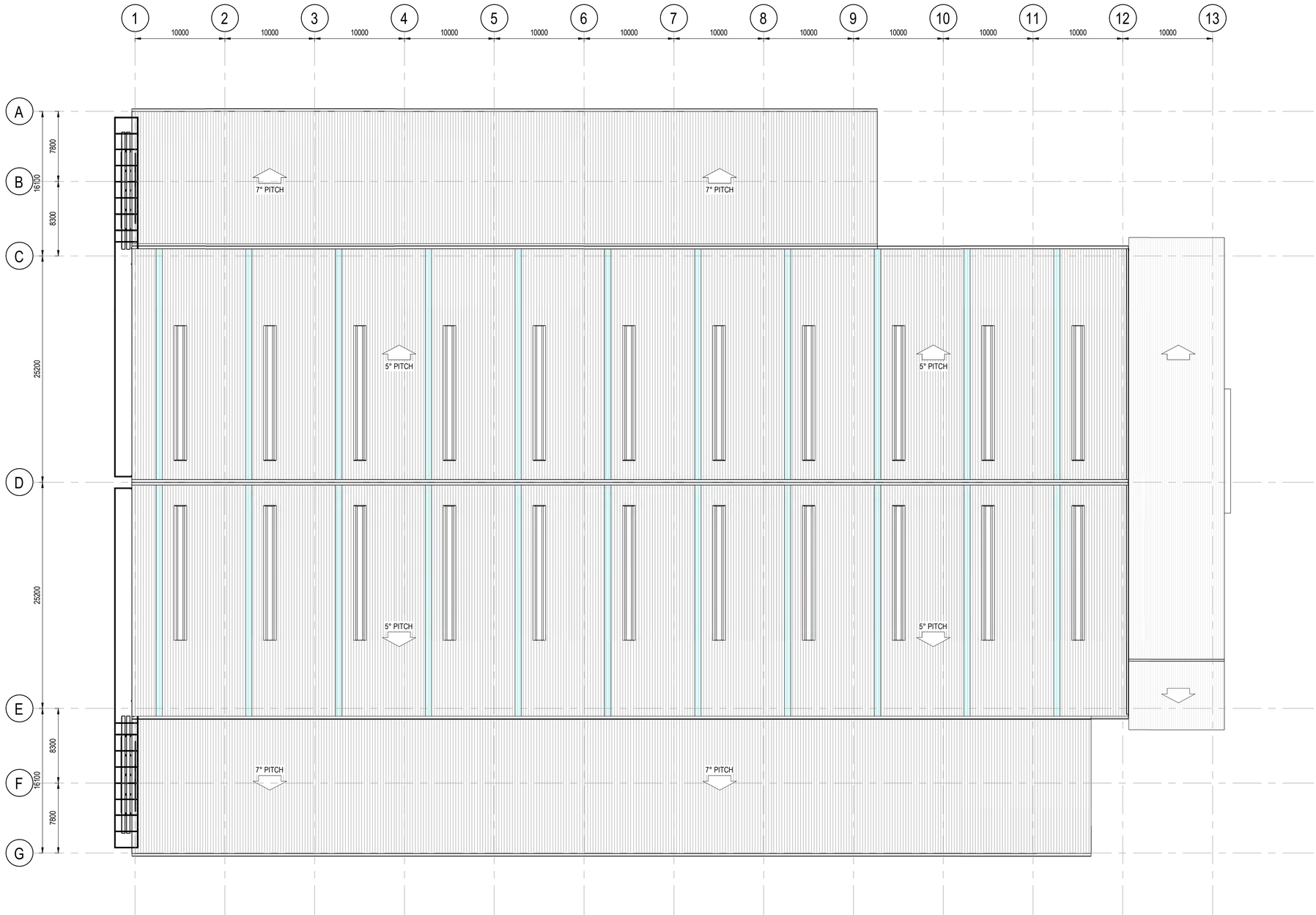

ROOF PLAN
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REV	DATE	DESCRIPTION	BY	APPD
DA.1	02.10.20	Development Application	DWS	DWA

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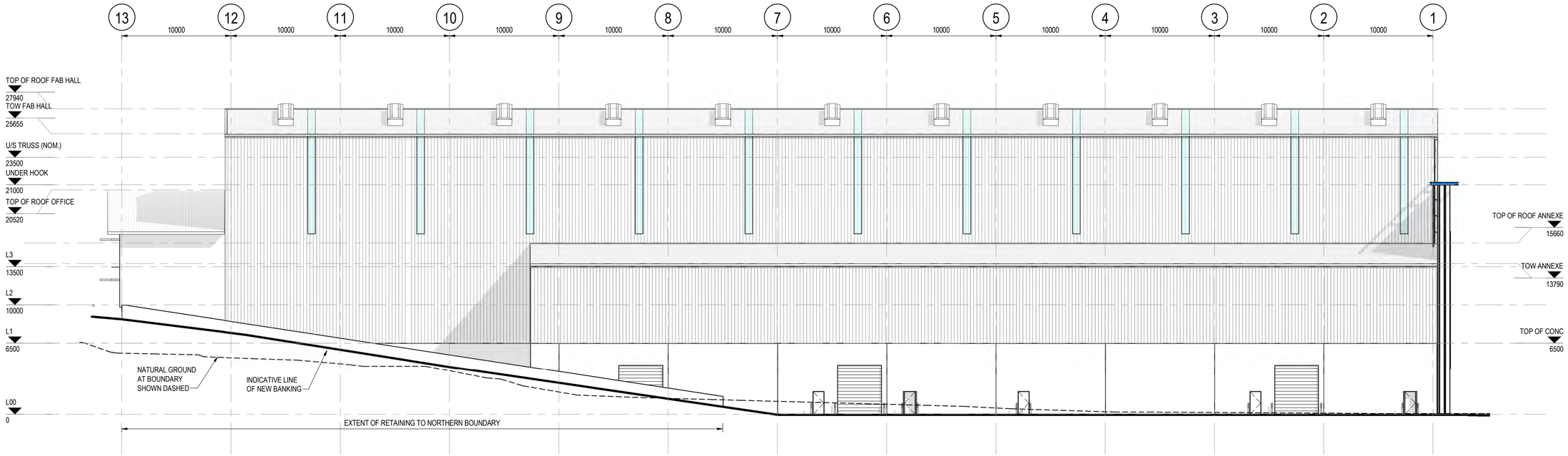
LOT 19 CLARENCE BEACH ROAD HENDERSON WA

TITLE
ROOF PLAN

SCALE	DATE	DESIGNED	DRAWN	CHECKED
1 : 250@ A1	15.06.20	MDJ	DWS	KH

JOB No	DRG No	REV
20-042	A2.40	DA.1



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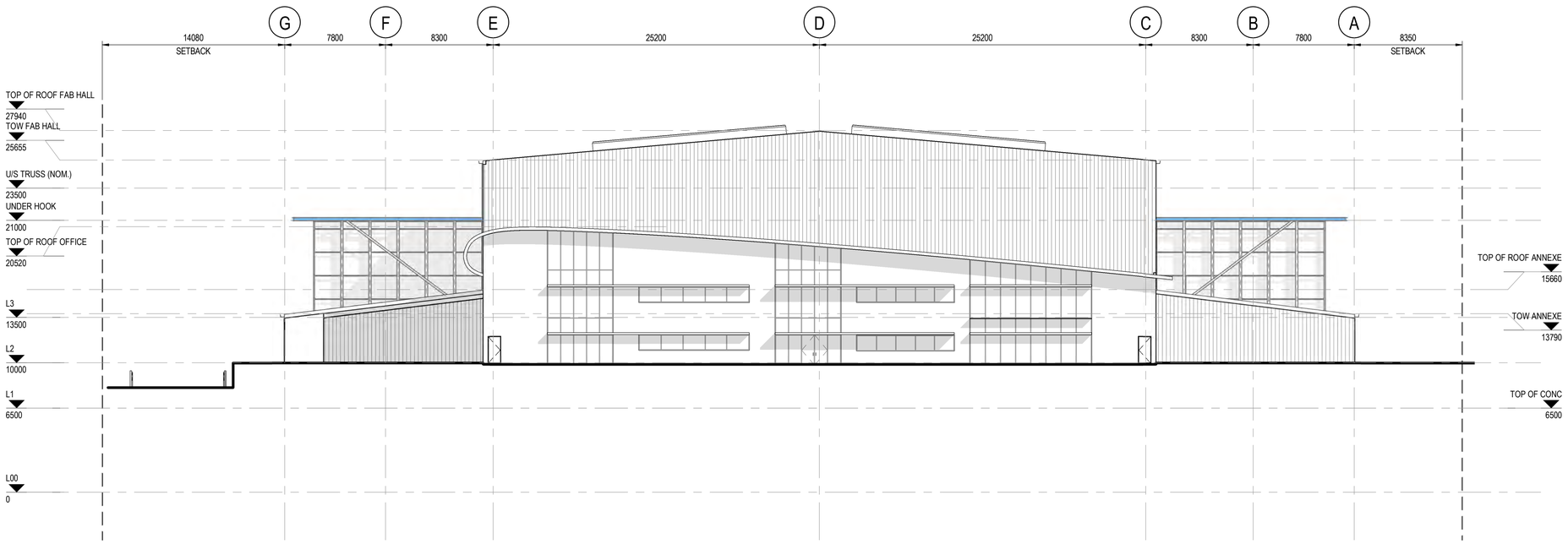

ELEVATION E1
1 : 200
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REV	DATE	DESCRIPTION	BY	APPD
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TITLE
ELEVATIONS - SHEET 1

SCALE	DATE	DESIGNED	DRAWN	CHECKED
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JOB No	DRG No	REV
20-042	A3.01	DA.1

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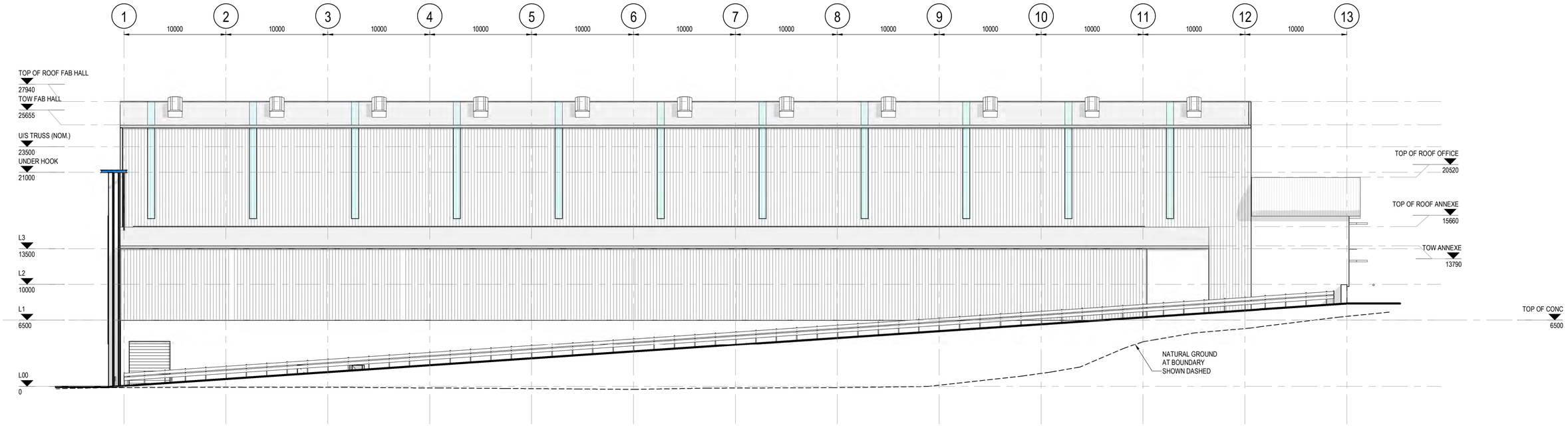

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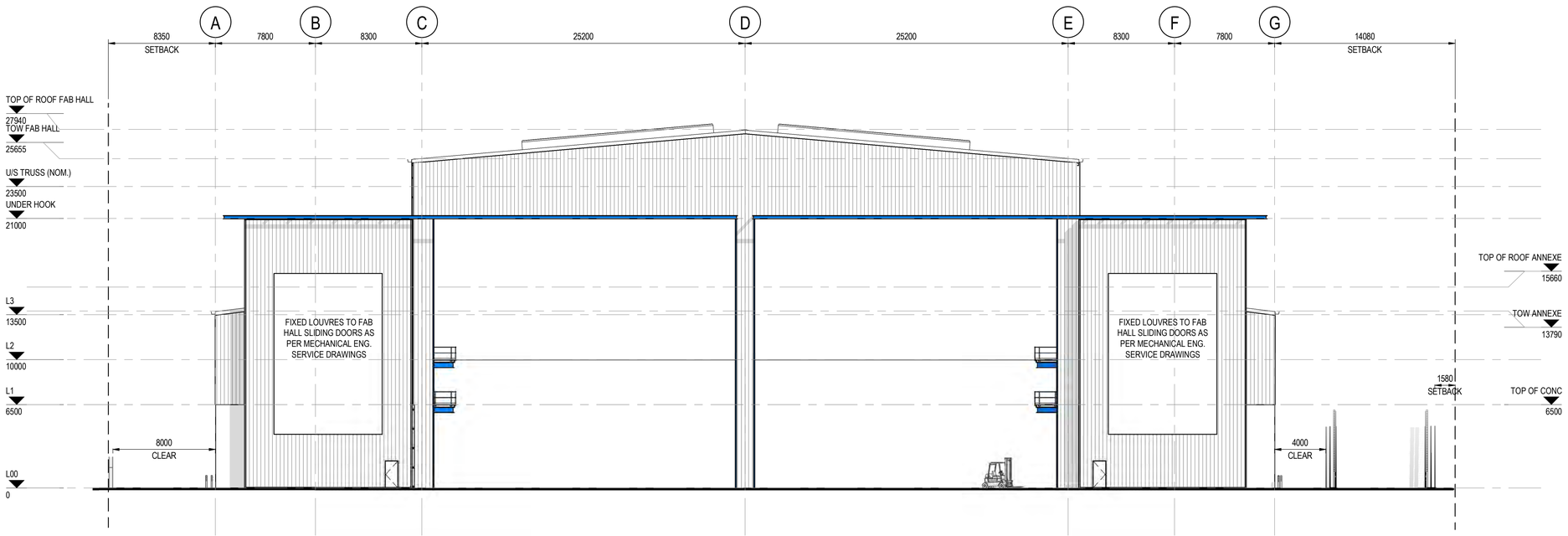

ELEVATION E3
1 : 200

REV	DATE	DESCRIPTION	BY	APPD
DA.1	02.10.20	Development Application	DWS	DWA

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ELEVATIONS - SHEET 2

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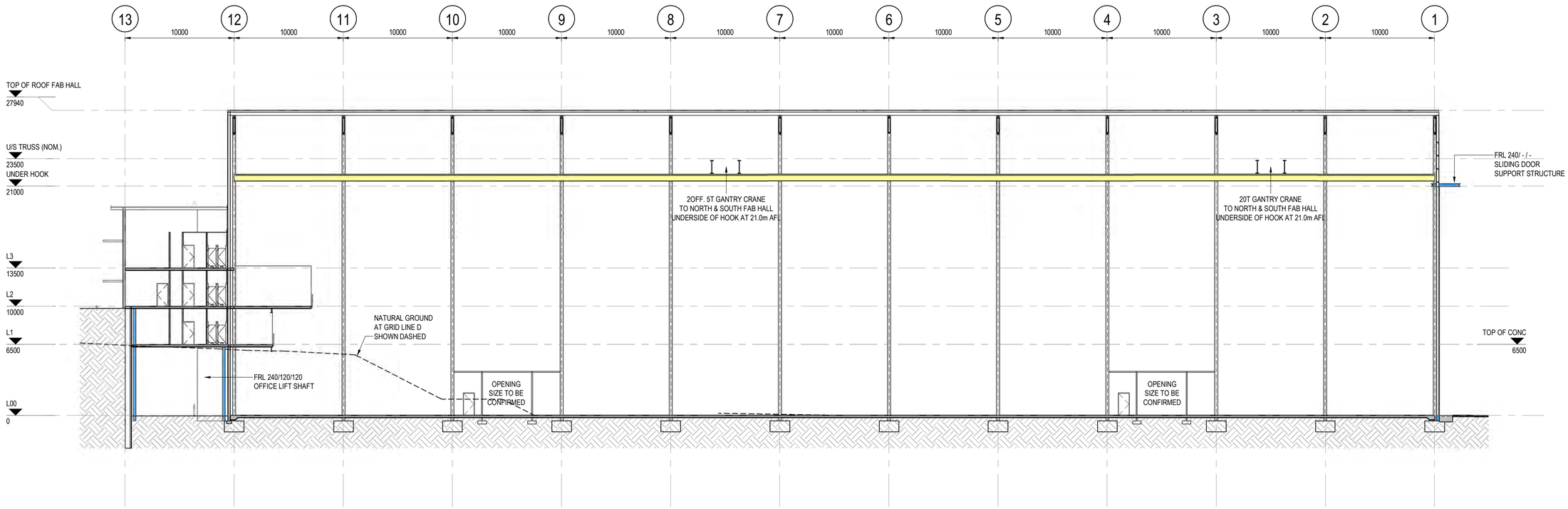

SECTION A
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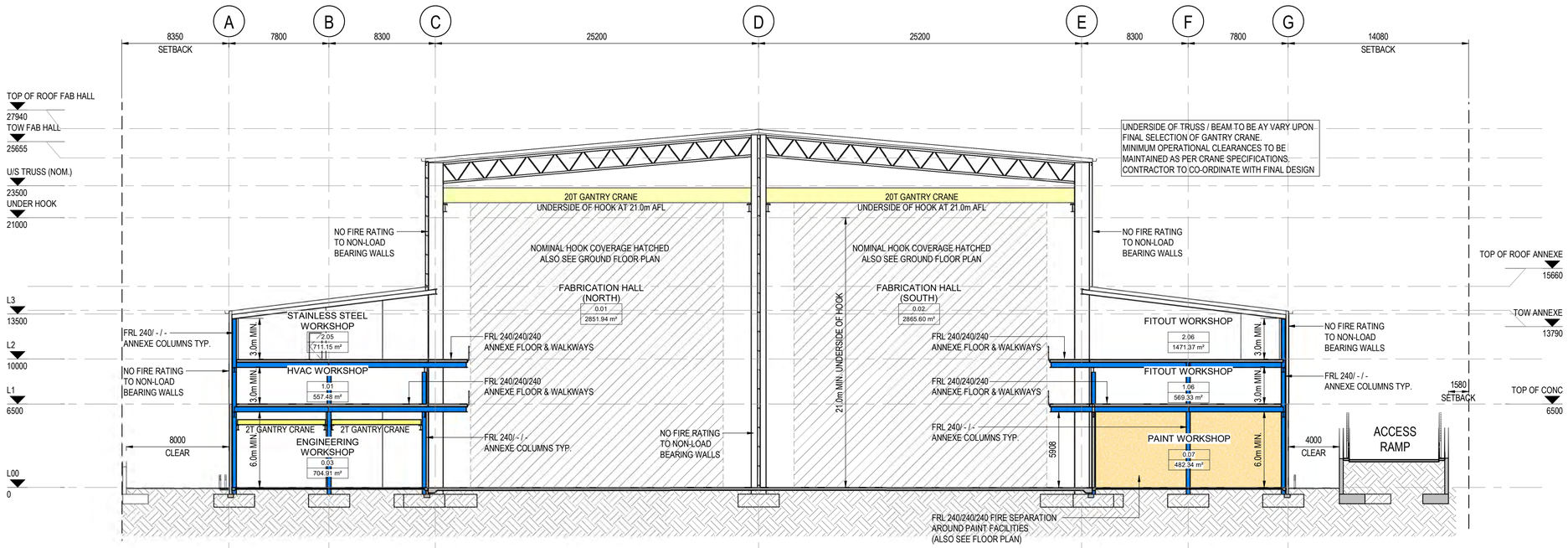

SECTION B
1 : 200

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SECTIONS

SCALE	DATE	DESIGNED	DRAWN	CHECKED
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JOB No	DRG No	REV
20-042	A4.01	DA.1

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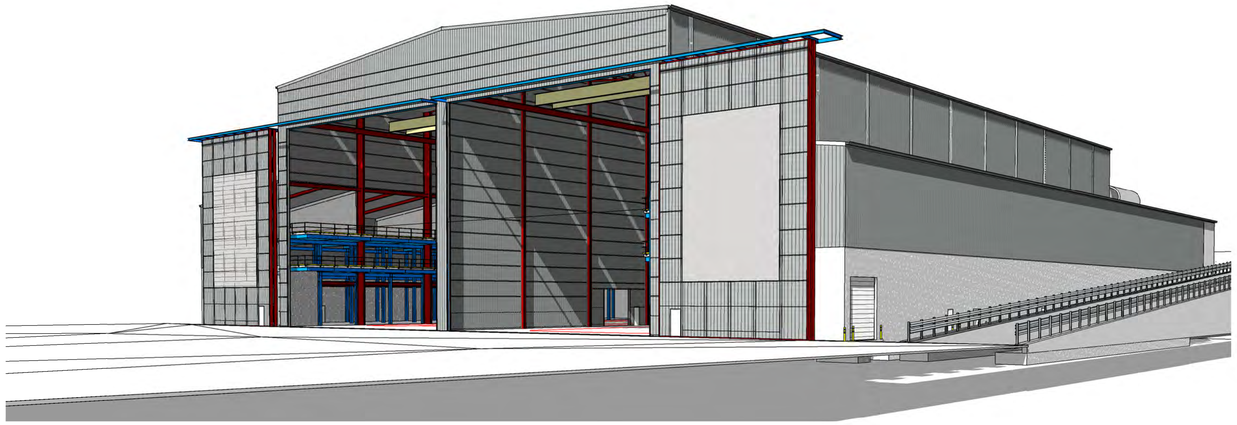

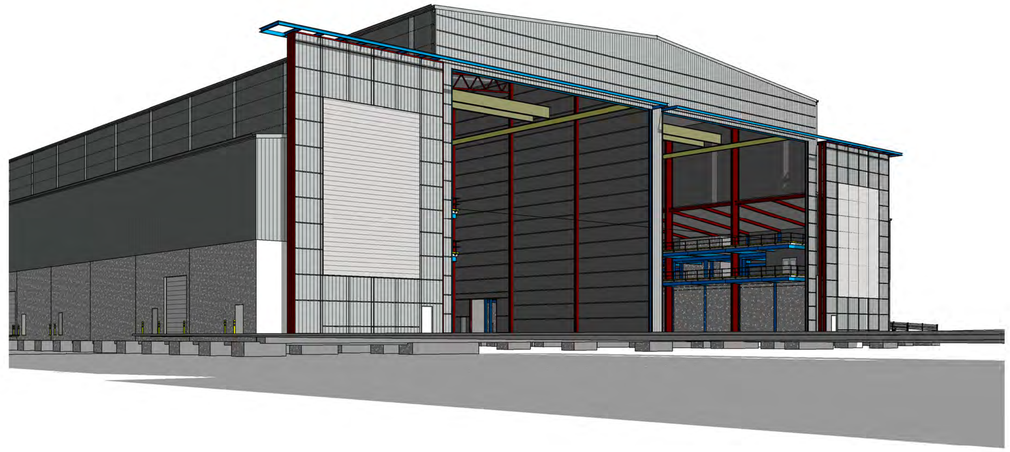

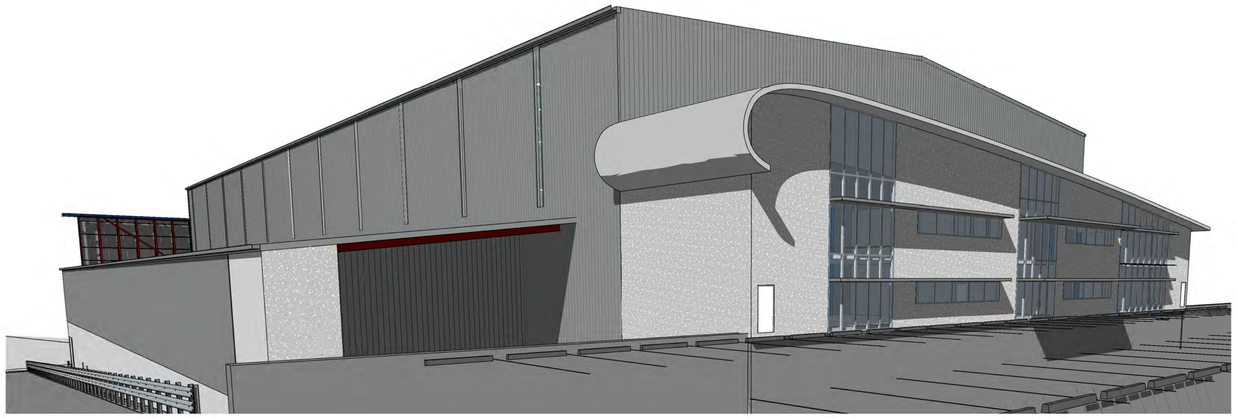

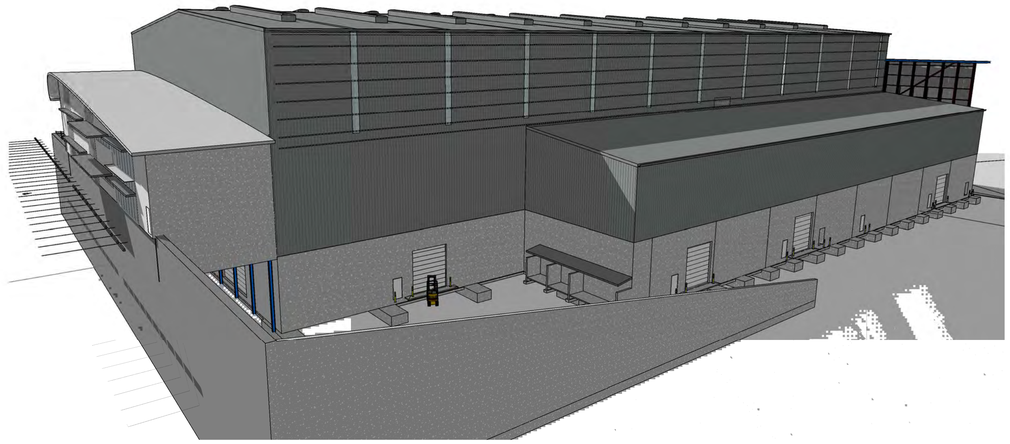

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REV	DATE	DESCRIPTION	BY	APPD
DA.1	02.10.20	Development Application	DWS	DWA

STATUS
PRELIMINARY - NOT FOR CONSTRUCTION

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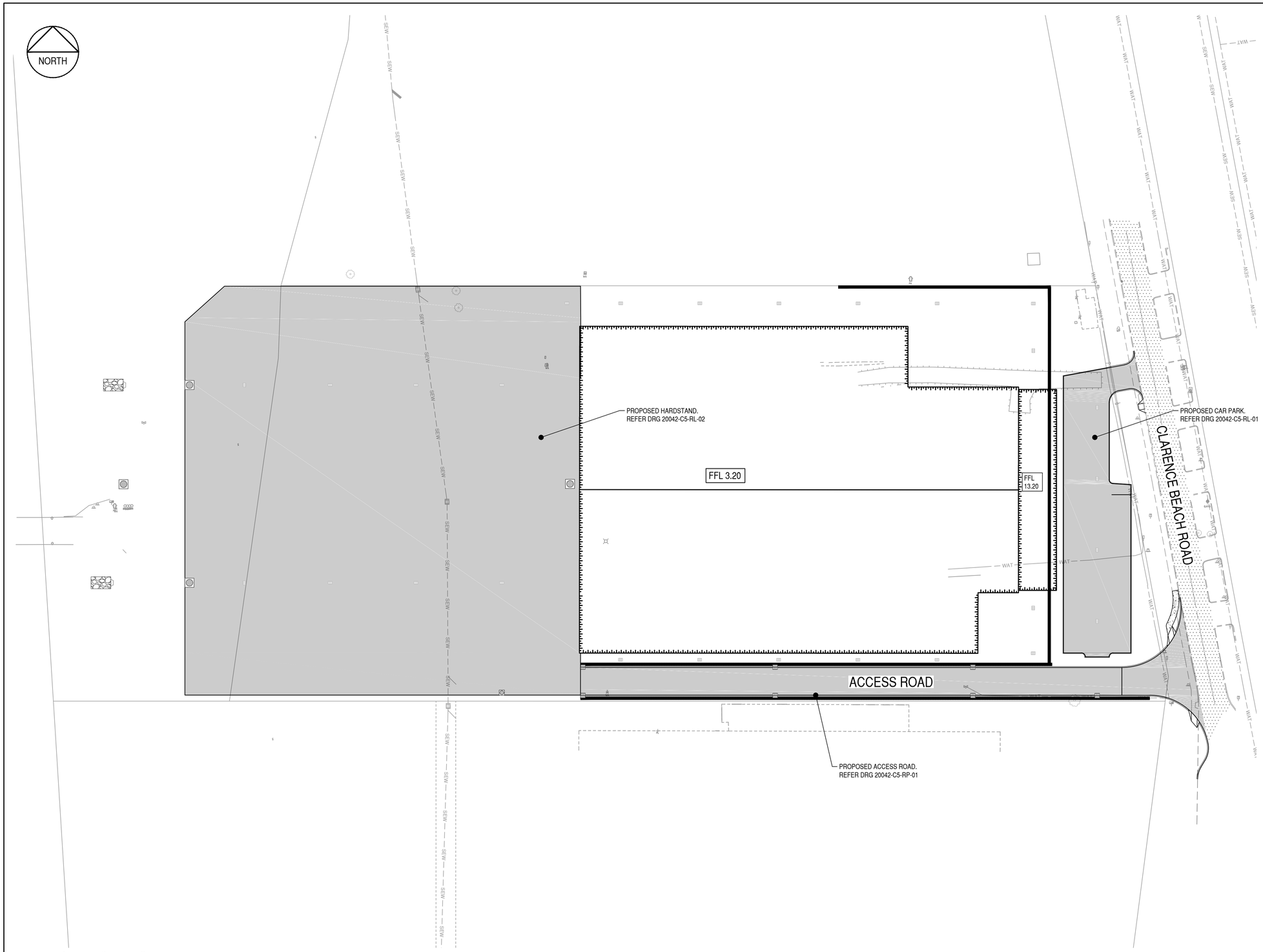
CLIENT
DEVELOPMENT WA

PROJECT
SILVERYACHT
LOT 19 CLARENCE BEACH ROAD HENDERSON WA

TITLE
3D IMAGES & PERSPECTIVES

SCALE	DATE	DESIGNED	DRAWN	CHECKED
@ A1	15.06.20	MDJ	DWS	KH

JOB No	DRG No	REV
20-042	A5.01	DA.1



NOTES

1. ALL DIMENSIONS SHOWN ARE IN METRES U.S.O.
2. ALL CO-ORDINATES AND LEVELS SHOWN ON THIS DRAWING SHALL BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT WITH IN SEVEN DAYS.
3. ALL HEIGHTS ARE TO AUSTRALIAN HEIGHT DATUM (AHD) AND ALL LEVELS SHALL BE DERIVED FROM ESTABLISHED BENCHMARKS.
4. ALL BENCHMARKS ARE TO BE PROTECTED AND PRESERVED UNLESS NOTED ON PLANS.
5. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE SPECIFICATION AND ALSO THE REQUIREMENTS OF THE CITY OF COCKBURN.
6. DUST SUPPRESSION METHODS SHALL BE APPLIED BY THE CONTRACTOR DURING OPERATIONS IN ACCORDANCE WITH THE DUST MANAGEMENT PLAN.
7. ALL FOOTINGS, SHALL BE COMPACTED TO 95% OF THE MODIFIED MAXIMUM DRY DENSITY (M.M.D.D.) TO A DEPTH OF 750mm WHEN TESTED IN ACCORDANCE WITH AS 1289 5.2.1. ANY REGIONS OF THE FOUNDATION DEEMED UNACCEPTABLE BY THE SUPERINTENDENT SHALL BE REPLACED WITH CLEAN FILL TO THE NECESSARY STANDARD.
8. ALL BACK FILL SHALL BE PLACED IN UNIFORM LAYERS NOT EXCEEDING 300mm THICKNESS AND COMPACTED TO A DENSITY NOT LESS THAN 95% M.M.D.D.
9. CONTRACTOR TO INSTALL A TWO STRAND STAR PICKET FENCE WITH RING LOCK FENCING BEHIND THE TOP COURSE OF ALL RETAINING WALLS EXCEEDING 900mm HIGH. STAR IRON PICKETS TO HAVE CAPS AND STRAND OF TAPE FIXED TO TOP WIRE AT 2.0m INTERVALS (MIN.).
10. FENCES AND WALLS FACING ROAD RESERVES OR PUBLIC OPEN SPACE TO BE TREATED WITH SACRIFICIAL ANTI-GRAFFITI COATING.
11. BACK FACE OF WALL TO BE POINTED UP WHERE FILL DOES NOT COVER.
12. MORTAR TESTS AT RATE OF 1 PER 50 LINEAR METRES OF WALLS.
13. ALL WALLS SHALL BE SET ON BOUNDARY OF LOT BEING RETAINED AND SHALL BE CONFIRMED BY SURVEYOR ON COMPLETION OF FIRST ROW OF COURSE. THE SURVEY INFORMATION SHALL BE ISSUED TO THE SUPERINTENDENT FOR REVIEW PRIOR TO ANY FURTHER CONSTRUCTION CONTINUING/COMMENCING.
14. CONTRACTOR TO OBTAIN BUILDING LICENCE.
15. FOR RETAINING WALL STANDARD DETAILS REFER DRAWING 20042-C7-TD-03.
16. ALL BLOCKS TO BE RECONSTITUTED LIMESTONE UNLESS SHOWN OTHERWISE.
17. AS-CONSTRUCTED INFORMATION SHALL BE RECORDED AS THE WORK IS CARRIED OUT AND TIED TO CADASTRAL BOUNDARIES BY A QUALIFIED SURVEYOR. SUBMIT ALL DETAILS TO SUPERINTENDENT.

LEGEND

- PROPOSED RETAINING WALL
- 6.80 — PROPOSED FINISHED PAD LEVEL
- PROPOSED GROUND LEVEL AT BASE OF WALL
- 1 — FACE OF WALL AND TYPE - REFER STANDARD RETAINING WALL DRAWING FOR DETAILS
- TW: 15.10 — TOP OF WALL REDUCED LEVEL
- EH: 0.72 - TH: 1.09 — EFFECTIVE WALL HEIGHT (m) - TOTAL WALL HEIGHT (m)
- TW: 000.00 / EH: 000.00 / TH: 000.00 — TOP OF RETAINING WALL LEVEL / EFFECTIVE HEIGHT / TOTAL HEIGHT
- PROPOSED DRIVEWAY AND CARPARK PAVEMENT AND KERBING
- EXISTING PAVEMENT AND KERBING
- PROPOSED CONCRETE PATH
- GRATED SOAKWELL
- SOAKWELL
- PROPOSED BUILDING

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REV	DATE	DESCRIPTION	BY	CHKR
A	02/10/20	INITIAL ISSUE	JS	DS

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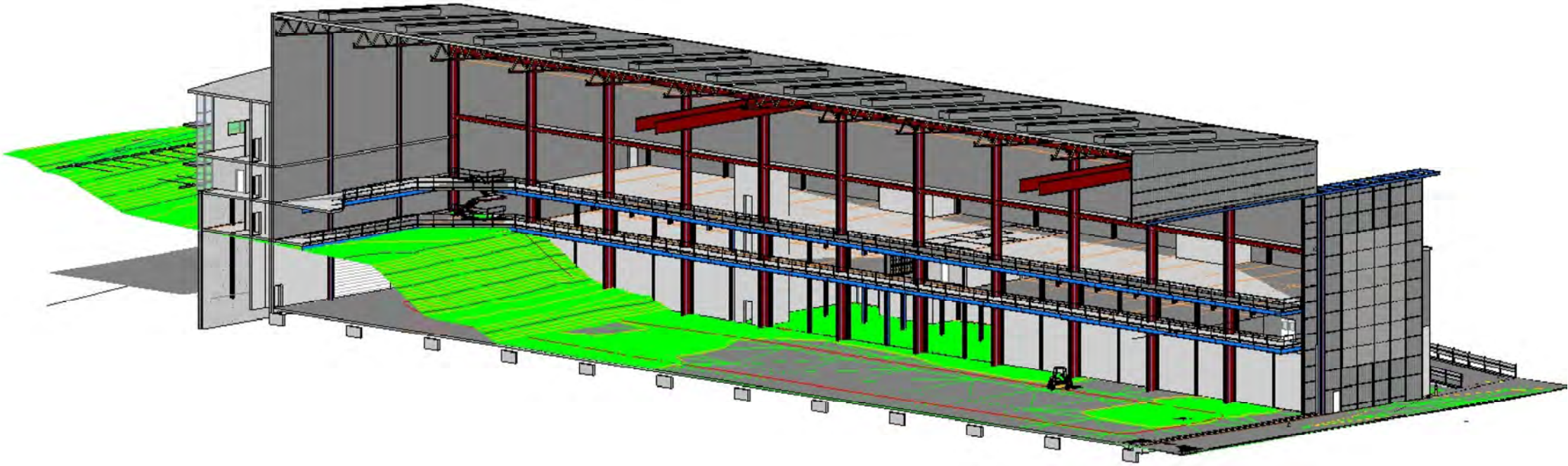
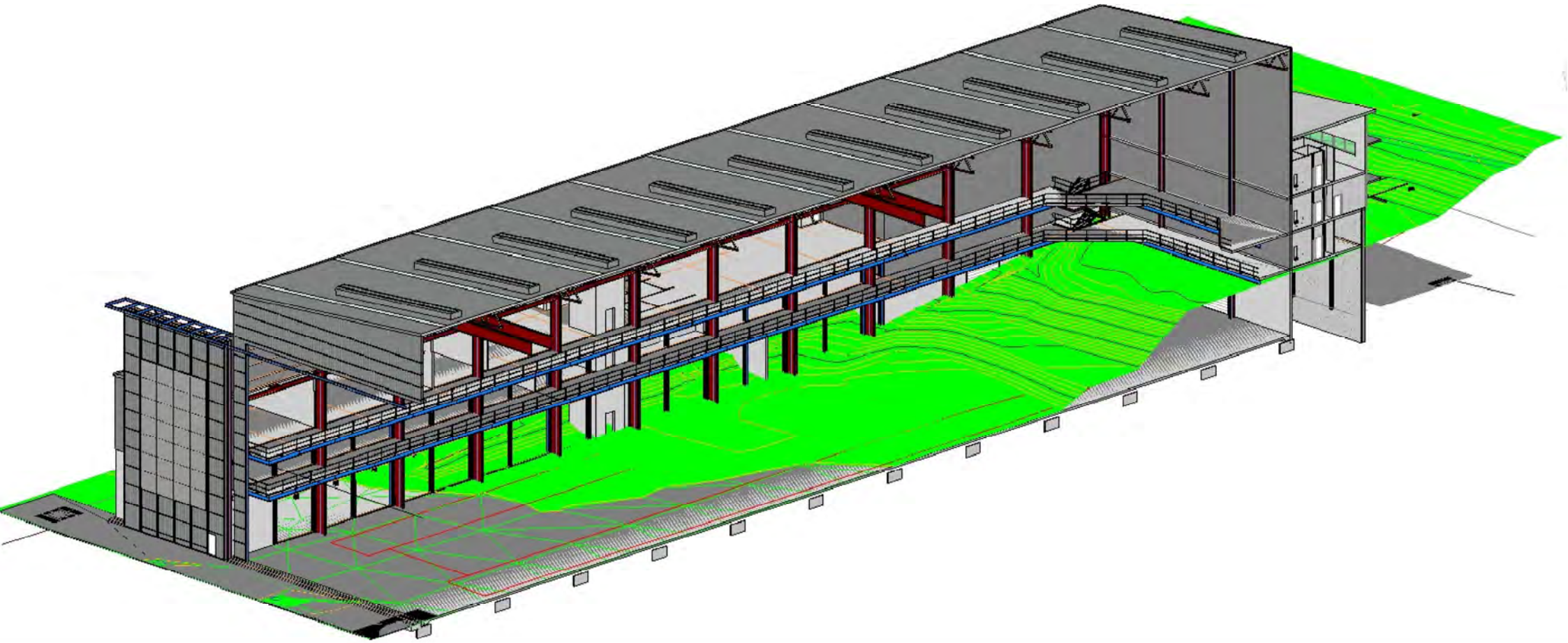
DRAWING STATUS: NOT FOR CONSTRUCTION
DATE: OCTOBER 2020 | GRID: PCG94 | DATUM: AHD
DESIGNED: MFC | DRAWN: JS | CHECKED: DS | APPROVED: DS .... / ....
W.A.P.C.: N/A | SCALE U.N.O.: 1:500 @

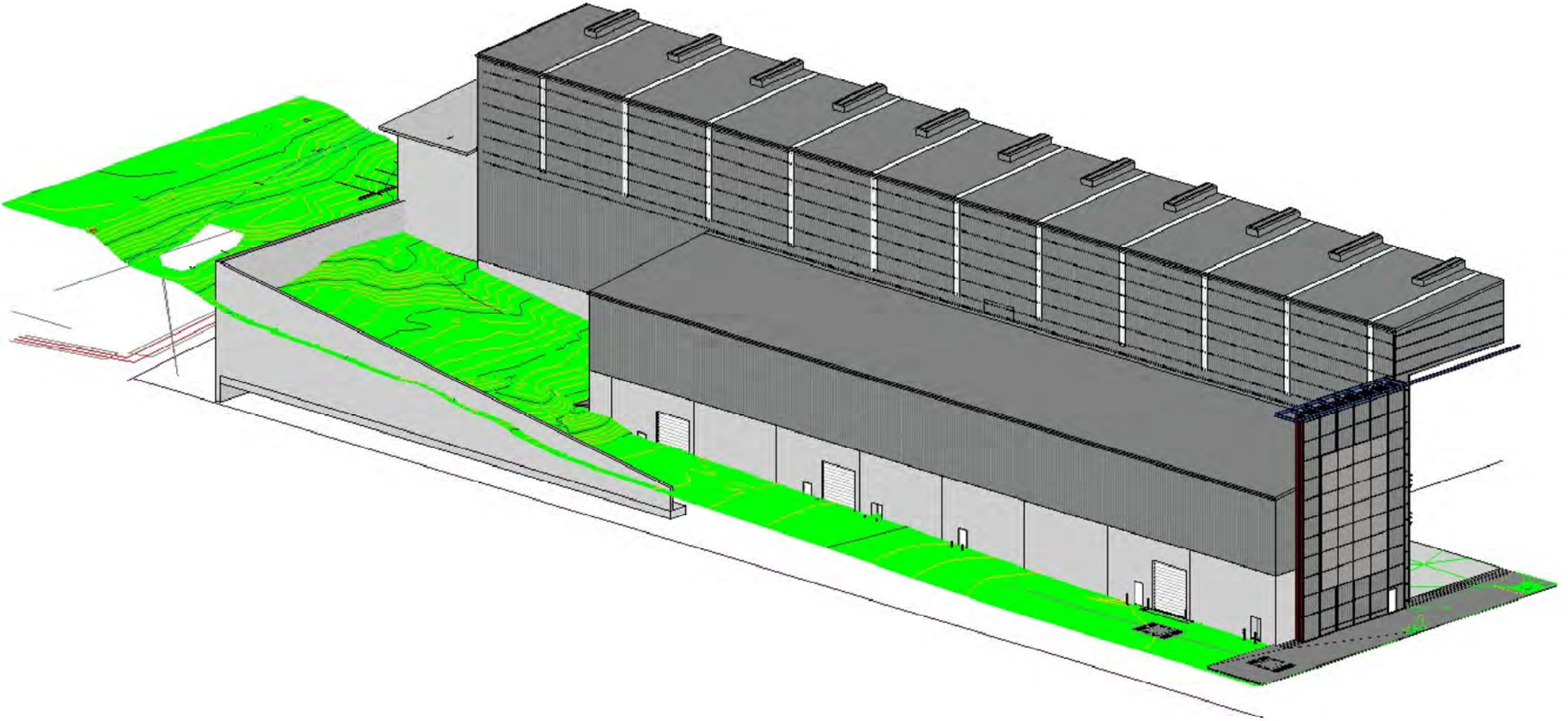
CLIENT & JOB: DEVELOPMENT WA SUPERYACHT FACILITY
TITLE: RETAINING WALL PLAN
SHEET SIZE: A1 | DRG No.: 20042-C1-RW-01 | REVISION: A



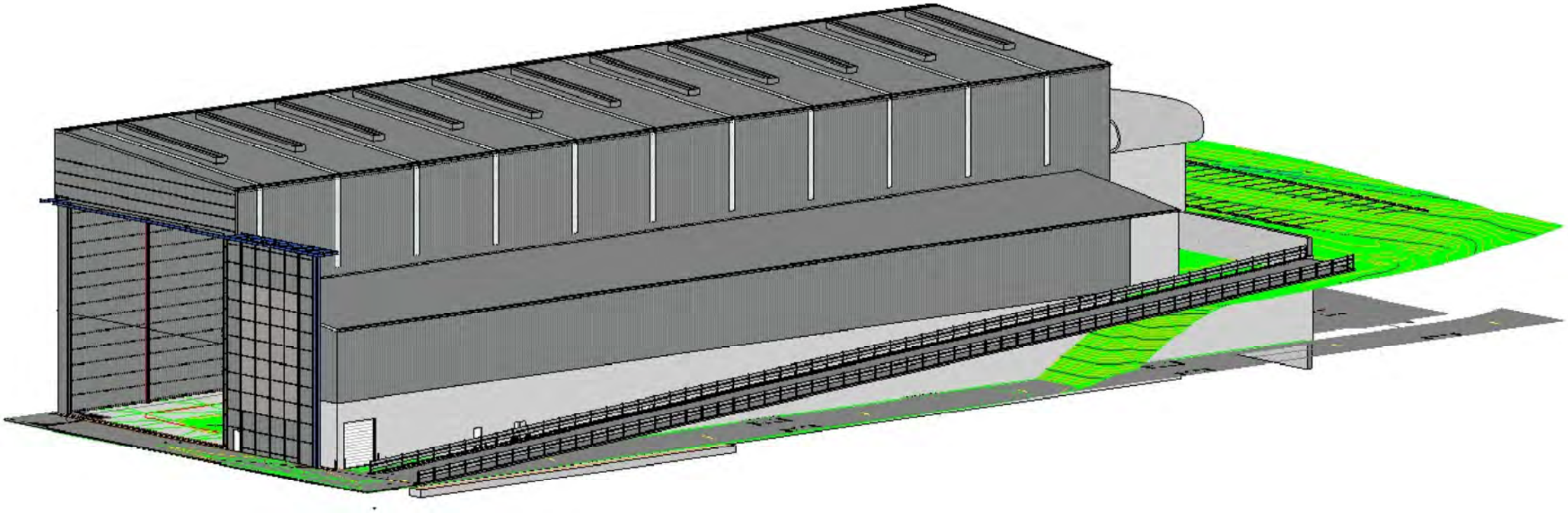
Survey Mass Overlay Image
Centre North
Pritchard Francis
2 October 2020



Survey Mass Overlay Image
Centre South
Pritchard Francis
2 October 2020



Survey Mass Overlay Image
Northern Boundary
Pritchard Francis
2 October 2020



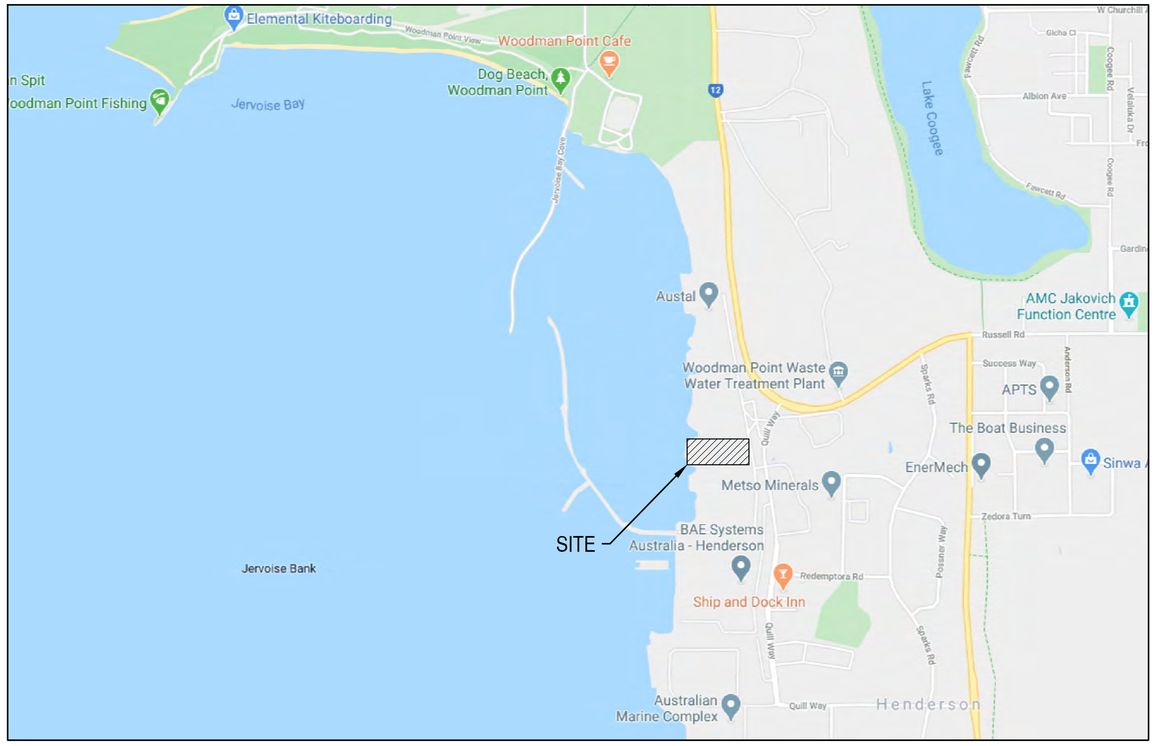
Survey Mass Overlay Image
Southern Boundary
Pritchard Francis
2 October 2020

SUPERYACHT FACILITY
for
DEVELOPMENT WA
AUGUST 2020

WAPC No: N/A

JOB No: 20-042

NORTH



CIVIL DRAWING LIST

DRG No.	TITLE
20042-C0-CS-01	COVER SHEET
20042-C3-DP-01	STORMWATER DRAINAGE PLAN
20042-C5-RL-01	CARPARK LAYOUT PLAN
20042-C5-RL-02	HARDSTAND LAYOUT PLAN
20042-C5-RP-01	ACCESS ROAD PLAN AND PROFILE
20042-C7-TD-01	STANDARD DETAILS PLAN SHEET 1 OF 2
20042-C7-TD-02	STANDARD DETAILS PLAN SHEET 2 OF 2

ROADWORKS, HARDSTAND & STORMWATER DRAINAGE

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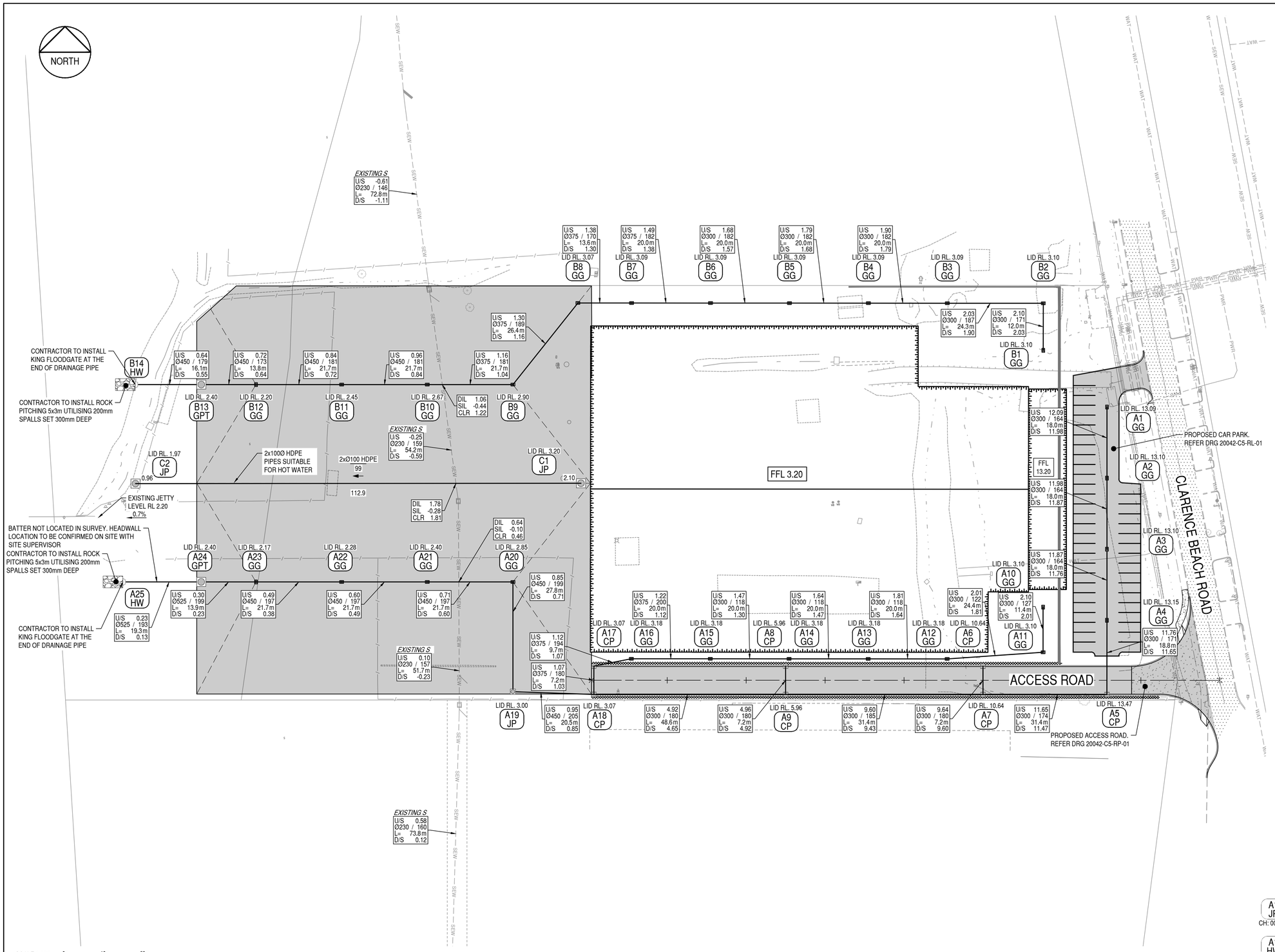
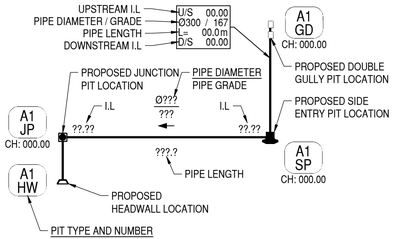


NOTES

1. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE SPECIFICATION AND ALSO THE REQUIREMENTS OF THE CITY OF COCKBURN.
2. THE CONTRACTOR SHALL LIAISE WITH ALL RELEVANT AUTHORITIES TO LOCATE ALL EXISTING SERVICES WITHIN THE CONTRACT AREA PRIOR TO THE COMMENCEMENT OF WORK. SERVICES INFORMATION SHOWN ON THE DRAWINGS IS INDICATIVE ONLY AND MAY NOT BE COMPLETE. WHERE EXISTING AND PROPOSED WORKS CONFLICT, LEVELS ARE TO BE TAKEN AND SUPPLIED TO THE SUPERINTENDENT IMMEDIATELY FOR DIRECTION.
3. ALL CO-ORDINATES, LEVELS AND QUANTITIES SHOWN ON THIS DRAWING SHALL BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT IMMEDIATELY.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUPPORT OF ALL EXISTING SERVICES. ALL SEWERS SHALL BE PROVIDED WITH EITHER TIMBER BEARERS OR KEEL WITH TIMBER PILES AS REQUIRED.
5. WHERE CONNECTING INTO EXISTING DRAINAGE, THE CONTRACTOR IS TO PICK UP UPSTREAM AND DOWNSTREAM INVERT LEVELS OF EXISTING DRAINAGE LINE IMMEDIATELY DOWNSTREAM OF PROPOSED CONNECTION. THE CONTRACTOR TO SUPPLY THIS SURVEY INFORMATION TO THE SUPERINTENDENT PRIOR TO THE COMMENCEMENT OF ANY DRAINAGE CONSTRUCTION. THE CONTRACTOR TO THEN AWAIT NOTIFICATION FROM THE SUPERINTENDENT THAT DRAINAGE CONSTRUCTION MAY COMMENCE.
6. ALL HEIGHTS ARE TO A.H.D. AND ALL LEVELS SHALL BE DERIVED FROM ESTABLISHED BENCHMARKS.
7. ALL BENCHMARKS ARE TO BE PROTECTED AND PRESERVED.
8. STORMWATER PIPES ARE TO BE REINFORCED CONCRETE RUBBER JOINT - CLASS 2 UNLESS SHOWN OTHERWISE (U.S.O.).
9. ALL MANHOLES AND GULLY GRATES TO BE FLUSH WITH SURROUNDING PAVEMENT LEVELS U.S.O.
10. JUNCTION AND ENTRY PITS ARE TO BE LOCATED IN POSITIONS SHOWN, IRRESPECTIVE OF THE INDICATED PIPE LENGTHS.
11. ALL EXCESS EXCAVATED MATERIAL AND DEMOLISHED MATERIAL SHALL BE DISPOSED OF OFFSITE AT AN APPROVED DISPOSAL FACILITY AT THE CONTRACTOR'S EXPENSE.
12. GROUND WATER LEVEL = R.L. 0.5
13. 'AS CONSTRUCTED' DRAWINGS ARE TO BE PREPARED TO THE REQUIREMENTS OF THE CITY OF COCKBURN.

LEGEND

- PROPOSED Ø300 STORMWATER DRAINAGE PIPE AND ASSOCIATED PITS (U.S.O.)
- LID RL. 00.00 / A1 MH / CH: 000.00 — STRUCTURE LID REDUCED LEVEL; STRUCTURE NUMBER; STRUCTURE TYPE; STRUCTURE SETOUT (CHAINAGE OR EASTING/NORTHING)
- DIL 00.00 / SIL 00.00 / CLR 0.00 — DRAINAGE PIPE I.L.; SEWER PIPE I.L.; CLEARANCE BETWEEN PIPES (m)
- PROPOSED PAVEMENT HARDSTAND AND BREAKLINES
- PROPOSED DRIVEWAY AND CARPARK PAVEMENT AND KERBING
- EXISTING PAVEMENT AND KERBING
- PROPOSED CONCRETE PATH
- PROPOSED KERB RAMP — REFER TO CITY OF COCKBURN STANDARD DETAIL DRAWING
- EXISTING CONCRETE PATH
- SMK / MK — KERB TRANSITION
- SMK — PROPOSED KERBING (TYPE DEFINED BY TEXT)
- SMK — SEMI-MOUNTABLE KERB
- BK — BARRIER KERB
- 12.10 — DESIGN LEVEL
- 12.10 — EXISTING LEVEL
- GRATED GULLY
- COMBINATION SIDE ENTRY PIT
- JUNCTION PIT U.S.O.
- 1% — PAVEMENT GRADE
- PROPOSED BUILDING
- SEW — EXISTING SEWER
- RETAINING WALL



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REV	DATE	DESCRIPTION	BY	CHKR
C	27/08/20	AMENDED 30% DESIGN	LL	PP
B	07/08/20	30% DESIGN FINAL ISSUE	CJD	PP
A	11/06/20	ISSUED FOR CLIENT REVIEW	MFC	PP

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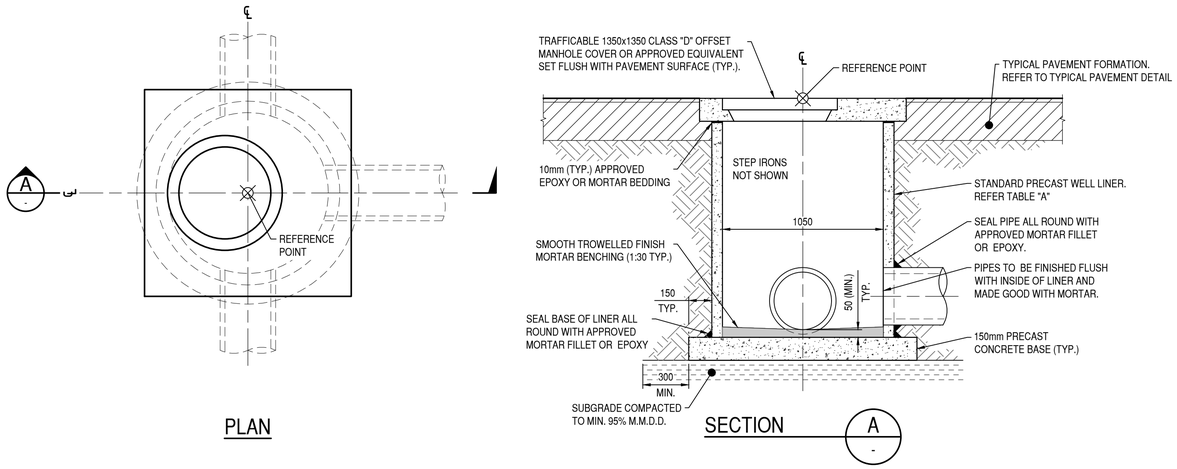
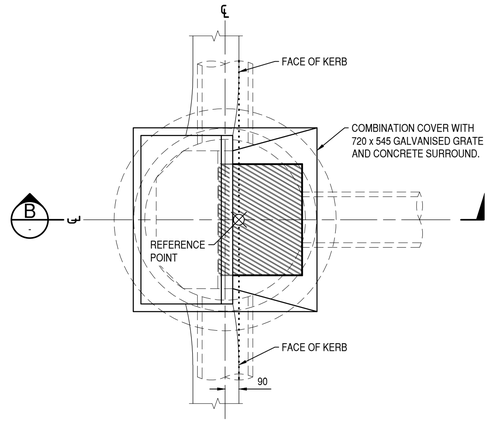
DRAWING STATUS: NOT FOR CONSTRUCTION
DATE: JUNE 2020 | GRID: PCG94 | DATUM: AHD
DESIGNED: MFC | DRAWN: MFC | CHECKED: PP | APPROVED: PP ...../...../.....
W.A.P.C.: N/A | SCALE U.N.O.: 1:500 @ A1

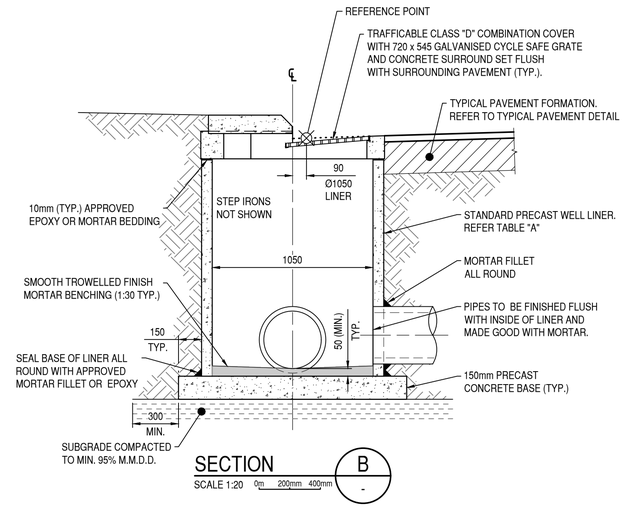
CLIENT & JOB: DEVELOPMENT WA SUPERYACHT FACILITY
TITLE: STORMWATER DRAINAGE PLAN
DRG No.: 20042-C3-DP-01
REVISION: C



TYPICAL JUNCTION PIT IN PAVEMENT

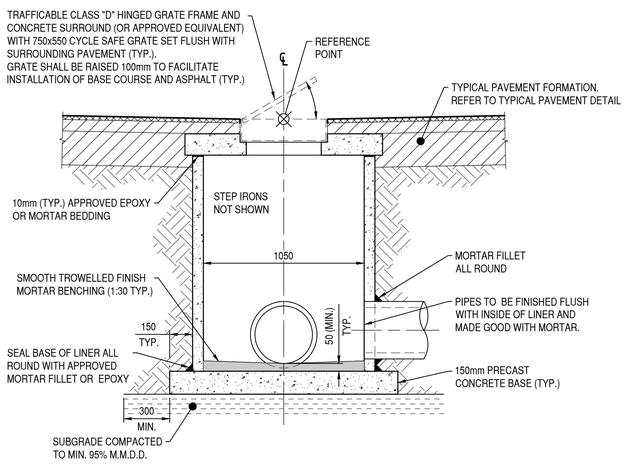
SCALE 1:20 0m 400mm 800mm





TYPICAL COMBINATION ENTRY PIT

SCALE 1:20 0m 400mm 800mm



INVERTED CHANNEL GULLY PIT

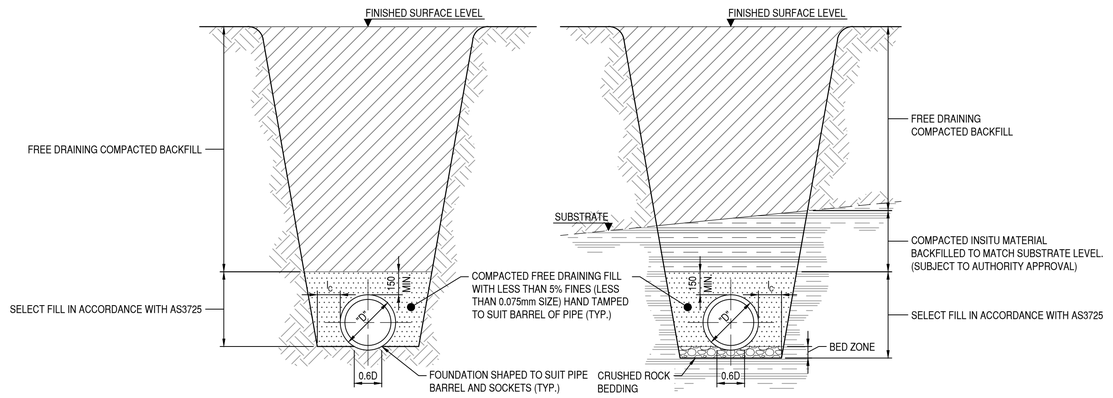
SCALE 1:20 0m 400mm 800mm

NOTES

1. ALL INSITU CONCRETE SHALL BE CLASS N32 IN ACCORDANCE WITH A1379.
2. ALL INSITU CONCRETE CORNERS SHALL HAVE A 20mm CHAMFER UNLESS OTHERWISE NOTED.
3. CEMENT MORTAR SHALL CONSIST OF ONE PART CEMENT AND THREE PARTS SAND.
4. SL81 REINFORCEMENT SHALL CONFORM WITH HARD DRAWN FABRIC TO AS4671.
5. MINIMUM CLEAR COVER TO REINFORCEMENT SHALL BE 50mm.
6. THE LINER SHALL BE REINFORCED CONCRETE MANUFACTURED TO AS4058.
7. THE MAXIMUM INLET/OUTLET PIPE OUTSIDE DIAMETER SHALL BE LESS THAN 60% OF THE LINER INTERNAL DIAMETER.
9. MINIMUM OF 40% OF LINER SHALL REMAIN IN ANY HORIZONTAL PLANE.
10. MINIMUM INTERNAL LINER SPACE OF 200mm BETWEEN PUNCHED/CUT HOLES.
11. HOLES TO BE CUT/PUNCHED ON ACCORDANCE WITH MANUFACTURER'S SPECIFICATION.
12. THE LINER SHALL HAVE EQUIVALENT PROPERTIES AND REINFORCEMENT OF CLASS 2 R.C.P. EXCEPT THAT THE REINFORCEMENT SHALL BE CIRCULAR.
13. FOR STRUCTURES DEEPER THAN 1000mm, STEP IRONS OR PREFABRICATED GALVANISED STEEL LADDER SHALL BE FITTED. THE LADDER SHALL BE FIXED WITH STAINLESS STEEL MASONARY ANCHORS IN ACCORDANCE WITH AS1657.
14. ORIENTATE STEP IRONS OR LADDER TO ENABLE EASY ACCESS AND TO FACE ONCOMING TRAFFIC.
15. COVERS SHALL BE CLASS 'D' TO AS3996.
16. SIDE ENTRY PIT APRON SHALL BE A COMBINATION OF PROPRIETARY MATCHING FRAME (UNIVERSAL SIDE ENTRY FRAME OR APPROVED EQUIVALENT) AND AN APPROVED APRON DEFLECTOR SLAB.
17. SIDE ENTRY PIT COVER AND APRON SHALL SATISFY THE FOLLOWING CRITERIA:
    VERTICAL OPENING: 120mm MIN. 150mm MAX.
    HORIZONTAL OPENING: 880mm MIN.
    APRON GRADE: 3% WITH VERTICAL DEFLECTORS

TABLE A
DRAINAGE PIT LINER SIZE

NOM. LINER SIZE (mm)	PIPE SIZE MAX. (mm)	LINER TYPE
Ø1050	Ø450	CONCRETE
Ø1200	Ø600	CONCRETE
Ø1500	Ø750	CONCRETE
Ø1800	Ø900	CONCRETE
Ø2250	Ø1050	CONCRETE
N/A	N/A	CUSTOM
FOR PIPES Ø1200 AND LARGER INSTALL A CUSTOM CHAMBER TO SUIT.		



TYPICAL CONCRETE PIPE TRENCH DETAILS (SUPPORT TYPE "U")

SCALE 1:20 0m 400mm 800mm

TRENCH DETAIL NOTES

1. ALL PIPE TRENCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH AS3725 - DESIGN FOR INSTALLATION OF BURIED CONCRETE PIPES. SHOULD DISCREPANCIES EXIST, AS3725 TAKES PRECEDENCE.
2. DRY CONDITIONS SHALL BE SAND SOIL WHERE THE MAXIMUM PREDICTED GROUND WATER LEVEL (G.W.L.) IS A MINIMUM 300mm BELOW PIPE INVERT.
3. WET CONDITIONS SHALL BE CONSIDERED AS BEING IN ROCK, CLAY OR SAND WHERE THE MAXIMUM PREDICTED G.W.L. IS HIGHER THAN 300mm BELOW PIPE INVERT.
4. BEDDING CONDITION SHALL BE CARRIED PAST ALL MANHOLES, GULLIES & OTHER DRAINAGE STRUCTURES DOWNSTREAM.
5. WHERE PIPES HAVE PROTRUDING SOCKETS, SUITABLE RECESSES SHALL BE PROVIDED IN THE SUPPORTING MATERIALS TO ENSURE THAT THE PIPES DO NOT BEAR ON THE SOCKETS (TYP.)

MINIMUM BED ZONE DEPTHS	
SUPPORT TYPE	DEPTH (mm)
U	75
H / HS ≤ Ø1500	100
H / HS > Ø1500	150

MINIMUM SIDE CLEARANCE "L_C" (L_C or D/6, WHICHEVER IS GREATER)	
PIPE DIAMETER	L_C
≤600	150
>600 - ≤1200	200
>1200	D/6

NOTE:
THE MINIMUM Lc VALUES SHALL ONLY BE USED WHERE NECESSARY COMPACTION VALUES CAN BE ASSURED.

REV	DATE	DESCRIPTION	BY	CHKR
C	27/08/20	AMENDED 30% DESIGN	CJD	PP
B	07/08/20	30% DESIGN FINAL ISSUE	CJD	PP
A	11/06/20	ISSUED FOR CLIENT REVIEW	CJD	PP

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DRAWING STATUS: NOT FOR CONSTRUCTION
CLIENT & JOB: DEVELOPMENT WA SUPERYACHT FACILITY
TITLE: STANDARD DETAILS PLAN SHEET 2 OF 2
DATE: MAY 2020 | GRID: PCG94 | DATUM: AHD
DESIGNED: CJD | DRAWN: CJD | CHECKED: PP | APPROVED: PP ..../....
W.A.P.C.: N/A | SCALE U.N.O.: AS SHOWN @ | SHEET SIZE: A1 | DRG No.: 20042-C7-TD-02 | REVISION: C

SITE
PLANNING + DESIGN

DEVELOPMENT APPLICATION

LOTS 19 + 9001 CLARENCE BEACH ROAD HENDERSON AUSTRALIAN MARINE COMPLEX

SUPER YACHT FABRICATION FACILITY AND ANCILLARY USES

PREPARED FOR:
DEVELOPMENTWA

OCTOBER 2020

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DEVELOPMENT APPLICATION

LOTS 19 + 9001 CLARENCE BEACH ROAD HENDERSON AUSTRALIAN MARINE COMPLEX

SUPER YACHT FABRICATION FACILITY AND ANCILLARY USES

OCTOBER 2020

ISSUE 2A: FOR LODGEMENT

Prepared for:	**DevelopmentWA**
Prepared by:	SITE planning + design PO Box 663, South Perth WA 6951 14 Lyall Street, South Perth WA 6151 Email: hello@sitepd.com.au Telephone: Kareena May 0411 103 198 Georgina Richmond 0433 986 883 Website: www.sitepd.com.au
Project Planner:	Kareena May – Director + Principal Town Planner George Richmond - Principal Town Planner
Job Code:	20-030 AMC
Doc Reference:	201015 20-030 AMC rp Super Yacht DA Report _Final for Lodgement
Issue No:	1
Revision No.:	C

Date Issued:	Revision No:	Documents Revisions:	Issued To:	Author:	Reviewer:
02.10.2020	1 A		DevelopmentWA + Benchmark Projects	KM/GR	Client
14.10.2020	1 B	SB Comments + TIS Final Draft	DevelopmentWA + Benchmark Projects	KM/GR	Client
15.10.2020	2A		City of Cockburn	KM/GR	GR

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FIGURES

PLANS

APPENDICES

1. INTRODUCTION

1.1 PROJECT OVERVIEW

SITE planning + design (SITE) and the consultant project team have been engaged by DevelopmentWA to obtain planning approval for the development of a Super Yacht Fabrication Facility and ancillary uses on Lot 19 and a portion of Lot 9001 Clarence Beach Road (the 'site') in Henderson. The site forms part of the Australian Marine Complex (AMC) and enjoys direct access to the waters of Jervoise Bay and Cockburn Sound.

The facility will be occupied, through agreement with Development WA, by Silver Yachts, a custom builder of extraordinarily high-quality aluminium yachts for the global luxury market. Silver Yachts currently operate from a facility in the southern part of the AMC.

The AMC is a world class centre for maritime-related manufacturing, fabrication, assembly, maintenance and technology that services the defence, marine, oil/gas and resource industries and is one of two locations identified for shipbuilding under the Commonwealth's first Naval Shipbuilding Plan.

To ensure Western Australia is ready to support this future naval work and optimise defence investment it is critical that AMC infrastructure matches current and future requirements of Defence.

The relocation of Silver Yachts from their current super yacht fabrication facility, on Lot 804 (124) Quill Way (cnr Nautical Drive) Henderson, to the state-of-the-art purpose-built facility proposed by this application, forms part of a larger program of works that will enable the AMC to meet Defence requirements. The development also supports the continued growth of Siler Yachts operations and Western Australia's internationally recognised profile in the boat fabrication and maintenance industry.

The super yacht fabrication facility will be delivered by a building contractor, on behalf of DevelopmentWA, through a Design and Construct model. Once engaged, the building contractor undertakes detailed design, satisfies development approval conditions, secures necessary approvals (i.e. building permits) and undertakes construction through to the completion and delivery of a facility ready for occupation and operation.

The plans lodged in support of this application have been prepared in consultation with Silver Yacht and reflect their operational requirements, including the ability to fabricate super yachts up to 100m in length, transfer them from the fabrication facility to the water and then dock at the finger jetty (on Lot 9001) for commissioning and testing prior to the yacht being sailed to the customer's end destination.

The proposed development is entirely consistent with the industrial zoning of the land under the local and region planning schemes and is supported by access to a finger jetty on Lot 9001, AMC's Common User Facility (CUF) and the Floating Dock Transfer Wharf within the Jervoise Bay harbour.

The proposed development is estimated to cost $25 million and the project program forecasts that the completed facility will be delivered by March 2022.

This proposal is one of a series of projects intended to support the State Governments drive to expediate economic recovery as a consequence of the significant economic impact of COVID 19 and that also reflect the State's ongoing commitment to support the important strategic role of AMC in WA's maritime industry.

PROJECT TEAM

The development application has been prepared by a consultant project team, comprising:

- DevelopmentWA – Landowner and Development Manager
- Benchmark Projects – Project Manager
- SITE planning + design – Town Planning Consultant
- Pritchard Francis – Architectural, Civil and Structural Engineering Consultant
- MNG – Licensed Surveyors
- Galt Geotechnics – Geotechnical Consultant
- Flyt – Traffic Consultant
- GHD - Environmental Consultants
- LD Total – Landscape Consultant
- Strategen JBS&G – Bushfire Consultants

2. SITE CONTEXT

2.1 REGIONAL CONTEXT

The site is located within the City of Cockburn and lies approximately 23 kilometres south of the Perth Central Business District, 13 kilometres south of the Fremantle and approximately 4 kilometres west of Latitude 32 Industrial precinct. Refer to **Figure 1 – Location Plan**.

2.2 LOCAL CONTEXT

The site is situated in the Australian Marine Complex (AMC) in Henderson and forms part of the Common User Facility (CUF) Precinct – North owned by DevelopmentWA and managed by AMC Management (WA) Pty Ltd. Refer to **Figure 2 – Australian Marine Complex Plan**.

The AMC was established in 2003 to enhance and support industries involved in manufacturing, fabrication, assembly, maintenance and technology servicing the defence, marine, oil, gas and resource industries. The AMC is home to the largest marine industry in Australia and is an integral part of WA's ship building, ship repair and maintenance industry. A world leader in the construction of high-speed light weight vessels, the area also excels in the fabrication of luxury super yachts, tugs, rescue, patrol, fishing, paramilitary and offshore supply vessels for local and export markets.

The area is supported by the Western Australian Government owned Common User Facility (CUF), a 400,000m^2 integrated heavy engineering, fabrication and assembly facility that provides for fabrication, assembly, commissioning, maintenance and repair activities. Including a floating dock, 6 wharves, heavy lift cranes and self-propelled modular transporters, the CUF provides a unique opportunity for users of the facility to off load and load directly from the facility into the protected deep water harbour of Jervois Bay and out to sea.

In addition to providing direct access to the Indian Ocean, the area is also supported by access to the regional road network of Russell, Cockburn and Rockingham Roads and Kwinana Freeway providing the AMC with excellent access to the State's High Wide Load Corridor, Restricted Access Vehicle network and the broader metropolitan and regional freight road networks.

2.3 LEGAL DESCRIPTION

The proposed fabrication facility will be located on Lots 19 and 9001 Clarence Beach Road. The lots are formally described in the table below.

TABLE 1 CERTIFICATE OF TITLE DETAILS

LOT NO.	LEGAL DESCRIPTION	REGISTERED LANDOWNER	LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS	LOT AREA	DEVELOPMENT AREA
Lot 19	Certificate of Title Volume 1540 Folio 667 Plan 12924	Industrial Lands Development Authority (trading as DevelopmentWA)	▪ M250518 Memorial. Contaminated Sites Act 2003. Registered 23/4/2013. ▪ C225718 Easement to Metropolitan Water Supply Sewerage and Drainage Board. See Sketch on Vol 1540 Fol 667. Registered 30/9/1981.	2.2798ha	2.2798ha

LOT NO.	LEGAL DESCRIPTION	REGISTERED LANDOWNER	LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS	LOT AREA	DEVELOPMENT AREA
Lot 9001	Certificate of Title Volume 2895 Folio 750 Deposited Plan 407921	Western Australian Land Authority (trading as DevelopmentWA)	▪ O276651 Memorial. Contaminated Sites Act 2003 Registered 8/11/2019.	2.4678 ha	0.3600ha
			Total area	4.7476ha	2.6398ha

Both lots contain Memorials registering the properties under the Contaminated Sites Act 2003 as 'Contaminated – remediation required' classified sites. Refer to Section 3.2.1 for details on the classification and investigations currently being undertaken.

An easement to the benefit of the Metropolitan Water Supply Sewerage and Drainage Board (Water Corporation) is registered over Lot 19 for the purpose of providing access to sewerage pipeline. The easement is located towards the rear of Lot 19 and is duly depicted on the Site Information Plan included in the architectural plan set.

The affected land will form part of the proposed hardstand area, and as such, access to the easement will not be impeded by the proposed development. Due consideration will be given to the location of the Water Corporation infrastructure during site works.

Copies of current Certificates of Title, Survey Plans, relevant memorials and easement documents are provided at **Appendix 1**.

2.4 SITE HISTORY AND SURROUNDING LAND USES

Lot 19 and the portion of Lot 9001 subject of this application are currently vacant and contain an extensive area of hardstand associated with the historical use of the land for marine and ship-building purposes over a period of approximately 40 years

The site is owned by Western Australian Lands Authority and Industrial Development Lands Authority (trading as DevelopmentWA) and is located within the Australian Marine Complex (AMC) Industrial precinct. The AMC is managed by AMC Pty Ltd and the site forms part of the Common User Facility (CUF) North area that supports marine industries in the broader AMC area.

The CUF North precinct comprises 4 vacant industrial sites ranging in size from 1.23ha to 2.7 ha. Each site is ideally located and of a sufficient size to support large scale marine fabrication activities such as the super yacht facility proposed by this application. Austal ship builders are located to the north of the CUF North precinct with the AME Marine Support Base to the south.

Refer to **Figure 3 – Aerial Site Plan**.

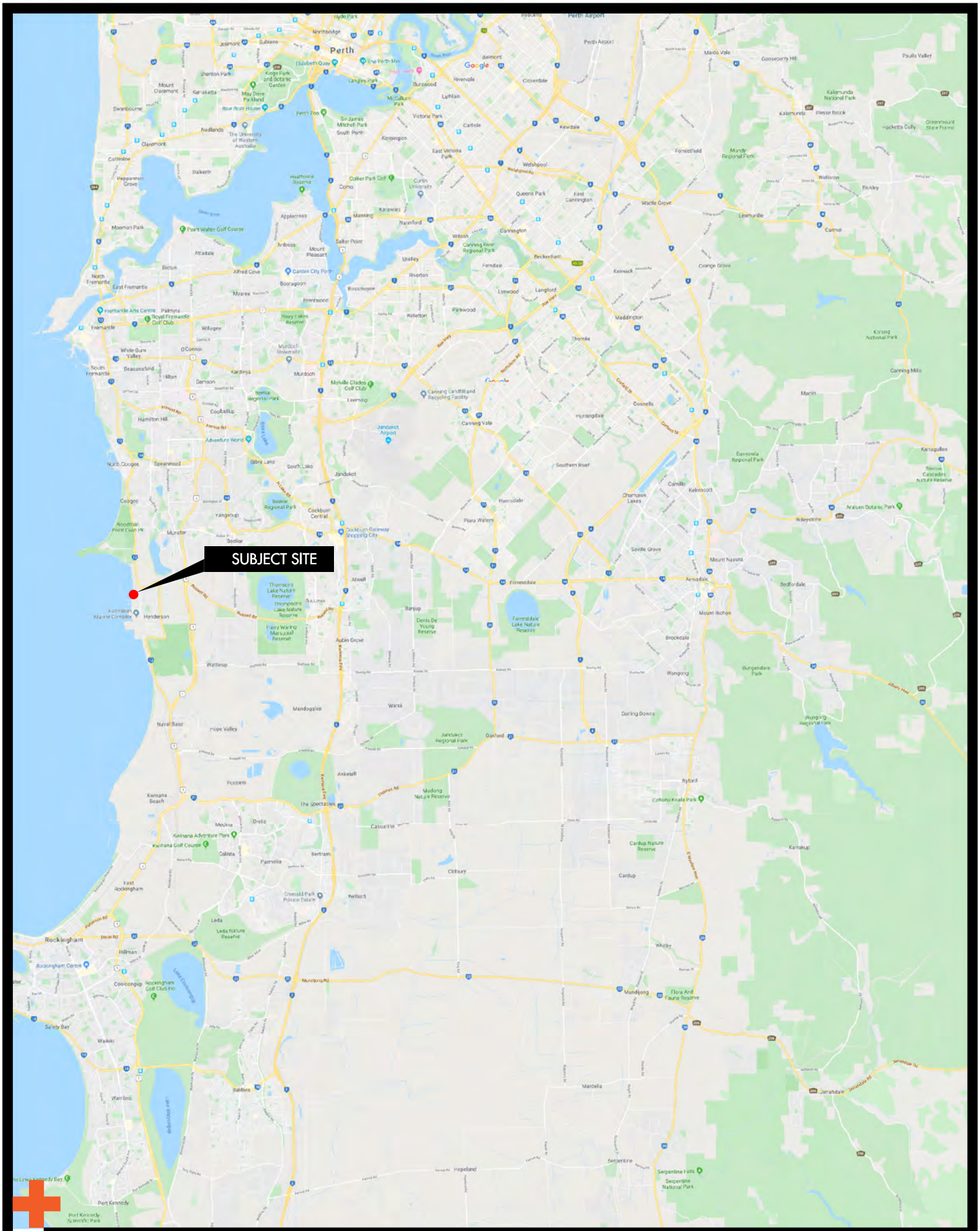
2.4.1 INDIGENOUS AND EUROPEAN HERITAGE

A search of the State Heritage Register and the City of Cockburn Municipal Heritage Inventory did not identify any sites or buildings of heritage significance. The City's Intramap system identifies the location of a series of shipwrecks scattered along the Jervoise Bay coastline including the Adelaide Steam Ship

Company vessel the 'Egmont' that was wrecked in 1906. The vessel sits within the waters off Lot 9001 and is not impacted by the proposed development or land use.

Lot 9001 abuts Registered Aboriginal Site 3776 – the Indian Ocean. The site extends along the west Australian coastline and extending north to Cottesloe and South towards Rockingham.

FIGURE 1 LOCATION PLAN



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LOT 19 & 9001 CLARENCE BEACH ROAD HENDERSON

CLIENT	: DEVELOPMENT WA	REVISION	: A	DRAWN	: BDL
PLAN NO.	: 20-030-5-001	DATE	: 23 September 2020	SCALE	: 1:200,000@A4

NOTE

Base data sourced from Google Maps
Areas and dimensions shown are subject to final survey calculations.

LEIGHTON land development DRAFTING & visuals

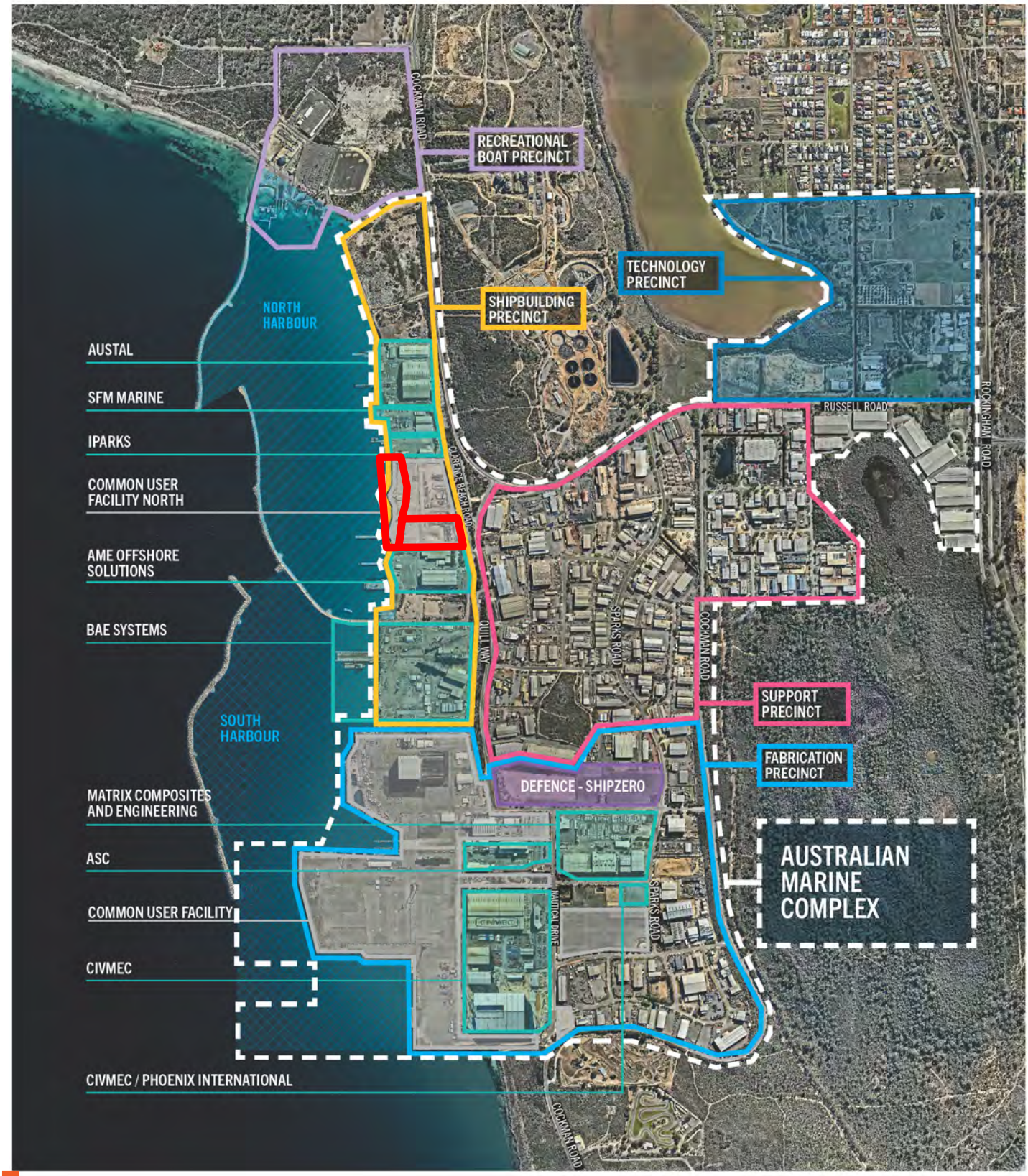
SITE PLANNING + DESIGN

north

0 2km 4km 6km 8km

LOCATION PLAN

FIGURE 2 AUSTRALIAN MARINE COMPLEX PLAN



WWW.SITEPD.COM.AU

LOT 19 & 9001 CLARENCE BEACH ROAD HENDERSON

CLIENT	: DEVELOPMENT WA	REVISION	: A	DRAWN	: BDL
PLAN NO.	: 20-030-5-001	DATE	: 23 September 2020	SCALE	: 1:20,000@A4

NOTE

Base data sourced from AMCWA
Areas and dimensions shown are subject to final survey calculations.

LEGEND

SUBJECT SITE

SITE PLANNING + DESIGN

north 0 200 400 600 800m

AUSTRALIAN MARINE COMPLEX

FIGURE 3 AERIAL SITE PLAN

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LOT 19 & 9001 CLARENCE BEACH ROAD HENDERSON

CLIENT	: DEVELOPMENT WA	REVISION	: A	DRAWN	: BDL	LEGEND	
PLAN NO.	: 20-030 5-002	DATE	: 23 SEPTEMBER 2020	SCALE	: 1:2,500@A3		SUBJECT SITE

NOTE

Source of base data: Landgate Aerial Photography Nearmaps (31/8/2020)
Areas and dimensions are subject to final survey calculations.

LEIGHTON land development DRAFTING & visuals

SITE PLANNING + DESIGN

north

0 25 50 75 100m

AERIAL SITE PLAN

3. SITE ANALYSIS

The 2.6398ha development area is comprised the whole of Lot 19 Clarence Beach Road (2.2798ha) and a 0.3600ha portion of Lot 9001 (2.4678ha total lot area).

The site is bound by vacant hardstand to the north (Lot 16 Clarence Beach Road), an existing shipbuilding fabrication facility to the south (AME), Clarence Beach Road to the east and the AMC harbour to the west.

A series of detailed technical reports have been prepared to guide and inform the proposed development outcomes.

The findings and recommendations contained within the technical reports are outlined in the following report and the reports/plans are appended.

3.1 TOPOGRAPHY

A detailed site feature survey was prepared by MNG Surveyors in March 2020. A copy of the survey is provided in **Appendix 2**.

The site was historically cleared to support industrial activities over the site's 40 year history, and includes large expanses of compacted sand, recycled road base, limestone boulders (within the embankment), a number of concrete pad/hardstand areas and a bitumen access track extending from Clarence Beach Road into the site.

The site is surrounded by a steel security fence along the road frontage and 3m high cyclone security fence with barbed wire generally surrounding the property boundary.

The site falls in an east west direction with two steep embankments located towards the eastern portion of the site, fronting Clarence Beach Road.

Directly fronting Clarence Beach Road, the site falls steeply from 14m AHD to 9.5m AHD (east to west) flattening to a generally level terrace area before another steep embankment (east to west) where levels drop from 9.3m AHD down to 3.2m AHD. The site is generally flat across the rest of the site (2-3m AHD) with a gradual fall towards the sea.

3.2 SOIL AND GROUNDWATER CONDITIONS

To inform the built form outcome and facilitate an expedited build program, geotechnical site investigations have been undertaken by Galt Geotechnics (as part of Pritchard Francis preliminary design brief) to confirm the general geotechnical conditions of the site and ground water levels.

Galt Geotechnics undertook a series of preliminary investigations in March 2020 which comprised of a site walkover and the drilling of three (3) excavation test pits. This work was completed generally in accordance with *AS1726 (2017) Geotechnical Site Investigations*.

Onsite observations and laboratory testing concluded that a site classification of Class A is appropriate for the site subject to appropriate site preparation.

The Perth Ground Water Atlas (1997) shows the historical maximum groundwater level to be approximately 0.5m AHD which is approximately 1.5m below the lowest (western) part of the site. No ground water was noted in the test pits.

The Department of Water and Environmental Regulation (DWER) mapping confirms the site is not located in an area with a risk of acid sulfate soils.

3.2.1 CONTAMINATED SITES

On 26 March 2013 Lot 19 and a portion of Lot 9001 (the 'site') were classified along with other parcels of land (Lot 6, 16, and the remainder of Lot 211) directly adjacent to Lots 6, 16 and 19 by the Department of Water, Environment and Regulations (DWER) as "Contaminated – remediation required" under the Contaminated Sites Act 2003 as a result of the historical use of the land for marine and ship-building purposes over a period of approximately 40 years. Land use on the lots is restricted to commercial and industrial uses.

Refer to Section 5.2.2. for further details on the site classification, investigations (past and current) and the remediation strategy.

3.3 FLORA AND FAUNA

The site has been cleared as part of its historic industrial use and no remnant flora or vegetation are present. No fauna is expected to be encountered on the site.

4. INFRASTRUCTURE AND SERVICES

4.1 ROAD NETWORK

A detailed Transport Impact Assessment (TIA) has been prepared by Flyt consultants and accompanies this report at **Appendix 4**. In addition to assessing the transport impact of the proposed use and development, the report outlines the existing road network conditions.

4.1.1 EXISTING ROAD NETWORK

The site enjoys direct access to Clarence Beach Road, a gazetted public road under the control and management of the City of Cockburn. Clarence Beach Road connects the site to the wider local and regional road network via Cockburn Road, Russell Road and Rockingham Road.

FIGURE 4 SUBJECT SITE AND LOCAL ROAD NETWORK

Figure 18 Main Roads WA Functional Road Hierarchy (source: MRWA)

Figure 19 Main Roads WA posted speed limits (source: MRWA)

Source: Flyt (SITE Doc Ref 201015 81113-573-FLYT-REP-0002 Rev2 FINAL)

As outlined in this report, the proposed development will result in the relocation of Silver Yachts from their existing premises at 124 Quill Way Henderson to the new site on Clarence Beach Road. As addressed in **Section 7** of this report, the proposed land use and development, based on WAPC guidelines is estimated to generate 151 trips in the AM and PM peak or based on a combination of the number of employees, shift schedule and deliveries 126 trips in the AM and PM peak. Given there is no increase in the scale of the development between the new and the existing site, the traffic impacts of the development are already evident on the network.

While the development will not add any additional traffic to the network it is acknowledged that the existing road network includes congested conditions at intersections during peak periods that coincide with shift times for sites within the Henderson industrial area.

DevelopmentWA has confirmed that, as one of a series of projects planned within the AMC, funding has been set aside to assess and facilitate the upgrading of various intersections to improve traffic conditions and ameliorate congestion. These works, following appropriate discussions and agreement with both Main Roads WA and the City of Cockburn are planned to be undertaken within a time period that would address the localised congestion issues highlighted in Flyt TIS.

Key surrounding roads that will be utilised by light and heavy vehicles accessing this facility are described below.

Clarence Beach Road is an Access Road and runs north-south, parallel to Quill Way with a constructed width of 7.2m and a posted speed limit of 50 kph. The road carries very low traffic volumes as it is a no through road, only providing access to abutting properties.

Quill Way is an Access Road and runs north to Cockburn Road and then as it curves around to the east, it intersects with Cockburn Road again. It is constructed to a width of 10m within a 15m road reserve and carries in the order of 4,300 vehicles per average weekday with peak periods between 5.15am-6.15am and 4-5pm consistent with peak times of most industrial areas.

Cockburn Road is classified as a Primary Distributor under the care and control of Main Roads WA providing a critical north south connection between Rockingham and Fremantle carrying in the order of 10,700 vehicles per day with 13.7% heavy vehicles.

4.2 POWER

It is intended that the site will connect via a new Western Power substation to exiting electricity infrastructure in the Clarence Beach Road. The location of the new substation will be subject to detailed discussions with Western Power.

4.3 WATER CORPORATION SERVICES

4.3.1 WATER

The site will connect to existing Water Corporation water services located within Clarence Beach Road.

4.3.2 SEWER

The site will connect to existing Water Corporation sewerage network located at the rear of Lot 19.

4.4 DRAINAGE/STORMWATER MANAGEMENT

A preliminary Stormwater Drainage Plan has been prepared to demonstrate the general stormwater management approach proposed across the site (Refer to **Appendix 5**).

The proposed stormwater drainage system that will be applied across the site adopts the same approach implemented across the southern expanse of the CUF. Stormwater from the site will be directed to a series of drainage pits connected to a series of pipes, graded in a westly direction where the water will be discharged via three (3) ocean outfalls. Gross pollutant traps will be installed prior to each outfall to trap solid waste (such as litter and coarse sediment) before stormwater is discharged into the ocean.

The approach to manage stormwater for the proposed development is addressed in more detail in **Section 7.4.1**.

5. STRATEGIC AND STATUTORY PLANNING FRAMEWORK

5.1 STRATEGIC PLANNING FRAMEWORK

5.1.1 PERTH AND PEEL @ 3.5 MILLION (MARCH 2018)

The Department of Planning, Lands and Heritage's Perth and Peel @ 3.5 Million (and associated sub-regional frameworks) set out the long-term growth strategy for land use and infrastructure for Perth and Peel.

Located within one of Perth and Peels most strategic industrial areas, the AMC is identified as forming part of the Western Trade Coast created for strategic industry and comprises an agglomeration of activities including the Kwinana Industrial Area, Rockingham Industrial Zone, the AMC and Latitude 32 Industrial area. AMC is also recognised as a *'critical contributor to the export economy of the sub region and has unique strategic values'*.

The use and development of the site for a Super Yacht Fabrication Facility is wholly consistent with Perth and Peel @3.5 strategic vision for the area.

5.2 STATUTORY PLANNING AND ENVIRONMENTAL FRAMEWORK

5.2.1 PLANNING AND DEVELOPMENT (DEVELOPMENT ASSESSMENT PANEL) REGULATIONS 2011

The Planning and Development (Development Assessment Panel) Regulations 2011, under Part 2 regulation 5, outline that a development that is estimated to cost $10 million or more is determined as an 'Mandatory' Development Assessment Panel (DAP) application to be determined by the relevant DAP and not by the relevant local government or the WAPC.

On the basis that the proposed development is estimated to cost $25 million to construct, the development application is subject to assessment by the City of Cockburn (for zoned land) and the WAPC (for reserved land) and determination by the Metro Outer Joint DAP.

5.2.2 CONTAMINATED SITES ACT 2003

SITE CLASSIFICATION

On 26 March 2013 Lot 19 and a portion of Lot 9001 (the 'site') were classified along with other parcels of land (Lot 6, 16, and the remainder of Lot 211) directly adjacent to Lots 6, 16 and 19 by the Department of Water, Environment and Regulations (DWER) as "Contaminated – remediation required" under the *Contaminated Sites Act 2003* as a result of the historical use of the land for marine and ship-building purposes over a period of approximately 40 years. Land use on the lots is restricted to commercial and industrial uses.

Contamination assessments, including assessment of soil, groundwater, sediment and surface water, were undertaken in 2008, 2010, 2011 and 2012, as part of a proposed redevelopment for continued marine industrial use of the site (i.e. Lot 19 and portion of Lot 9001), including a wider area comprising Lot 6, Lot 16, and remaining portions of Lot 211.

The investigations and risk assessment works were the subject of a Voluntary Auditor's Report (VAR) (dated 17 January 2013), which recommended that remediation and/or management is required to render the land (including the site) suitable for continued commercial/industrial land use.

A Site Management Plan (SMP) was developed and reviewed by the auditor, which outlined a strategy for the remediation and long-term management of contamination at the land (including the site), which was to be implemented in conjunction with the proposed redevelopment at that time. DWER accepted the findings of the VAR.

The classification outlines that remediation and/or management is required to address unacceptable risks to the environment or any environmental value posed by the contaminants identified across the site and that any sediment disrupting activities on or adjacent to the site are to be undertaken in accordance with an appropriate dredging management plan and monitoring program to mitigate potential risks to the marine environment.

INVESTIGATION AND REMEDIATION

Additional investigations are currently being undertaken with respect to contamination at Lot 19; the purpose of such work is to determine the extent of management action required in order to develop a management strategy to address relevant risks from contamination associated with the proposed redevelopment comprising a super yacht fabrication facility (i.e. a different development to that previously proposed).

A SMP specific to this development will therefore be prepared to document the required management measures to be adopted during the redevelopment to ensure that the site is suitable for its intended use. The SMP will also document the requirements for ongoing management (if and where this is determined to be required). The SMP is expected to be lodged with DWER in November/December 2020.

Remediation of the site will be undertaken in accordance with a Site Management Plan approved by DWER, as a condition of development approval.

5.2.3 METROPOLITAN REGION SCHEME

Lot 19 is wholly zoned 'Industrial'.

Lot 9001 is partially zoned 'Industrial' and partially reserved 'Waterways'. The portion of Lot 9001 proposed to be developed for the super yacht fabrication facility is zoned 'Industrial'.

Refer to **Figure 7 – Metropolitan Region Scheme – Clause 42 Certificate Maps**.

5.2.4 STATE PLANNING POLICY 3.7: PLANNING IN BUSHFIRE PRONE AREAS (SPP 3.7)

A small area of the eastern portion of Lot 19 is designated by the Fire and Emergency Services Commissioner as a 'Bushfire Prone Area'.

FIGURE 5 MAP OF BUSHFIRE PRONE AREAS 2019 (EXTRACT)

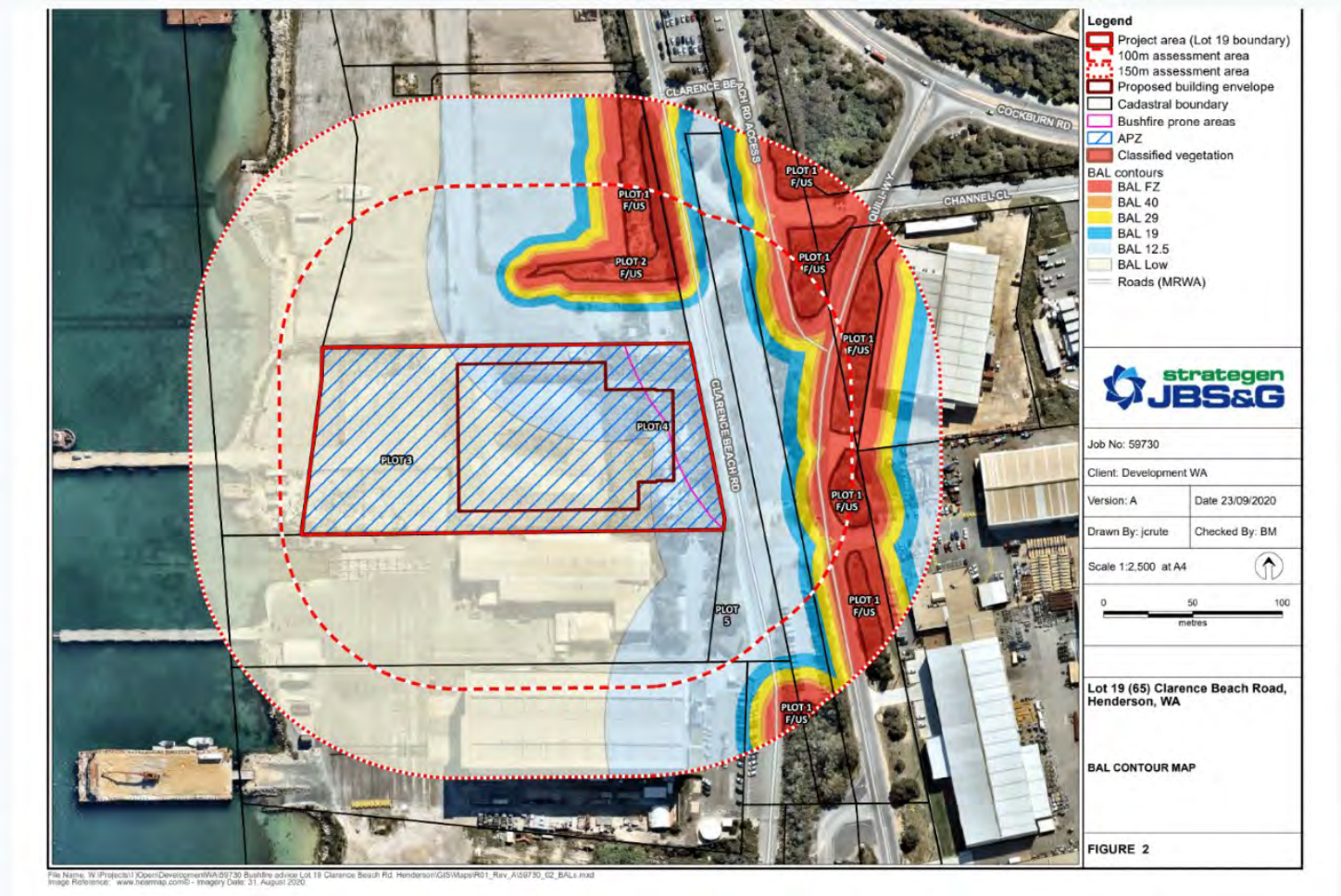
Source: https://maps.slip.wa.gov.au/landgate/bushfireprone/, 2 October 2020

In accordance with State Planning Policy 3.7: Planning in Bushfire Prone Areas (SPP 3.7) a Bushfire Attack Level (BAL) Assessment has been prepared by Strategen-JBS&G and is included in Appendix 3.

In determining the applicable BAL rating for the site, Strategen-JBS&G have undertaken a review of the existing classification of vegetation across the site and the nature and extent of proposed development. In accordance with *AS 3959-2018 Construction of Buildings in Bush Fire Prone Areas* (AS 3959;SA 2018) and the *Visual Guide for Bushfire Risk Assessment in Western Australia* vegetation has been classified within the 150m assessment area as consisting predominantly of scrub and grassland vegetation.

All existing vegetation within the site will be modified to a low threat state following the development of the site and installation and maintenance of a low threat landscaping scheme. Through the appropriate implementation of an APZ (Asset Protection Zone) over the entire project area, the highest BAL applicable to the proposal is that of BAL – 12.5.

FIGURE 6 BAL CONTOUR MAP



Source: Strategen JBS&G (SITE Doc ref: 200923 Strategen 59730 R01 BAL assessment Lot 19 Clarence Beach Rd (Rev 0))

The BAL Assessment concluded that a Bushfire Management Plan (BMP) is required for the land identified as BAL 12.5 to demonstrate the necessary bushfire compliance measures that will be implemented as part of the proposal. Strategen-JBS&G are currently preparing a BMP to support the application for the proposed Super Yacht Fabrication Facility, which will be submitted in due course.

5.2.5 LOCAL PLANNING SCHEME

Lot 19 is wholly zoned 'Special Use (SU2)' and located within 'Development Area (DA17)'. Following gazettal of Amendment 144 (refer to the comments below), Lot 19 will be wholly zoned 'Strategic Industry' and will not be included within a 'Development Area'.

Lot 9001 is wholly unzoned, partially located within Development Area (DA17) and partially reserved 'Waterways'. Following gazettal of Amendment 144 (refer to the comments below), Lot 19 will be partially zoned 'Strategic Industry' and partially reserved 'Waterways', reflecting the alignment under the MRS.

Refer **Figure 8 – City of Cockburn Town Planning Scheme No. 3 Map.**

The objectives of the Special Use Zone are to:

> *"m) to provide for uses which have unique development requirements that cannot be easily accommodated by the objectives of any of the other zones included in the Scheme;*

Table 8 of TPS 3 defines Special Use 2 (SU 2) as

NO.	DESCRIPTION OF LAND	SPECIAL USE	CONDITIONS
SU2	Cockburn Road, Henderson, The Henderson Industrial Area	Marine Engineering, shipbuilding and the manufacture, fabrication and assembly of components for use by the off shore petroleum industry and marine engineering. Land within DA15 may also be used for Marine Engineering and general industries which are directly related to, or in support of marine engineering together with other general industrial uses restricted to the carrying out of any process for and incidental to the fabrication, manufacture and repair of structures for large scale industrial uses in the energy, transport, chemical and mining industries which need to be located on the coast to enable transport, chemical and mining industries which need to be located on the coast to enable transport of any of its primary products by sea.	Structure Plan adopted to guide Subdivision, land use and Development – Henderson Industrial Area (DA15) (DA17)

Table 9 of TPS 3 defines Development Area 17 (DA17) as:

REF NO.	AREA	PROVISIONS
DA 17	Henderson (Northern Harbour Development Zone)	1. An approved Structure Plan together with all approved amendments shall be given due regard in the assessment of applications for subdivision, land use and development in accordance with clause 27(1) of the Deemed Provisions, unless the land has already been subdivided into industrial lots (SU 2). 2. To provide for marine engineering, shipbuilding, and the manufacture, fabrication and assembly of components for use by the offshore petroleum industry and marine industry.

DA 17 area is comprised a combination of both vacant and development industrial lots. Given this, and in accordance with Provision 1. of DA 17, the subject site can be developed in the absence of an approved Structure Plan.

As detailed further in this report, the proposal is for the development of a large-scale marine shipbuilding facility, consistent with uses provided through Provision 2. of DA 17.

LAND USE DEFINITION AND PERMISSIBILITY

In accordance with the provisions of TPS 3 the use and development of the site is most appropriately defined as a 'Marine Industry' -

> *"the carrying out of any process for and incidental to the fitting out, maintenance and repair of ships, including the construction of boats, but excluding all blasting other than wet slurry blasting operations a(s) defined by Clean Air Act Regulations"*

The proposal (as detailed further in **Section 6**) includes administrative offices, staff facilities (lunchroom and amenities), that are ancillary to the predominant Marine Industry use.

Silver Yachts has confirmed that the site includes a designated work area for minor blasting works. These works are not required to be registered or licensed through the relevant regulatory authorities and as defined by the Clean Air Act Regulations.

In accordance with Clause 3.7.2 of TPS 3 *"a person must not use any land, or any structure or buildings on land, in a special use zone except for the purpose set out against that land in Table 8 and subject to compliance with any conditions set out in Table 8 with respect to that land."*

'Special Use 2' is intended for uses relating to Marine Engineering, ship building and the manufacture, fabrication and assembly of components for use by the offshore petroleum industry and marine engineering. The use 'Marine Engineering' is wholly consistent with the intent of the Special Use 2 zone.

AMENDMENT 144 TO CITY OF COCKBURN TOWN PLANNING SCHEME NO 3

The subject site forms part of an Amendment No. 144 to TPS 3 (Amendment 144) that seeks to normalise and simplify the local statutory planning framework within the Henderson Industrial area and the AMC.

Amendment 144 was initiated by Council on the 13 June 2019 to rezone the broader AMC area from Special Use 2 and Special Use 22 to 'Strategic Industry' and delete the associated 'Development Area' classifications from the affected sites. Refer **Figure 9 – City of Cockburn Town Planning Scheme No. 3 – Amendment 144 Map.**

Amendment 144 also seeks to zone the unzoned portions of land within the area to 'Strategic Industry' and include the following additional provisions in the Scheme relating to the *Objective of the Zone* and the *Use Class Permissibility* -

- Objective of the Strategic Industry zone to provide for Strategic Industrial areas of State or Regional significance.
- The 'Use Class Permissibility' of the Strategic Industry zone includes Marine Engineering (P) and Office (D)

The Amendment was finally adopted by the City of Cockburn on 12th March 2020. It is understood that the Minister for Planning endorsed the proposed amendment on the 17th September 2020 and the changes proposed through Amendment 144 will be published in the Government Gazette in the coming weeks and TPS3 will then be duly updated.

In light of this, the proposal has been assessed in accordance with the existing statutory planning framework and the framework that will be implemented through Amendment 144.

Marine Engineering is a 'P' - Permitted Use under the proposed provisions of Amendment 144. The Office component is a discretionary use, and, as it is incidental to the predominant use is considered appropriate in the context of the proposed development.

As Amendment 144 only relates to zoning and use permissibility, all development standards relating to the proposed use will remain unchanged on the gazettal of the amendment.

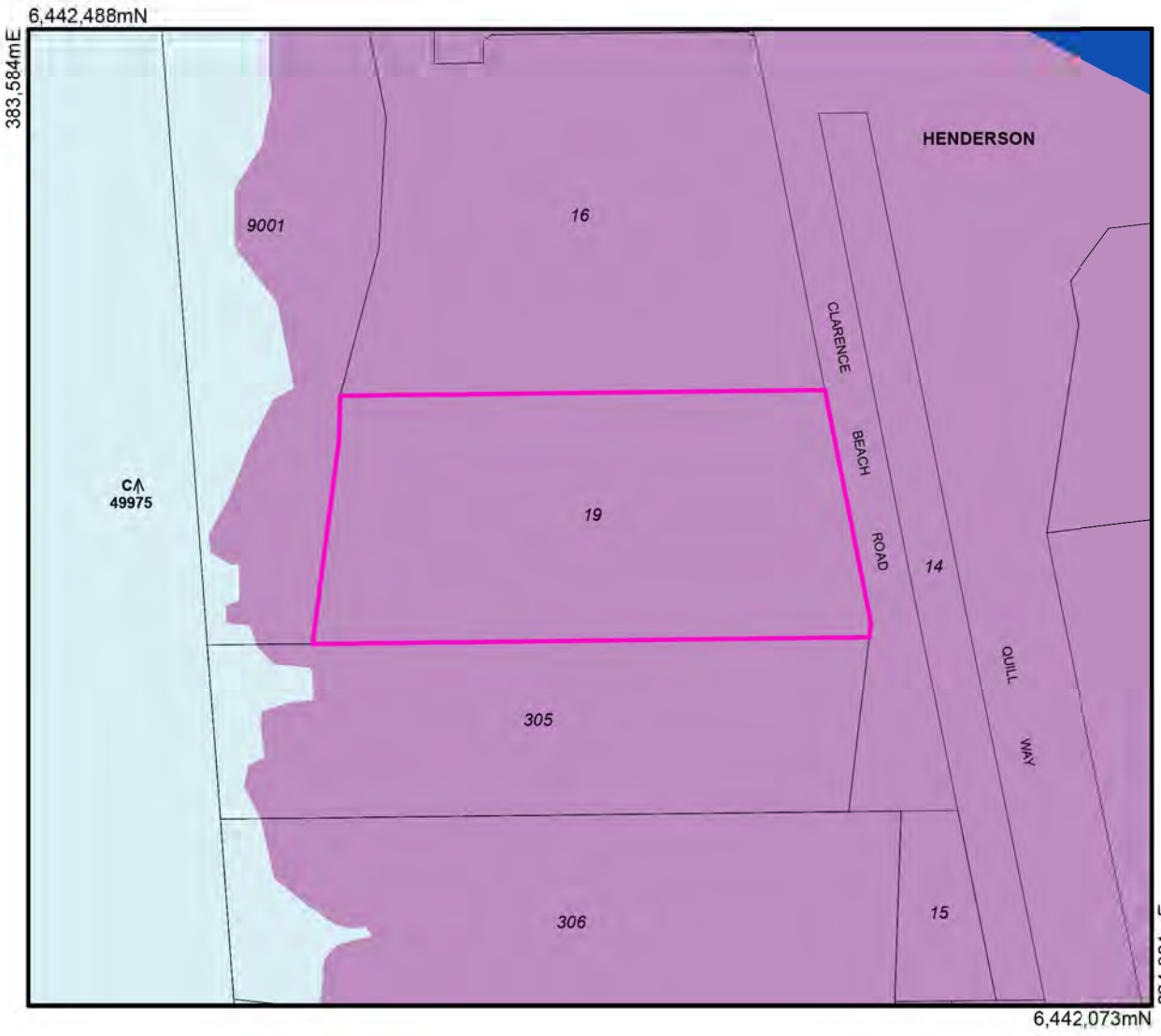
FIGURE 7 METROPOLITAN REGION SCHEME – CLAUSE 42 CERTIFICATE MAPS

Legend for reserved land and zones

Industrial

Waterways

Other regional roads



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LOT 19 & 9001 CLARENCE BEACH ROAD HENDERSON

CLIENT	: DEVELOPMENT WA	REVISION	: A	DRAWN	: BDL
PLAN NO.	: 20-030-5-005	DATE	: 23 September 2020	SCALE	: 1:3,000@A4

NOTE

Base data sourced from DPLH
Areas and dimensions shown are subject to final survey calculations.

LEIGHTON land development DRAFTING & visuals

SITE PLANNING + DESIGN

North

0 30 60 90 120m

METROPOLITAN REGION SCHEME - LOT 19

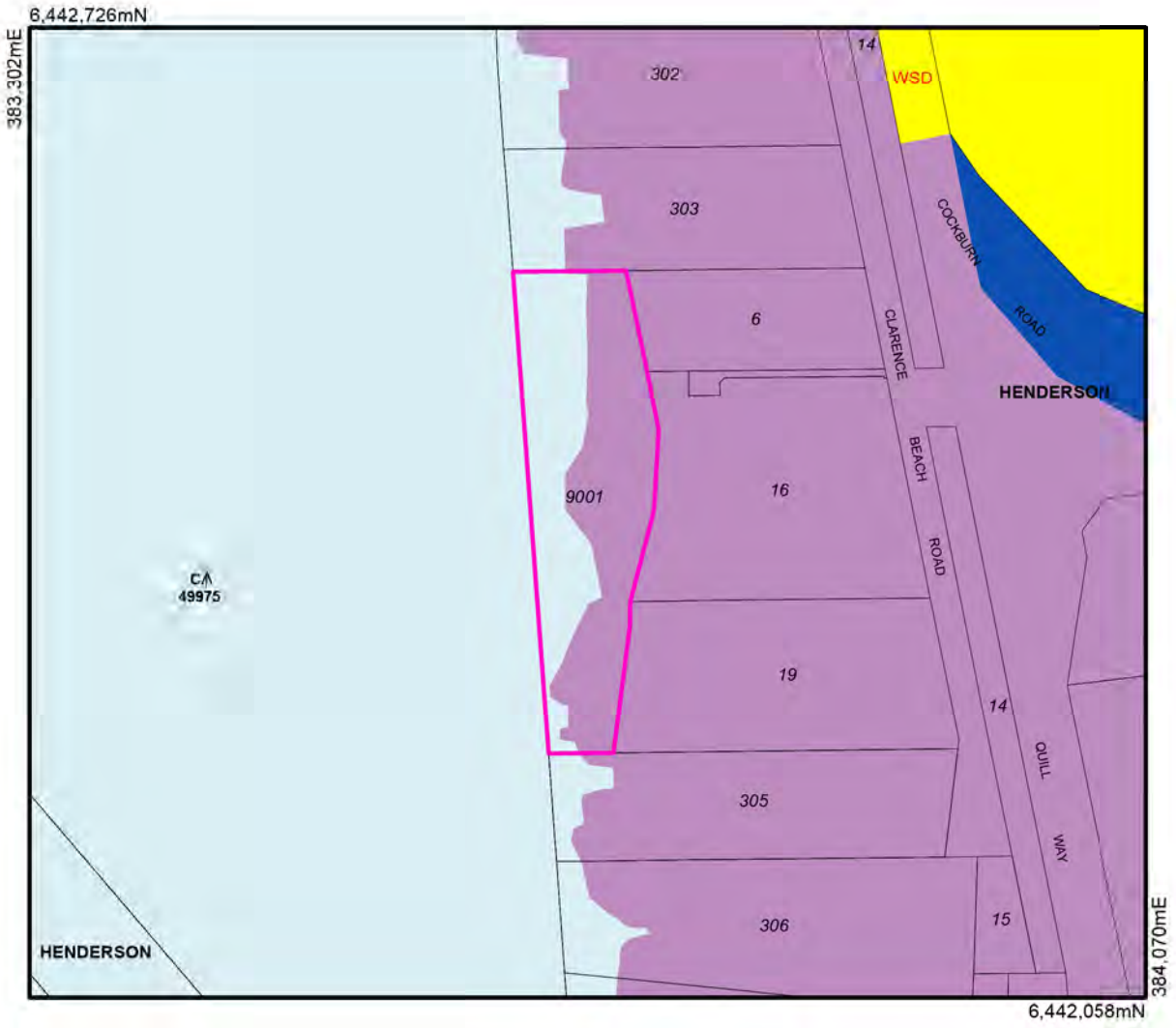
Legend for reserved land and zones

Industrial

Public purposes - Water Authority of WA WSD

Other regional roads

Waterways



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LOT 19 & 9001 CLARENCE BEACH ROAD HENDERSON

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NOTE

Base data sourced from DPLH
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LEIGHTON land development DRAFTING & visuals

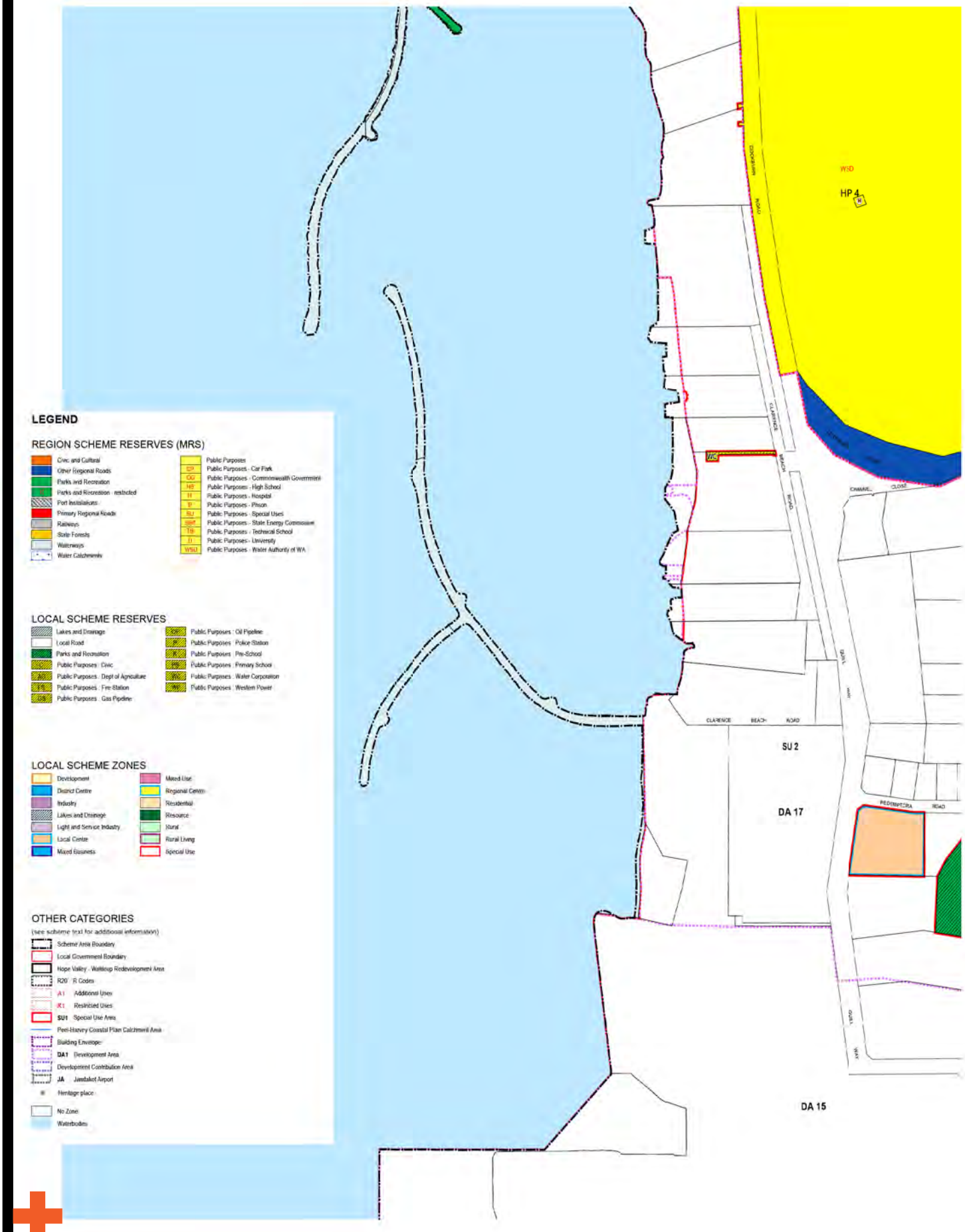
SITE PLANNING + DESIGN

north

0 50 100 150 200m

METROPOLITAN REGION SCHEME - LOT 9001

FIGURE 8 CITY OF COCKBURN TOWN PLANNING SCHEME NO. 3 MAP CURRENT



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LOT 19 & 9001 CLARENCE BEACH ROAD HENDERSON

CLIENT	: DEVELOPMENT WA	REVISION	: A	DRAWN	: BDL
PLAN NO.	: 20-030-5-006	DATE	: 23 September 2020	SCALE	: 1:10,000@A4

NOTE

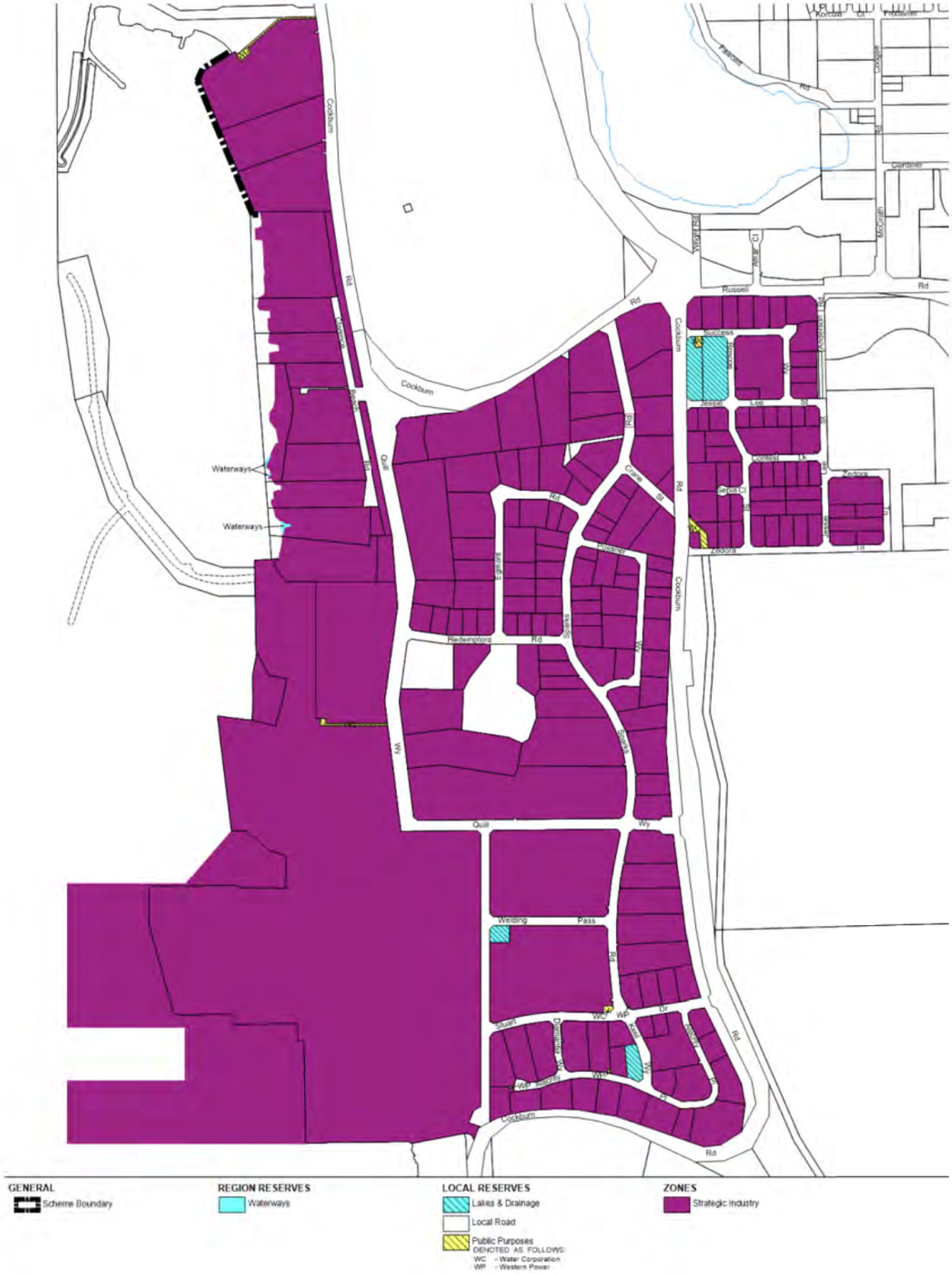
Base data sourced from DPLH
Areas and dimensions shown are subject to final survey calculations.

LEIGHTON land development DRAFTING & visuals

SITE PLANNING + DESIGN

CITY OF COCKBURN LPS NO. 3

FIGURE 9 CITY OF COCKBURN TOWN PLANNING SCHEME NO 3 AMENDMENT 144



WWW.SITEPD.COM.AU

LOT 19 & 9001 CLARENCE BEACH ROAD HENDERSON

CLIENT	: DEVELOPMENT WA	REVISION	: A	DRAWN	: BDL	LEGEND	
PLAN NO.	: 20-030-5-007	DATE	: 23 September 2020	SCALE	: 1:15,000@A4		

NOTE

Base data sourced from DPLH
Areas and dimensions shown are subject to final survey calculations.

LEIGHTON land development DRAFTING & visuals

SITE PLANNING + DESIGN

north

0 150 300 450 600m

CITY OF COCKBURN LPS NO. 3 - AMENDMENT NO. 144

5.2.1 LOCAL PLANNING POLICIES

In addition to the development standards for Industrial Development included in Part 4.9 of TPS3, a series of Local Planning Policies, prepared in accordance with the provisions of TPS 3, apply to the site and proposed development as outlined below.

LPP 3.9 INDUSTRIAL DEVELOPMENT

The City of Cockburn LPP 3.9 Industrial Development Policies augments the existing provisions of TPS3 and aims to provide guidance for the development of land in the City's industrial and mixed-use business zones in an endeavour to achieve coordinated quality development outcomes. The standards relevant to this proposal are:

- Setbacks
- Vehicle Access & Parking
- Bicycle Parking
- End of Trip Facilities
- Fencing
- Stormwater Management
- Signage
- Retaining Walls
- Built Form
- Roofs
- Materials, Colours and Finishes
- Passive Solar Design
- Landscaping
- Waste Management
- Vehicle Crossovers

Compliance with the requirements of the Policy are addressed in Section 7 of this report.

LPP 3.10 DISCRETION TO MODIFY DEVELOPMENT STANDARDS – NON-RESIDENTIAL DEVELOPMENT

The City of Cockburn Local Planning Policy 3.10 Discretion to Modify Development Standards for Non-Residential Development sets out guidelines for the exercise of discretion regarding variations to site and development requirements of TPS3.

The Policy requires that the City may have due regard to the following principals when assessing an application for development approval that does not comply with a standard prescribed by TPS 3, namely;

The aim, purpose and objective of the standard adhered to

- That the noncompliance will not have an adverse effect upon the occupiers or users of the development, the inhabitants of the locality or future development of the locality

- The city will consult with any affected owners or occupies in the locality where it us considered that the variation could affect their amenity or function of the adjoining development pursuant to TPS 3.

Compliance with the relevant development standard, and requests for variation thereof are addressed in **Section 7** of this report.

6. SILVER YACHTS OVERVIEW

The super yacht fabrication facility will be occupied, through agreement with DevelopmentWA, by the internationally renowned super yacht builder, Silver Yachts. One of only two super yacht fabricators in Australia (both of which are located in the AMC), Silver Yachts is a key contributor to WA Maritime Industry.

Established in 2005 by the Swiss based, German entrepreneur Guido Krass, Silver Yachts is a world leader in the fabrication of ultra-luxury, high performance, fuel efficient, aluminium super yachts. Working hand in hand with the internationally renowned naval architect and designer Espen Øino, Silver Yachts offers their clients complete boat building services from design sketches to complete construction.

Silver Yachts employees a team of 150 specialist highly skilled trades from aluminium metalworkers who skilfully weld the lightweight frame of the yachts to a dedicated team of interior specialists including leatherworkers, cabinet makers and upholsterers. Supported by a team of inhouse designers and administrative staff, Silver Yachts is a technological front runner in the international super yacht building industry.

Silver Yachts has operated from their existing facility at the AMC since 2005 and their relocation to the proposed new state of the art fabrication facility at Lots 19 and 9001 Clarence Beach Road will support their continued growth and dominance in the international super yacht market.

6.1 DEVELOPMENT OVERVIEW

The proposed super yacht fabrication facility will comprise of two large fabrication halls for fabrication and fit out with associated administrative office functions and ancillary uses as outlined in **Table 2** below.

The facility is designed to accommodate every aspect of marine engineering and boat building from the fabrication of the aluminium hull right through to the fabrication and fit out of the luxury interior finishes. The facility can accommodate up to two vessels at a time, each taking an average of 3 years to be completed prior to leaving the site.

Large ship building facilities, such as that proposed through this application, have specific design requirements to accommodate the specialised nature of the activities onsite. In addition to providing two large, enclosed fabrication halls capable to accommodating vessels of 110m in length, the site also needs to provide sufficient outdoor hardstand areas to move the vessels out of the fabrication halls to a launch site.

The overall siting and design of the proposed development has sought to balance these specific needs of a super yacht fabrication facility with the general industrial design controls and standards that form part of the TPS3 and the City's associated local planning policy documents.

Detailed Site Plan, Floor Plans and Elevations, prepared by Pritchard Francis, are provided in **Plan Set 1** at the rear of this report.

TABLE 2 PROPOSED USES AND FLOOR AREAS

USE	DESCRIPTION	GFA (APPROX)
Fabrication Hall	Two 110m x 24m wide fabrication halls (for fabrication and fit out).	5750m²
Administrative Office	A three-storey office component located along the site's street frontage, two storeys of which are visible from Clarence Beach Road. The office space will comprise of office and meeting rooms and centrally located staff amenities on each floor.	1265m²
Speciality Workshops and Stores	Located alongside the main fabrication hall, the development includes a series of speciality workshops for engineering, stainless steel, fit out, facilities, painting / blasting, electrical and HVAC assembly located across three levels (ground, first and second floors). Stores are located on each level adjacent to workshop spaces.	8550m²
Staff Amenity and Tea Prep areas	For staff convenience and efficiency, staff amenities (toilets, lockers, lunchrooms and tea prep facilities) are located across all three levels of facility	1055m²
Internal Walkway	An internal walkway extends across both the ground and first floor connection the specialty workshops to the office and administration areas	880 m²
	TOTAL GFA	17,500M²

TABLE 3 ANCILLARY ELEMENTS

ELEMENT	DESCRIPTION
Car Parking - Front	44 Carparking Bays are located at the eastern end of the site in front of the new super yacht building
Carparking - Rear	The rear of the site will accommodate 359 parking bays comprising 257 marked parking bays and 102 auxiliary (unmarked) bays within Lot 9001. Once day a year (at most) this area will be used as open hardstand to facilitate the removal of completed vessels from the fabrication hall.
Service / Loading Bays	5 Loading / Layover bays have been nominated adjacent to the rear of the fabrication hall to accommodate standard rigid trucks (up to 19m in length) that will deliver materials and equipment to the site.
Vehicle Access	A 7m wide vehicle access ramp is located along the southern boundary of the site to provide vehicle access to the rear of the site. The ramp will be used by standard articulated vehicles (up to 19m in length) delivering materials to the rear of site and by staff accessing the rear parking area.
Landscaping	Landscaping has been accommodated along the front boundary (and adjacent verge) which represents 892m² area of landscaping (3.76%) of the site. To compensate for the reduced onsite landscaping proposed as part of the development the adjoining verge, and the verge on the opposite side of Clarence Beach Road will also be landscaped.

6.2 BUSINESS OPERATIONS

Silver Yachts will be relocating from their existing premises at 124 Quill Way Henderson to the proposed new larger premises on Clarence Beach Road that will facilitate the manufacturing of larger yachts up to 100m in length.

While the overall business operations will remain largely unchanged, the new state of the art facility will enable Silver Yachts to further streamline their shipbuilding program. As an existing and established business within the AMC, Silver Yachts are able to provide a high level of certainty with respect to how the business operates, its hours of operation and staffing requirements. These requirements are outlined below.

6.3 OPERATION DAYS AND TIMES

This application is seeking approval for 24hr a day, 7 days a week, 365 days a year operation, with core operational days and times being:

- Fabrication Hall and Workshop staff: Monday to Friday, 6am – 3:30pm
- Administration and Design staff: Monday to Friday, 7am – 4pm

Operations and on-site staff outside of core days and times will be on an as-needs basis in response to customer requirements and other operational requirements.

6.4 NUMBER OF EMPLOYEES

The total number of staff employed at the new facility will be 208 staff, across a 9.5-hour day comprising 156 fabrication speciality trades, design crew of 29, 9 speciality trade managers, 13 administrative staff and 1 storeman.

Staff numbers and rosters will remain unchanged from Silver Yachts existing facility.

6.5 MOVEMENT AND ACCESS

The proposed development will result in the relocation of Silver Yachts from their existing facility on Quill Way to the new site 1.3km away on Clarence Beach Road. The site operations, servicing and vehicle demands associated with the development will remain the same, and given the proximity of both sites to each other it is expected that staff will continue to use the same route to access the new facility utilising Cockburn Road and then Quill Way to access the site on Clarence Beach Road.

The fabrication hall and associated administrative activities will accommodate up to 208 staff. Materials associated with the manufacture of boats will be delivered by fixed rigid trucks (up to 19m in length) on an as need basis. Trucks and the majority of staff parking is located at the rear of the site, access via a 7m wide access ramp from Clarence Beach Road. A separate crossover towards the north of the site provides separate access to visitor and some staff parking.

As detailed further in Flyt's TIA, staff will generally arrive onsite Monday - Friday between the hours of 5.30am-6am for production staff and 6.30-7am for production and office staff. Based on this it is estimated that the site will generate a peak of 126 trips in the am with an estimated departure peak of 126 vehicles. As the facility is being relocated, these trips are already accounted for on the network and the proposed new facility will not increase the amount of traffic on Quill Way or Cockburn Road.

7. PROJECT DESCRIPTION – PROPOSED LAND USE AND DEVELOPMENT

7.1 DEVELOPMENT OVERVIEW

7.1.1 LAND USE

The proposal comprises a 'Marine Industry' and associated ancillary uses. The predominant activities on site will be the fabrication of custom, high performance aluminium super yachts. To facilitate this, the development will comprise a large purpose-built fabrication hall with associated speciality workshops, administration offices, staff amenities, staff / visitor parking, truck unloading and vehicle manoeuvring areas and landscaping.

The use is defined as a 'Marine Industry' under TPS 3 a use that is identified as a 'special use' in the sites 'Special Use 2' zoning. The proposed development is wholly consistent with the objectives of the 'Special Use 2' zone and the provisions of 'Development Area 17'. The use is also a P - Permitted use in the 'Strategic Industry' zoning proposed through Amendment 144 (awaiting final gazettal).

The super yacht fabrication facility is the most appropriate and best use that could be contemplated for the site. It is entirely consistent with the intent of the AMC and will contribute to the continued strategic growth and expansion of the Western Trade Coast.

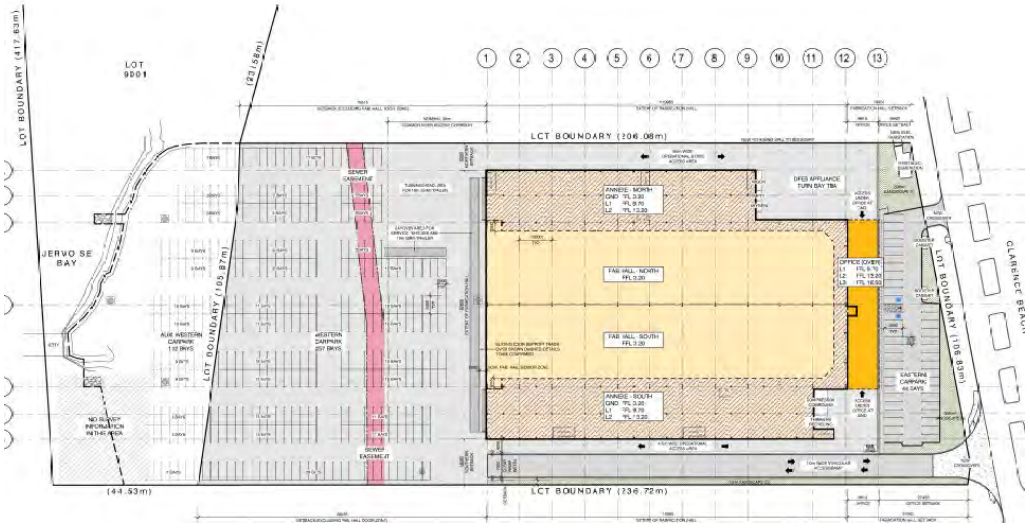
7.1.2 SITE LAYOUT AND DESIGN

As illustrated in the site plan, floor plans and elevations (refer to **Plan Set 1**) the proposed fabrication hall, associated workshops and office space has been custom designed to support the specific needs of super yacht manufacturing.

The proposed fabrication halls and associated elements have been located to ensure the site can be utilised in the most effective and efficient way, while making a positive contribution to the streetscape through its contemporary design fronting Clarence Beach Road.

The general layout will ensure safe, legible, and easy access from car parking areas to publicly accessible administrative areas with separate and dedicated entry for staff parking and commercial deliveries to the rear of the facility.

FIGURE 10 SITE LAYOUT PLAN



Source: Pritchard Francis (SITE Doc Ref 201002 PF 20-042_DA Plan Set)

The design takes advantage of a steep fall in levels from Clarence Beach Road towards the rear of the site by constructing the main fabrication hall approximately 10m below street level reducing the height of the main fabrication hall when viewed from Clarence Beach Road.

Either side of the main fabrication hall is flanked by a series of smaller dedicated workshop spaces that will be located across three levels along the perimeter of the main hall. A three storey office component fronts Clarence Beach Road, two levels of which are visible from Clarence Beach Road frontage, with a third lower level (as the site steps down) provided with internal views into the fabrication hall.

The internal layout of the fabrication hall, workshops and office spaces has been carefully considered to ensure the efficient and effective use of the facility to the benefit of the business and its employees.

Clause 4.9.4 of TPS 3 sets out the requirements of industrial development as it relates to *Convenience and Functionality*. Those relevant to the proposal are addressed in Table 4 below.

TABLE 4 CONVENIENCE AND FUNCTIONALITY OF DEVELOPMENT

CLAUSE	REQUIRED		PROVIDED	COMPLIANT
Convenient and Functional Development (TPS 3 Clause 4.9.4 a))	Development designed to ensure it is convenient and functional for those who use the development particularly in respect to -		Careful consideration has been given to the layout and functionality of the facility to ensure it provides a safe, convenient, and legible layout for staff and visitors. This includes- ▪ Simple design reflects scale and form of surrounding marine business. ▪ Simply layout with main fabrication hall centrally located, flanked by speciality workshops with all office administration in a dedicated workspace ▪ Staff amenities and tea prep facilities are provided on every floor ▪ Access and Parking arrangements are legible and efficient.	✓
	(i)	The relationship of development to use and enjoyment of adjoining lots		
	(ii)	The convenient location of public and employee facilities provided on the lot		
	(iii)	Safety and amenity		
	(iv)	Accessibility of driveways, footpaths, service bays and storage areas		

7.1.3 BUILDING SETBACKS

To ensure that the site can physically accommodate a fabrication hall and allow for sufficient external manoeuvrability at the rear of the site to move a vessel from the hall to its launching site, the building has been sited parallel to the side lot boundaries and on an angle to the primary street frontage.

A 3-storey office building is located in front of the fabrication hall which directly addresses the sites primary street frontage of Clarence Beach Road. The office will comprise large windows and a curved architectural roof feature that will help articulate and activate the property frontage and provide weather protection to the office building. The curved roof has been designed to replicate the sleek lines of a super yacht.

The site is setback in excess of 8m from the northern boundary and 14m from the southern side boundary to accommodate a 7m wide vehicle access ramp to the south and a 4m wide external vehicle access path (for operational and DFES access) around the entire perimeter of the building.

TABLE 5 BUILDING SETBACK REQUIREMENTS

CLAUSE	REQUIRED	PROVIDED	COMPLIANT
Primary Street (LPP 3.9)	15m	9.8m (northern end of office building) – 27.4m (southern end of office building) Average setback across frontage 18.65m	Variation sought
Side	In accordance with BCA	North 8.35m (minimum) South 14.08m (minimum) Building has been setback from boundaries in accordance with DFES requirements	✓
Rear	In accordance with BCA	75m (minimum) to western boundary of Lot 19	✓

The proposed development generally complies with setbacks requirements outlined in the City Cockburn Planning Policy LPP 3.9 Industrial Development.

As the lot is not square to the street, the setback of the office component varies from a 9.8m and 27.4m setback from primary street, where a minimum 15m setback is required by LPP 3.9. While a variation to the minimum setback is sought, the design provides for an average setback of 18.65m across the primary street frontage and the building has been designed and articulated to make a positive contribution to the streetscape. The fabrication hall located at the rear of the office building is setback between 19.45m and 37.06m from the primary street frontage. The triangular shaped area of land in front of the building will incorporate vehicle crossovers, staff and visitor parking and landscaping.

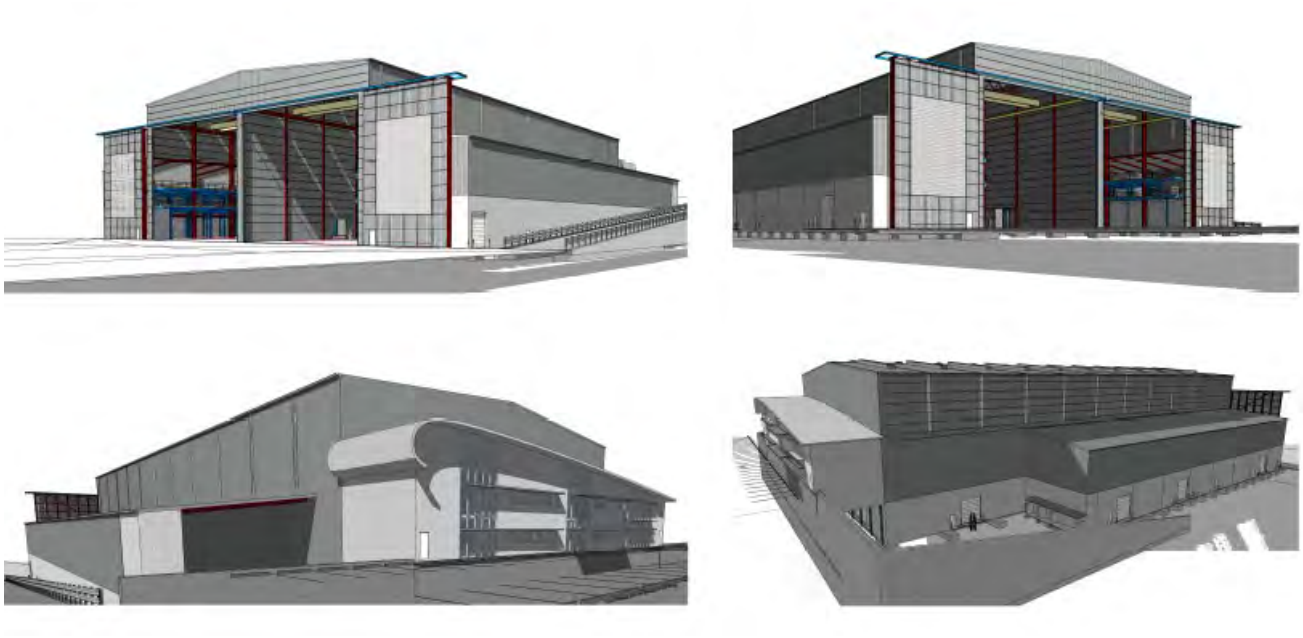
7.1.4 BUILT FORM

LPP 3.6 requires that industrial development comply with the following built form requirements:

TABLE 6 BUILT FORM REQUIREMENTS

REQUIRED	PROVIDED	COMPLIANT
AMENITY CLAUSE TPS CLAUSE 34.9.3 b) – d)		
Buildings shall be designed so that they are complementary with their surroundings and adjoining development in terms of their external appearance, design, height, scale and bulk	The site forms part of a speciality boat building complex where buildings are of a significant scale and size to accommodate construction of marine vessels. The proposed development is consistent with the form and scale of surrounding facilities.	✓
Buildings shall be located on the lot and provide landscaped areas which enhance the streetscape and add to the attractiveness of the locality of which they form part.	To enhance the streetscape, landscaping is proposed along the front property boundary, adjoining verge and opposite street verge.	✓
BUILDING FRONTAGE AND ENTRY LPP 3.9 PART 10		
Building designed to address primary street through openings and building materials	A 3-storey office (viewed as 2 storeys from the street) is located along the primary street frontage and will includes glazing and a mix of building materials to help create variety and interest along the front façade.	✓
Large expanses of unrelieved sections of wall or roof where seen from primary street frontage shall not permitted	A portion of the fabrication hall eastern exterior wall will protrude above the office building. It is intended this section of the hall will be clad in suitably Colourbond sheeting with silver yacht signage (details can be provided as a condition of development approval)	✓
Main Entrance to building on front elevation, clearly visible, easily accessible and marked with signage	The office building includes a centrally located main double entrance door on the front elevation of the building.	✓
Entrances shall contain covered portico, awning or canopy or veranda to further emphasize it and provide weather protection	The office building is framed by a large cantilevered architectural curved roof detail that articulates the front façade combined with awnings above the windows to provide suitable weather protection to the office.	✓
ROOFS LPP 3.9 PART 10		
A parapet, creating a visual top to the building facade is to be provided where flat, skillion or similar roofs are proposed.	The office building includes a large cantilevered curved roof designed to reflect the sleek shape of a super yacht. The fabrication hall includes a pitched roof with a gable end fronting Clarence Beach Road.	✓
MATERIALS, COLOURS AND FINISHES **LPP 3.9 PART 10**		
Broad facades are to be broken down into separate sections through different materials, colours and finishes to provide interest and enhance the streetscape	As detailed further in Section 7.1.3.1 below, the office component of the development is enhanced through the combined use of glazing, painted precast wall panels and a curved roof design that contributes to an attractive streetscape in the context of large scale industrial development.	✓
External boundary walls that are visible from the street shall be treated appropriately. This may be achieved through colour, score lines or similar. Where an adjoining site is vacant, the treatment shall be for at least half the length of the wall, measured from the portion of wall closest to the street	The main fabrication hall is flanked by specialised workshops along the northern and southern side boundaries of the site. The workshop space and fabrication hall will be broken up and articulated through a combination of precast concrete wall panels (appropriately painted) and Colourbond sheeting above. The upper structure of the main fabrication hall will be visible above the workshop roof and will also be constructed from Colourbond sheeting. This is detailed further in Section 7.1.3.1 below	✓
Any development proposal with a construction value exceeding $500,000 shall include a set of coloured perspectives with the application.	Perspectives are included within the submitted architectural plan set.	✓

FIGURE 11 3D DESIGN PERSPECTIVES



Source: Pritchard Francis (SITE Doc Ref 201002 PF 20-042_DA Plan Set)

MATERIALS, FINISHES AND COLOUR

As a DevelopmentWA project, the development of the site will be awarded to a successful contractor to finalise the detailed design (necessary to obtain a Building License) and then construct the facility. A minimum design standard has been set by DevelopmentWA with respect to building fabric and external finishes. Final finishes and colour selection for the exterior of the building will be finalised by the successful contractor as part of the detailed design. A final schedule of colours and finished can therefore be provided, to the City of Cockburn satisfaction, as a condition of development approval and prior to construction of the facility.

The proposed super yacht facility will be constructed to a very high standard in accordance with DevelopmentWA detailed scope of works. Refer to **Plan Set** 1 for a full set of architectural plans. The minimum standards for the building fabric and external finishes for the development will include-

Fabrication Hall and Workshop Areas

The substantial structure will be constructed from precast concrete dado up to a height of 6.5m with Colourbond sheeting to the upper external fabrication walls and roof. All exterior windows and doors will be commercial grade, powder coated finished aluminium windows suitable for the marine environment.

Administration Office

The three-storey office, administration and staff amenities building is located along the street frontage of site and incorporates a strong curved roof design, reflecting the shape of a super yacht and proving a contemporary and attractive built form outcome.

The office component includes substantial areas of glazing to maximises the opportunity for natural light, with precast concrete wall panels to exterior façade. All exterior windows and doors will be commercial grade, powder coasted finished aluminium windows and front entry doors suitable for the marine environment. Awnings in addition to the curved roof design will shade the frontage and part of the adjoining carparking area.

7.2 TRAFFIC AND TRANSPORT

7.2.1 TRANSPORT IMPACT ASSESSMENT

As referred to in Section 6.5 of this report Flyt have undertaken a Transport Impact Assessment (TIA) to assess the potential impact, if any, of the proposed development on the surrounding road network. A copy of the report is provided in Appendix 4.

The proposed development will facilitate the relocation of the Silver Yachts from their existing location at 124 Quill Way in Henderson to the new site approximately 1.3km away. Although Silver Yachts will have the capacity to construct larger vessels, the same number of staff will operate from the new premises, and consequently all servicing and vehicle demands will remain the same. Furthermore, the relocation to the new site is unlikely to result in a change of travel patterns from employees, deliveries to the site or visitors.

On this basis, Flyt has completed their assessment based on the existing impacts of the development being evident on the transport network already. As such, given the development won't be adding on additional traffic movements during peak periods, Flyt focused their assessment on the future network.

To this end Flyt acknowledge that the existing road network includes congested conditions at intersections during peak periods that coincide with shift times for sites within the Henderson industrial area.

DevelopmentWA has confirmed that, as one of a series of projects planned within the AMC, funding has been set aside to assess and facilitate the upgrading of various intersections to improve traffic conditions and ameliorate congestion. These works, following appropriate discussions and agreement with both Main Roads WA and the City of Cockburn are planned to be undertaken within a time period that would address the localised congestion issues highlighted in the TIA.

7.2.2 VEHICLE ACCESS AND MANOEUVRING

The site has been designed to ensure safe and efficient vehicle access and manoeuvring into and around the site. Light vehicles (staff and visitor cars) will access the parking at the front of the site (along Clarence Beach Road) via a dedicated crossover. An additional crossover will be provided along the eastern boundary of the site to provide additional staff vehicle and truck access (up to 19m in length), via a ramp, to the rear of the site.

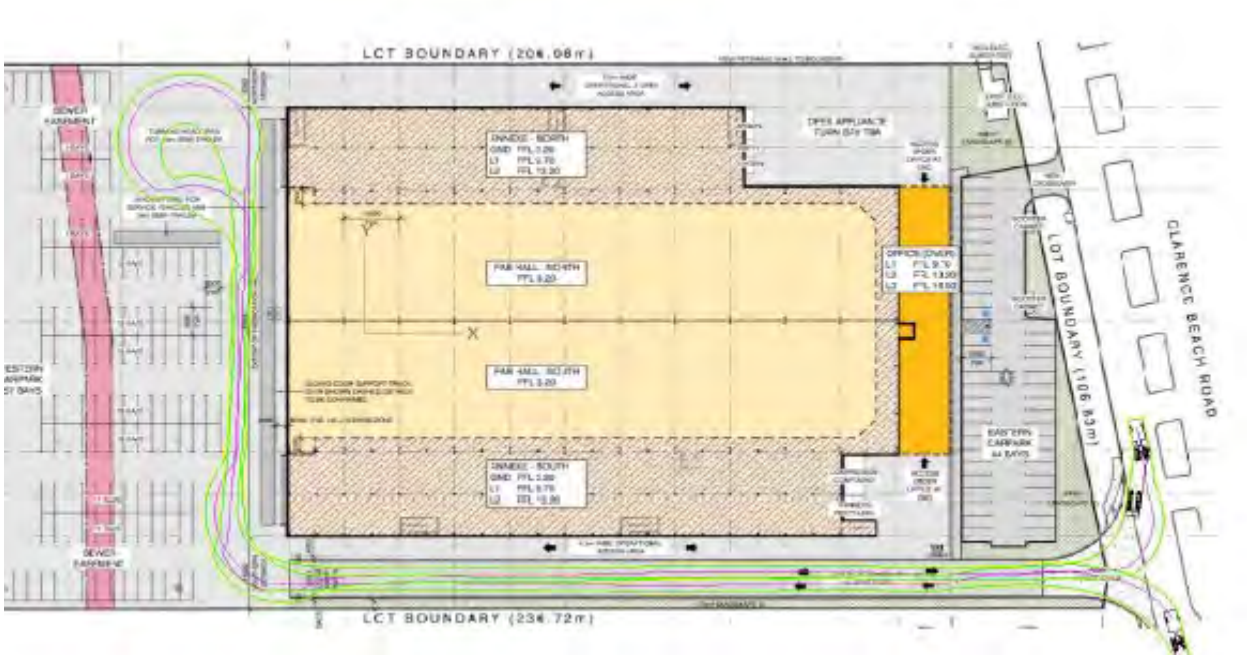
Part 5 of the City LPP 3.9 outlines the City's development requirements relating to vehicle crossovers. Those applicable to the proposed development are addressed in Table 7 overleaf.

TABLE 7 VEHICLE CROSSOVER REQUIREMENTS

VEHICLE CROSSOVERS			
CLAUSE	**REQUIRED**	**PROVIDED**	**COMPLIANT**
Number of Crossovers LPP 3.9 Part (15) 1.	Limit 1 crossover for every 30m of lineal frontage	Lot 19 has a lineal frontage of 106m and two proposed vehicle crossovers onto Clarence Beach Road	✓
Effective vehicle movement LPP 3.9 Part (15) 2 + 3)	Effective movement of vehicles in a lot Vehicles leave in forward manner	Flyt TIS confirms site has been designed for efficient movement of vehicles and all vehicles can leave in a forward gear	✓
Crossover Setbacks LPP 3.9 Part (15) 5)	1.5m from adjoining lots	The proposed crossovers are located 19.8m (northern most) and 1.5m (southernmost) from the adjoining property boundary	✓
Certification regarding additional crossovers LPP 3.9 Part (15) 9. + 10.)	Certification from suitably qualified traffic engineer regarding what is proposed is necessary and appropriate in context of location	A TIS has been prepared by Flyt that confirm the crossover locations are suitable and appropriate in the context of the site and the locality.	✓

A detailed swept path assessment has also been prepared by Flyt as part of their Transport Impact Assessment (refer **Figure 12** below). The swept path assessment demonstrates the suitability of the external access arrangements and internal movement network to accommodate the movements, turning circles and sweep paths of a 19m semi-trailer.

FIGURE 12 SWEPT PATH OF 19M SEMI TRAILER



Source: Flyt (SITE Doc Ref 201015 81113-573-FLYT-REP-0002 Rev2 FINAL)

7.2.3 CAR AND BICYCLE PARKING

The proposal includes the provision of 44 carparking bays (for visitors and key staff) (including 1 universal access bays) along the property frontage accessed via a dedicated entry/exit from Clarence Beach Road. The universal access bay is located directly adjacent to the administration building front entrance.

An additional 359 staff parking bays are located at the rear of the fabrication hall and are accessed off a 7m wide access ramp along the eastern property boundary. 5 parking, unloading / loading bays are also provided at the rear of the site for semi-trailers delivering materials to the site.

The front carparking area includes pockets of landscaping along the northern and southern boundary and is softened by up to a 10m landscape strip (including the verge) along the Clarence Beach Road frontage. As the rear parking area will also be used as open hardstand for the movement of a vessel from the fabrication hall to the launch site no trees areas proposed in the rear parking areas as these would inhibit the manoeuvring of the vessel .

A 1.5m wide pedestrian path also connects the front parking area to the administration building.

As indicated in **Table 8** below, the proposal complies with the relevant standards contained within the City of Cockburn TPS 3 and LPP 3.9 relating to car and commercial vehicle parking.

TABLE 8 PARKING REQUIREMENTS

VEHICLE ACCESS AND PARKING			
CLAUSE	**REQUIRED**	**PROVIDED**	**COMPLIANT**
CARPARKING			
Car Parking TPS3 - Table 4 Industrial Use Classes Vehicle Parking TPS3 - Table 3 Commercial Use Classes Vehicle Parking	**Marine Engineering** *1 space per 1 per employee* *Visitor Parking addition 1: 200 parking bays required per employee* = 156 car bays (fabrication staff and storeman) 1 visitor bay **Office** *1 per 50m² gla* = 1126m² gla / 50 = 22.5 (23) bays **TOTAL = 179 Car Parking Spaces**	The proposal accommodates a total of 441 car parking bays comprising 44 car parking bays in front parking area and an additional 397 in the rear parking area.	✓
Car Parking Calculations LPP 3.9 Part (4)	Must be rounded up	Noted and Applied	✓
Car Parking Design LPP 3.9 Part (4) 1.	Designed and Constructed in accordance with AS2890.3-2015	Parking will be designed and constructed in accordance with AS2890.3-2015	✓
SERVICE, LOADING AND DELIVERY AREAS			
Delivery Bays	**Marine Engineering** *1 space per service / storage area*		✓

VEHICLE ACCESS AND PARKING			
CLAUSE	**REQUIRED**	**PROVIDED**	**COMPLIANT**
TPS3 - Table 4 Industrial Use Classes Vehicle Parking TPS3 - Table 3 Commercial Use Classes Vehicle Parking	2 storage areas = 2 bays **Office** 1 per 500m^2 = 1126m^2 gla / 500 = 2.25 (3) bays **TOTAL = 5 Delivery Bays**	Space has been allocated in the rear of the site, adjacent to the fabrication hall for 5 loading and delivery bays in association with the proposed development.	
BICYCLE PARKING			
Bicycle Parking TPS3 - Table 4 Industrial Use Classes Vehicle Parking TPS3 - Table 3 Commercial Use Classes Vehicle Parking	**Marine Engineering** *1 space per 200m^2 gla* = 12,361m^2 gla / 200 = 75.9 (76) bicycle racks **Office** *1 space per 200m^2 gla (employees)* = 1126m^2 gla / 200 = 5.6 (6) bays *1 space per 750 m^2 gla (visitors)* = 1126m^2 gla / 750 = 1.5 (2) bays **TOTAL = 84 Bicycle Racks**	The site has sufficient area to accommodate bicycle parking racks as part of the development of the site. The Scheme requirements for bicycle parking are based on a GLA, which generates a requirement of 84 bays – which correlates to 1 bay per 2.5 staff employed on site. Given the site forms part of a large industrial estate, generally remote from surrounding residential communities there are limited opportunities for employees to ride to work. In light of this, and as recommended by Flyt, it is proposed, as part of detailed design to accommodate 10 bicycle racks to meet any potential future needs of the facility.	Variation Sought
Bicycle Parking Facilities LPP 3.9 Part (4) 2.	*Facilities shall include* *- Weather Protection for bicycle racks via awning or similar* *-Rail Stands* *-Lockers and any other type pf equipment in accordance with Australian Standard AS 2890.3-2015*	Suitable provision for 10 bicycle racks and associated facilities can be accommodated as part of the sites detailed design. The proposal accommodates areas for staff amenities including showers and locker facilities.	✓ Addressed further during the detailed design phase

As indicated above, the Scheme requires the provision of 179 car parking bays and the proposal incorporates 441 carparking bays to service the development. These comprise 44 within the front setback, 295 within Lot 19 and an additional 102 bays on Lot 9001 that will function as auxiliary parking and are not intended to be line marked.

The carparking at the front of the development will provide parking for management and visitors to the site. Given the nature of the activities on site, visits to the site (by car) will be minimal. The rear parking area will be allocated to general staff and will include (subject to further detailed design) parking for up to 5 delivery trucks visiting the facility.

As already indicated, the rear parking area will also provide the means of exit for completed vessels, providing the required area necessary to move a vessel from the fabrication hall to the exterior of the site before moving to the launching site.

The hardstand area has been designed to ensure this can be achieved in a safe and efficient manner and requires the entire length of the hardstand area to achieve this manoeuvre. The average time it takes to move a vessel from the fabrication hall to the hardstand area is less than 3 hours. As super

yacht vessels take in the order of 3 years to be manufactured, and the site can accommodate up to 2 vessels at once, the parking area will be left clear of vehicles for approximately 4 hours every 18 months.

On these days, Silver Yachts will manage their staff rosters to take into account the reduced parking available on site on these days. To facilitate the efficient movement of vessels from the fabrication hall, parking and handstand area will tie into the proposed levels of the new building, existing jetty and adjoining sites.

As outlined in Table 8 above, TPS3 requires that bicycle parking be provided based on an average of 1 bicycle bay per 200m^2 gross leasable area, which generates an overall requirement of 84 bicycle racks for the proposed development. In this instance this would correlates to 1 bicycle rack per 2.5 staff employed onsite. The site forms part of the Henderson Industrial area and is a significant distance from most residential areas, with no shared or dedicated bicycle paths in the vicinity of the site, the likelihood of employees or visitors cycling to the facility is considered very low.

As a consequence, it is proposed that 10 bicycle racks will be accommodated on site which will be more than sufficient to meet the generated needs for a facility of this type and in this location. The location of the bicycle racks will be determined as part of the next phase of detailed design.

7.2.4 TRUCK ACCESS AND DELIVERY

As outlined in Table 9 Parking Requirements, and in accordance with Table 3 and 4 of TPS 3, the proposal includes provision for 5 standard 19m truck delivery bays to service the facility. These bays are located adjacent to the fabrication hall and loading areas that have been designed to ensure sufficient manoeuvrability.

7.2.5 END OF TRIP FACILITIES

The proposed development includes internal change rooms, lockers and showers within the production area that will facilitate end of trip facilities required for any staff riding to the site. Part 5 of the City's LPP 3.9 outlines the applicable standards relating to end of trip facilities for industrial and commercial development. These are addressed in Table 9 below.

TABLE 9 END OF TRIP FACILITIES

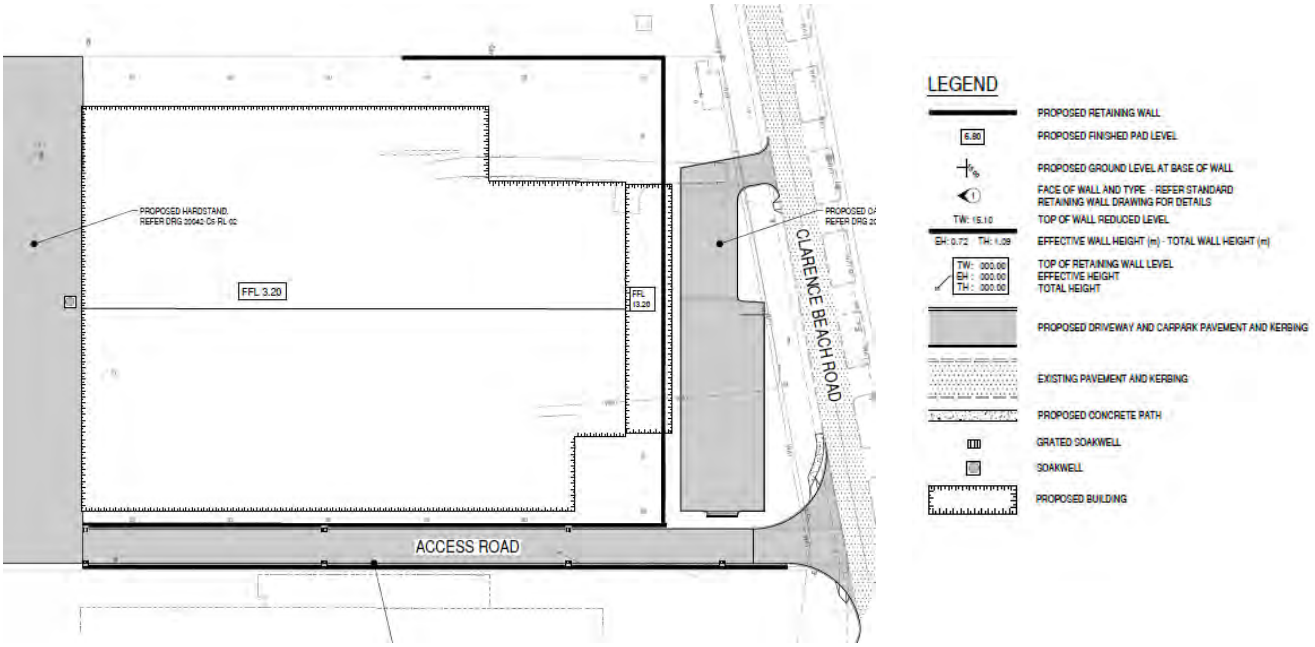
CLAUSE	REQUIRED		PROVIDED	COMPLIANT
End of Trip Facilities LPP 3.9 Part (5)	All developments required to provide 5 or more bicycle parking bays in accordance with TPS 3 are required to provide the following end of trip facilities -		Based on provision of 10 bicycle parking bays the proposal includes two female and two male showers in the staff amenities area on the first floor of the speciality workshop spaces. Locker facilities are also located on the first floor adjacent to the staff amenities area. This is in excess of the Scheme requirement for 10 bike racks.	End of Trip facilities compliant based on provision of 10 bicycle parking bays ✓
		one female and one male shower plus one per every 10 bicycle parking bays required		
		Hot and cold water to showers and suitable facilities of belonging etc		
		Secure, lockable changerooms		
		Locker for every bicycle parking bay		

7.3 RETAINING WALL

In order to accommodate existing level changes across the front of the site (east to west), the proposed development includes retaining walls along a portion of the northern and southern boundary of the site and between the office development and main fabrication hall.

It is intended that the retaining walls will be constructed using in-situ concrete to the north and south boundaries, including both sides of the access driveway adjacent to the boundary and a contiguous pile retaining wall to the eastern full width of the site. The retaining walls design and fabrication will be subject to further detailed design.

FIGURE 13 RETAINING WALL PLAN



Source: Pritchard Francis (SITE Doc Ref 201002 PF 20-042_DA Plan Set)

7.4 SERVICING

7.4.1 STORMWATER AND DRAINAGE MANAGEMENT

Pritchard Francis has completed a preliminary stormwater and drainage plan to accompany the proposal and demonstrate how stormwater and drainage will be managed in association with the development. Refer to Appendix 5.

The site has been divided into 5 distinct areas that will ultimately be connected to an underground system of pits and pipes that connect to three ocean outfalls. Gross pollutant traps (GPT) will be installed prior to each outfall to catch stormwater pollution before it discharges into the sea. The GPT structures are designed to catch solid stormwater pollution such as litter and coarse sediment and will be emptied on a regular basis with the captured waste sent to landfill.

The proposed stormwater approach across the 5 drainage sites is:

- Carpark

  Carpark stormwater runoff will be collected by pits set in the carpark pavement. These will consist of grated gullies connected by a pipe that will transport water from the carpark to the ocean outfall via the access road and hardstand drainage systems.
- Access Road

  Access road stormwater runoff will be captured in combination side entry pit again connected by pipes. These pits will be equally spaced along the length of the road on each side. Due to the steepness of this access way, combination side entry pits have been proposed rather than grated gullies as combination side entry pits capture more water on steeper grades. These combination side entry pits will be connected by pipes that will direct water to the west.
- Hard Stand Area

  Stormwater runoff from this area is to be captured via grated gullies set evenly across the site. These gullies will be connected by a piped system that will convey water to an ocean outfall via gross pollutant traps.
- Building Pavement

  Trafficable area around the building, traversed by forklifts and lighter vehicles, will be drained into grate gullies again connected to pipes that discharge via an ocean outfall. It is proposed that stormwater runoff in this area will be collected by the grated gullies set evenly along the length of the pavement and the pavement graded accordingly.
- Building/Roof Area

  Stormwater runoff from the building will be piped to building pavement gullies via downpipes from the building. These pipes will be plumbed directly into the grated gullies.

A detailed stormwater drainage management plan will be prepared during the detailed design phase of the project and in accordance with AS3500.3

Part 7 of LPP 3.9 outlines the requirements for industrial development as they relate to stormwater management. These requirements are summarised in Table 10 below.

TABLE 10 STORMWATER MANAGEMENT

CLAUSE	REQUIRED	PROVIDED	COMPLIANT
Stormwater contained on site LPP 3.9 Clause (7) 1.	Every development shall be designed to contain all stormwater on site	Stormwater will be managed onsite before being filtered through a GPT before being discharged through 3 ocean outfalls. This approach is consistent with other similarly located developments within the AMC.	Variation Sought
Design in accordance with BCA LPP 3.9 Clause (7) 2.	Specific drainage requirements in accordance with BCA	Noted – and will be addressed as part of detailed building design	✓
Stormwater Drainage Plans LPP 3.9 Clause (7) 3.	Stormwater drainage plans shall be lodged up front at the planning application stage.	A preliminary Stormwater Drainage Plan is provided in Appendix 5. More detailed plans will be prepared and submitted as part of detailed design phase of the project.	✓

7.4.2 WASTEWATER DISPOSAL

The site will be connected to Water Corporation's existing reticulated sewerage network.

7.4.3 WASTE MANAGEMENT

The existing Silver Yachts facility accommodates a number of commercial skip bins on site to manage waste removal from the site, including a carboard recycling facility, which are collected by waste contractors.

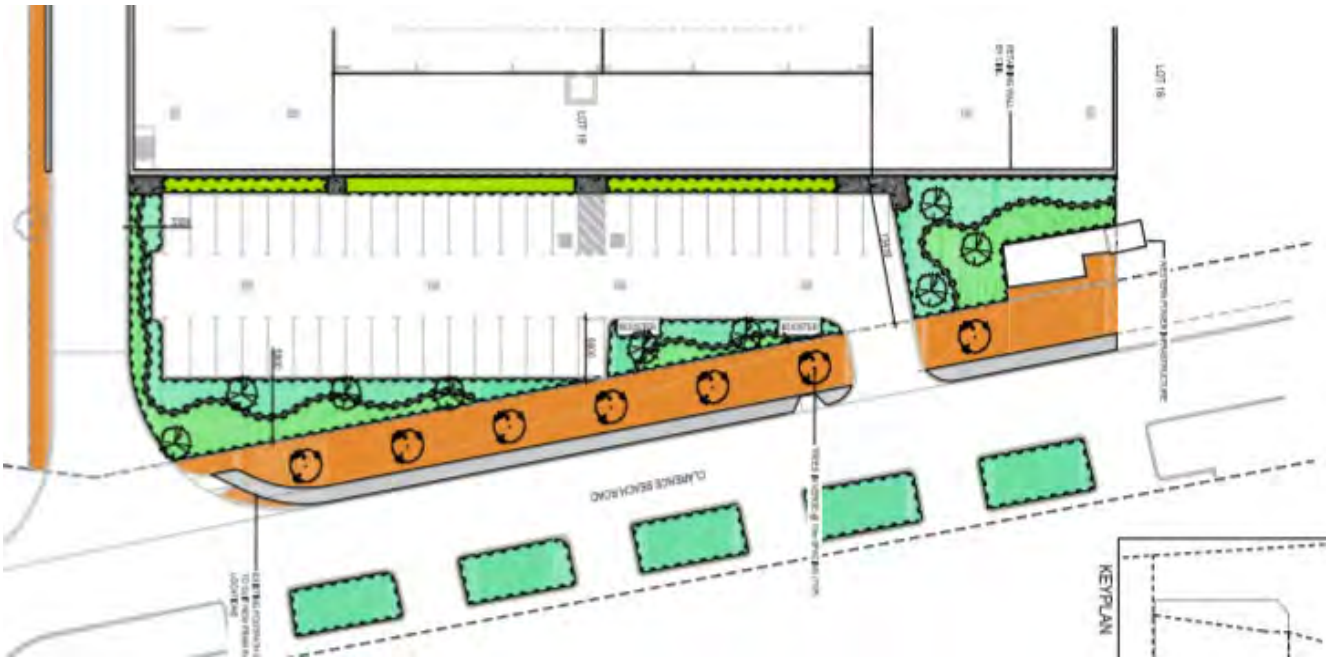
There is significant hardstand area available at the rear of the fabrication hall, most of which is currently allocated to excess parking, to accommodate the waste management needs associated with the development.

A detailed Waste Management Plan can be provided as a condition of development approval and prior to construction of the facility.

7.4.4 LANDSCAPE DESIGN

A Landscape Concept Plan has been prepared by LD Total to provide a landscape design that fulfils its intended purpose and reflects the sites coastal location. A copy of the Landscape Concept Plan is provided in Appendix 6. The landscaping is located along the front boundary of the site and around the upper carparking areas, fronting Clarence Beach Road. Additional landscaping is proposed along the southern property boundary of the site between the side boundary and the vehicle access ramp. Landscaping of the adjoining verge also forms part of the proposal.

FIGURE 14 LANDSCAPE CONCEPT PLAN



Source: LD Total (SITE doc ref: 200930 LD Total AMC Lot 19 Clarence Beach Rd Landscape DA Rev D)

Development Standards relating to landscaping are contained in both TPS3 and LPP 3.9 and the relevant provisions are addressed in Table 11 below.

TABLE 11 LANDSCAPE REQUIREMENTS

CLAUSE	REQUIRED	PROVIDED	COMPLIANT
Landscape / Site Area TPS3 Clause 4.9.2 a) – c)	10% total site area or 5% where all abutting verge is included in the landscape plan Site area = 23248m^2 10% = 2,324m^2 5% = 2,324m^2	The proposal includes 873m^2 of landscaping (comprised planting, mulch and paving) which represents 3.76% of the site area. To offset the reduced area of landscaping onsite, the concept plan includes the landscaping of the adjoining verge and adjacent verges on Clarence Beach Road. Verges will be landscape and irrigated in accordance with Council requirements	Variation Sought
Minimum landscape width and area TPS3 Clause 2.5 d)	1.5m minimum width in areas not less than 4m^2	As the lot is not square to the street the landscape areas are generally triangular in shape (up to 5.6m in depth) to accommodate appropriately designed parking and access within the primary frontage. A larger area of landscaping is located within the north eastern portion of the primary frontage.	Variation Sought
Trees TPS3 Clause 2.5 e)	1 shade tree is for every 50m^2 of landscaping	The proposal includes trees in both the landscaping along the front setback and in the adjoining verge. A total of 9 trees are proposed within the sites landscaped areas and an additional 6 trees within the adjoining verge.	✓
Shade Trees in Carparking TPS3 Clause 2.5 f)	1 shade tree for every 10 car parking spaces	Trees are not proposed (in nibs) within the front parking area as tree species preferred by the City of Cockburn would not survive in this restricted environment. To compensate for this the proposal includes additional shade trees in the landscaped area adjoining the front boundary and in the adjacent road verge. No shade trees are proposed in the rear parking area as this area must also facilitate the removal of completed vessels from the fabrication halls, and thus be clear of any obstructions.	Variation Sought
Landscaping Location TPS3 Clause 2.5 g)	Landscaping is to be confined to the area of the lot between the building / use and boundary adjoining road, unless agreed	Landscaping is predominately located within the front setback.	✓
Detailed Landscaping Plan LPP3.9 Part (11) 1.	A detailed landscape plan to be submitted with DA	The proposal is accompanied by a detailed landscape plan located in Appendix 5	✓
Species List LPP3.9 Part (11) 1.	Species shall be selected from relevant City of Cockburn Landscaping Species List	Species selection as agreed during pre-consultation between LD Total and the City of Cockburn	✓
Tree Height LPP3.9 Part (11) 1.	Trees shall be a minimum of 2m in height (45L) at the time of planting	Noted. The landscape Concept Plan specifies a minimum 100L tree size.	✓
Landscaping Reduction LPP3.9 Part (11) 1.	Proposals including reductions in landscaping required by TPS3 shall include the verge in the landscaping plan	Noted – the proposal includes landscaping of adjacent verge as well as the verge on the eastern side of Clarence Beach Road.	✓
Verge Trees LPP3.9 Part (11) 2.	Verge trees shall be a minimum of 2m in height (45L) at the time of planting	Noted. The landscape Concept Plan specifies a minimum 100L tree size.	✓
Verge Ground LPP3.9 Part (11) 2.	Remainder of verge to be either mulch with ground cover or lawn	As depicted on the landscape plan, the verges include a combination of mulch and ground covers.	✓

Irrigation of Verge LPP3.9 Part (11) 2.	Verge shall be irrigated for a minimum of 2 years from installation and maintained thereafter	Noted. The landscape Concept Plan includes irrigation of the verges	✓
No Parking on Verge LPP3.9 Part (11) 2.	Verge shall not be used for parking	Noted.	✓

The landscape concept plan provides an overall landscaping design that reflects the corporate and industrial nature of the site that is supported by an appropriate approach to irrigation and the ongoing maintenance of the landscaped areas. Key elements include:

7.4.5 PLANT SELECTION PHILOSOPHY

The plant selection philosophy is summarised below:

- Low maintenance planting that comprises of:
  - Native and local bird attracting species.
  - Suit sunny and windy location.
  - Hardy species - waterwise/low water demand.
- Landscaping design to reflect the sites corporate appearance with an appropriate mix of low species that retain a neat appearance.
- Tree selection on verge – neat uniform row correct distance apart that are proven to survive well in the surrounding area.
- Staff parking areas to incorporate trees species that provide shade and respond well to pruning if needed.
- Mulch selection has considered windy position of site.

7.4.6 IRRIGATION AND ONGOING MAINTENANCE

The irrigation and maintenance program are summarised below:

- Irrigation of landscape areas will be based on an initial Water Corporation scheme water supply point located on site.
- To ensure a sustainable and efficient method of irrigation pop-up sprays are proposed to garden beds and flood bubblers to trees.
- Following planting the Landscape areas will be irrigated 5 days per week for the first 6 weeks to a depth of 50mm.
- Once established the ongoing irrigation plan will be for the landscape areas to be watered twice a week to a depth of 20mm.

7.5 SIGNAGE

Signage does not form part of this application. Corporate signage will be considered as part of final detailed design and, if required, will be subject to a separate application for development approval.

7.6 FENCING

For security, the site will be fenced along all exterior boundaries and will comprise cyclone mesh security fencing complete with top and bottom rails and 3 rows of barbed wire to top.

Access to the rear of the site, associated parking and hardstand will be controlled by remote operated boom gates. Entrance gates will be located in front of vehicle crossovers and at the rear of the site to provide access to the existing pier. All fencing and gates will be of a material suitable for the marine environment.

Part 6 of LPP 3.9 outlines the minimum standard relating to fencing as outlined in the table below.

TABLE 12 FENCING REQUIREMENTS

CLAUSE	REQUIRED	PROVIDED	COMPLIANT
Fencing LPP 3.9 Part (6)	Black PVC coated chain/link mesh with black support posts and a height of 1.8m. Additional security may be provided though the provision of a maximum '3-barb' wire on top of chain /link mesh fence or equivalent	The proposal includes provision of cyclone mesh security fencing with 3 rows of barbed wire constructed from a suitable material for the marine environment. Final permitter fencing design will be determined prior to construction of the site and we note will be subject to Council agreement.	✓

7.7 PASSIVE SOLAR DESIGN

The site is orientated in an east west direction and to provide for greatest efficiency of design the proposed fabrication hall and workshops is also orientated in an east west direction.

The main fabrication hall and workshop areas will be provided with natural ventilation through roller doors and louvers at low level and ridge ventilators at the higher level.

8. CONCLUSION

Forming part of the strategically important Australian Marine Complex (AMC), the development of the site for a state-of-the-art super yacht fabrication facility will support and strengthen WA's role in the international boat building industry.

This state government funded investment will facilitate the relocation of internationally renowned super yacht fabricator Silver Yachts from their existing location within the AMC CUF south precinct to the new facility on Lot 19 Clarence Beach Road. This will in turn, facilitate the future expansion of WA naval and maritime servicing industries within the CUF south precinct.

The super yacht fabrication facility will be delivered by a building contractor, on behalf of DevelopmentWA, through a Design and Construct model. Once engaged, the building contractor undertakes detailed design, satisfies conditions of development approval, secures necessary approvals (i.e. building permits) and undertakes construction through to the completion and delivery of a facility ready for occupation and operation.

The plans prepared as part of this development proposal are intended to reflect the minimum standard of design and construction for the facility, and have been prepared to support this application for development approval and to accompany the design and construct (D&C) tender invitations issued by DevelopmentWA for the project.

It is intended that construction of the facility will commence in January 2021 as one of a series of projects intended to support the State Governments drive to expediate economic recovery due to the significant economic impact of COVID 19.

Development of a super yacht facility on the site is wholly consistent with the intent of the AMC, the strategic role of the area as reflected in the State's Strategic Planning Framework for Perth and Peel @3.5 Million and will contribute to the continued growth and importance of maritime industries in WA's Trade Coast.

The application has been prepared in accordance with the strategic and statutory planning framework, including Perth and Peel @ 3.5 Million, the Metropolitan Region Scheme and the City of Cockburn's Town Planning Scheme No. 3 and local planning policies.

The development is defined as a Marine Industry under the provisions of the City of Cockburn TPS3 and is a permitted and preferred use for the site.

The overall siting and design of the development has sought to balance the specific needs of a super yacht fabrication facility with the general industrial design controls and standards that form part of the TPS3 and the City's associated local planning policy documents.

To achieve a feasible and functional design outcome, the proposal seeks some minor variations to the City's development standards while still maintaining the overall purpose and intent behind each

standard. The development outcome, once occupied and operational will make a substantial and positive contribution to the AMC and set a benchmark for future development. Considering the preceding material and enclosed design drawings, the support of the City of Cockburn, the WAPC and the approval of the Outer Metro Joint Development Assessment Panel is sought for the proposed development at the earliest opportunity.

Government of Western Australia
Department of Water and Environmental Regulation

Your ref: DAP20/008
Our ref: DWERT5841, PA 039164
Enquiries: Jane Sturgess, Ph 9550 4228

City of Cockburn
PO Box 1215
Bibra Lake DC WA 6965

Attention: David King

Dear David

LOT 9001 & 19 CLARENCE BEACH ROAD, HENDERSON – SUPER YACHT FABRICATION FACILITIES

Thank you for providing the development application received 16 December 2020 for the Department of Water and Environmental Regulation (Department) to consider.

The Department has identified that the proposed super yacht fabrication facility has the potential for impact on environment and water resource values and management. In principle the Department does not object to the proposal however key issues, recommendations and advice are provided below and these matters should be addressed.

Issue
Contaminated Sites

Advice
Please see attachment for the Contaminates Sites response to the Western Australian Planning Commission dated 21 December 2020.

Issue
Industry Regulation

Advice
The Department regulates emissions and discharges from the construction and operation of prescribed premises through a works approval and licensing process, under Part V, Division 3 of the *Environmental Protection Act 1986* (EP Act).

The categories of prescribed premises are outlined in Schedule 1 of the *Environmental Protection Regulations 1987*.

The EP Act requires a works approval to be obtained before constructing a prescribed premises and makes it an offence to cause an emission or discharge from an existing prescribed premises unless they are the holder of a works approval or licence (or

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registration) and the emission is in accordance with any conditions to which the licence or works approval is subject.

The provided development referral request was reviewed in relation to works approval and licence requirements under Part V Division 3 of the EP Act.

Based on the information provided, the proposed operations will cause the premises to be considered a prescribed premise as per Schedule 1 of the *Environmental Protection Regulations 1987* for one of the following categories:

Category	Category description	Production or design capacity
49	Boat building and maintenance: premises on which — (a) vessels are commercially built or maintained; and (b) organotin compounds are used or removed from vessels.	Not Applicable
82	Boat building and maintenance: premises on which — (a) vessels are commercially built or maintained; and (b) organotin compounds are not used or removed from vessels.	Not Applicable

The application did not explicitly discuss whether organotin compounds would be used or removed from vessels on the premises therefore a determination on which category will apply has not been made. The applicant should consider the use/removal from vessels of organotin as the key distinction between the two categories.

The EP Act requires a works approval to be obtained before constructing a prescribed premises and make it an offence to cause an emission or discharge, unless a licence or registration (for operation) is held for the premises.

The Department has not received an application for a works approval or licence for this premises to date. As such, the Department recommends that the applicant lodges an application for a works approval (or licence).

The applicant is advised to refer to the information and Guideline: Industry Regulation Guide to Licensing available at http://www.der.wa.gov.au/our-work/licences-and-works-approvals and / or if they have queries relating to works approvals and licences to contact the Department at info@dwer.wa.gov.au or 6364 7000 for information on the application for a works approval.

The application will also need to demonstrate compliance with the general provisions of the EP Act and all relevant requirements of the *Environmental Protection (Noise) Regulations 1997, Environmental Protection (Unauthorised discharge) Regulations 2004,* other regulations that are listed above if they apply to proposed activities on site.

Please note that this advice is provided based on information provided. Should this information change, the works approval and/or licensing requirements may also

change. Applicants are encouraged to contact the Department at the above contact details to clarify requirements, should there be changes to information.

Issue
Stormwater Management

Recommendation
The stormwater drainage plan that was included with the development application proposes direct discharge of stormwater (via pipe) straight into Cockburn Sound. Cockburn Sound is subject to *State Environmental (Cockburn Sound) Policy 2015* that is backed by the powers of in the *Environmental Protection Act 1986.* This policy ensures the values and uses of Cockburn Sound are protected. The overall objective of this Policy is to ensure that water quality of the Sound is maintained and where possible, improved.

The proposed drainage design is not current best practice achieved with water sensitive design principles. The treatment and infiltration of stormwater is to mimic natural water cycle processes that manages small events as close to the runoff source as possible with water quality improvement. Best practice includes a treatment train process with the integration of stormwater management systems within landscaped areas of carparks, road reserves and gardens. These may contain vegetated swales, tree pits, biofilters, etc. Major events may then overtop these features and discharge off-site via overland flow paths.

Please refer to *Decision process for stormwater management in WA* (DWER, 2017), *Stormwater Management Manual for Western Australia* (DWER, 2004-2017) and *Adoption guidelines for stormwater biofiltration systems* (CRC for Water Sensitive Cities, 2015) for guiding principles on the management of small (water quality improvement), minor and major stormwater events.

Where the Department has a statutory role, planning applications should be considered prior to the Department issuing any relevant permits, licenses and/or approvals.

In the event that the applicant determines that a works approval or licence application is required under Part V of the *Environmental Protection Act 1986* (EP Act), the advice provided in this communication does not prejudice and must not be considered to infer the outcome of the EP Act licence and works approval process.

In the event there are modifications to the proposal that may have implications on aspects of environment and/or water management, the Department should be notified to enable the implications to be assessed.

Should you require any further information on the comments please contact Jane Sturgess on 9550 4228.

Yours sincerely

Brett Dunn
Program Manager – Planning Advice
Kwinana Peel Region

11 / 01 / 2021

Government of Western Australia
Department of Water and Environmental Regulation

Your ref: 23-50298-2
Our ref: DMO 546
Enquiries: Lomas Capelli, Ph 9841 0120
Email: lomas.capelli@dwer.wa.gov.au

Ms Sam Fagan
Secretary
Western Australian Planning Commission
140 William Street
PERTH WA 6000

Dear Ms Fagan

DEVELOPMENT APPLICATION NUMBER 23-50298-2 – LOTS 19 AND 9001 CLARENCE BEACH ROAD, HENDERSON

I refer to your letter dated 1 December 2020 to the Department of Water and Environmental Regulation (the department) regarding an application to the Western Australian Planning Commission (WAPC) for the proposed development of the above-mentioned lots.

As per the requirements under section 58(6)(b) of the *Contaminated Sites Act 2003* (CS Act), advice is required as to the suitability of the land for the proposed development. Lot 19 is currently zoned 'special use' under the City of Cockburn's town planning scheme. The department understands that the proposed development comprises the construction of a marine engineering facility as part of the broader Australian Marine Complex Common User Facility.

Land at Lot 19 on Plan 12924 and Lot 9001 on Plan, as shown on certificates of title 1540/667 and 2895/750 respectively, were classified under the CS Act as '*contaminated – remediation required*' on 26 March 2013 and a memorial (reference number O276651) was placed on the certificate of title.

The classification was based on the presence of metals (such as copper, zinc and nickel) and organotin compounds (such as tributyltin) in various material across the site (including, soil, groundwater, sediment and surface water) associated with the historical use of the site for marine vessel construction and maintenance. At the time of classification, remediation was proposed to be undertaken in conjunction with the development of the site, including the dredging and on-site containment of impacted sediments.

Further site investigations were undertaken in 2020 to inform remediation and management of site contamination as part of the development proposed under 23-

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50298-2. The further investigations also identified PFAS[1] in soil and groundwater at the site and minor quantities of asbestos-containing material in soil.

Based on the investigations and risk assessment completed to date, the site appears suitable for the proposed industrial development, which is noted to comprise construction of hardstand across the site which will minimise exposure to contaminated soil and reduce the potential for contaminants to migrate into groundwater or surface water.

Therefore, the department has no objection to the proposed development of Lots 19 and 9001 for industrial land use, and recommends that the approval should not include a contamination condition.

However, given the risks associated with the disturbance of contaminated soil, the department recommends that the following advice note be applied to any approval granted by WAPC:

Advice

Due to the nature and extent of soil contamination identified at the site, the Department of Water and Environmental Regulation recommends that development works are undertaken in accordance with an appropriate site-specific health and environmental management plan.

The site is not located within an area that is mapped as having a risk of encountering acid sulfate soils. The department therefore advises that no specific comment is required in relation to acid sulfate soil management during development.

If you have any queries in relation to the above, please contact Environmental Officer, Lomas Capelli, on 9841 0120.

Yours sincerely

Paul Newell
A/SENIOR MANAGER
CONTAMINATED SITES
Delegated Officer under section 91
of the *Contaminated Sites Act 2003*

21 December 2020

[1] per-and poly-fluoroalkyl substances

Development Services
629 Newcastle Street Leederville WA 6007
PO Box 100 Leederville WA 6902
T (08) 9420 2099
F (08) 9420 3193

Your Ref: 23-50298-2
Our Ref: 57105922 (DEV371952)
Enquiries: Brett Coombes
Direct Tel: 9420 3165
Fax: 9420 3193

02 December 2020

Secretary
Western Australian Planning Commission
LOCKED BAG 2506
PERTH WA 6001

Attention: Aiden O'Brien

Application No. 23-50298-2 – Clarence Beach Road, Henderson

Thank you for your letter of 1 December 2020 inviting comments on the proposed development.

The Water Corporation has no objections to the proposal. The site is near the Woodman Point wastewater treatment plant and may occasionally experience odour impacts from the plant.

The development will require approval by the Water Corporation's Building Services section prior to the commencement of works. Standard Infrastructure Contributions and fees may be required to be paid prior to approval being issued.

Arrangements will need to be made at the building stage to adequately protect the gravity sewer that runs through the proposed hardstand/parking area.

The information provided above is subject to review and may change. If the proposal has not proceeded within six months, it is recommended that the developer be advised to contact the Corporation to confirm whether the above information is still valid.

If you have any queries regarding the above advice, please contact the Enquiries Officer.

B Coombes.

Brett Coombes
Senior Urban Planner
Development Services

FPA AUSTRALIA | Fire Protection Association Australia | Life. Property. Environment.

BPAD Bushfire Planning & Design

Bushfire Management Plan Coversheet

This Coversheet and accompanying Bushfire Management Plan has been prepared and issued by a person accredited by Fire Protection Association Australia under the Bushfire Planning and Design (BPAD) Accreditation Scheme.

Bushfire Management Plan and Site Details

Site Address / Plan Reference: Lot 19 (65) Clarence Beach Road

Suburb: Henderson **State:** WA **P/code:** 6166

Local government area: City of Cockburn

Description of the planning proposal: Development Application

BMP Plan / Reference Number: 59730 R02 **Version:** Rev 0 **Date of Issue:** 27/10/2020

Client / Business Name: Development WA

Reason for referral to DFES	Yes	No
Has the BAL been calculated by a method other than method 1 as outlined in AS3959 (tick no if AS3959 method 1 has been used to calculate the BAL)?	☐	☑
Have any of the bushfire protection criteria elements been addressed through the use of a performance principle (tick no if only acceptable solutions have been used to address all of the BPC elements)?	☐	☑
Is the proposal any of the following special development types (see SPP 3.7 for definitions)?		
Unavoidable development (in BAL-40 or BAL-FZ)	☐	☑
Strategic planning proposal (including rezoning applications)	☐	☑
Minor development (in BAL-40 or BAL-FZ)	☐	☑
High risk land-use	☐	☑
Vulnerable land-use	☐	☑

If the development is a special development type as listed above, explain why the proposal is considered to be one of the above listed classifications (E.g. considered vulnerable land-use as the development is for accommodation of the elderly, etc.)?
N/A.

Note: The decision maker (e.g. local government or the WAPC) should only refer the proposal to DFES for comment if one (or more) of the above answers are ticked "Yes".

BPAD Accredited Practitioner Details and Declaration

Name	Accreditation Level	Accreditation No.	Accreditation Expiry
Zac Cockerill	Level 2	37803	31/08/2021
Company		**Contact No.**	
Strategen-JBS&G		(08) 9792 4797	

I declare that the information provided within this bushfire management plan is to the best of my knowledge true and correct

Signature of Practitioner  Date 27/10/2020

Development WA

Bushfire Management Plan for Simple Development Applications

Lot 19 (65) Clarence Beach Road, Henderson

27 October 2020

59730/132,839 (Rev 0)

JBS&G Australia Pty Ltd T/A Strategen-JBS&G

www.jbsg.com.au

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1. Proposal details

1.1 Proposal summary

The site and proposed development are summarised in Table 1. The development plan is included at Figure 1.

A portion of the proposed development is designated as bushfire prone on the *Map of Bush Fire Prone Areas* (DFES 2020, see Plate 1).

Table 1: Proposal summary

Site details	
Property address	Lot 19 (65) Clarence Beach Road Henderson, WA 6166
Lot size	2.32 ha
Landowner	Development WA
Local government area	City of Cockburn
Development application	
Proposed development	Construction of a superyacht fabrication facility comprising: • a large enclosed shed (habitable building) o components workshop o engineering workshop o stores o toilets o fabrication halls o non fire rated lift shafts o fire isolated stairs o offices o fit-out workshops o electrical assembly room o Heating, ventilation and air-conditioning assembly room and workshop o Stainless steel workshop o first aid room o lunchroom o paint workshops o paint blast room • vehicular access ramp • common user access corridor • low threat landscaping • carparks • fire appliance turnaround zone.
Applicable policy and guidelines	*State Planning Policy 3.7 Planning in Bushfire Prone Areas* (SPP 3.7; WAPC 2015). *Guidelines for Planning in Bushfire Prone Areas* (the Guidelines; WAPC 2017).
Applicable Policy Measures of SPP 3.7	Policy Measure 6.5 Information to accompany development applications.
Requirements	Bushfire Management Plan (BMP; this document).

1.2 Other plans/reports

Strategen-JBS&G prepared the following report previously for the proposed development:

- BAL Contour Assessment Report for Lot 19 (65) Clarence Beach Road (2020).

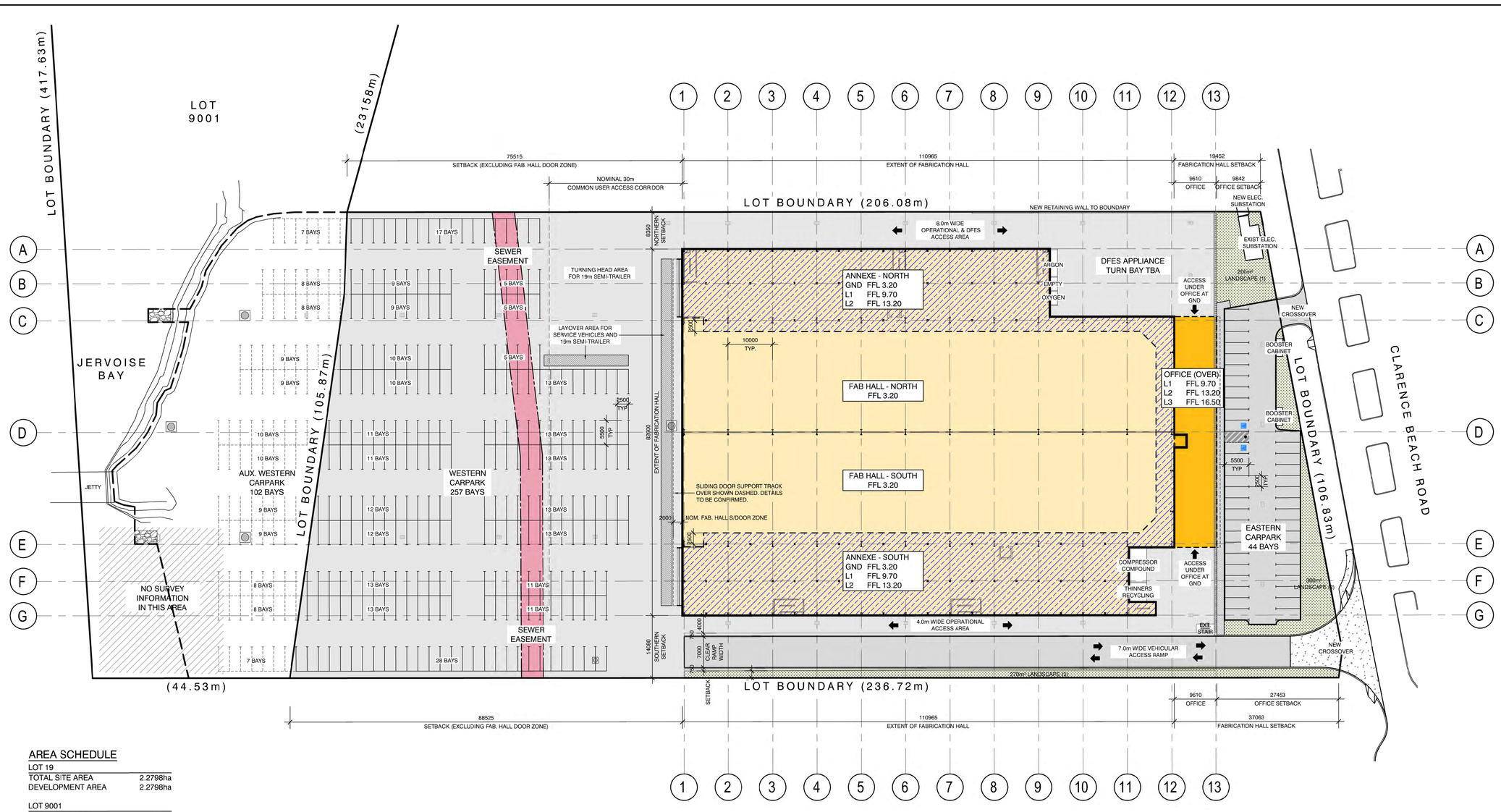
There are no known environmental reports or assessments that have been prepared previously for the project area.

The proposed habitable building (as defined under *Planning Bulletin 111/2016 Planning in Bushfire Prone Areas*) is designated as bushfire prone on the Map of Bush Fire Prone Areas (DFES 2020, see Plate 1). As such, bushfire risk considerations and BAL assessment at the planning (DA) stage are required to be formally addressed.

Strategen-JBS&G does not deem the proposed development to be a High-Risk land use based on the following:

- there will be no bulk storage of hazardous or flammable materials on-site
- small scale storage and use of any flammable/hazardous materials will be kept to a minimum based on individual job requirements.

Plate 1: Map of Bush Fire Prone Areas (DFES 2020)



AREA SCHEDULE

LOT 19	
TOTAL SITE AREA	2.2798ha
DEVELOPMENT AREA	2.2798ha

LOT 9001	
TOTAL SITE AREA	2.4678ha
DEVELOPMENT AREA	0.3600ha
TOTAL DEVELOPMENT AREA	2.6398ha

GROUND FLOOR
FFL 3.20
GFA 8,608m²

LEVEL 1 (L1)
FFL 9.70
GFA 500m² OFFICE
GFA 3,730m² ANNEXE (INC WALKWAYS)
SUB TOTAL 4,230m²

LEVEL 2 (L2)
FFL 13.20
GFA 500m² OFFICE
GFA 3,730m² ANNEXE (INC WALKWAY)
SUB TOTAL 4,230m²

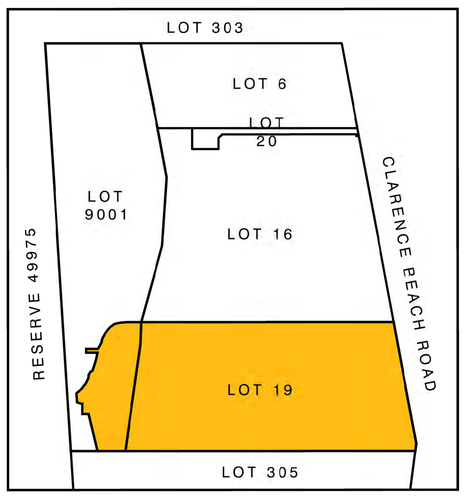
LEVEL 3 (L3)
FFL 16.70
GFA 500m² OFFICE

LANDSCAPING / PAVING

LANDSCAPE (1)	200m²
LANDSCAPE (2)	300m²
LANDSCAPE (3)	270m²
PAVING	122m²
TOTAL	892m²

CARBAYS

EASTERN CARPARK	44 BAYS
WESTERN CARPARK	257 BAYS
SUB TOTAL	301 BAYS
AUX WESTERN CARPARK	102 BAYS
TOTAL	403 BAYS



REV	DATE	DESCRIPTION	BY	APPD
DA.1	02.10.20	Development Application	DWS	DWA

STATUS
PRELIMINARY - NOT FOR CONSTRUCTION

pritchard francis
civil and structural engineering consultants

430 Roberts Road
Subiaco WA 6008
PO Box 2150
Subiaco WA 6904

Telephone: (08) 9382 5111
admin@pfeng.com.au

CLIENT
DEVELOPMENT WA

PROJECT
SILVERYACHT
LOT 19 CLARENCE BEACH ROAD HENDERSON WA

TITLE
SITE LAYOUT PLAN

SCALE	DATE	DESIGNED	DRAWN	CHECKED
1:500 @ A1	15.06.20	MDJ	DWS	KH

JOB No	DRG No	REV
20-042	A1.01	DA.1

PRINT IN COLOUR

2. Environmental considerations

2.1 Native vegetation – modification and clearing

The project area has been completely cleared as part of historical industrial land uses. Some minor grass and shrub regrowth has occurred in the east of the project area, which will be cleared as part of the proposal. The on-site vegetation is highly degraded and nestled amongst old bitumen driveways, hardstand areas and residual infrastructure from previous land uses. On this basis, there is unlikely to be significant environmental value within the site, irrespective of desktop environmental search results provided in Table 2. A search of publicly available environmental data relating to the project area has been undertaken and is summarised in Table 2.

Table 2: Summary of environmental values

Environmental value	Not mapped as occurring within or adjacent to the project area	Mapped as occurring within or adjacent to the project area		Description
		Within	Adjacent	
Environmentally Sensitive Area	✓			N/A.
Swan Bioplan Regionally Significant Natural Area	✓			N/A.
Ecological linkages			✓	A Perth Regional Ecological Linkage is mapped as occurring 180 m northeast and east of the project area.
Wetlands	✓			N/A.
Waterways			✓	The Indian Ocean is located immediately west of the project area.
Threatened Ecological Communities listed under the EPBC Act		✓	✓	A Threatened Ecological Community is mapped as occurring northeast and east of the project area. Endangered Banksia Woodlands of the Swan Coastal Plain TEC mapped as possibly occurring within and adjacent to the project area; however, given the cleared and degraded nature of the site, this TEC is unlikely to occur. Tuart Woodlands are not mapped as occurring.
Threatened and priority flora				Mapping layer not available at time of report preparation.
Fauna habitat listed under the EPBC Act		✓	✓	Potential Quenda habitat is mapped as occurring northeast of the project area. With respect to Carnaby's Black Cockatoo, the project area is mapped as containing confirmed roosting areas, while potential feeding areas are mapped northeast and southeast of the project area. However, given the cleared and degraded nature of the site, this habitat is unlikely to occur.
Threatened and priority fauna				Mapping layer not available at time of report preparation.
Bush Forever Site	✓			N/A.
DBCA managed lands and waters (includes legislated lands and waters and lands of interest)	✓			N/A.

Environmental value	Not mapped as occurring within or adjacent to the project area	Mapped as occurring within or adjacent to the project area		Description
		Within	Adjacent	
Conservation covenants	✓			N/A.

2.2 Revegetation / Landscape Plans

No revegetation is proposed as part of the proposal. Proposed landscaping will consist of irrigated low threat managed gardens, mulched areas and street scaping in accordance with *AS 3959—2018 Construction of Buildings in Bushfire-Prone Areas* (AS 3959; SA 2018) Clause 2.2.3.2 (f) and Schedule 1 of the Guidelines (refer to Appendix B), as demonstrated in the landscaping plan (refer to Appendix A).

The landscaping plan depicts features that are all excludable under Clauses 2.2.3.2 (e) and (f) which are consistent with a managed garden, including:

- paving and a large portion of ground coverage consisting of mulch only, excluded under Clause 2.2.3.2 (e)
- irrigated low shrubs and groundcover planting, street trees with a mulch understorey and sparse trees planted amongst the shrubs, excluded under Clause 2.2.3.2 (f).

3. Bushfire assessment results

3.1 Assessment inputs

3.1.1 Vegetation classification

Strategen-JBS&G assessed classified vegetation and exclusions within the 150 m assessment area through on-ground verification on 25 September 2020 in accordance with *AS 3959—2018 Construction of Buildings in Bushfire-Prone Areas* (AS 3959; SA 2018) and the *Visual Guide for Bushfire Risk Assessment in Western Australia* (DoP 2016). Georeferenced site photos and a description of the vegetation classifications and exclusions are contained in Appendix C and depicted in Figure 2.

Regional vegetation surveys and mapping of the Swan Coastal Plain indicates the adjacent land is contained within the Cottesloe Complex – Central and South (noting the project area did not form part of the survey/mapping extent). This vegetation complex is described as:

- mosaic of woodland of tuart (*Eucalyptus gomphocephala)* – jarrah *(Eucalyptus marginata)* – *(Eucalyptus calophylla*); closed heath on the limestone outcrops.

Site observations indicate that classified vegetation within the 150 m assessment area predominantly consists of scrub and grassland vegetation, including:

- Class D scrub to the north, northeast, east and southeast of the project area
- Class G grassland to the north of the project area.

Existing areas excluded from classification within the 150 m assessment area include:

- a large area already cleared within the project area, roads, carparks, compacted/paved hardstand areas, Indian Ocean, buildings and jetties excluded under Clause 2.2.3.2 (e)
- slashed road verges, street trees and low threat landscaping excluded under Clause 2.2.3.2 (f).

Strips of vegetation within the Clarence Beach Road and Quill Way road reserves are being actively managed, comprising street trees with a slashed grass understorey. These strips are also highly fragmented. A small cell of unmanaged vegetation exists within the Clarence Beach Road reserve to the southeast of the proposed development, east of Lot 305 (53). This vegetation is located on a steep embankment where it is impractical to manage with a mower.

As part of the proposed development, all vegetation within the project area will be modified to a low threat state and ultimately excluded under Clauses 2.2.3.2 (e) and (f) following construction of built form and low threat landscaping. Removal of the on-site vegetation will isolate the abovementioned pocket of unmanaged verge vegetation to the southeast of the project area, which will then be excluded under Clause 2.2.3.2 (c).

3.1.2 Effective slope

Strategen-JBS&G assessed effective slope under classified vegetation within the 150 m assessment area through on-ground verification on 25 September 2020 in accordance with AS 3959. Results were cross-referenced with DPIRD 2m contour data and depicted in Figure 2.

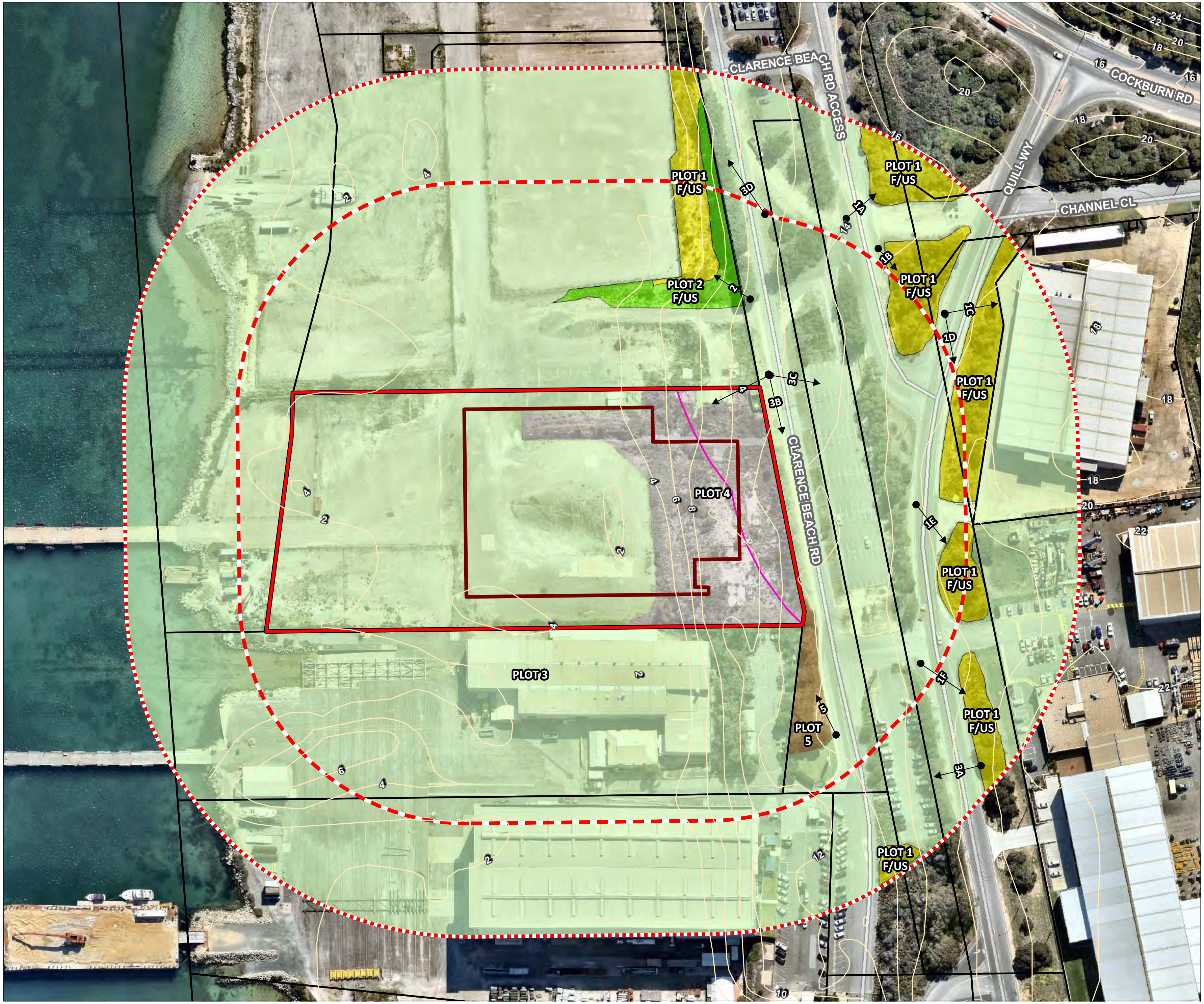
Site observations indicate that land beneath classified vegetation within the 150 m assessment area is either flat or upslope in relation to the proposed building.

3.1.3 Summary of inputs

Figure 2 illustrates the anticipated post-development vegetation classifications and exclusions following completion of development and implementation of low threat landscaping throughout the project area. The post-development vegetation classifications/exclusions and effective slope are summarised in Table 3.

Table 3: Summary of post-development vegetation classifications, exclusions and effective slope

Vegetation plot	Vegetation classification	Effective slope	Comments
1	Class D Scrub	Flat/upslope (0°)	Scrub vegetation greater than 2 m in height with a continuous horizontal fuel structure.
2	Class G Grassland	Flat/upslope (0°)	Unmanaged grassland vegetation greater than 10 cm in height and not required to be managed under the local government firebreak notice.
3	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	Existing non-vegetated areas (i.e. roads, carparks, compacted/paved hardstand areas, Indian Ocean, buildings, jetties) and low threat managed vegetation (i.e. slashed road verges, street trees, low threat landscaping).
4	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	Area to be modified to a low threat state as part of proposed development.
5	Excluded – Clause 2.2.3.2 [c]	N/A	Pocket of vegetation less than 0.25 ha in area, greater than 20 m from the proposed building and greater than 20 m from all other areas of vegetation being classified vegetation.



Legend

- Project area (Lot 19 boundary)
- 100m assessment area
- 150m assessment area
- Proposed building envelope
- Cadastral boundary
- Bushfire prone areas

Vegetation classification

- Class D Scrub
- Class G Grassland
- Clause 2.2.3.2 (c)
- Clause 2.2.3.2 (e) & (f)
- Area to be modified to non-vegetated and low threat state

- Photo point directions
- Topographic contours (mAHD)
- Roads (MRWA)

strategen JBS&G

Job No: 59730	
Client: Development WA	
Version: A	Date 12/10/2020
Drawn By: cthatcher	Checked By: BM
Scale 1:2,250 at A4	

0 25 50
metres

Lot 19 (65) Clarence Beach Road, Henderson, WA

POST-DEVELOPMENT VEGETATION CLASSIFICATION AND EFFECTIVE SLOPE

FIGURE 2

JBS Perth\Projects\1)Open\DevelopmentWA\59730 Bushfire advice Lot 19 Clarence Beach Rd, Henderson\GIS\Maps\R01_Rev_A\59730_01_VegClassSlope.mxd
Image Reference: www.nearmap.com© - Imagery Date: 31. August 2020.

3.2 Assessment outputs

3.2.1 Bushfire Attack Level (BAL) contour assessment

Strategen-JBS&G has undertaken a BAL contour assessment in accordance with Method 1 of AS 3959 for the project area (Figure 3). The Method 1 procedure incorporates the following factors:

- state-adopted FDI 80 rating
- vegetation classification
- effective slope
- distance maintained between proposed development areas and the classified vegetation.

The BAL rating gives an indication of the level of bushfire attack (i.e. the radiant heat flux) that may be received by proposed development and subsequently informs the standard of building construction and/or setbacks required for proposed habitable development to potentially withstand such impacts and/or comply with relevant bushfire protection criteria of the Guidelines.

The BAL contours are based on:

- the vegetation classifications and effective slope observed at the time of inspection
- the entire project area being modified to a low threat state as part of proposed development and managed in a low threat state to maintain exclusion under Clauses 2.2.3.2 (e) and (f) across the site
- any proposed landscaping being implemented and maintained as an Asset Protection Zone (APZ) in accordance with Schedule 1 of the Guidelines.

Results of the BAL contour assessment are detailed in Table 4 and illustrated in Figure 3. Through implementation of the APZ over the entire project area, the highest BAL applicable to the proposed habitable building is BAL–12.5.

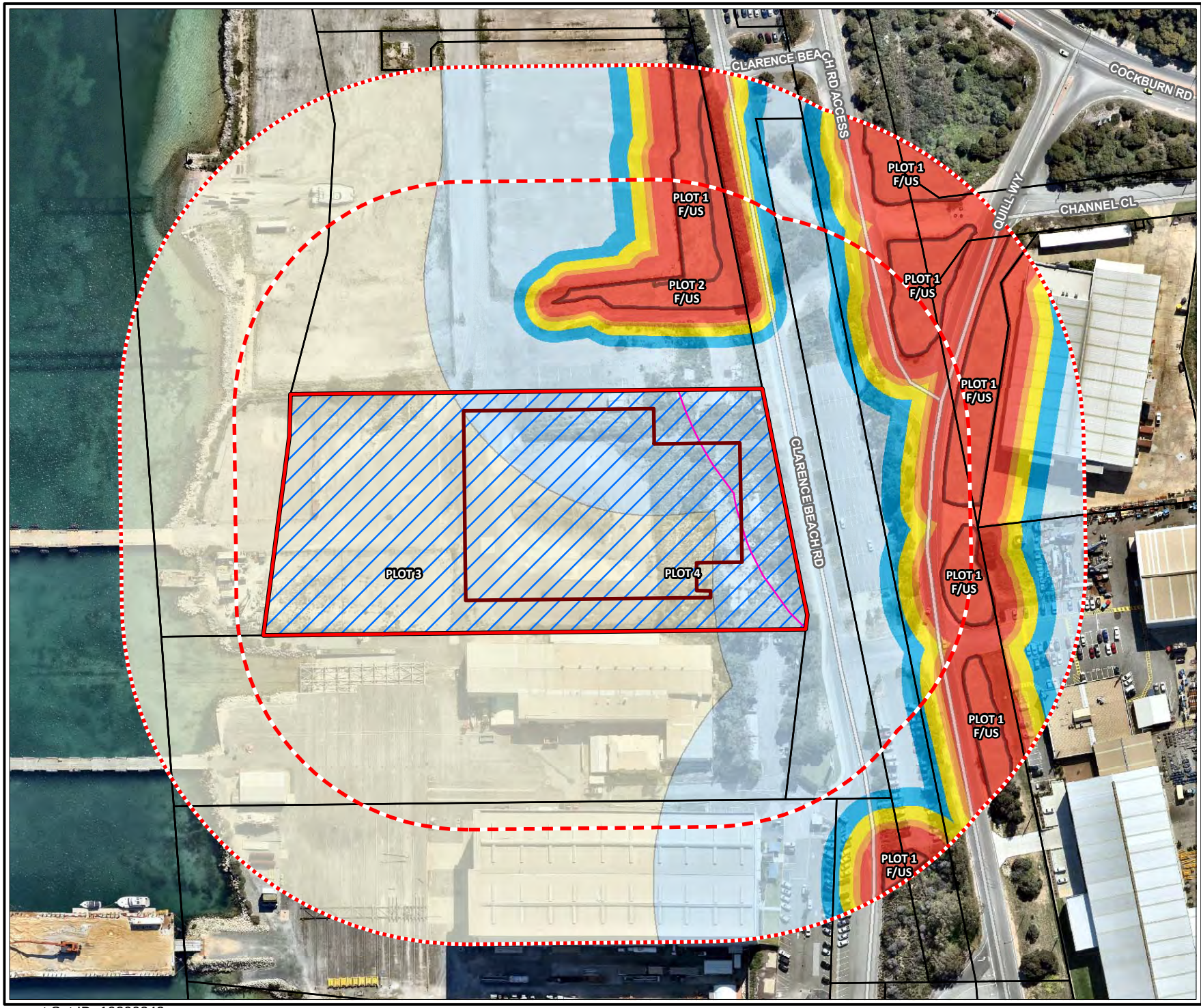
Table 4: BAL contour assessment results

Method 1 BAL determination				
Plot	**Vegetation classification / exclusion clause**	**Effective slope**	**Separation distance**	**Highest BAL**
1	Class D Scrub	Flat/upslope (0°)	27-<100m	BAL–12.5
2	Class G Grassland	Flat/upslope (0°)	17-<50m	BAL–12.5
3	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	N/A	N/A
4	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	N/A	N/A
5	Excluded – Clause 2.2.3.2 [c]	N/A	N/A	N/A

Table 5 lists the BAL applicable to each building or element within the proposed development.

Table 5: BAL applicable to each building/ element

Building / element	Initial BAL	APZ	Revised BAL
Enclosed shed	BAL–FZ	Entirety of subject lot.	BAL–12.5



Legend

- Project area (Lot 19 boundary)
- 100m assessment area
- 150m assessment area
- Proposed building envelope
- Cadastral boundary
- Bushfire prone areas
- APZ
- Classified vegetation

BAL contours

- BAL FZ
- BAL 40
- BAL 29
- BAL 19
- BAL 12.5
- BAL Low

- Roads (MRWA)

strategen JBS&G

Job No: 59730

Client: Development WA

Version: A	Date 12/10/2020
Drawn By: cthatcher	Checked By: BM

Scale 1:2,250 at A4

0 25 50
metres

Lot 19 (65) Clarence Beach Road, Henderson, WA

POST-DEVELOPMENT BAL CONTOUR ASSESSMENT

FIGURE 3

Image Reference: www.nearmap.com© - Imagery Date: 31. August 2020.

4. Identification of bushfire hazard issues

Examination of the environmental considerations (Section 2) and the BAL contour assessment (Section 3) has identified the following bushfire hazard issues:

1. Based on the existing extent of vegetation within the project area, the proposed habitable building is subject to an initial BAL of BAL-FZ. For the habitable building to achieve BAL-29 or lower, an APZ is proposed to be implemented over the entirety of Lot 19. Implementation and enforcement of the APZ is further addressed in Section 5.

The proposed development will be serviced by a reticulated water supply from the Clarence Beach Road reserve. The proposed private driveway network within the site and multiple connections to the existing public road network (Clarence Beach Road) will provide occupants/emergency services with access options north, south and east. On this basis, the proposed development will be compliant for all bushfire protection criteria of the Guidelines (i.e. development location, siting and design of development, vehicular access and water supply). A compliance assessment against the bushfire protection criteria of the Guidelines is provided in Section 5.

It is considered that the bushfire risk to the proposed development posed by the abovementioned hazards can be managed through application of acceptable solutions under the Guidelines, as well as through a direct bushfire suppression response if required. Bushfire mitigation strategies applicable to the proposed development are addressed in Section 5 of this BMP.

5. Assessment against the bushfire protection criteria

5.1 Compliance table

An acceptable solutions assessment against the bushfire protection criteria is provided in Table 6.

Table 6: Compliance with the bushfire protection criteria of the Guidelines

Bushfire protection criteria	Method of compliance Acceptable solutions	Proposed bushfire management strategies
Element 1: Location	A1.1 Development location	The BAL contour map (Figure 3) indicates that the proposed habitable building can achieve BAL–29 or lower through implementation of the APZ.
Element 2: Siting and design	A2.1 Asset Protection Zone	On completion of development, the entirety of Lot 19 is to be landscaped and maintained in a low threat state as an APZ in accordance with Schedule 1 of the Guidelines (refer to Appendix B). The APZ will comprise built form (i.e. fabrication building, bitumen/concrete driveways and hardstand areas) and low threat managed gardens.
Element 3: Vehicular access	A3.1 Two access routes	A combination of existing public roads and the proposed private driveway network will provide all occupants with the option of travelling to more than two different destinations. Clarence Beach Road provides occupants with the option of travelling north to Fremantle, south to Naval Base or east via Cockburn Road/Russell Road to Rockingham Road and Kwinana Freeway, which provide access to the broader Perth metropolitan area.
	A3.2 Public road	N/A – no public roads are proposed as part of the development.
	A3.3 Cul-de-sac (including a dead-end-road)	N/A – no cul-de-sacs are proposed as part of the development.
	A3.4 Battle-axe	N/A – no battle-axes are proposed as part of the development.
	A3.5 Private driveway longer than 50 m	The proposed private driveway network will be longer than 50 m and will exceed the technical requirements of the Guidelines (see Appendix D). The internal private driveway network will comprise the following: • two crossovers to Clarence beach Road • extensive carparking area at the rear of the site • smaller carparking area at the front of the site • 7 m wide vehicular access ramp from Clarence Beach Road to the rear of the site • 8 m wide operational and DFES access area to the north of the building • 4 m wide operational access area to the south of the building • DFES appliance turn bay to the northeast of the building • access under the office at the front of the site. Strategen-JBS&G recommends the internal access ways are kept clear at all times through the use of signage or road markings to enforce this practice on site.
	A3.6 Emergency access way	N/A – the proposed development does not require Emergency Access Ways (EAWs) to provide through access to a public road.
	A3.7 Fire service access routes (perimeter roads)	N/A – the proposed development does not require fire service access routes (FSARs) to achieve access within and around the perimeter of the project area.

Bushfire protection criteria	Method of compliance Acceptable solutions	Proposed bushfire management strategies
	A3.8 Firebreak width	N/A – on completion of development the project area will be fully developed with paved surfaces and low threat landscaping. Therefore, firebreaks are not considered to be required.
Element 4: Water	A4.1 Reticulated areas	The proposed development will be connected to a reticulated water supply via extension of services from surrounding development in accordance with Water Corporations Design Standard 63 requirements (refer to Appendix E). Existing water hydrants are located at 100-200 m intervals along Clarence Beach Road.
	A4.2 Non-reticulated areas	N/A – the proposed development is located within an existing reticulated area.
	A4.3 Individual lots within non-reticulated areas (Only for use if creating 1 additional lot and cannot be applied cumulatively)	N/A – the proposed development is located within an existing reticulated area.

5.2 Additional bushfire management strategies

Strategen-JBS&G requires the following additional bushfire management strategies to be implemented and sustained in addition to the acceptable solutions of the Guidelines to increase the level of bushfire risk mitigation across the site.

5.2.1 Housekeeping and on-site suppression capability

Storage of small quantities of flammable/hazardous goods is necessary for the operations of the fabrication facility. Strategen-JBS&G recommends the following:

- do not store flammable/hazardous materials in quantities that exceed the current fabrication jobs
- no open vessels of flammable liquids are to be located outside of the building
- ensure all flammable goods are used and stored in accordance with the relevant international/Australian standards
- ensure fire extinguishers, hydrants and other firefighting equipment is installed and maintained as required by the relevant international/Australian standards.

5.2.2 Landscaping

Once the proposed landscaping has been established, ongoing management of the gardens to avoid build-up of dry fuels during bushfire season will be an important risk mitigation strategy. The garden is likely to accumulate fuels slowly given the species mix and irrigation. However, ongoing control of weed and grass regrowth throughout gardens/mulched areas will need to be undertaken to maintain exclusions under Clauses 2.2.3.2 (e) and (f). On this basis, Strategen-JBS&G requires the following to be conducted on a regular and ongoing basis:

- maintain irrigation in working order
- ensure trees are under-pruned to 2 m
- manually remove build-up of dry fuels beneath trees and between the shrubs (i.e. leaf litter, dead fuel)
- remove any dead shrubs/trees
- manually remove/spray weeds and grass throughout gardens/mulched areas
- keep all grass/weeds to a height of less than 100 mm between spraying intervals.

The client has provided the following details regarding irrigation and maintenance:

Irrigation Notes:

- *Source: the irrigation is to be designed based on an initial scheme water supply point yet to be located on site. The supply will be a standard Water Corporation water meter.*
- *Design choices: pop-up sprays to garden beds, flood bubblers to trees.*
- *Establishment: Minimum five complete watering cycles per week, soaking to a depth of 50mm at weekly.*
- *Intervals for the first 6 weeks of plant establishment irrespective of natural rainfall.*
- *Ongoing: watering requirements shall be based on a 20mm per week evenly*
- *distributed over all surfaces within 16 hours (2 days per week).*
- *Sleeves: Easy to lay under hard surfaces if this is considered within the project management.*

Maintenance Notes:

- *Low maintenance: native, sun and wind hardy, waterwise/low water demand, from the local lists, bird attracting, not leggy, low to no pruning but would respond well to pruning if needed, moderate growth rate so not too fast not too slow.*
- *Corporate appearance: due to neat planting, mostly low species, nice tone on texture in the mix that's designed, and the neat strip of grass/strappy leaved plants along the front of the office elevation.*
- *Context in greater area: suits the species already in the other industrial sites nearby.*
- *Shade trees: to help shade parking area, species would respond well to pruning if needed but it like will not be needed.*
- *Verge trees: Neat uniform row at correct distance apart, these are the species that currently are surviving well in the surrounding area.*
- *Roots: no trees planted close to retaining wall, nor Western Power infrastructure.*
- *Mulch: the product selection will not blow away in winds.*

On the basis of the above ongoing management and maintenance details, the landscaping will be simple to maintain and will satisfy the ongoing management requirements of low threat vegetation/APZ standards.

5.2.3 Building construction standards

The proposed development does not include any Class 1, 2, or 3 residential buildings or associated Class 10a structures, and as such, there is no statutory requirement for proposed buildings to meet the construction requirements of AS 3959. Given the intended use, materiality and relatively low bushfire risk to the proposed building, Strategen-JBS&G does not deem it to be appropriate or necessary to incorporate building construction requirements of AS3959.

6. Responsibilities for implementation and management of the bushfire measures

Implementation of the BMP applies to the developer, prospective landowners and the City to ensure bushfire management measures are adopted and implemented on an ongoing basis. A bushfire responsibilities table is provided in Table 7 to drive implementation of all bushfire management works associated with this BMP.

Table 7: Responsibilities for implementation and management of the bushfire measures

Implementation/management table	
Developer – prior to occupation of buildings	
No.	Implementation action
1	Establish non-vegetated areas and low threat landscaping across the entire project area in accordance with the landscaping plan and APZ standards.
2	Construct the private driveways to the standards stated in the BMP and in accordance with the site plan.
3	Provide a reticulated water supply to the site in accordance with the standards stated in the BMP.
4	Ensure the additional management strategies in Sections 5.2.1 and 5.2.2 are implemented.
Landowner/occupier – ongoing	
No.	Implementation action
1	Maintain non-vegetated areas and low threat landscaping across the entire project area in accordance with the landscaping plan and APZ standards.
2	Maintain the private driveways to the standards stated in the BMP.
3	Maintain the on-site firefighting equipment to the applicable international/Australian standards.
4	Ensure the additional management strategies in Sections 5.2.1 and 5.2.2 are maintained.
Local government – ongoing management	
No.	Implementation action
1	Maintain existing excluded road verges in a low threat minimal fuel condition as per Clause 2.2.3.2 (f) of AS 3959.

7. References

Department of Fire and Emergency Services (DFES) 2020, *Map of Bush Fire Prone Areas*, [Online], Government of Western Australia, available from: https://maps.slip.wa.gov.au/landgate/bushfireprone/, [23/09/2020].

Department of Planning (DoP) 2016, *Visual guide for bushfire risk assessment in Western Australia*, Department of Planning, Perth.

Standards Australia (SA) 2018, *Australian Standard AS 3959–2018 Construction of Buildings in Bushfire-prone Areas*, Standards Australia, Sydney.

Strategen-JBS&G 2020, *Bushfire Attack Level (BAL) Contour Assessment Report: Lot 19 (65) Clarence Beach Road, Henderson*, Strategen-JBS&G, Bunbury.

Western Australian Planning Commission (WAPC) 2015, *State Planning Policy 3.7 Planning in Bushfire Prone Areas*, Western Australian Planning Commission, Perth.

Western Australian Planning Commission (WAPC) 2017, *Guidelines for Planning in Bushfire Prone Areas*, Version 1.3 August 2017, Western Australian Planning Commission, Perth.

8. Limitations

Scope of services

This report ("the report") has been prepared by Strategen-JBS&G in accordance with the scope of services set out in the contract, or as otherwise agreed, between the Client and Strategen-JBS&G. In some circumstances, a range of factors such as time, budget, access and/or site disturbance constraints may have limited the scope of services. This report is strictly limited to the matters stated in it and is not to be read as extending, by implication, to any other matter in connection with the matters addressed in it.

Reliance on data

In preparing the report, Strategen-JBS&G has relied upon data and other information provided by the Client and other individuals and organisations, most of which are referred to in the report ("the data"). Except as otherwise expressly stated in the report, Strategen-JBS&G has not verified the accuracy or completeness of the data. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in the report ("conclusions") are based in whole or part on the data, those conclusions are contingent upon the accuracy and completeness of the data. Strategen-JBS&G has also not attempted to determine whether any material matter has been omitted from the data. Strategen-JBS&G will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to Strategen-JBS&G. The making of any assumption does not imply that Strategen-JBS&G has made any enquiry to verify the correctness of that assumption.

The report is based on conditions encountered and information received at the time of preparation of this report or the time that site investigations were carried out. Strategen-JBS&G disclaims responsibility for any changes that may have occurred after this time. This report and any legal issues arising from it are governed by and construed in accordance with the law of Western Australia as at the date of this report.

Environmental conclusions

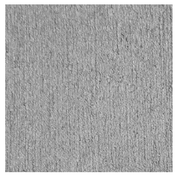
Within the limitations imposed by the scope of services, the preparation of this report has been undertaken and performed in a professional manner, in accordance with generally accepted environmental consulting practices. No other warranty, whether express or implied, is made.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

Strategen-JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by Strategen-JBS&G, and should not be relied upon by other parties, who should make their own enquiries.

Appendix A Landscaping plan

MATERIALS



PAVING TYPE 1 - IN-SITU CONCRETE
GREY CONCRETE, BROOM FINISH

MULCH ONLY - ECLIPSE AQUAMORE

TREES

CASUARINA EQUISETIFOLIA

MELALEUCA LANCEOLATA

SHRUBS

FICINIA NODOSA

OLEARIA AXILLARIS

SCAEVOLA CRASSIFOLIA

GREVILLEA THELMANIANNA

WESTRINGIA DAMPIERI

DIANELLA REVOLUTA

LOMANDRA LONGIFOLIA

GROUNDCOVERS

CONOSTYLIS CANDICANS

EREMOPHILA 'KALBARRI CARPET'

HEMINANDRA PUNGENS

ADENANTHOS CUNEATUS

MYOPORUM INSULARE

WESTRINGIA 'LOW HORIZON'

LEGEND

LOT BOUNDARY

TREES	SIZE
CASUARINA EQUISETIFOLIA / HORSETAIL SHEOAK	100L
MELALEUCA LANCEOLATA / ROTTNEST ISLAND TEATREE	100L

SHRUBS AND GROUNDCOVERS	SIZE	DENSITY
SHRUB MIX: (IRRIGATED) FICINIA NODOSA OLEARIA AXILLARIS SCAEVOLA CRASSIFOLIA GREVILLEA THELMANIANNA WESTRINGIA DAMPIERI DIANELLA REVOLUTA	Tubestock	3 per m2
GROUNDCOVER MIX : (IRRIGATED) CONOSTYLIS CANDICANS EREMOPHILA 'KALBARRI CARPET' HEMINANDRA PUNGENS WESTRINGIA 'LOW HORIZON' MYOPORUM INSULARE ADENANTHOS CUNEATUS	Tubestock	3 per m2
LOMANDRA LONGIFOLIA : (IRRIGATED)	Tubestock	3 per m2

MATERIALS

- EXISTING FOOTPATH - INSITU CONCRETE
- PAVING TYPE 1 - INSITU CONCRETE (NOT BY LANDSCAPE)
- MULCH ONLY - ECLIPSE AQUAMORE OR SIMILAR

LOT 19 + 9001	Areas
Planting Area	583m2
Mulch Only Area	17m2
Paving Area	26m3
Landscaped area abutting southern boundary	247m2
SUB TOTAL LANDSCAPE AREA	873m2
TOTAL SITE AREA	23,248m2
% OF TOTAL SITE AREA	3.76%
Clarence Beach Road Verge - West	
Planting / mulch area	400m2
Clarence Beach Road Verge- East	
Planting / mulch area	259m2

KEYPLAN

NOT FOR CONSTRUCTION

REV	DATE	DWN	DESCRIPTION
A	22/09/2020	NZ	ISSUE FOR DEVELOPMENT APPLICATION
B	23/09/2020	SP	ISSUE FOR DEVELOPMENT APPLICATION
C	24/09/2020	NZ	ISSUE FOR DEVELOPMENT APPLICATION
D	30/09/2020	TR	ISSUE FOR DEVELOPMENT APPLICATION

LD TOTAL
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172 BURSWOOD ROAD, BURSWOOD WA 6100 AUSTRALIA
TEL. +61 8 6436 1111 FAX. +61 8 9367 2034
www.ldtotal.com.au

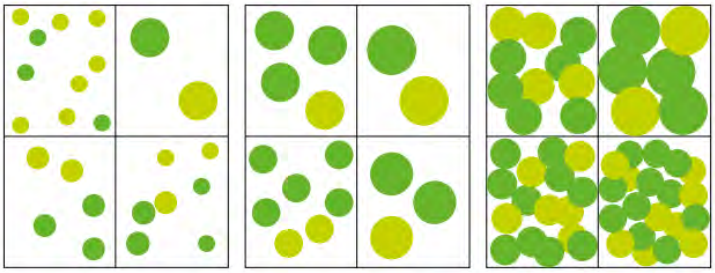
PROJECT:
Lot 19 Clarence Beach Road, Henderson
CLIENT:
Site Planning & Design
TITLE
Landscape Concept Plan

PROJECT NO	DRAWN BY:	APPROVED BY:	REV:
10.7023	NZ	EP	D
SCALE: 1:250	SHEET NO 301	SHEET SIZE A1	

Appendix B APZ standards (Schedule 1 of the Guidelines)

Schedule 1: Standards for Asset Protection Zones

- **Fences:** within the APZ are constructed from non-combustible materials (e.g. iron, brick, limestone, metal post and wire). It is recommended that solid or slatted non-combustible perimeter fences are used.
- **Objects:** within 10 metres of a building, combustible objects must not be located close to the vulnerable parts of the building i.e. windows and doors.
- **Fine Fuel load:** combustible dead vegetation matter less than 6 millimetres in thickness reduced to and maintained at an average of two tonnes per hectare.
- **Trees (> 5 metres in height):** trunks at maturity should be a minimum distance of 6 metres from all elevations of the building, branches at maturity should not touch or overhang the building, lower branches should be removed to a height of 2 metres above the ground and or surface vegetation, canopy cover should be less than 15% with tree canopies at maturity well spread to at least 5 metres apart as to not form a continuous canopy.



- **Shrubs (0.5 metres to 5 metres in height):** should not be located under trees or within 3 metres of buildings, should not be planted in clumps greater than 5m2 in area, clumps of shrubs should be separated from each other and any exposed window or door by at least 10 metres. Shrubs greater than 5 metres in height are to be treated as trees.
- **Ground covers (<0.5 metres in height):** can be planted under trees but must be properly maintained to remove dead plant material and any parts within 2 metres of a structure, but 3 metres from windows or doors if greater than 100 millimetres in height. Ground covers greater than 0.5 metres in height are to be treated as shrubs.
- **Grass:** should be managed to maintain a height of 100 millimetres or less.

Appendix C Vegetation plot photos and description

Photo ID: 1a

Photo ID: 1b

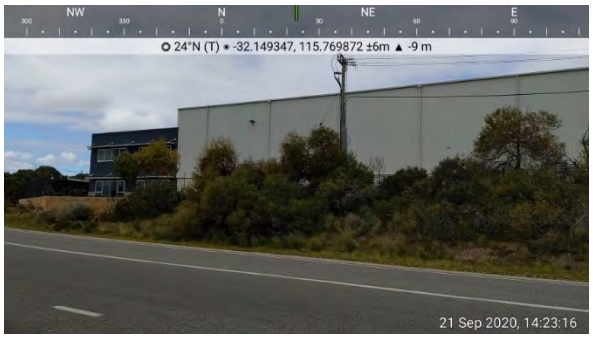


Photo ID: 1c

Photo ID: 1d

Photo ID: 1e

Photo ID: 1f

Plot number	Plot 1
Vegetation classification	Class D Scrub
Description / justification	Scrub vegetation greater than 2 m in height with a continuous horizontal fuel structure.

Photo ID: 2

Plot number	Plot 2
Vegetation classification	Class G Grassland
Description / justification	Unmanaged grassland vegetation greater than 10 cm in height and not required to be managed under the firebreak notice.

Photo ID: 3a

Photo ID: 3b

Photo ID: 3c

Photo ID: 3d

Plot number	Plot 3
Vegetation classification	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])
Description / justification	Non-vegetated areas (i.e. roads, carparks, compacted/paved hardstand areas, Indian Ocean, buildings, jetties) and low threat managed vegetation (i.e. slashed road verges, street trees, low threat landscaping).

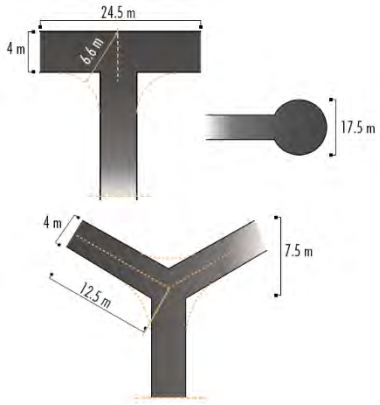
Photo ID: 4

Plot number	Plot 4
Vegetation classification	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])
Description / justification	Area to be modified to a low threat state.

Photo ID: 5

Plot number	Plot 5
Vegetation classification	Excluded – Clause 2.2.3.2 [c]
Description / justification	Pocket of vegetation less than 0.25 ha in area, greater than 20 m from the proposed building and greater than 20 m from other areas of vegetation being classified vegetation.

Appendix D Vehicular access technical standards of the Guidelines

Private driveway longer than 50 metres	
Acceptable solution A3.5	A private driveway is to meet all of the following requirements: • Requirements in Table 1, Column 3 • Required where a house site is more than 50 metres from a public road • Passing bays: every 200 metres with a minimum length of 20 metres and a minimum width of two metres (i.e. the combined width of the passing bay and constructed private driveway to be a minimum six metres) • Turn-around areas designed to accommodate type 3.4 fire appliances and to enable them to turn around safely every 500 metres (i.e. kerb to kerb 17.5 metres) and within 50 metres of a house • Any bridges or culverts are able to support a minimum weight capacity of 15 tonnes • All-weather surface (i.e. compacted gravel, limestone or sealed).
Explanatory note E3.5	For a driveway shorter than 50 metres, fire appliances typically operate from the street frontage however where the distance exceeds 50 metres, then fire appliances will need to gain access along the driveway in order to defend the property during a bushfire. Where house sites are more than 50 metres from a public road, access to individual houses and turnaround areas should be available for both conventional two-wheel drive vehicles of residents and type 3.4 fire appliances. Turn-around areas should be located within 50 metres of a house. Passing bays should be available where driveways are longer than 200 metres and turn-around areas in driveways that are longer than 500 metres. Circular and loop driveway designs may also be considered. These criteria should be addressed through subdivision design. Passing bays should be provided at 200 metre intervals along private driveways to allow two-way traffic. The passing bays should be a minimum length of 20 metres, with the combined width of the passing bay and the access being a minimum of six metres. Turn-around areas should allow type 3.4 fire appliances to turn around safely (i.e. kerb to kerb 17.5 metres) and should be available at the house sites and at 500 metre intervals along the driveway. 

Technical requirement	1	2	3	4	5
	Public road	Cul-de-sac	Private driveway longer than 50 m	Emergency access way	Fire service access routes
Minimum trafficable surface (m)	6*	6	4	6*	6*
Horizontal distance (m)	6	6	6	6	6
Vertical clearance (m)	4.5	N/A	4.5	4.5	4.5
Maximum grade <50 m	1 in 10	1 in 10	1 in 10	1 in 10	1 in 10
Minimum weight capacity (t)	15	15	15	15	15
Maximum crossfall	1 in 33	1 in 33	1 in 33	1 in 33	1 in 33
Curves minimum inner radius	8.5	8.5	8.5	8.5	8.5
* Refer to E3.2 Public roads: Trafficable surface					

Appendix E Water technical standards of the Guidelines

Reticulated areas	
Acceptable solution A4.1	The subdivision, development or land use is provided with a reticulated water supply in accordance with the specifications of the relevant water supply authority and Department of Fire and Emergency Services.
Explanatory note E4.1	Water supply authorities in Western Australia include the Water Corporation, Aqwest and the Busselton Water Board. The Water Corporation's 'No. 63 Water Reticulation Standard' is deemed to be the baseline criterion for developments and should be applied unless local water supply authorities' conditions apply.

Document Status

Report version	Rev No.	Purpose	Author	Reviewed and Approved for Issue	
				Name	Date
Draft Report	Rev A	For client review	Brodie Mastrangelo (BPAD 45985, Level 1)	Zac Cockerill (BPAD 37803, Level 2)	21 October 2020
Final Report	**Rev 0**	**Issued for use: to accompany Development Application**	**Brodie Mastrangelo (BPAD 45985, Level 1)**	**Zac Cockerill (BPAD 37803, Level 2)**	**27 October 2020**

www.jbsg.com.au

Lot 19 Clarence Beach Road

TRANSPORT IMPACT ASSESSMENT

email: info@flyt.com.au twitter.com/flytplan web: www.flyt.com.au

PROJECT	81113-573-FLYT-REP-0002			
Revision	Description	Originator	Review	Date
0	Draft	AJS	CAS/SPD/DWA	08/10/20
1	Reviewed	AJS	CAS/SPD/DWA	11/10/20
2	Issued	AJS	CAS	14/10/20

Contents

Figures

1. SUMMARY

Item	Response
Local Government	City of Cockburn
SWALSC Region	Gnaala Karla Booja
Site Lot(s)	Lot 19
Street Frontage	Clarence Beach Road, Henderson
Development Type(s)	Industrial, Shipbuilding
Relevant Planning Scheme	Development WA – City of Cockburn Local Planning Scheme No. 3
Nearest Station	Aubin Grove
Nearest Bus Routes	548, 700m
Walk Score Ratings	Walkability – 7 out of 100. Transit Score 25 out of 100
Access Crossovers	2 new crossovers on to Clarence Beach Road
Parking Provision	44 hard standing bays, 257 unmarked bays, 102 auxiliary bays
Parking Management	N/A
ACROD Parking	2 bays in front of Office
Motorcycle Parking	-
Bike Parking	10 rack spaces, internal showers and lockers provided
Vehicle Trips Generated	Based on 100% attendance and use of private vehicle - 208 trips in AM peak period split over two main arrival profiles associated with production and office staff on site. Same level of departing trips in PM over 2 hour period.

2. INTRODUCTION

2.1 Development Introduction

This Transport Impact Assessment (TIA) has been prepared by Flyt in support of the proposed development at Lot 19 Clarence Beach Road, Henderson. The site is within the City of Cockburn and, as indicated by the South West Aboriginal Land and Sea Council website, sits within the Gnaala Karla Booja Region.

The site is within the Australian Marine Complex (AMC) which is a strategic industrial area in Western Australia. Located 23 kilometres south of Perth, the AMC has been developed to enhance opportunities created by the clustering of industries.

The City of Cockburn's Town Planning Scheme No. 3 has imposed a limited range of land use options, which has supported significant specialisation in this sector including manufacturing, fabrication, assembly, service and repair for the marine, defence and resource industries. The AMC features a deep water port, common user facilities, load out and fabrication infrastructure and high wide road access to nearby Kwinana Industrial Area (KIA) and Latitude 32 industrial zones.

The location of the proposed development is shown in an aerial context within Figure 1.

Figure 1 Development site (source: Nearmap)

2.2 Transport Impact Assessment

This Traffic Impact Assessment has been prepared in keeping with the WA Planning Commission's (WAPC) Transport Impact Assessment Guidelines (Volume 4 – Individual Developments). The Guidelines promote a three level assessment process, where the required level of assessment is dependent on the likely level of impact, as follows (and as shown in Figure 2):

- Low impact – less than 10 peak hour trips, no assessment required;
- Moderate impact – between 10 and 100 peak hour trips, Transport Impact Statement required; and
- High impact – more than 100 peak hour trips, full Transport Impact Assessment required.

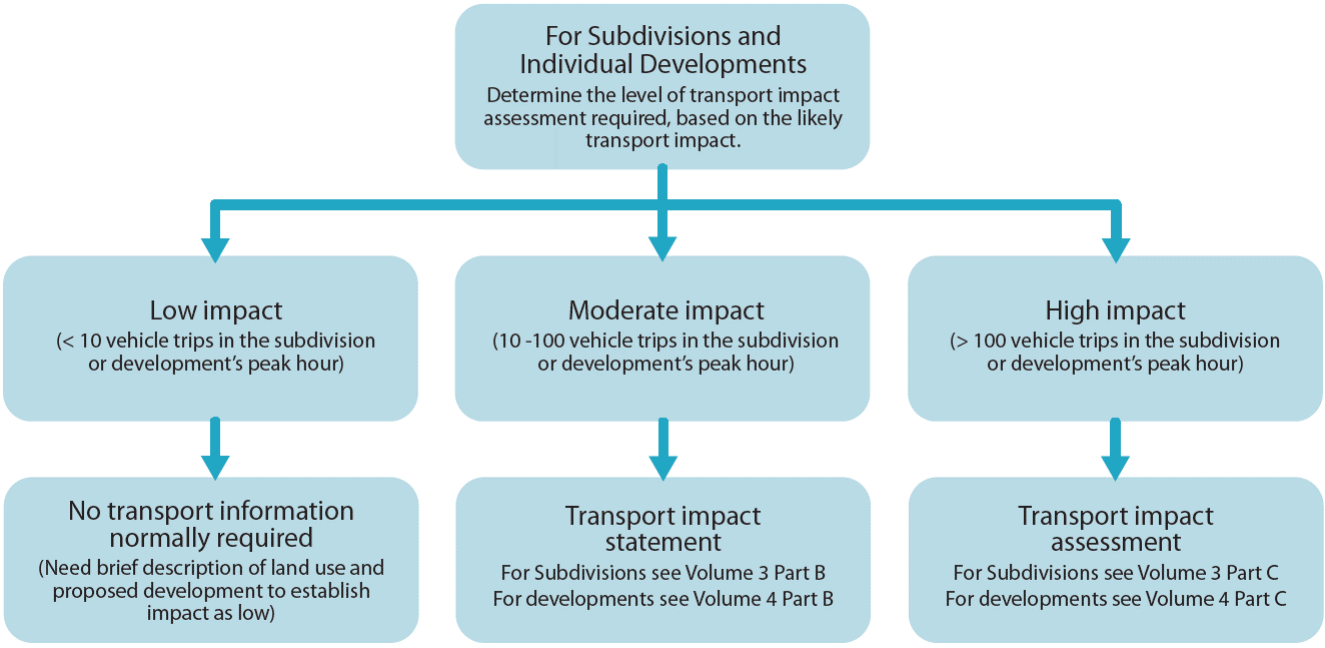


Figure 2 Level of transport impact assessment required (source: WAPC)

As set out in section 6.1, the traffic attributable to the proposed development has been determined to be more than 100 vehicle trips in the operating peak hour, therefore the required level of assessment is a Transport Impact Assessment. The focus of this assessment has been on the immediate impact of the development proposals. The key considerations are:

- The development will result in the relocation of an existing operation that is presently located around 1km to the south. The volume of employees and shift arrangements are the same, as will the servicing and waste arrangements. As such, the impact of the site on the network is already a known quantity. Current year assessment wasn't undertaken as a benchmark.
- The operation is contained within an industrial area with high volumes of private vehicle use.
- Other assessments and project work are examining the surrounding network and the intersection configurations to support overall development in the AMC. This assessment focussed on providing impacts within the forecast year 2026, by which time other alterations or potential changes to higher order intersections should be in place.

2.3 Report Structure

The report is structured using some elements within the WAPC Transport Impact Assessment Guidelines, with the following sections included:

- Proposed development
- Vehicle access and parking
- Provision for service vehicles
- Daily traffic volumes and vehicle types
- Public transport access
- Pedestrian access
- Cycle access
- Site specific issues
- Safety issues.

3. PROPOSED DEVELOPMENT

3.1 Development Site

Under the City of Cockburn's Town Planning Scheme No. 3, Lot 19 is within the Development Area 17 (DA 17) and is zoned Waterways Special Use 2. DA 17 relates to the northern harbour development zone where land use and development must provide for marine engineering, shipbuilding, and the manufacture, fabrication and assembly of components for use by the offshore petroleum industry and marine industry. The lot is owned by DevelopmentWA and managed by the Australian Marine Complex Management. The site is located in the 'Ship Building Precinct' within the AMC as shown in Figure 3.

Figure 3 Land uses within the AMC

The proposed development application is for a superyacht fabrication facility. The proposed development includes the following:

- GFA of 17,500m^2 comprised of superyacht construction facility and supporting facilities
- Office development associated with the site over three levels along the Clarence Beach Road frontage
- Parking for 44 vehicles in the front of the building along the Clarence Beach Road frontage accessed via the northern crossover
- Parking for a maximum of 257 vehicles on the western end of the site accessed via the southern crossover
- Parking for a maximum of 102 vehicles in the auxiliary car parking area along the western boundary of the site towards Jervoise Bay which would be accessed via the southern crossover of the site
- Layover areas for five 19m semi-trailers to accommodate deliveries and movement of goods to and from the site
- Operational areas set aside for DFES requirements
- Landscaping elements and utilities featured along the Clarence Beach Road frontage.

A development site plan displaying the proposed development at Clarence Beach Road, Henderson is shown in Figure 5. Details of the internal space allocation for land uses is set out in Table 1

Table 1 Internal development proposals

USE	DESCRIPTION	GFA (APPROX)
Fabrication Hall	Two 110m x 24m wide fabrication halls (for fabrication and fit out).	5750m^2
Administrative Office	A three-storey office component located along the site's street frontage, two storeys of which are visible from Clarence Beach Road. The office space will comprise of office and meeting rooms and centrally located staff amenities on each floor.	1265m^2
Speciality Workshops and Stores	Located alongside the main fabrication hall, the development includes a series of speciality workshops for engineering, stainless steel, fit out, facilities, painting / blasting, electrical and HVAC assembly located across three levels (ground, first and second floors). Stores are located on each level adjacent to workshop spaces.	8550m^2
Staff Amenity and Tea Prep areas	For staff convenience and efficiency, staff amenities (toilets, lockers, lunchrooms and tea prep facilities) are located across all three levels of facility	1055m^2
Internal Walkway	An internal walkway extends across both the ground and first floor connection the specialty workshops to the office and administration areas	880 m^2
	TOTAL GFA	17,500M^2

3.2 Development Context

The proposed development will result in the relocation of the operator from existing premises located at 124 Quill Way in Henderson.

Given that the site operations, servicing and vehicle demands will remain the same with no foreseeable increase in impacts, the assessment has been completed on the basis of the existing impacts of the development being evident on the transport network already. As shown on Figure 4, the existing site is approximately 1km to the south along Quill Way, with the relocation to the new site unlikely to result in a change of travel patterns from employees, deliveries to the site or visitors.

Figure 4 Current and proposed site locations

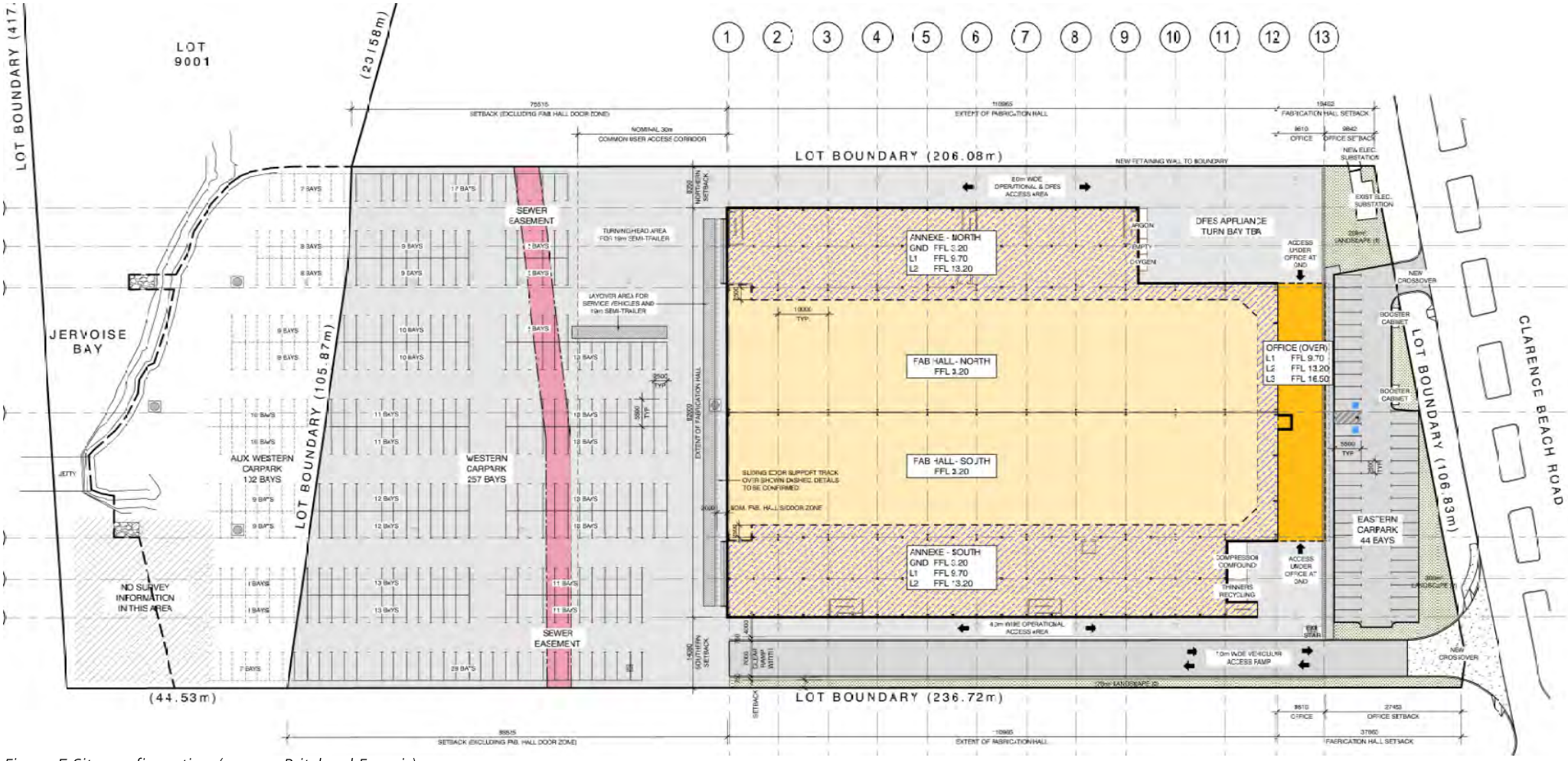


Figure 5 Site configuration (source: Pritchard Francis)

4. VEHICLE ACCESS AND PARKING

4.1 Vehicle Access

Vehicle access to the development site is proposed via two crossovers from Clarence Beach Road located at the northern and southern ends of the site. There are no existing crossovers to the subject site.

The northern crossover will provide access to the 44 car bays located along the Clarence Beach Road frontage. The southern crossover is 7m wide and provides access to parking areas for a maximum of 359 vehicles on the western side of the development as well as site access for delivery vehicles and service vehicles, as discussed in section 5.1. Vehicle access proposals are shown in Figure 6.

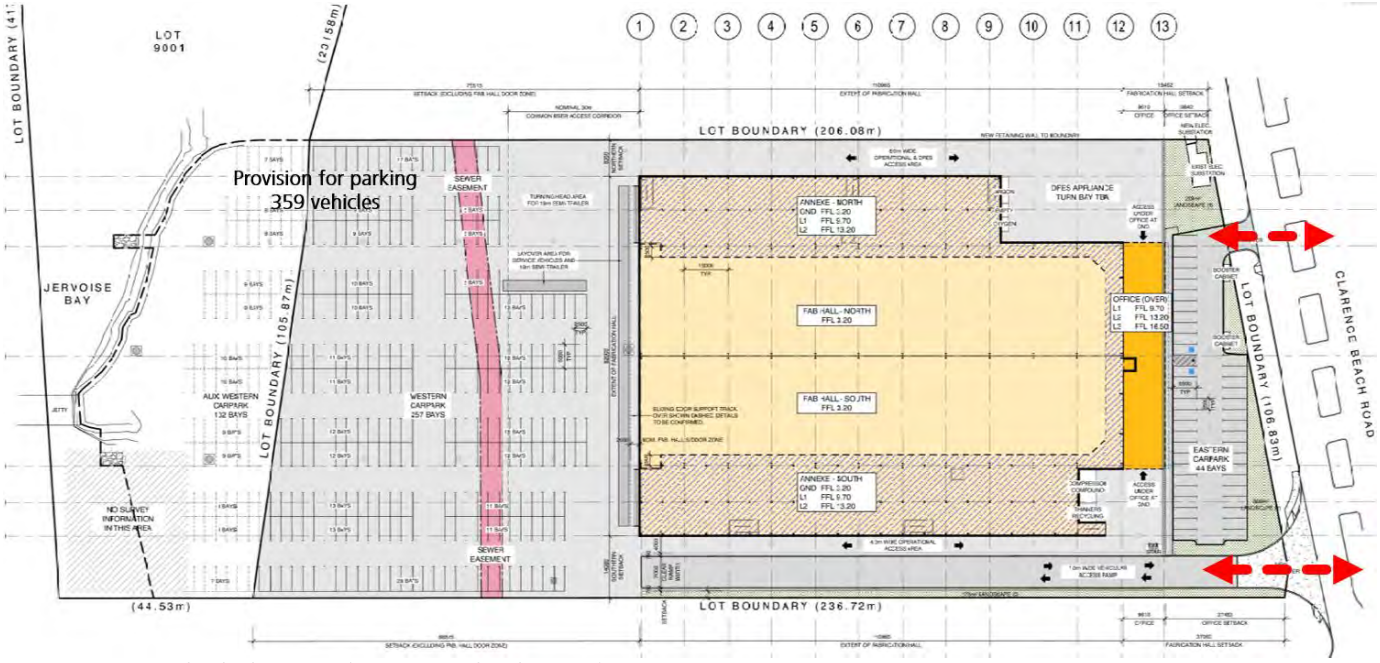


Figure 6 Proposed vehicle access (source: Pritchard Francis)

4.2 On-site Parking

When operating at 100% employee attendance, the operator has indicated that the site will accommodate approximately 200 employees during peak production stage. This will be a mix of production and office/technical staff located in different areas of the site. To cater for this provision of employees and their travel to and from the site, parking provision is proposed to be a mix of marked, standard bays and use of hardstanding area for ongoing parking use. Layout of the parking areas is shown in Figure 5.

The development proposes 44 parking at the eastern entry point of the development, including 2 ACROD bays that are located adjacent to the foyer entry for the Level 1 Office area. This area would also cater for visitor parking, with the potential to allocate or mark some of those bays accordingly.

Parking provision for the site is based on utilising the set down area and hardstanding constructed as part of the slip way for the super yachts. This area would be available for the vast majority of the time during the construction phase of the yachts, with unavailability limited to one or two days during the movement of the yacht along the slip way.

Typically, the yachts being fabricated on site take a minimum of three years to build and therefore with two fabrication halls in operation, the actual impact on availability of parking for those rare times when a yacht is launched and the western hardstanding is not available, can be managed accordingly.

Along the western boundary of the site, an area that could accommodate a total of 257 vehicles is set aside for employee parking. This parking configuration would be managed on site by the company, with temporary or guiding markers set down for parking to maximise efficiency. In addition to the hardstanding area within the lot, an auxiliary space between the lot boundary and Jervoise Bay could be utilised for the provision of up to a maximum of 102 vehicles if there were ever times when specific space was required for fabrication purposes or there was a need for a set down area of materials close to the production areas.

All parking bays, aisles and circulation areas within the front car park area along Clarence Beach Road have been designed to comply with Australian Standards 2890 Parking Standards Part 1: Off-street car parking. It is not proposed to formally mark out the parking areas along the western side of the lot within the auxiliary area.

4.3 Off-site Parking

Development WA has the ability to utilise the existing 94 parking bays on Lot 14, located on the eastern side of Clarence Beach Road (Figure 7) subject to a formal agreement with the tenant.

In terms of staging during the transfer of the yachts to Jervoise Bay, additional bays for employees could possibly be located on the lot on the northern boundary of the subject site or other specific arrangements could be bought in to manage these individual events that are likely to occur every three years.

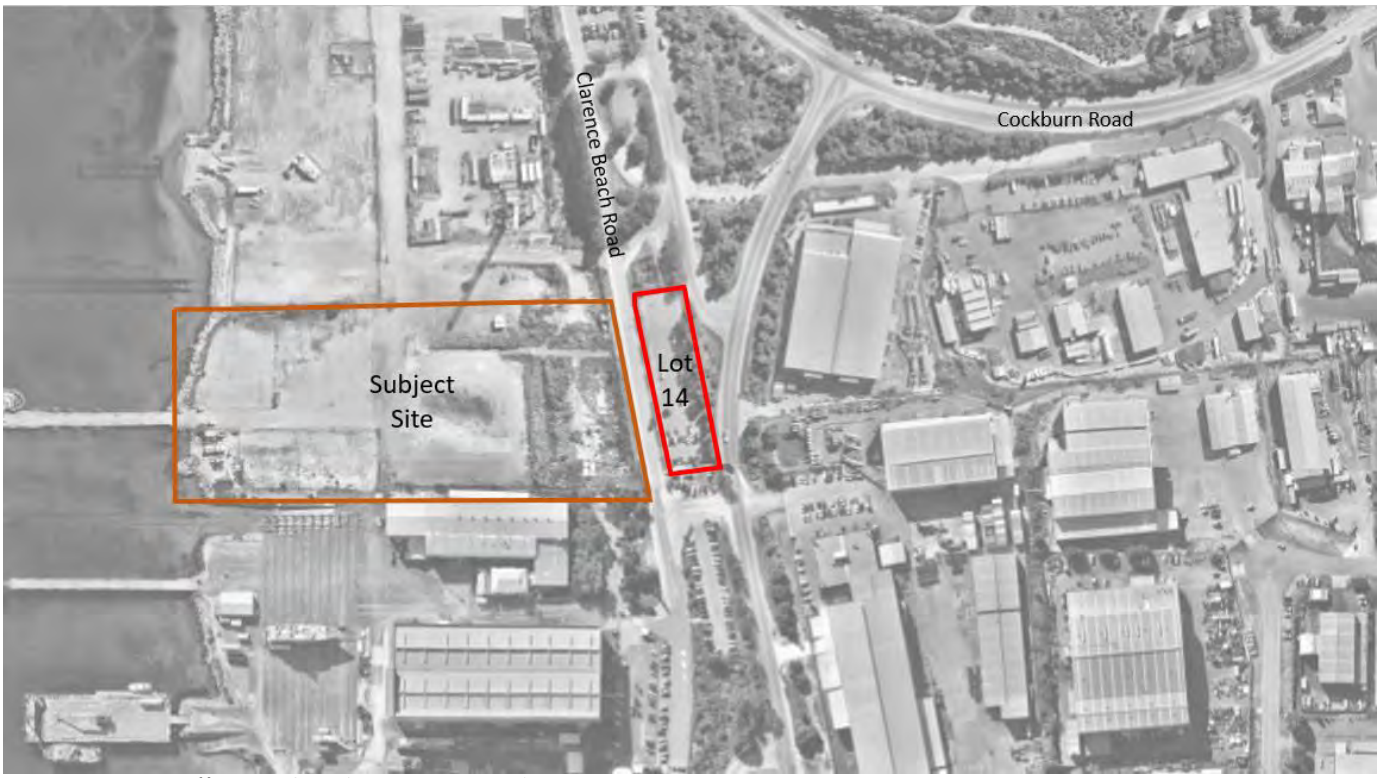


Figure 7 Existing off-site parking (source: Nearmap)

4.4 Required Car Parking

The parking provision should comply with City of Cockburn Town Planning Scheme No. 3 guidelines for industrial uses. The minimum parking requirement for employees, their visitors and deliveries are outlined in Table 2.

Table 2 Required car parking – City of Cockburn TPS No 3.

Bay Type	City of Cockburn TPS No. 3		
	Minimum rate	Bays	Provided
General industry	1 bay per 50m^2 GLA (office)	25	44
Industrial (marine engineering)	I bay per employee	185	257 capacity + 102 auxiliary
Visitor	I bay per 200 employee bays	3	Within Western Area
ACROD bays		-	2
Delivery bays	I per service/storage area	-	5

The anticipated number of employees is around 200 in total on a typical weekday production day. This includes office and administration staff and production staff during peak production and use of both fabrication halls.

Given the need to balance area for employment generating fabrication land uses and the requirements for providing adequate parking facilities on site, the use of the western hardstanding area for employee parking will ensure that there is an area that is more than sizeable enough to provide for on-site parking whilst still catering for the manufacturing element of the site. Provision of a dedicated hardstanding area catering for marked parking bay provision on site would render the development option unviable.

5. PROVISION FOR SERVICE VEHICLES

5.1 Service Vehicles

The nature of the proposed development is that it will regularly accommodate heavy vehicles for delivery and service purposes. As such the proposed crossovers, accessways and ramps are proposed to be 7m – 8m wide. The width of the crossover will also allow for access by DFES in the event of it being required.

The length of the longest heavy vehicle which currently delivers materials to the existing site is 19m x 4.45m.

Within their existing site, the superyacht facility expects approximately 25 light vehicles and three heavy vehicles every day for meetings and deliveries on site.

There have been areas set aside for five separate bays for 19m semi-trailers to be parked on the site at one time, as shown in Figure 8. All service vehicles would enter the site from the southern driveway which would be signposted appropriately. Trucks would enter the site and be corralled through the hardstanding area to one of the bays shown in Figure 8. More standard service truck movements, such as waste handling, would be allocated a specific area and be accommodated accordingly.

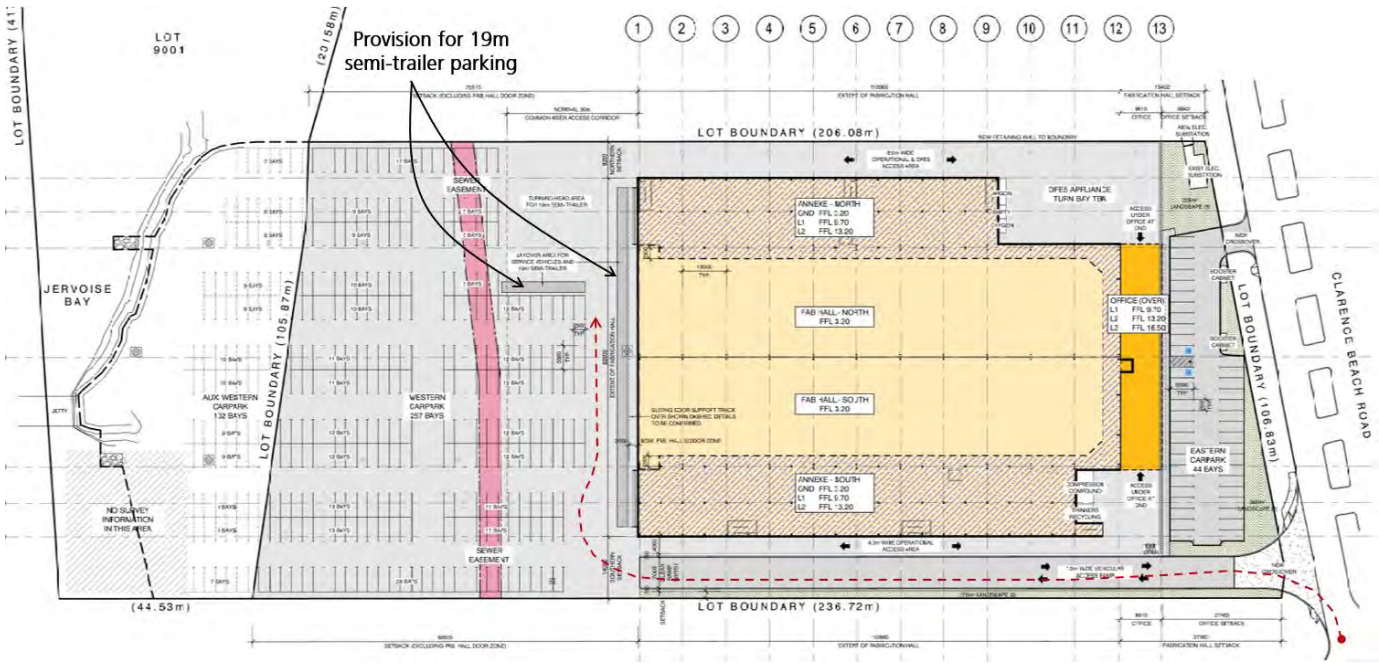


Figure 8 Location of service bay areas for five 19m semi-trailers

The swept path of a 19m semi-trailer entering the site, manoeuvring through the site, and exiting the site is shown in Figure 9. This sweep includes provision for trucks to be parked at specific locations for delivery.

The movement of deliveries on site would be managed by the operator and would not impact the external network given all movements and deliveries would be contained on-site.

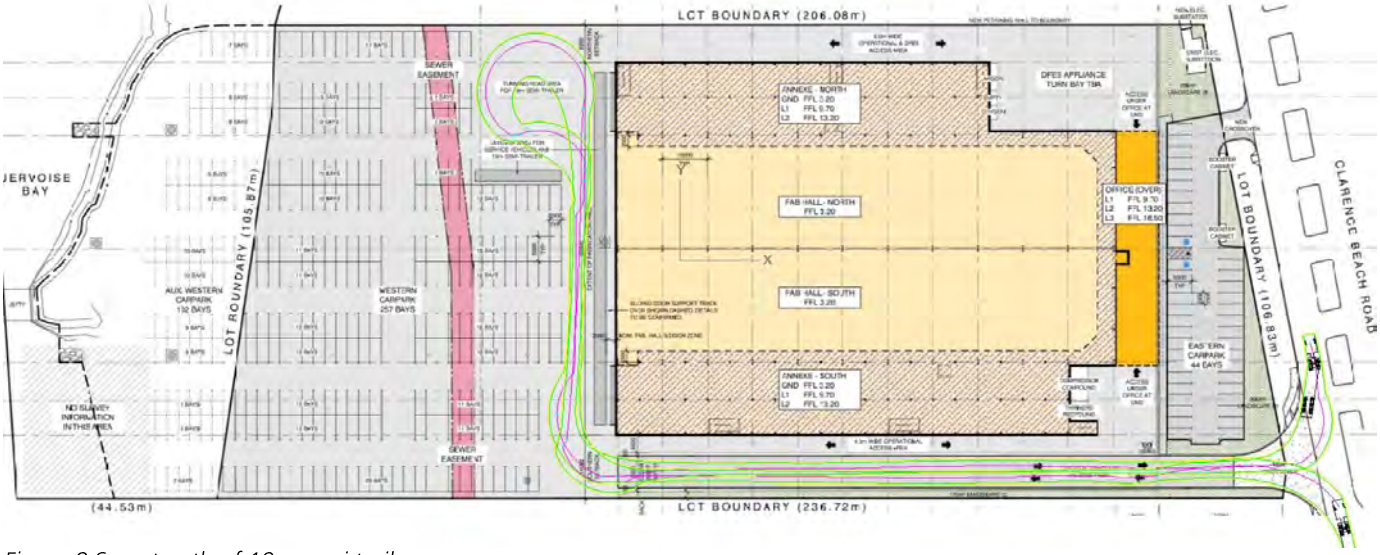


Figure 9 Swept path of 19m semi-trailer

6. DAILY TRAFFIC VOLUMES

6.1 Trip Generation

The WAPC's Transport Impact Assessment Guidelines Volume 5 – Technical Guidance suggest peak hour trip rates for industrial or commercial land uses. These trip rates are reliant on the GFA of a site, however the nature of the proposed development (that a large GFA is necessary to accommodate the manufacturing of yachts and is not reflective of the number of employees) this approach was tested for its appropriateness.

Considering the high reliance of private vehicle use for employees commuting where one bay per employee is provided, the trip rates for the proposed development are based on a combination of the number of employees, their proposed shift schedule and service deliveries rather than the GFA.

As per TPS No 3, each employee is required to have one parking bay, meaning that the City of Cockburn anticipates that all commuting trips to the industrial area will be via private vehicle.

Table 3 WAPC Industrial trip rates and trip generation

Land Use	Unit	AM Peak IN	AM Peak OUT	PM Peak IN	PM Peak OUT
Industrial	100m^2 GFA	0.8	0.2	0.2	0.8
Trips	15,180 m^2	121	30	30	121

Based on a total useable GFA of 15,180 m^2, and using WAPC trip rates, the proposed development is anticipated to generate 151 trips in the AM and PM peak.

The proposed shift schedule for employees is:

Production

- 6.00am – 2.30pm
- 7.00am – 3.30pm

Office

- 7.00am – 4.00pm

Anticipating that employees will arrive prior to their shift, the AM peak times generated by the proposed development will mostly likely occur 5.30am – 6.00am for production staff and at 6.30 – 7.00am for production and office staff. The later shift will likely experience a higher number of inbound trips due to the office staff also beginning at this time. A 50% split of production staff was used between each starting time. The outcomes are shown in Table 4.

Table 4 Trip generation

	208 Staff	
Land Use	5.30am – 6.00am	6.30am - 7.00am
100% arriving by private vehicle	83	126
90% arriving by private vehicle	75	114

PM departures are then taken as tidal movements for production and office staff split between 2.30pm and 4.30pm. For the purposes of modelling inputs, a peak departure replicating the peak AM period was utilised of 126 vehicles.

2016 census data from the Australian Bureau of Statistics measures the mode split for commuting when people work in the suburb of Henderson (statistical area 2). Henderson is predominantly an industrial suburb, and therefore the ABS mode split is fairly accurate in predicting how people who work in the AMC area travel to work.

The ABS shows that 90% of people use their car to commute when working in Henderson. Both rates where 100% of staff and 90% of staff use their car has been applied to ascertain the trip generation for the proposed development. The ABS recorded 2.3% of people using public transport to travel to work in Henderson and 0.44% trips related to cycling and/or walking.

6.2 Trip Distribution

Car trips leaving the site have the following options:

- North – via Cockburn Road (accessed from Clarence Beach Road and north along Quill Way)
- South – via Cockburn Road (accessed via Clarence Beach Road and south along Quill Way to turn right onto Cockburn Road)
- East – via Russell Road (accessed from Clarence Beach Road and north along Quill Way and right onto Cockburn Road/Russell Road).

The distribution routes for trips from the site for the AM and PM peak hours is shown in Figure 10.

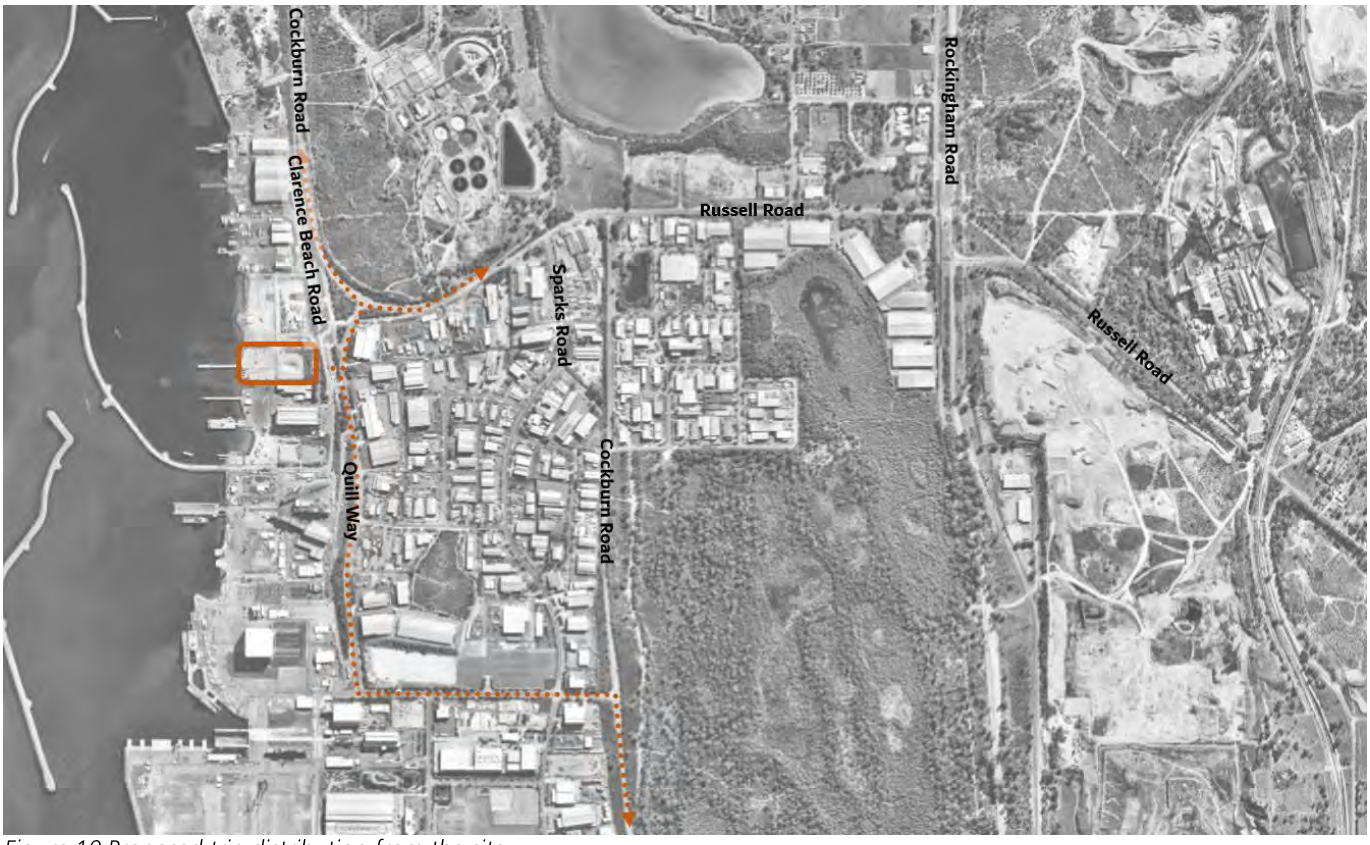


Figure 10 Proposed trip distribution from the site

Car trips travelling towards the site have the following options:

- From the North – via Cockburn Road north (right into Quill Way and then right into Clarence Beach Road access road)
- From the South – via Cockburn Road south (left into Quill Way and then left into Clarence Beach Road access road)
- From the East – via Russell Road (right into Rockingham Road, left into Cockburn Road, left into Quill Way and then right into clarence Beach Road access road).

The distribution routes for trips towards the site for the AM and PM peak hours is shown in Figure 11.

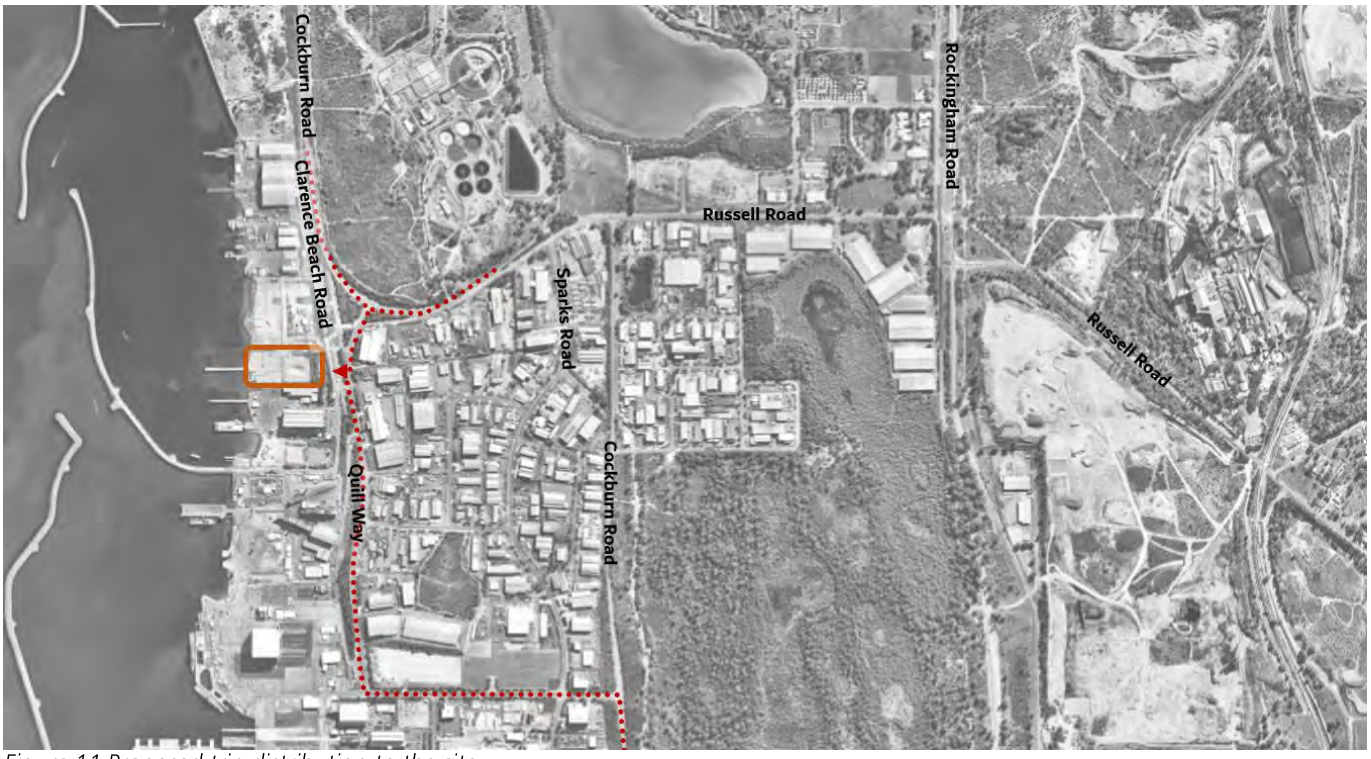


Figure 11 Proposed trip distribution to the site

6.3 Traffic Impact

As set out in section 3.2, the proposed development will result in the relocation of the shipbuilder from existing premises located at 124 Quill Way in Henderson.

Given that the site operations, servicing and vehicle demands will remain the same with no foreseeable increase in impacts based on operational requirements, the assessment has been completed on the basis of the existing impacts of the development being evident on the transport network already. As such, given the development won't be adding on additional traffic movements during the peak periods, focus was placed on the future network.

It is acknowledged that the existing road network includes congested conditions at intersections during peak periods that coincide with shift times for sites at Henderson. This congestion is localised and is a product of there being a substantial workforce which is entirely reliant on private vehicle transport with a hard egress most notable in the afternoon peak. There is exceptionally limited public transport accessibility and have been no substantial attempts to curb travel behaviours of employees in the area.

The impact of peak movements along Quill Way is shown in Figure 12 from Main Roads WA traffic observations undertaken in 2017 at a site 30m south of the intersection of Cockburn Road. These volumes show the very early morning peaks heading southbound associated with shift workers commencing and then a secondary but lower peak of office and administration staff arriving. In the afternoon, there is a consistently high volume of departures northbound on to Cockburn Road from 3.00pm to 5.00pm as shifts finish. Vehicles associated with the existing operations at Quill Way would be included in these volumes.

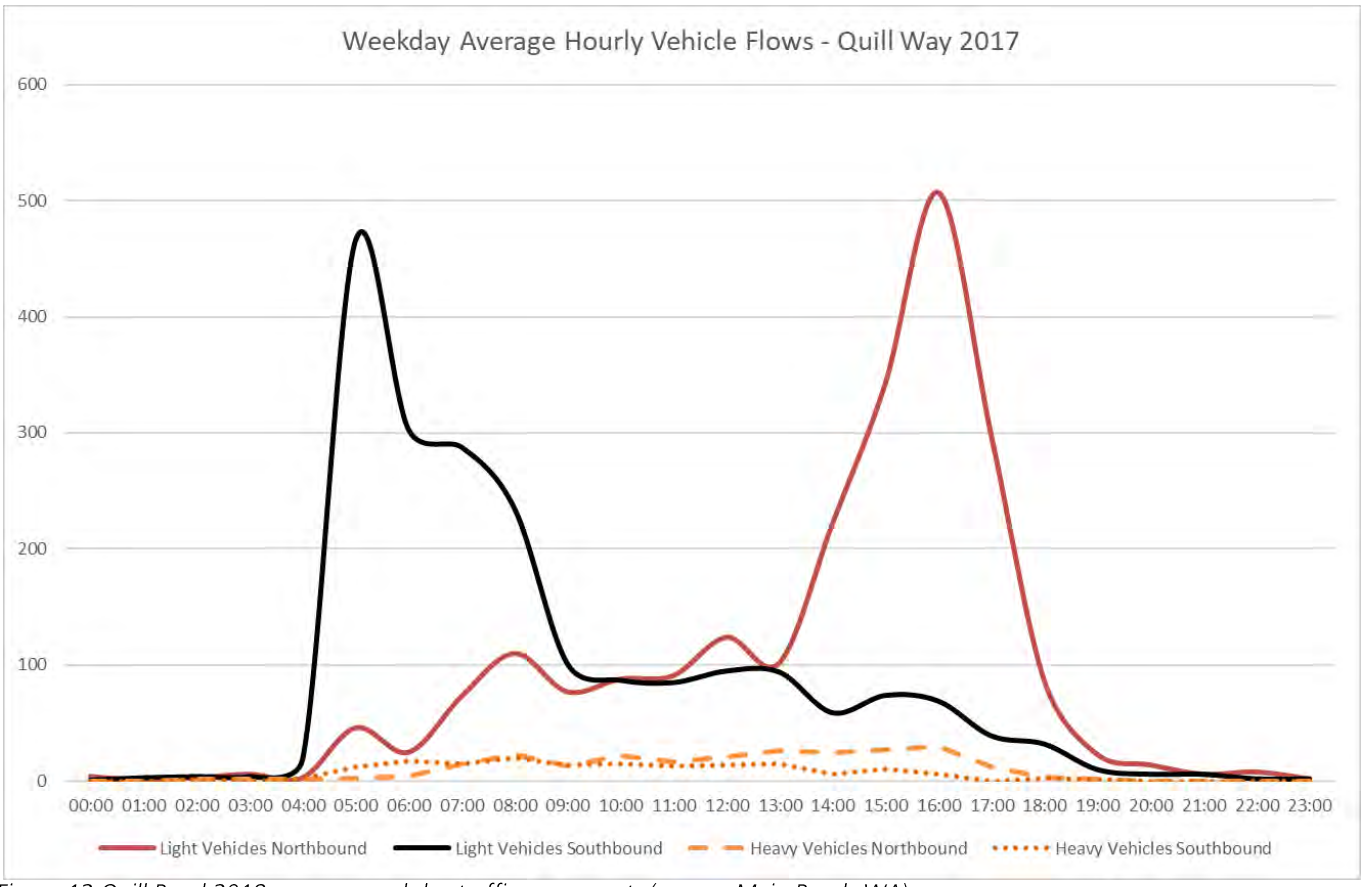


Figure 12 Quill Road 2018 average weekday traffic movements (source: Main Roads WA)

Table 5 Vehicle volumes Quill Way 2017 (source: Main Roads WA)

Hour	All Vehs NB Vol	All Vehs SB Vol	All Vehs Both Direction Vol	HV Vehs NB Vol	HV Vehs SB Vol	HV Vehs Both Direction Vol	Pct Heavy Both Direction
04:00	3	19	22	1	2	3	13.6
05:00	46	466	512	2	12	14	2.7
06:00	25	303	328	4	17	21	6.4
07:00	73	288	361	15	15	30	8.3
08:00	110	235	345	23	20	43	12.5
09:00	77	101	178	13	14	27	15.2
10:00	88	87	175	22	15	37	21.1
11:00	91	85	176	16	13	29	16.5
12:00	124	95	219	21	14	35	16
13:00	102	94	196	26	15	41	20.9
14:00	222	59	281	24	6	30	10.7
15:00	343	74	417	27	10	37	8.9
16:00	507	69	576	30	6	36	6.3
17:00	297	39	336	12	0	12	3.6
18:00	86	32	118	3	2	5	4.2

6.3.1 Future Network

It is acknowledged that the network around the subject development site experiences localised congestion that is associated with the confluence of employees arriving or departing for specific shift times. This will continue to be the case in the future, with industrial and manufacturing land uses in the area not changing. The only potential alteration to travel patterns would be associated with changes in shift times or employment demands.

As such, technical work has been progressing for a range of sites and projects in the area supported by Development WA and other agencies that would result in likely changes to the road network – specifically the intersection of Cockburn Road and Quill Way adjacent to the subject site. In order for this intersection to perform safely and efficiently, it has been identified in a range of studies for upgrading to a roundabout or signalised set of controls capable of catering for existing and future demands.

Given that these studies have not yet progressed, the assessment for Lot 19 Clarence Beach Road is on the basis of:

- Using 2026 forecast year for assessment given that the impact of travel to and from existing operations in the area is already accounted for and 2026 provides a forecast year that can utilise strategic model outputs
- The intersection of Cockburn Road and Quill Way (North) being a t-intersection in its current configuration
- All demands from the existing operation being transferred to Lot 19 Clarence Beach Road
- Service vehicle and waste vehicle movements associated with the site being outside of "peak" hours for the location
- The intersection of Clarence Beach Road and Quill Way retained as is
- Carriageway on Clarence Beach Road being retained for queueing traffic in the PM period given there is no impact on other intersections or users
- Background traffic being uplifted based on projections from strategic modelling with proportion of heavy vehicle movements in peak hours remaining as surveyed in 2017 by Main Roads WA.

6.4 Traffic Assessment

Assessment of the adjoining intersection was undertaken using SIDRA 9.0. The basis for the modelling was to examine the peak hours applicable to the movement of production and office staff into and out of the area rather than focus on typical peak hours for the network. The following scenarios were tested:

- 2026 – AM Peak hour, with and without the Lot 19 site development
- 2026 – PM Peak hour, with and without the Lot 19 site development.

The network assessed is shown in Figure 13. Outputs from the modelling exercise are included in Appendix 1.

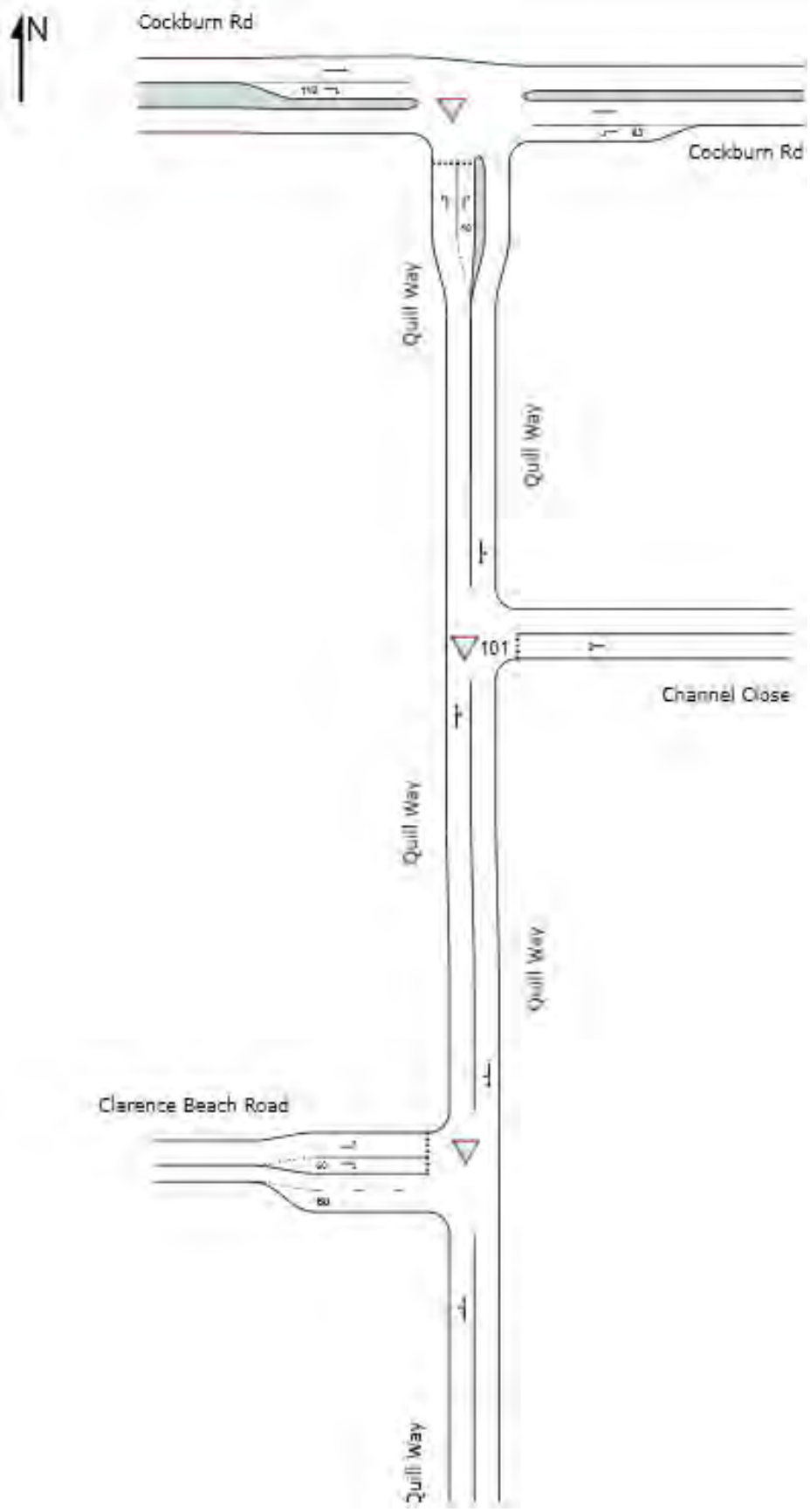


Figure 13 Network layout utilised

6.4.1 2026 AM Peak

Outputs for the 2026 AM peak for both with and without Lot 19 development are shown in Figure 14 and Figure 15, including the Movement Summary for the intersection of Cockburn Road and Quill Way. As can be seen from the network outputs and the movement summary outputs, both of these options perform well in respect of the traffic movement elements. Traffic that is using the main intersection of Cockburn Road and Quill Way is already on the network, and the additional turning movements into Clarence Beach Road do not result in any additional impacts as there is a very low level of opposing traffic flow.

There are no significant outbound movements caused by the proposed development during the AM peak hour and therefore, the impact of the development on the network is minimal.

6.4.2 2026 PM Peak

Outputs from the PM peak period (using the maximum flows discussed in section 6.1), are shown in Figure 16 and Figure 17 including the Movement Summary for the intersection of Cockburn Road and Quill Way. The network outputs and movement summary illustrate the impact of shift movements resulting in a hard egress from sites in the AMC, including those already serviced by Clarence Beach Road.

The performance of the intersection of Cockburn Road and Quill Way without the Lot 19 development in place is noticeable in that the right hand turn flow fails and is already observed to result in longer queues than that set out I the Movement Summary. This in turn has impacts for Channel Close and Clarence Beach Road, with traffic only moving at times due to driver behaviour rather than capacity of the intersections.

The Clarence Beach Road approach also performs poorly without the Lot 19 development in place, with the modelling platform not reliably being able to replicate the impact of the staggered configuration of Clarence Beach Road and the location of car park entrances. Without the Lot 19 development, this arm of the intersection is already experiencing a high degree of saturation that would result in localised breakdown of traffic flows when peak periods are in operation.

The addition of traffic associated with the shift end for Lot 19 Clarence Beach Road results in the overall performance of that arm of the intersection failing, however in practice, the same driver behaviours in allowing for merging to occur would continue and the vehicles associated with the congestion are within a carriageway that has no other road connections and therefore the impacts are contained.

Given traffic for the existing facility is already accounted for on the network without its location being at Lot 19, there is no change to the performance of the intersection of Cockburn Road and Quill Way.

These outputs suggest that:

- The congestion associated with Clarence Beach Road is contained and has no knock-on effect on the network and therefore is not considered a detrimental impact as a result of the proposed development
- Clarence Beach Road in the afternoon peak period already experiences high levels of congestion and delay
- The intersection of Cockburn Road and Quill Way is already congested. Any future alterations of the intersection will need to take into account dominant flows of traffic, the impact on Channel Close and will also need to configure the intersection of Clarence Beach Road and Quill Way to cater for overall movements.

6.5 Future Network

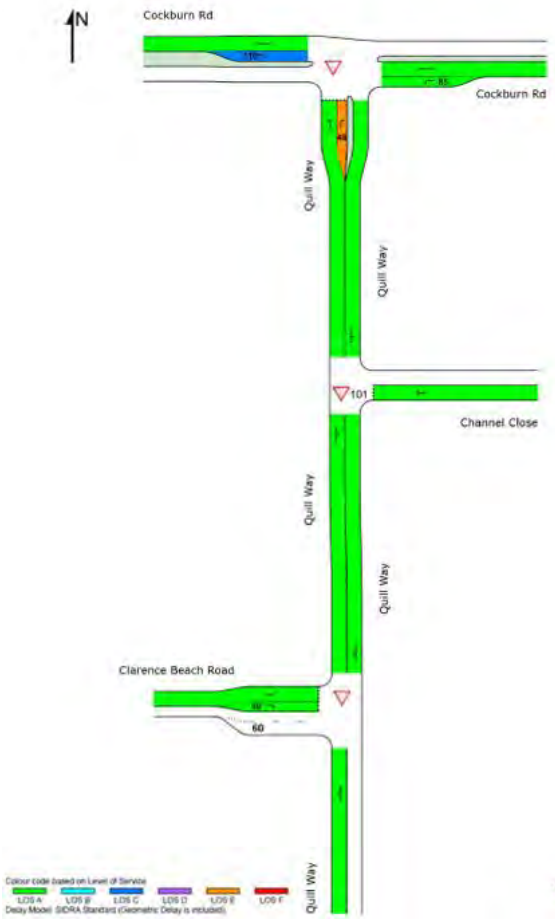
DevelopmentWA has confirmed that, as one of a series of projects planned within the AMC, funding has been set aside to assess and facilitate the upgrading of various intersections to improve traffic conditions and ameliorate congestion. These works, following appropriate discussions and agreement with both Main Roads WA and the City of Cockburn are planned to be undertaken within a time period that would address the localised congestion issues highlighted in this assessment.

LEVEL OF SERVICE

Lane Level of Service

Network: N101 [2026 AM T-Intersection (Network Folder: General)]

New Network
Network Category: (None)

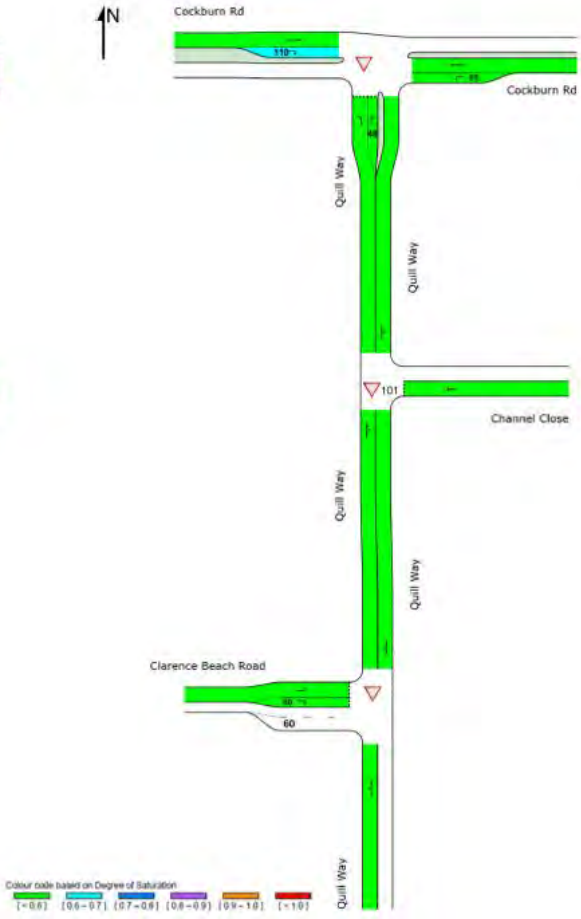


DEGREE OF SATURATION

Ratio of Demand Volume to Capacity, v/c ratio per lane

Network: N101 [2026 AM T-Intersection (Network Folder: General)]

New Network
Network Category: (None)



MOVEMENT SUMMARY

Site: [2026 AM Cockburn Rd Quill Way T intersection (Site Folder: General)]

Network: N101 [2026 AM T-Intersection (Network Folder: General)]

Cockburn Rd / Quill Way

Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Quill Way														
1	L2	61	2.7	61	2.7	0.106	8.4	LOS A	0.1	1.0	0.59	0.81	0.59	49.0
3	R2	14	2.7	14	2.7	0.145	41.6	LOS E	0.2	1.2	0.92	0.97	0.92	27.5
Approach		75	2.7	75	2.7	0.145	14.5	LOS B	0.2	1.2	0.65	0.84	0.65	42.9
East: Cockburn Rd														
4	L2	184	2.7	184	2.7	0.101	6.4	LOS A	0.0	0.0	0.00	0.61	0.00	56.4
5	T1	671	2.0	671	2.0	0.320	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.8
Approach		855	2.2	855	2.2	0.320	1.4	NA	0.0	0.0	0.00	0.13	0.00	67.8
West: Cockburn Rd														
11	T1	382	2.0	382	2.0	0.184	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	69.9
12	R2	292	8.0	292	8.0	0.632	19.7	LOS C	1.6	11.7	0.84	1.12	1.54	40.4
Approach		674	4.6	674	4.6	0.632	8.5	NA	1.6	11.7	0.37	0.49	0.67	58.0
All Vehicles		1603	3.2	1603	3.2	0.632	5.0	NA	1.6	11.7	0.18	0.31	0.31	62.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Figure 14 SIDRA outputs - 2026 AM Without Lot 19

LEVEL OF SERVICE

Lane Level of Service

Network: N101 [2026 AM T-Intersection - Lot 19 (Network Folder: General)]

New Network
Network Category: (None)

DEGREE OF SATURATION

Ratio of Demand Volume to Capacity, v/c ratio per lane

Network: N101 [2026 AM T-Intersection - Lot 19 (Network Folder: General)]

New Network
Network Category: (None)

MOVEMENT SUMMARY

Site: [2026 AM Cockburn Rd Quill Way T Intersection (Site Folder: General)]

Network: N101 [2026 AM T-Intersection - Lot 19 (Network Folder: General)]

Cockburn Rd / Quill Way

Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Quill Way														
1	L2	61	2.7	61	2.7	0.106	8.4	LOS A	0.1	1.0	0.59	0.81	0.59	49.0
3	R2	14	2.7	14	2.7	0.145	41.6	LOS E	0.2	1.2	0.92	0.97	0.92	27.5
Approach		75	2.7	75	2.7	0.145	14.5	LOS B	0.2	1.2	0.65	0.84	0.65	42.9
East: Cockburn Rd														
4	L2	184	2.7	184	2.7	0.101	6.4	LOS A	0.0	0.0	0.00	0.61	0.00	56.4
5	T1	671	2.0	671	2.0	0.320	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.8
Approach		855	2.2	855	2.2	0.320	1.4	NA	0.0	0.0	0.00	0.13	0.00	67.8
West: Cockburn Rd														
11	T1	382	2.0	382	2.0	0.184	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	69.9
12	R2	292	8.0	292	8.0	0.632	19.7	LOS C	1.6	11.7	0.84	1.12	1.54	40.4
Approach		674	4.6	674	4.6	0.632	8.5	NA	1.6	11.7	0.37	0.49	0.67	58.0
All Vehicles		1603	3.2	1603	3.2	0.632	5.0	NA	1.6	11.7	0.18	0.31	0.31	62.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

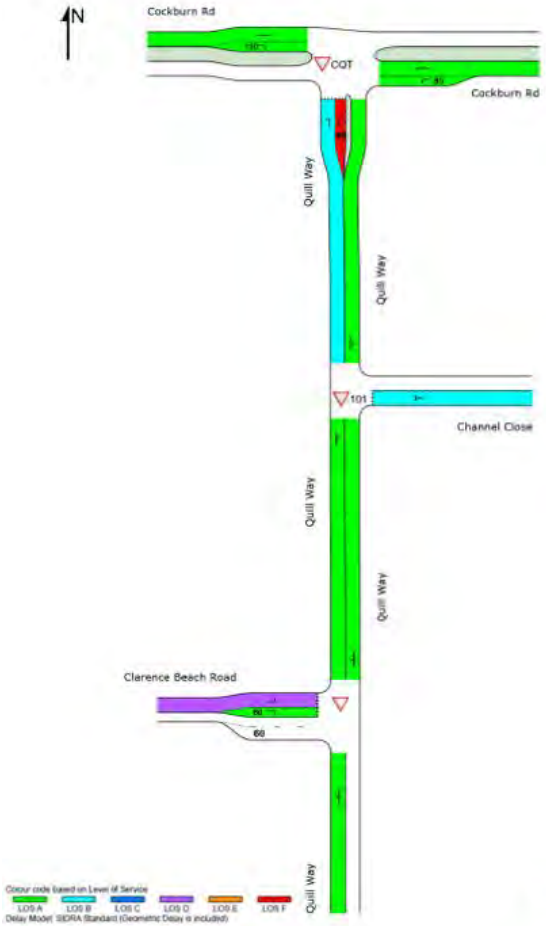
Figure 15 SIDRA outputs - 2026 AM With Lot 19

LEVEL OF SERVICE

Lane Level of Service

Network: N101 [2026 PM T-Intersection (Network Folder: General)]

New Network
Network Category: (None)



DEGREE OF SATURATION

Ratio of Demand Volume to Capacity, v/c ratio per lane

Network: N101 [2026 PM T-Intersection (Network Folder: General)]

New Network
Network Category: (None)

MOVEMENT SUMMARY

Site: CQT [2026 PM Cockburn Rd Quill Way T Intersection (Site Folder: General)]

Network: N101 [2026 PM T-Intersection (Network Folder: General)]

Cockburn Rd / Quill Way (northwest)
PM Peak
2025 model with lot 802 and subs MODIFIED GEOMETRY
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h]	HV] %	ARRIVAL FLOWS [Total veh/h]	HV] %	Deg Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh]	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Quill Way														
1	L2	486	6.3	486	6.3	0.697	12.2	LOS B	2.4	17.4	0.74	1.14	1.49	43.8
3	R2	386	6.3	386	6.3	2.215	1118.9	LOS F	6.8	50.0	1.00	6.00	20.47	1.8
Approach		873	6.3	873	6.3	2.215	502.2	LOS F	6.8	50.0	0.85	3.29	9.89	3.8
East: Cockburn Rd														
4	L2	28	2.0	28	2.0	0.015	6.4	LOS A	0.0	0.0	0.00	0.61	0.00	56.5
5	T1	531	2.0	531	2.0	0.253	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.9
Approach		559	2.0	559	2.0	0.253	0.4	NA	0.0	0.0	0.00	0.03	0.00	69.4
West: Cockburn Rd														
11	T1	531	2.0	531	2.0	0.255	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.9
12	R2	54	2.0	54	2.0	0.071	9.6	LOS A	0.1	0.8	0.53	0.75	0.53	51.5
Approach		584	2.0	584	2.0	0.255	0.9	NA	0.1	0.8	0.05	0.07	0.05	68.7
All Vehicles		2016	3.9	2016	3.9	2.215	217.8	NA	6.8	50.0	0.38	1.45	4.30	10.9

Site Level of Service (LOS) Method: Delay (SIDRA) Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

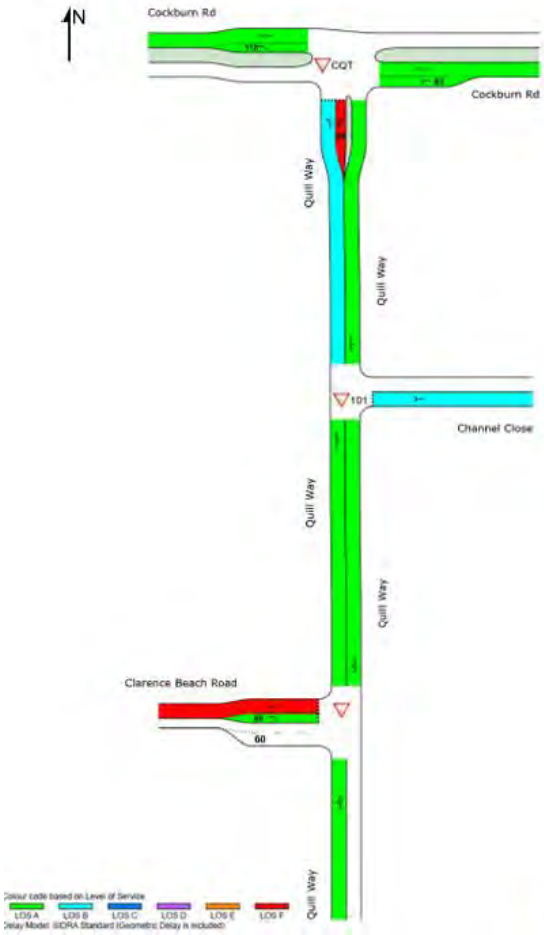
Figure 16 SIDRA outputs - 2026 PM Without Lot 19

LEVEL OF SERVICE

Lane Level of Service

Network: N101 [2026 PM T-Intersection - Lot 19 (Network Folder: General)]

New Network
Network Category: (None)

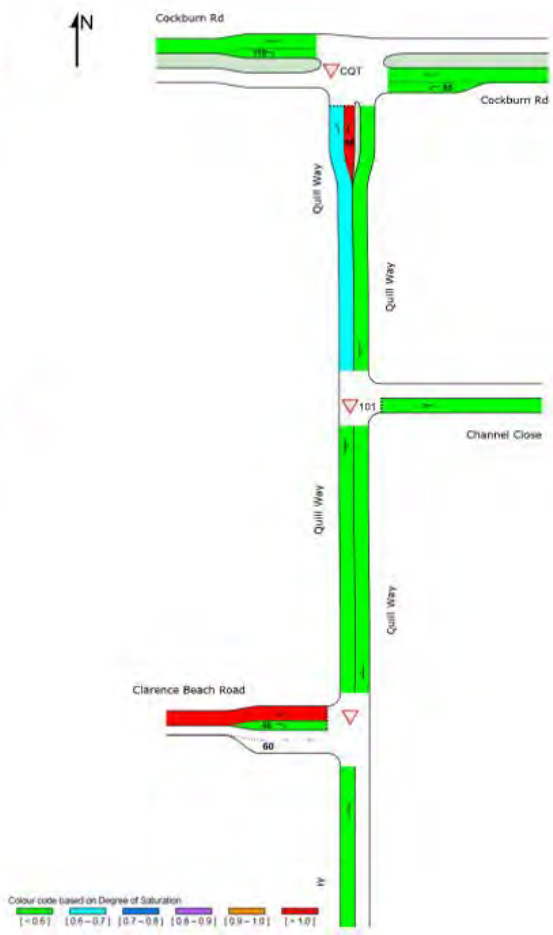


DEGREE OF SATURATION

Ratio of Demand Volume to Capacity, v/c ratio per lane

Network: N101 [2026 PM T-Intersection - Lot 19 (Network Folder: General)]

New Network
Network Category: (None)



MOVEMENT SUMMARY

Site: CQT [2026 PM Cockburn Rd Quill Way T Intersection (Site Folder: General)]

Network: N101 [2026 PM T-Intersection - Lot 19 (Network Folder: General)]

Cockburn Rd / Quill Way (northwest)
PM Peak
2025 model with lot 802 and subs MODIFIED GEOMETRY
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Quill Way														
1	L2	486	6.3	486	6.3	0.697	12.2	LOS B	2.4	17.4	0.74	1.14	1.49	43.8
3	R2	386	6.3	386	6.3	2.215	1118.9	LOS F	6.8	50.0	1.00	6.00	20.47	1.8
Approach		873	6.3	873	6.3	2.215	502.2	LOS F	6.8	50.0	0.85	3.29	9.89	3.8
East: Cockburn Rd														
4	L2	28	2.0	28	2.0	0.015	6.4	LOS A	0.0	0.0	0.00	0.61	0.00	56.5
5	T1	531	2.0	531	2.0	0.253	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.9
Approach		559	2.0	559	2.0	0.253	0.4	NA	0.0	0.0	0.00	0.03	0.00	69.4
West: Cockburn Rd														
11	T1	531	2.0	531	2.0	0.255	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.9
12	R2	54	2.0	54	2.0	0.071	9.6	LOS A	0.1	0.8	0.53	0.75	0.53	51.5
Approach		584	2.0	584	2.0	0.255	0.9	NA	0.1	0.8	0.05	0.07	0.05	68.7
All Vehicles		2016	3.9	2016	3.9	2.215	217.8	NA	6.8	50.0	0.38	1.45	4.30	10.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Figure 17 SIDRA outputs - 2026 PM With Lot 19

7. TRAFFIC MANAGEMENT ON FRONTAGE STREETS

7.1 Frontage Streets

The site has frontage to Clarence Beach Road and is within 370m of Cockburn Road.

The local road network surrounding the development site is partly constrained, with limited connectivity to the east via Russell Road towards Rockingham Road and the Kwinana Freeway. Internal connections within Henderson are limited, due to the need for large block sizes and large turning radius to accommodate high wide loads and heavy vehicles.

The road hierarchy surrounding the development site is shown in Figure 18 and the speed zoning is shown in Figure 19

Figure 18 Main Roads WA Functional Road Hierarchy (source: MRWA)

Figure 19 Main Roads WA posted speed limits (source: MRWA)

7.1.1 Clarence Beach Road

Clarence Beach Road is classified as an Access Road and runs north-south, parallel to Quill Way. Its purpose is to provide direct access to lots located along the coast and does not connect through to other roads. Potential extension of Clarence Beach Road north to support further development of land to the north of Austal is planned for.

Clarence Beach Road is constructed to a width of 7.2m. A cross section of Clarence Beach Road adjacent to the development site is shown in Figure 20.

The posted speed limit is 50 kph. On-street parking is not permitted however historical Nearmap imagery, site visits and information from the Parking and Traffic Management Study show that cars regularly park along the footpath. There is a 1.5m concrete footpath path along the western side of Clarence Beach Road, and no path on the northern side.

Clarence Beach Road carries very low traffic volumes as it is a no through road, only providing access to abutting properties.

Figure 20 Clarence Beach Road cross section looking north (source: Google)

7.1.2 Quill Way

Quill Way is an Access Road, running north to Cockburn Road and then as it curves around to the east, it intersects with Cockburn Road again. It is constructed to a width of 10m, within a 15m road reserve. A cross section of Quill Way is shown in Figure 21. On-street parking is not permitted along Quill Way. There are no footpaths along the north-south alignment of Quill Way, however there are two 2m footpaths on both sides along the east-west alignment.

Figure 21 Quill Way cross section looking north (source: Google)

The most recent traffic counts for Quill Way, taken at site 50886 (prior to the intersection with Cockburn Road north as shown in Figure 12) reveal Quill Way is carrying approximately 4,334 per average weekday. The distribution of traffic volumes over a typical weekday is shown in, revealing Cockburn Road traffic to be highly tidal. Peak travel times occur much earlier than usual commuting times, however this is typical of industrial areas. The southbound AM peak occurs at 5.15am-6.15am and the northbound PM peak occurs at 4.00pm-5.00pm.

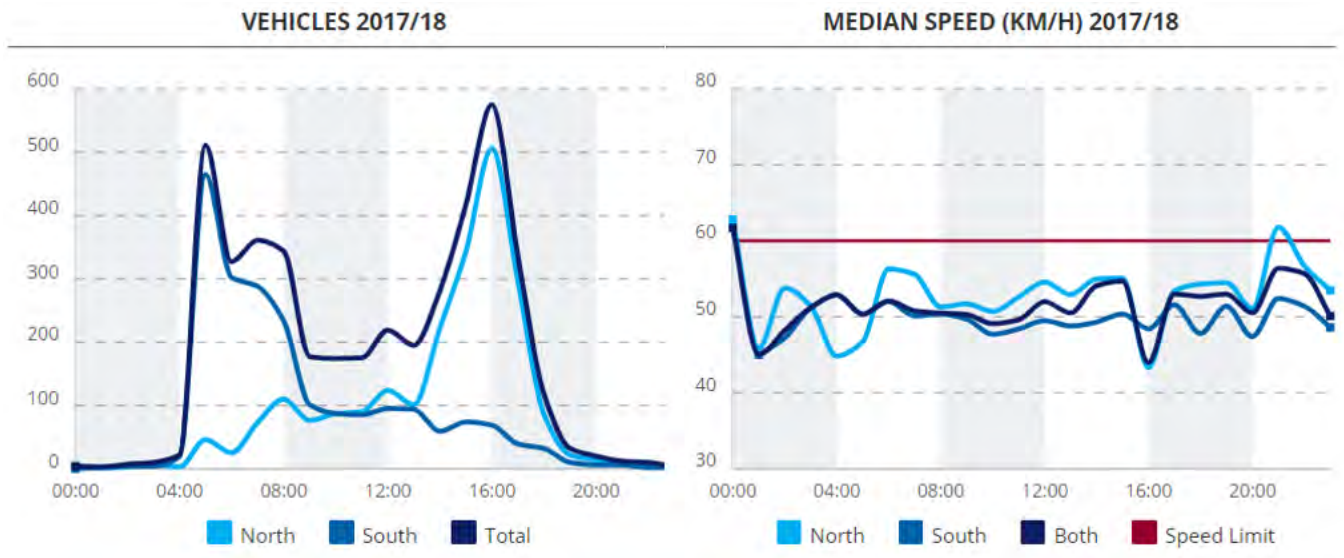


Figure 22 Quill Way hourly traffic volumes and 85th percentile speed (source: Main Roads Trafficmap)

7.1.3 Cockburn Road

The northern extension of Cockburn Road is classified as a Primary Distributor under the care and control of Main Roads WA. Cockburn Road is a strategic north-south route providing a critical connection between Rockingham and Fremantle.

North of the proposed development, Cockburn Road has a 2 x 4.2m wide lanes within a 15m road reserve. A cross section of Cockburn Road is shown in Figure 23.

Figure 23 Cockburn Road cross section looking north (source: Google)

The southern section of Cockburn Road is classified as a Distributor A under the care of the City of Cockburn. South of the development, Cockburn Road has a 2 x 3.5m wide lanes within a 13m road reserve. A cross section of Cockburn Road is shown in Figure 24.

Figure 24 Cockburn Road cross section looking south (source: Google)

The most recent traffic counts for Cockburn Road, taken at site 7989 (to the north of the intersection with Quill Way), reveal Cockburn Road is carrying approximately 10,703 with 13.7% heavy vehicles. The distribution of traffic volumes over a typical weekday is shown in Figure 25, revealing Cockburn Road traffic to be highly tidal.

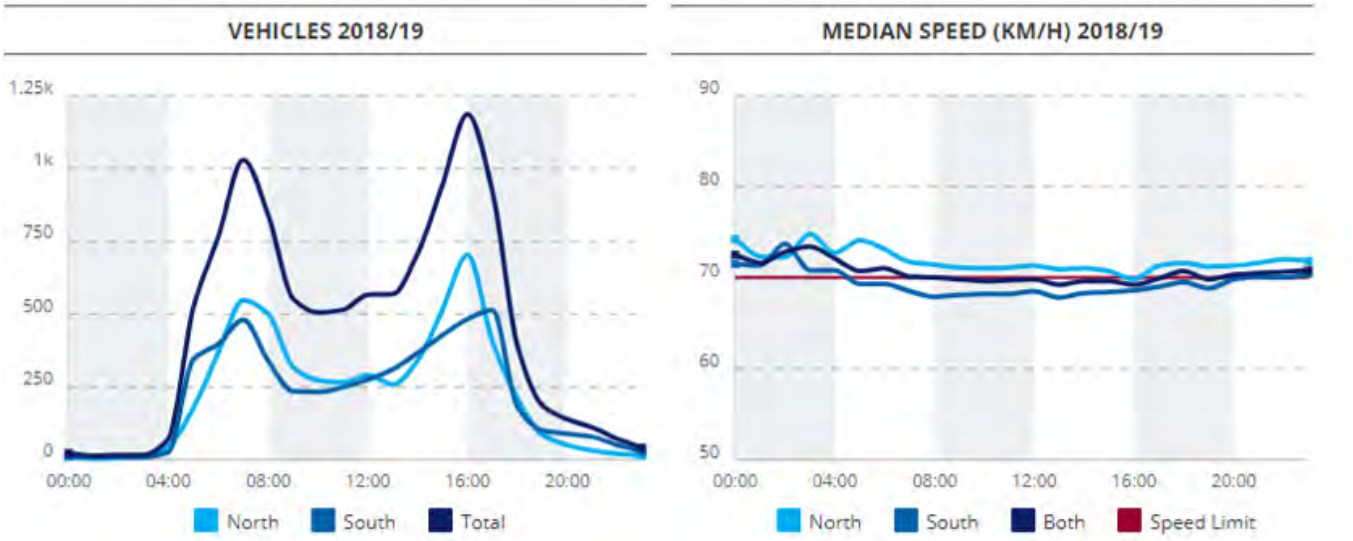


Figure 25 Cockburn Road hourly traffic volumes and 85th percentile speed (source: Main Roads Trafficmap)

7.2 Intersections

The main intersections relative to this proposed development are set out in the following sub-sections.

7.2.1 Clarence Beach Road / Quill Way

Clarence Beach Road presently connects to Quill Way via an extended access road using an extended give-way priority movement. This configuration is shown in the aerial image in Figure 26.

Figure 26 Intersection of Clarence Beach Road and Quill Way (source: Google Maps)

7.2.2 Quill Way / Cockburn Road (north)

The intersection of Quill Way and Cockburn Road is a give-way controlled intersection with priority given to Cockburn Road, as shown in Figure 27. Right turning movements out of Quill Way are via a two staged movement due to the sweep on Cockburn Road and use of this area of the network by heavy vehicles. The intersection leg of Quill Way splays into two separate unmarked lanes allowing for right and left turn movements to be executed.

Approaches along Cockburn Road have deceleration lanes that allow for turning movements to be executed. The intersection of Quill Way and Channel Close is around 50m to the south which is a priority controlled intersection with Channel Close traffic giving way.

Figure 27 Intersection of Cockburn Road and Quill Way (source: Nearmap)

8. PUBLIC TRANSPORT ACCESS

8.1 Existing Services

The development site is not within the catchment of frequent and regular public transport services. Bus route 548 travels along Cockburn Road and connects Rockingham and Fremantle from 6.06am to 7.45pm and leaves approximately every 30 minutes with some additional services during the peak periods that fluctuate in timing. A similar pattern is replicated for the reverse journey. These services have limited applicability to the site shift patterns.

The overall bus network map is shown in Figure 28. Walking distance from the site development to the nearest bus stop along Cockburn Road is shown in Figure 29 and is approximately 700m away when walking along the roads.

The nearest train station is Aubin Grove which is located 11kms from the subject site.

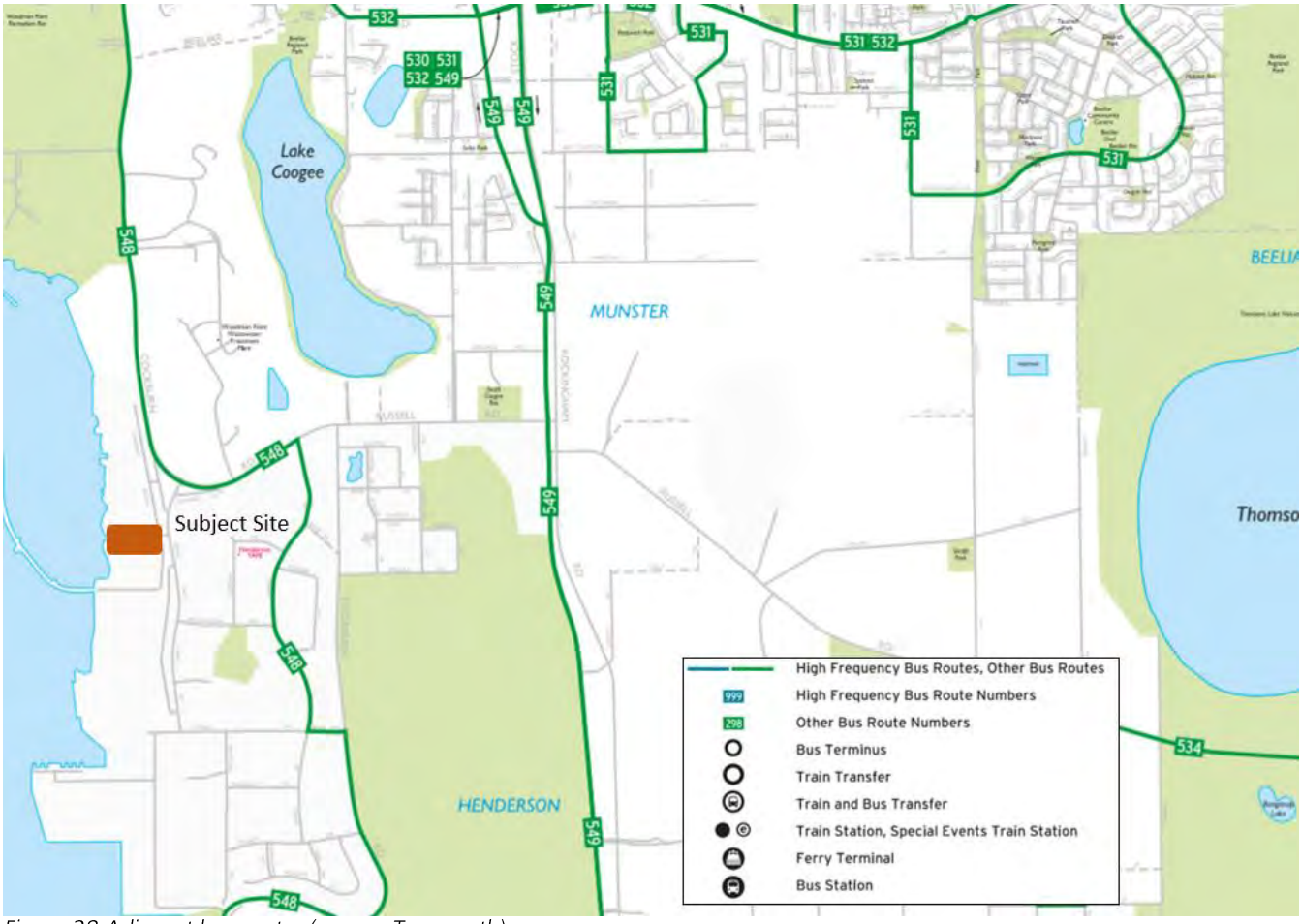


Figure 28 Adjacent bus routes (source: Transperth)

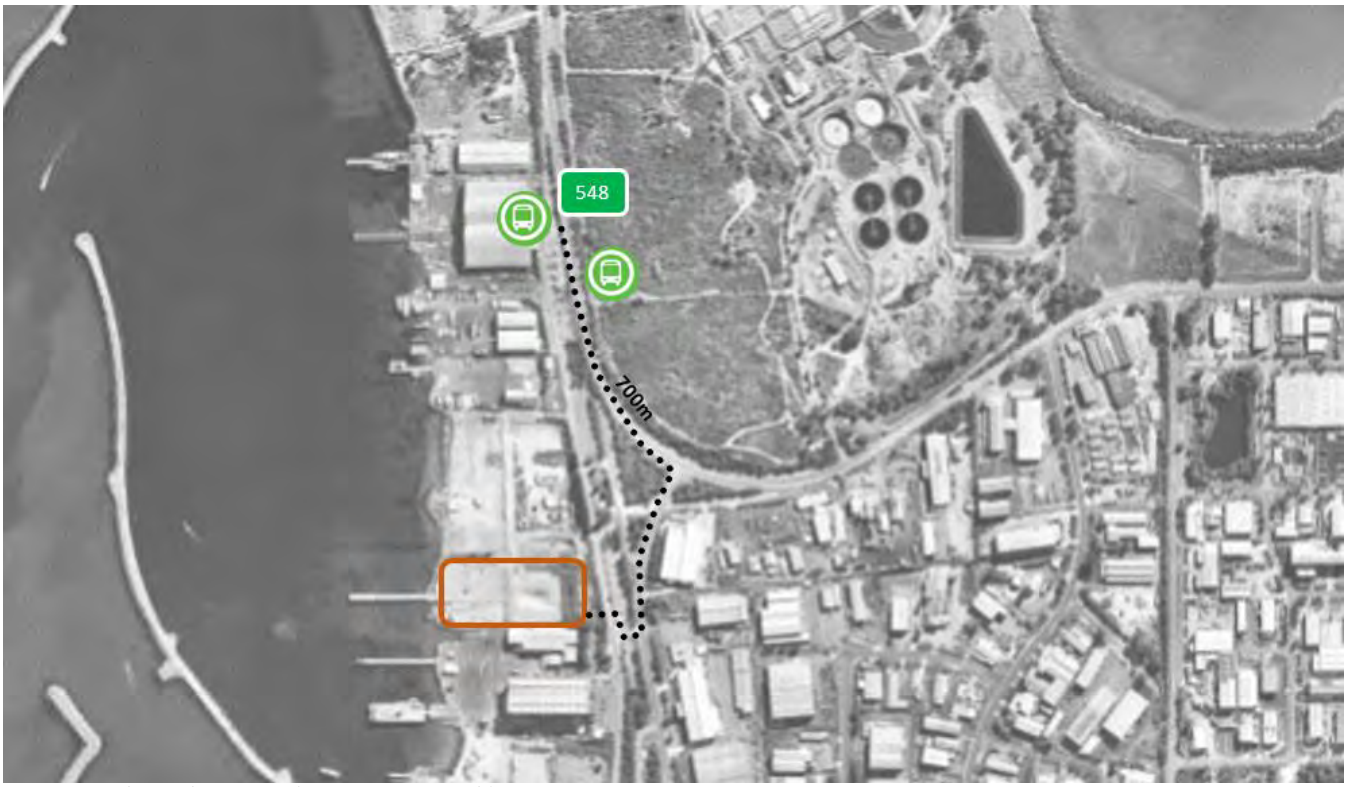


Figure 29 Closest bus stops (source: Transperth)

9. PEDESTRIAN ACCESS/AMENITY

9.1 Existing Pedestrian Network

Walking nearby to the subject site or within the AMC is not well provided for as a result of its industrial land uses. Footpaths are found along the western side of Clarence Beach Road, along the east-west extension of Quill Way, Redemptora Road and one section of Sparks Road.

The east-west alignment of Quill Way is the only road to have footpaths on both sides. Paths are narrow and adjacent to the road reserve with no buffer from vehicles. The footpath is regularly broken for crossovers and often stops abruptly.

Walking within industrial areas is not usually commonplace, as the roads are designed to accommodate heavy vehicles and high wide loads with activity contained on site, rather than reliance on movement between sites.

The large block sizes also reduce the walking catchment as shown in Figure 30.

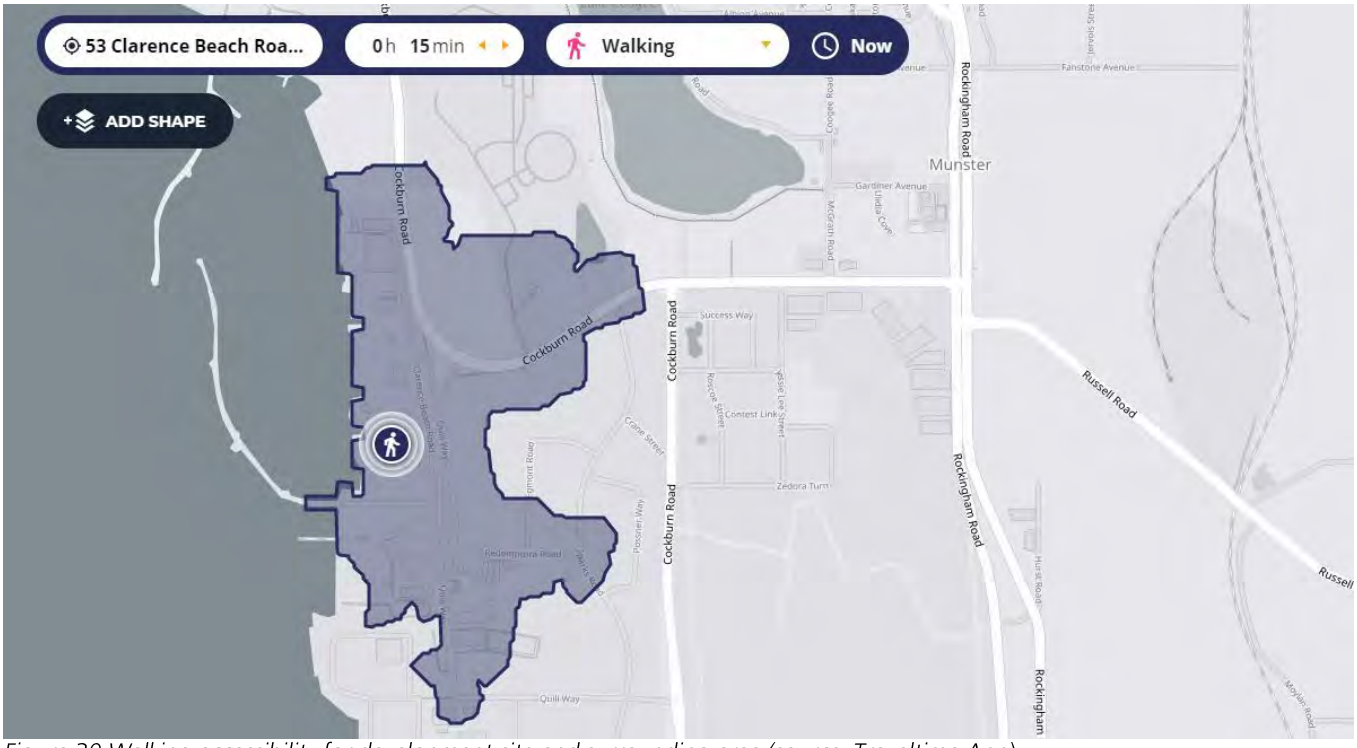


Figure 30 Walking accessibility for development site and surrounding area (source: Traveltime App)

9.2 Development Proposals

The main pedestrian access is located at the front of the building from the car park via two separate doorways into the facility. Proposed pedestrian access are indicated on Figure 31. Other areas of the site would be controlled in terms of pedestrian movements given the flow of vehicles and goods around the site. This would be controlled through internal management and safety practices.

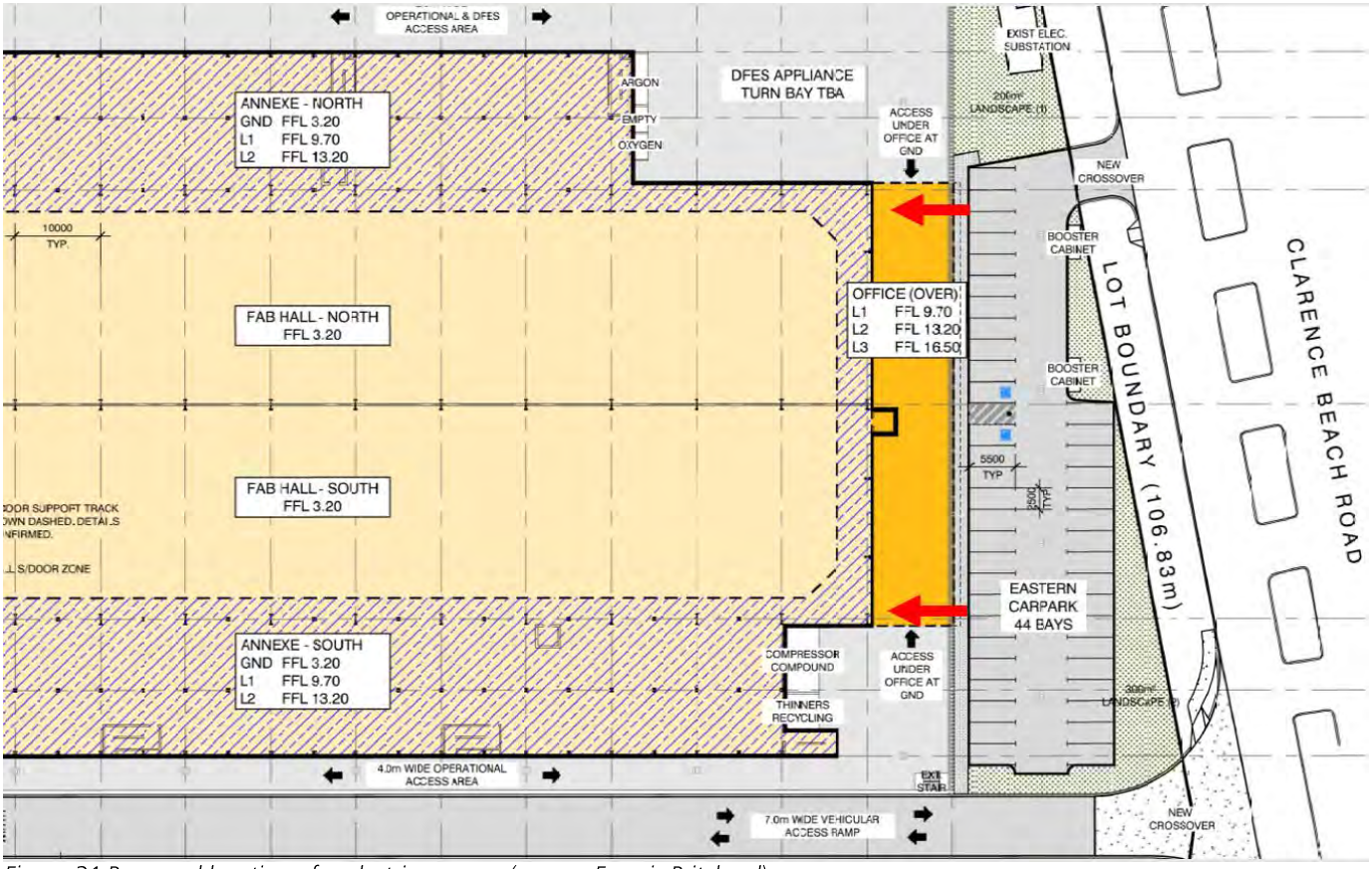


Figure 31 Proposed location of pedestrian access (source: Francis Pritchard)

10. CYCLE ACCESS/AMENITY

10.1 Existing Cycle Network

The site has a low level of cycle accessibility, with the existing cycle network shown in Figure 32.

While the map shows that Cockburn Road has a sealed shoulder for riding, traffic volumes and narrow lane widths mean that it does not provide protection or a good cycling environment. There is no dedicated cycling infrastructure within the AMC.

There is a shared path along the southern section of Cockburn Road however this path travels through Beeliar Regional Park and does not provide direct regional connections and is therefore not intended as a commuting route.

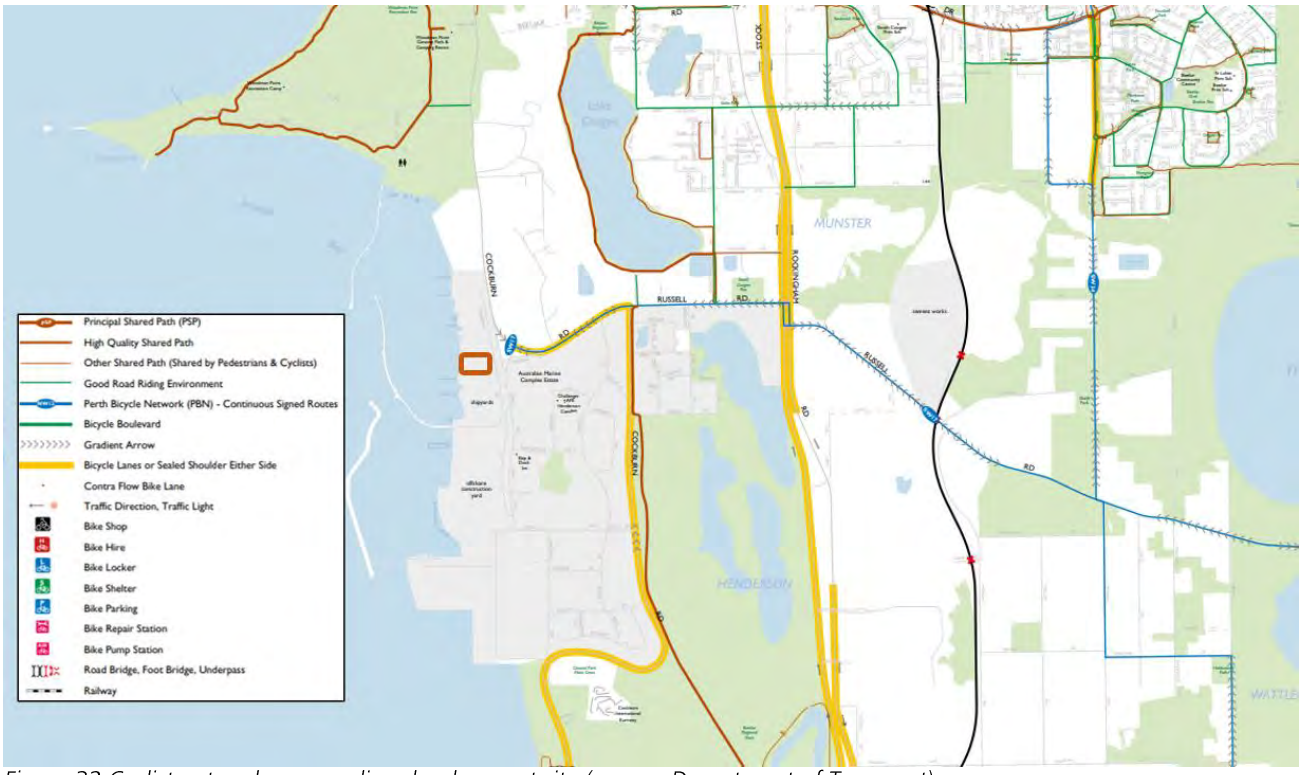


Figure 32 Cyclist network surrounding development site (source: Department of Transport)

A heatmap of cycle activity in the vicinity of the development site is shown in Figure 33. This is produced by cyclists tracking their trips using the commercial product Strava. While there is limited cycling infrastructure provided in the area, the Strava heatmap shows that cycling is popular along Cockburn Road and Quill Way.

Figure 33 Strava heatmap for cycling in vicinity of development site

10.2 Proposed Cycle Network

Any upgrades to the cycling network will most likely eventuate from funding and projects from the Department of Transport's Long Term Cycle Network project. This project develops an aspirational blueprint for the delivery of one continuous cycling network providing additional transport options, recreational opportunities and support for tourism and commercial activity.

The existing City of Cockburn Bike Plan 2017-2021 sets out a range of existing and proposed routes, with on-road routes shown in Figure 34 with community or recreational routes shown in Figure 35. The on-road routes reflect a corridor along Cockburn Road, with community routes including a corridor that runs along Quill Way.

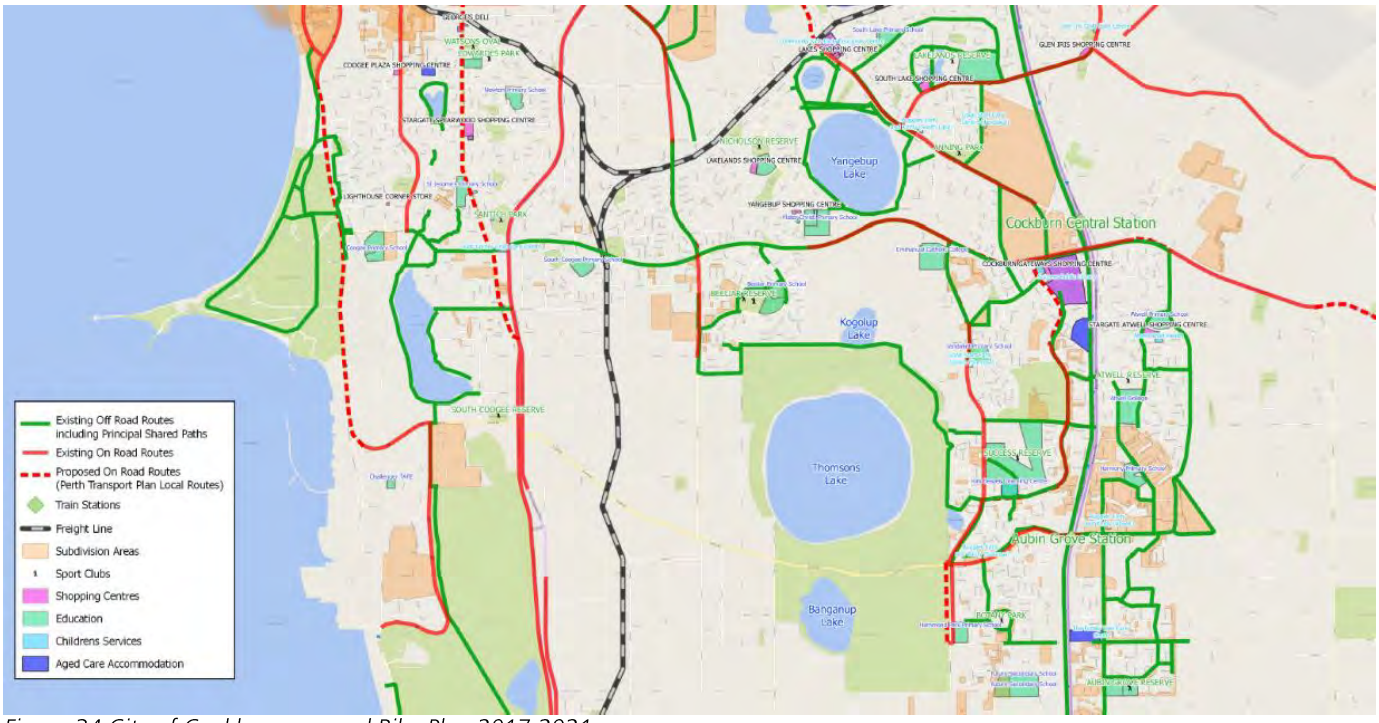


Figure 34 City of Cockburn on-road Bike Plan 2017-2021

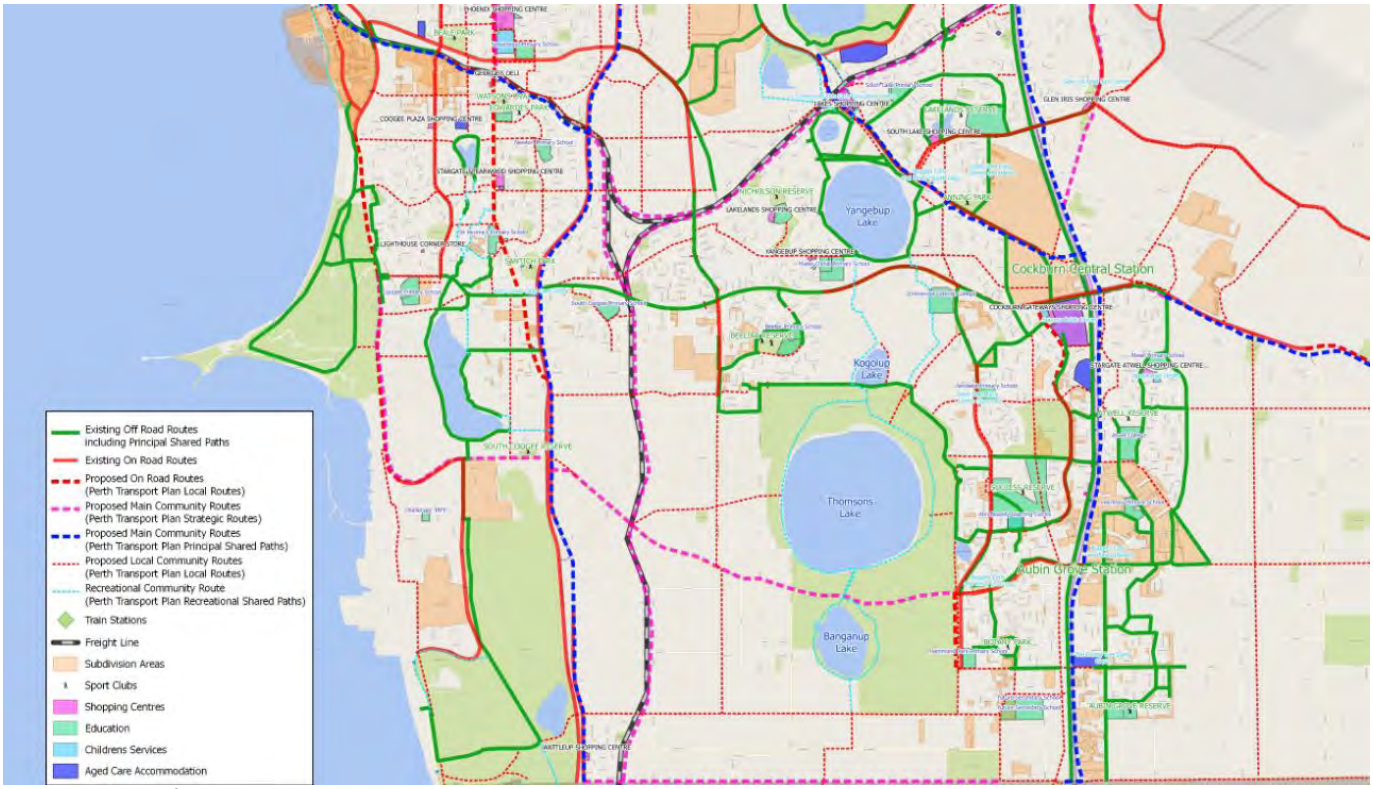


Figure 35 City of Cockburn community recreational routes

10.3 Development Proposals

While this may be typical of industrial areas, Flyt's experience with other commercial and industrial developments is that if cycling facilities are provided, employees who are willing to cycle usually find a way to use them. Providing a high rate of cycling facilities such as racks, lockers and will contribute to supporting a reduced rate of private vehicle use for employees.

The site has internal lockers and shower/change facilities for the production staff which would double as end of trip facilities, as shown in Figure 36. The lockers would be allocated to staff by management.

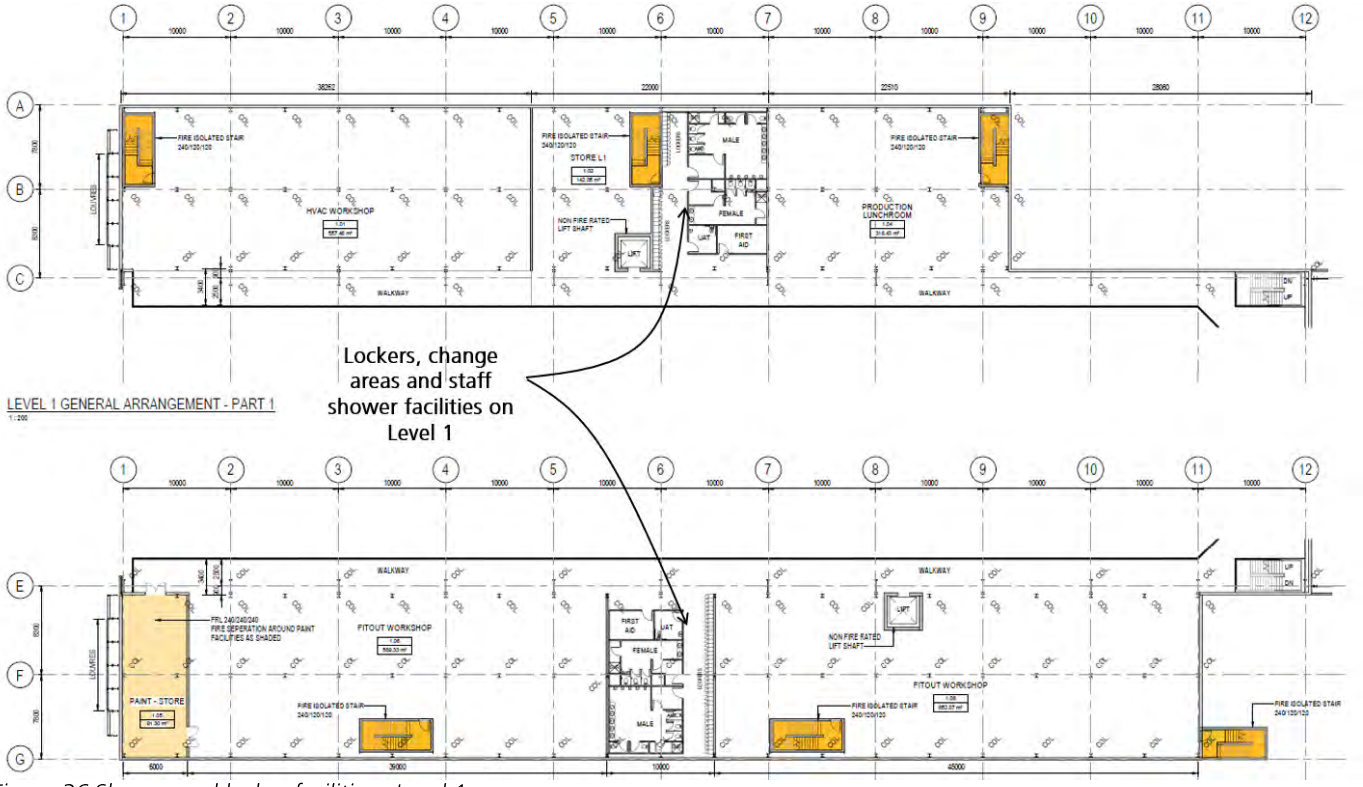


Figure 36 Shower and locker facilities - Level 1

10.4 Required Bike Parking

The minimum bike parking requirement for employees in industrial areas is outlined in Table 6. This table displays the parking required under the City of Cockburn's Local Planning Scheme No. 3.

As set out in the previous section, the site includes internal change rooms, lockers and showers within the production area that would facilitate end of trip facilities required for staff who ride to the site. This level is anticipated to be very low given the lack of infrastructure provided on the surrounding network and poor connectivity.

Given the characteristics of the site, it is proposed to include ten rack spaces for bicycles on the site in a secured location.

Table 6 Required bike parking

End of Trip Facilities	City of Cockburn LPS No. 3	
	Minimum rate	Required
Marine engineering / General industrial	1 bicycle rack per 200m^2 GFA	64
Showers	1 female and 1 male shower per every 10 bike racks to a maximum of 5.	5 female and 5 male showers
Lockers	1 locker per bike rack	64

11. SITE SPECIFIC ISSUES

11.1 Issues

The key issues with this site, specifically parking, heavy vehicle access and the impact on the surrounding road network have been addressed within this assessment and the planning report that supports the site development.

12. SAFETY ISSUES

12.1 Crash History

Outputs from the Main Roads WA reporting system for crashes over the past five years are shown in Figure 37 to Figure 39. These results support the requirement for an upgrade to the intersection of Cockburn Road and Quill Way on safety grounds given the volume of major crashes.

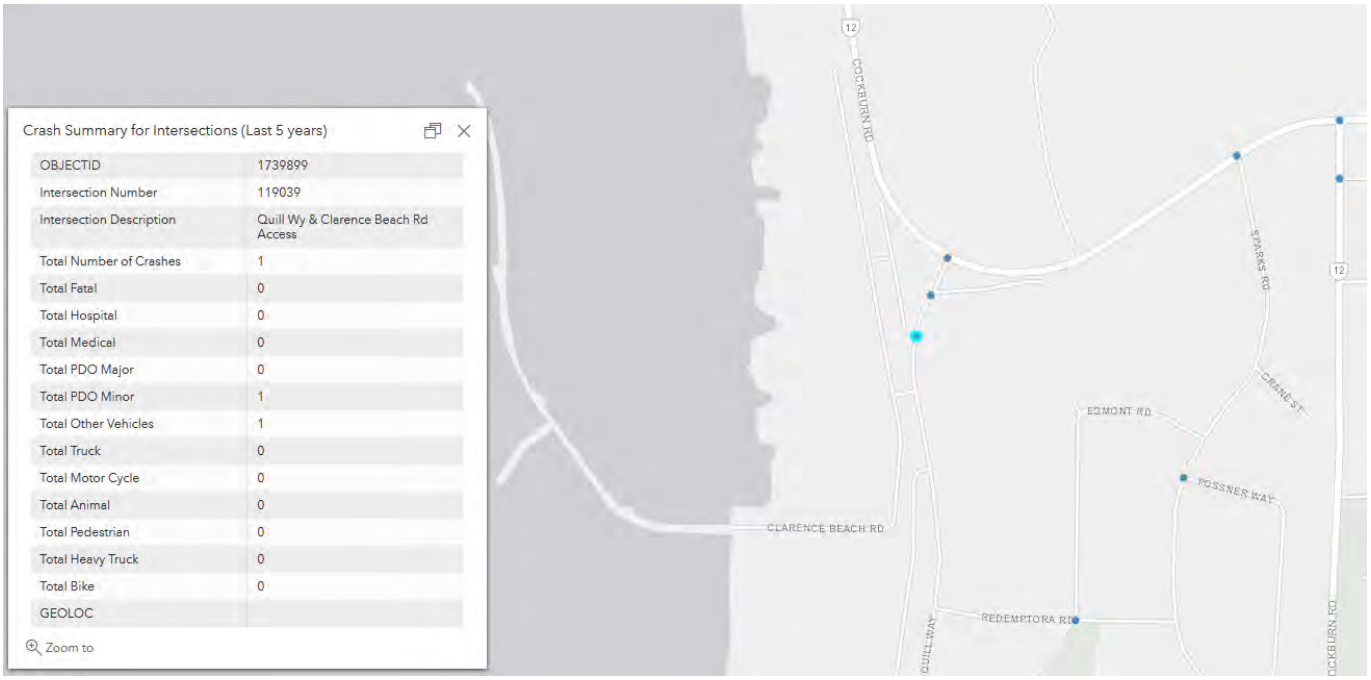


Figure 37 Crash data outputs - intersection of Quill Way and Clarence Beach Road

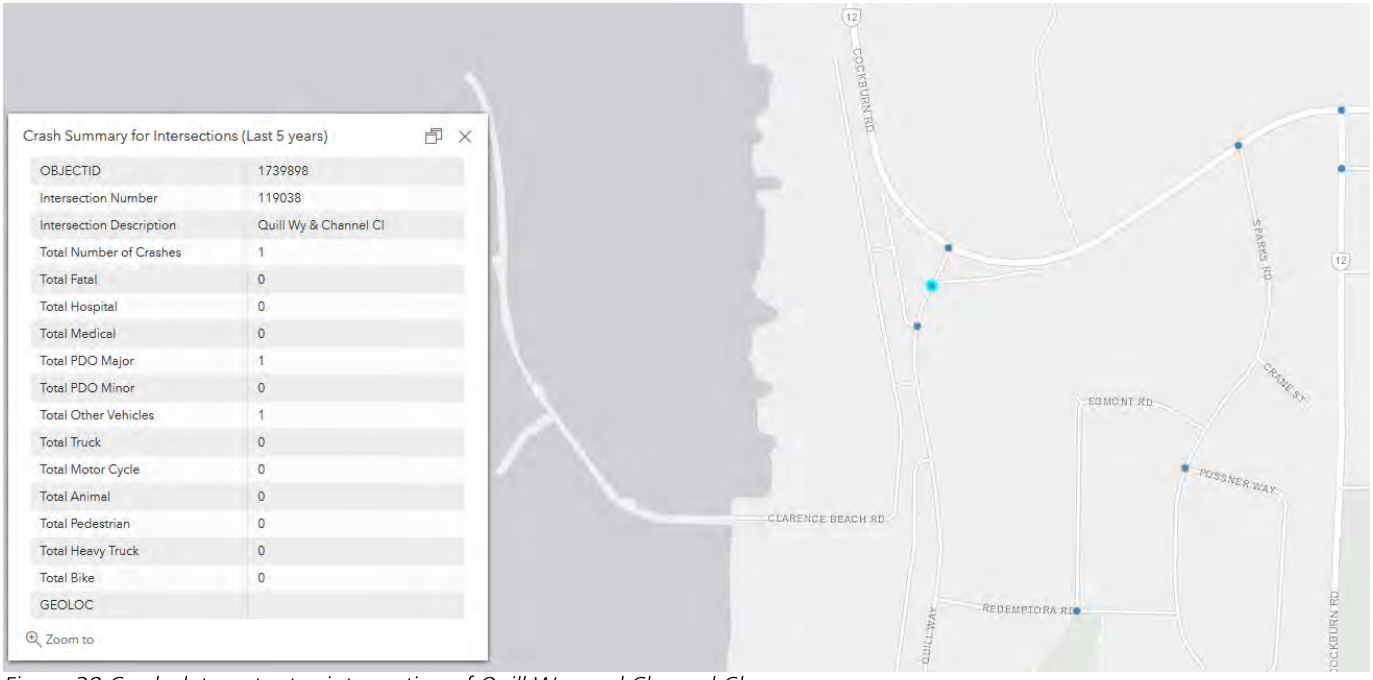


Figure 38 Crash data outputs - intersection of Quill Way and Channel Close

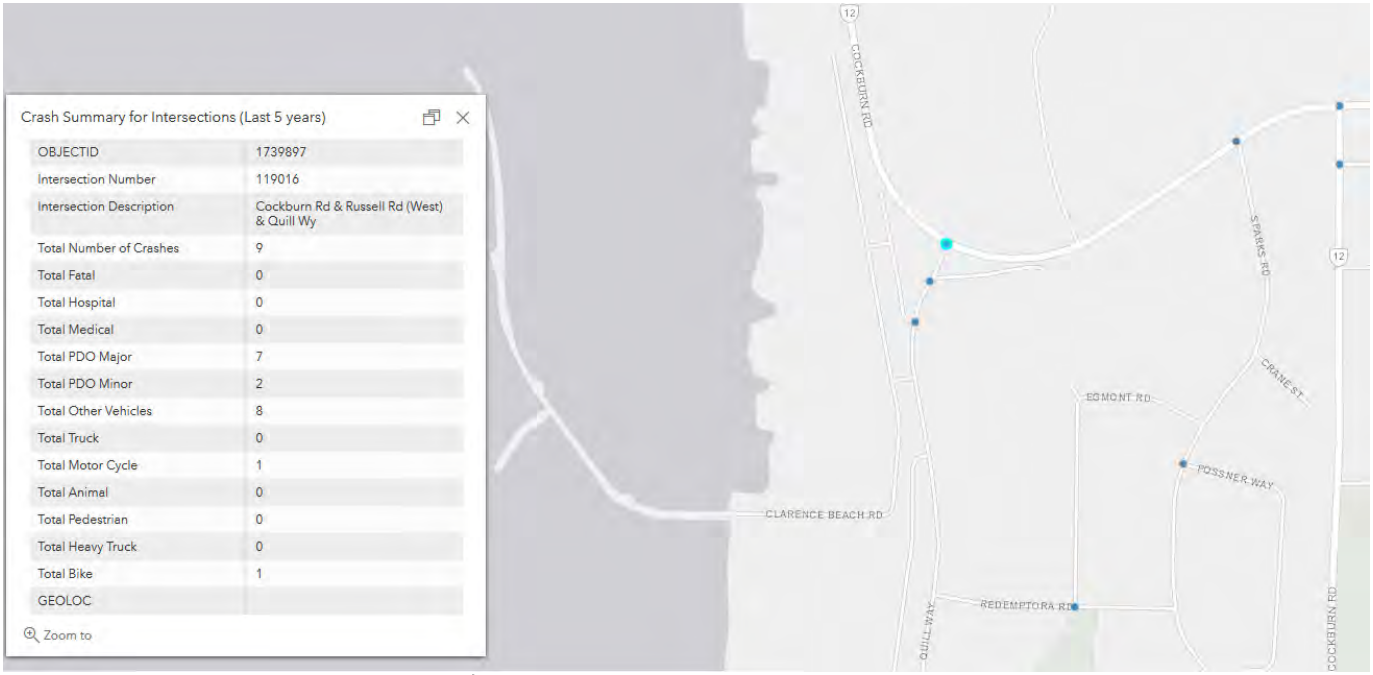


Figure 39 Crash data outputs - intersection of Quill Way and Cockburn Road

13. SUMMARY AND CONCLUSIONS

13.1 Assessment

This Transport Impact Assessment (TIA) has been prepared by Flyt in support of the proposed development at Lot 19 Clarence Beach Road, Henderson. The site is within the City of Cockburn and, as indicated by the South West Aboriginal Land and Sea Council website, sits within the Gnaala Karla Booja Region.

The site is within the Australian Marine Complex (AMC) which is a strategic industrial area in Western Australia. Located 23 kilometres south of Perth, the AMC has been developed to enhance opportunities created by the clustering of industries. The proposed development application is for a superyacht fabrication facility. The proposed development includes the following:

- GFA of 17,500 m^2 comprised of superyacht construction facility and supporting facilities
- Office development associated with the site over three levels along the Clarence Beach Road frontage
- Two crossovers – a northern crossover for use associated with the office and a southern crossover that will provide access for servicing, waste and general parking for employees
- Parking for 44 vehicles in the front of the building along the Clarence Beach Road frontage accessed via the northern crossover
- Parking for a maximum of 257 vehicles on the western end of the site accessed via the southern crossover
- Parking for a maximum of 102 vehicles in the auxiliary car parking area along the western boundary of the site towards Jervoise Bay which would be accessed via the southern crossover of the site
- Layover areas for five 19m semi-trailers to accommodate deliveries and movement of goods to and from the site
- Operational areas set aside for DFES requirements
- 10 bicycle parking racks with internal showers, change areas and lockers to be used as End of Trip facilities
- Landscaping elements and utilities featured along the Clarence Beach Road frontage.

The site provides areas which will more than adequately cater for parking requirements of visitors and employees. Two ACROD bays are located in front of the building. Five bays for service deliveries using 19m semi-trailers are proposed in the site layout.

The site will generate vehicle trips associated with the 208 employees that are proposed to be located on site during an average weekday. An assessment was undertaken on the basis of using a forecast year of 2026 to provide an indication as to the impact of retaining the existing road network largely unchanged. The additional traffic of the site development will impact Clarence Beach Road in the afternoon peak when employees depart the site, but no forecast change to the performance levels of the wider network.

The modelling outputs suggest that:

- The congestion associated with Clarence Beach Road is contained and has no knock-on effect on the network and therefore is not considered a detrimental impact as a result of the proposed development
- Clarence Beach Road in the afternoon peak period already experiences high levels of congestion and delay
- The intersection of Cockburn Road and Quill Way is already congested. Any future alterations of the intersection will need to take into account dominant flows of traffic, the impact on Channel Close and will also need to configure the intersection of Clarence Beach Road and Quill Way to cater for overall movements.

DevelopmentWA has confirmed that, as one of a series of projects planned within the AMC, funding has been set aside to assess and facilitate the upgrading of various intersections to improve traffic conditions and ameliorate congestion. These works, following appropriate discussions and agreement with both Main Roads WA and the City of Cockburn are planned to be undertaken within a time period that would address the localised congestion issues highlighted in this assessment.

APPENDIX 1

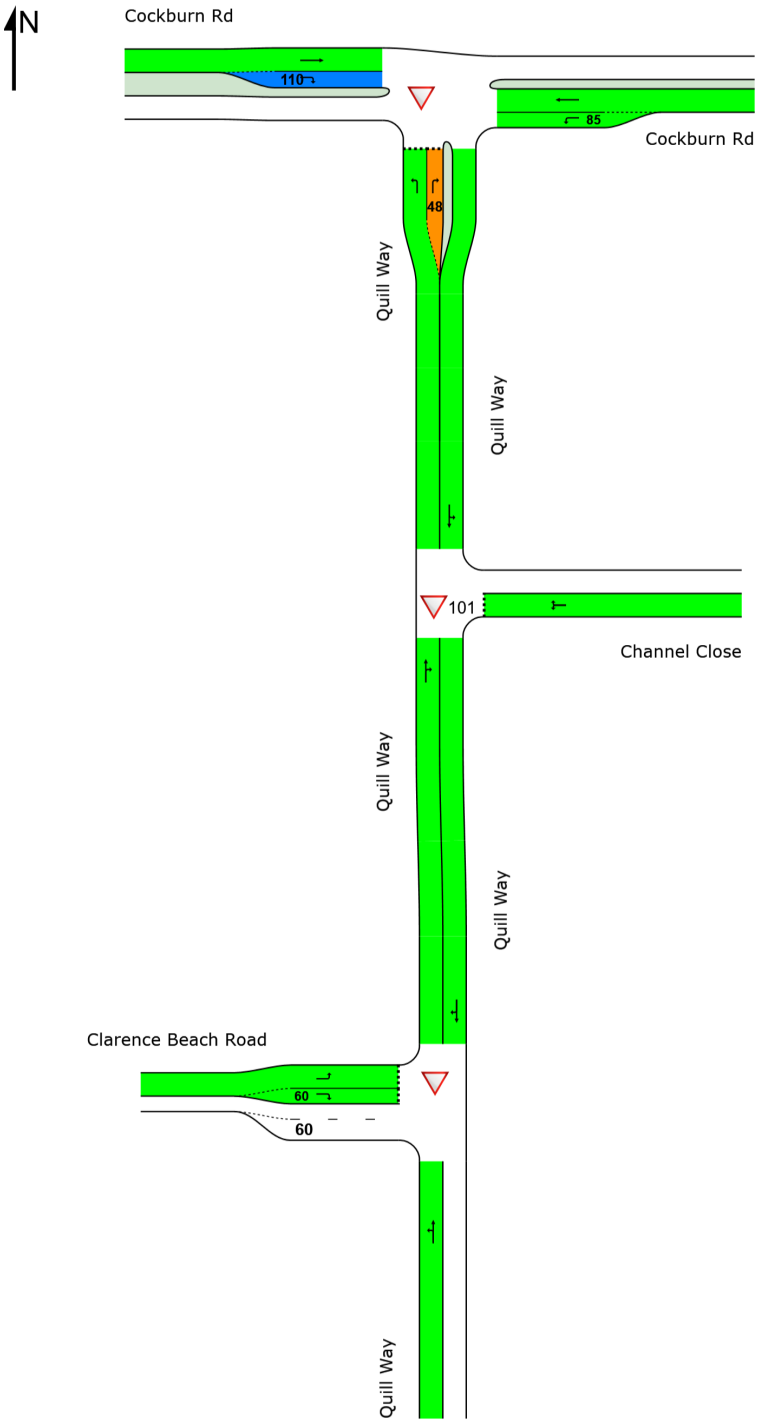
SIDRA Outputs

LEVEL OF SERVICE

Lane Level of Service

Network: N101 [2026 AM T-Intersection (Network Folder: General)]

New Network
Network Category: (None)



Colour code based on Level of Service

LOS A LOS B LOS C LOS D LOS E LOS F

Delay Model: SIDRA Standard (Geometric Delay is included).

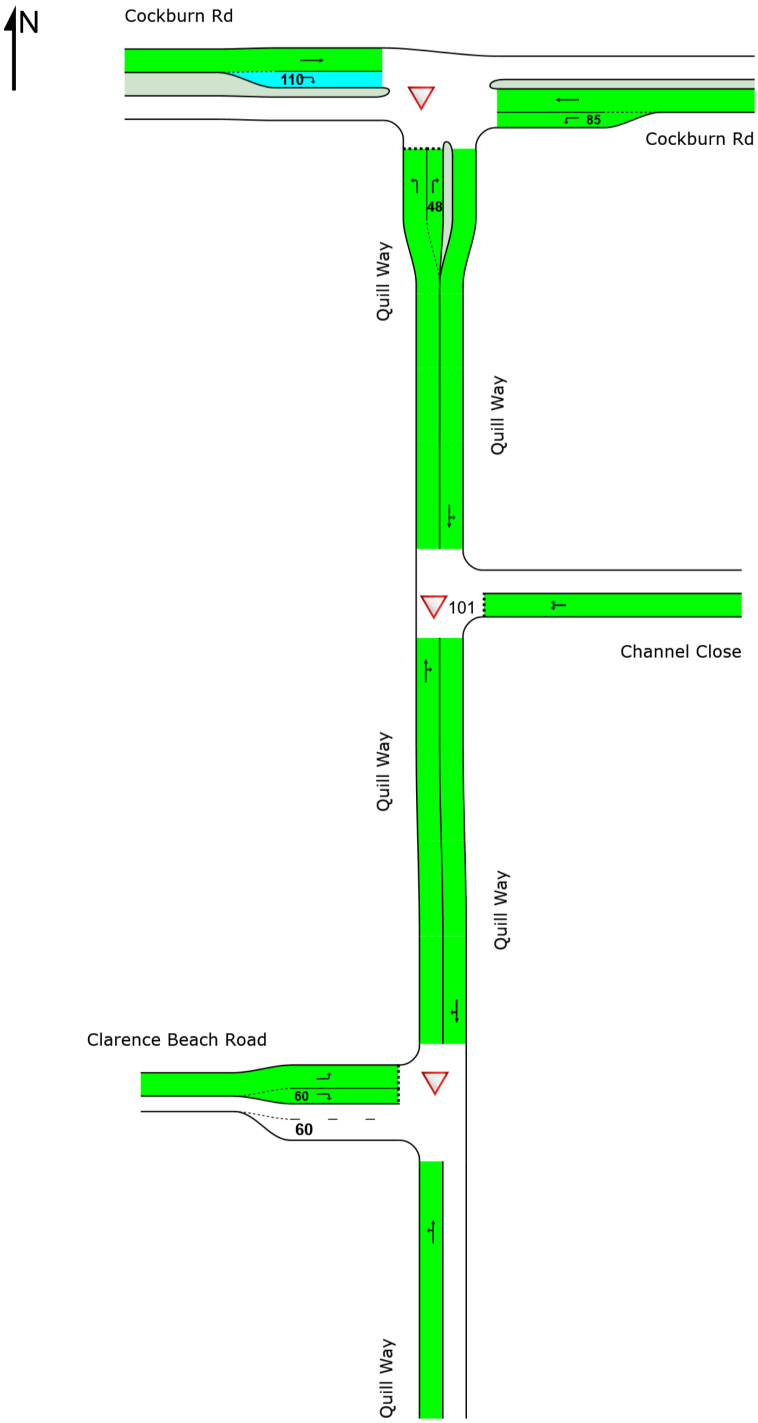
Organisation: FLYT PTY LTD | Licence: NETWORK / 1PC | Processed: Sunday, 11 October 2020 8:08:50 PM
Project: D:\Dropbox (Flyt Pty Ltd)\Flyt Pty Ltd Team Folder\Projects\81113-573 - Lot 19 Clarence Beach Road\3_Project Docs\Modelling\Computer Models\Cockburn and Quill Forecast.sip9

DEGREE OF SATURATION

Ratio of Demand Volume to Capacity, v/c ratio per lane

Network: N101 [2026 AM T-Intersection (Network Folder: General)]

New Network
Network Category: (None)



Colour code based on Degree of Saturation

Organisation: FLYT PTY LTD | Licence: NETWORK / 1PC | Processed: Sunday, 11 October 2020 8:08:50 PM
Project: D:\Dropbox (Flyt Pty Ltd)\Flyt Pty Ltd Team Folder\Projects\81113-573 - Lot 19 Clarence Beach Road\3_Project Docs\Modelling\Computer Models\Cockburn and Quill Forecast.sip9

MOVEMENT SUMMARY

Site: [2026 AM Cockburn Rd Quill Way T Intersection (Site Folder: General)]

Network: N101 [2026 AM T-Intersection (Network Folder: General)]

Cockburn Rd / Quill Way

Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Quill Way														
1	L2	61	2.7	61	2.7	0.106	8.4	LOS A	0.1	1.0	0.59	0.81	0.59	49.0
3	R2	14	2.7	14	2.7	0.145	41.6	LOS E	0.2	1.2	0.92	0.97	0.92	27.5
Approach		75	2.7	75	2.7	0.145	14.5	LOS B	0.2	1.2	0.65	0.84	0.65	42.9
East: Cockburn Rd														
4	L2	184	2.7	184	2.7	0.101	6.4	LOS A	0.0	0.0	0.00	0.61	0.00	56.4
5	T1	671	2.0	671	2.0	0.320	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.8
Approach		855	2.2	855	2.2	0.320	1.4	NA	0.0	0.0	0.00	0.13	0.00	67.8
West: Cockburn Rd														
11	T1	382	2.0	382	2.0	0.184	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	69.9
12	R2	292	8.0	292	8.0	0.632	19.7	LOS C	1.6	11.7	0.84	1.12	1.54	40.4
Approach		674	4.6	674	4.6	0.632	8.5	NA	1.6	11.7	0.37	0.49	0.67	58.0
All Vehicles		1603	3.2	1603	3.2	0.632	5.0	NA	1.6	11.7	0.18	0.31	0.31	62.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

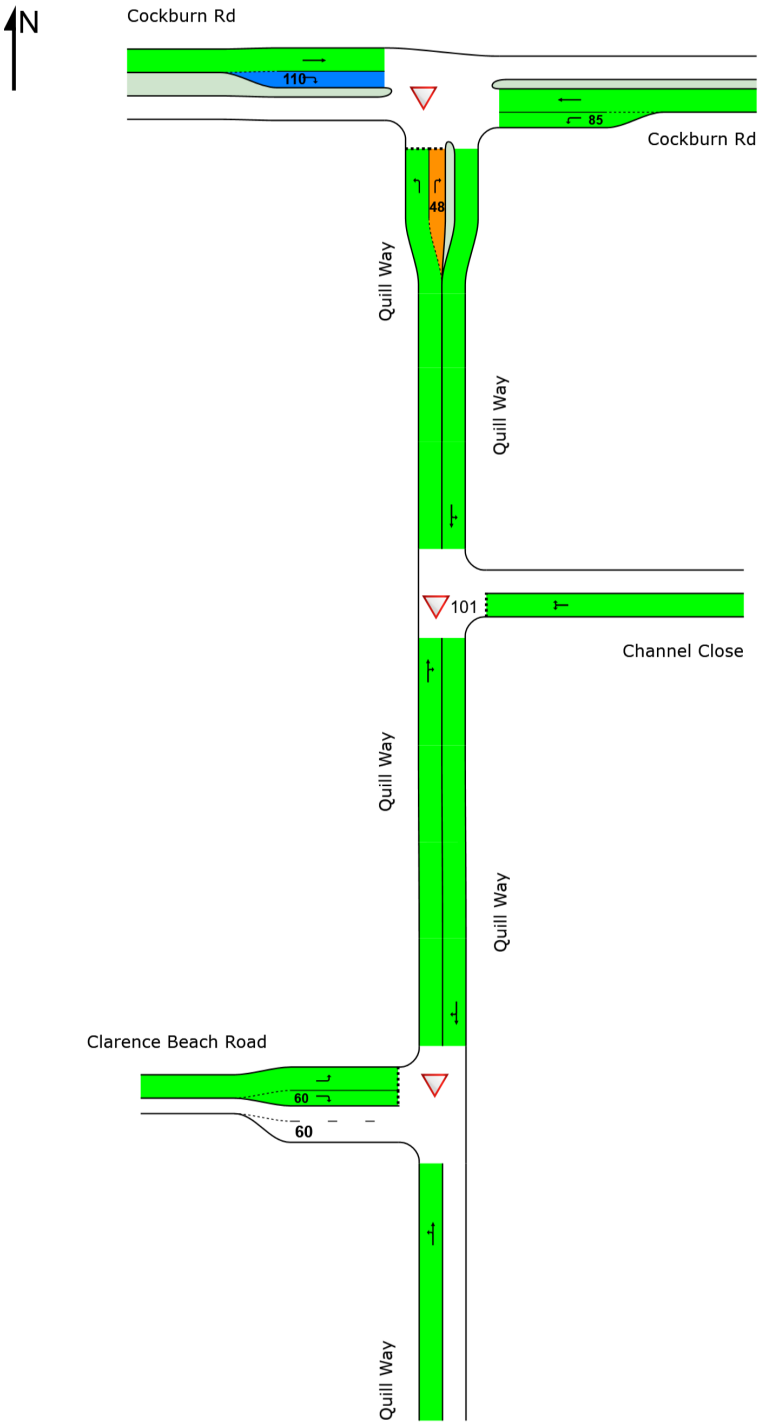
Organisation: FLYT PTY LTD | Licence: NETWORK / 1PC | Processed: Sunday, 11 October 2020 8:08:50 PM
Project: D:\Dropbox (Flyt Pty Ltd)\Flyt Pty Ltd Team Folder\Projects\81113-573 - Lot 19 Clarence Beach Road\3_Project Docs\Modelling\Computer Models\Cockburn and Quill Forecast.sip9

LEVEL OF SERVICE

Lane Level of Service

Network: N101 [2026 AM T-Intersection - Lot 19 (Network Folder: General)]

New Network
Network Category: (None)



Colour code based on Level of Service

LOS A LOS B LOS C LOS D LOS E LOS F

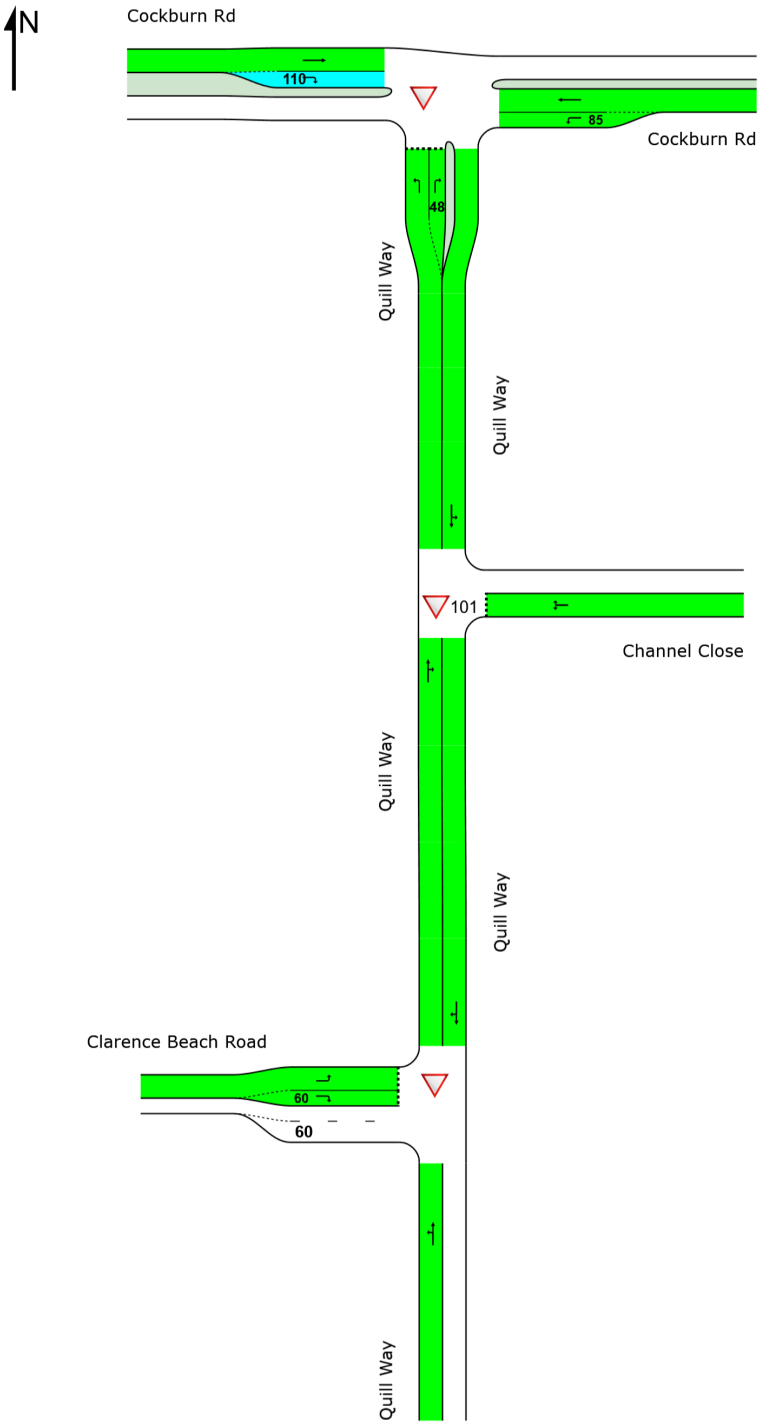
Delay Model: SIDRA Standard (Geometric Delay is included).

DEGREE OF SATURATION

Ratio of Demand Volume to Capacity, v/c ratio per lane

Network: N101 [2026 AM T-Intersection - Lot 19 (Network Folder: General)]

New Network
Network Category: (None)



Colour code based on Degree of Saturation

[< 0.6] [0.6 – 0.7] [0.7 – 0.8] [0.8 – 0.9] [0.9 – 1.0] [> 1.0]

Organisation: FLYT PTY LTD | Licence: NETWORK / 1PC | Processed: Sunday, 11 October 2020 8:09:05 PM
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MOVEMENT SUMMARY

Site: [2026 AM Cockburn Rd Quill Way T Intersection (Site Folder: General)]

Network: N101 [2026 AM T-Intersection - Lot 19 (Network Folder: General)]

Cockburn Rd / Quill Way

Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Quill Way														
1	L2	61	2.7	61	2.7	0.106	8.4	LOS A	0.1	1.0	0.59	0.81	0.59	49.0
3	R2	14	2.7	14	2.7	0.145	41.6	LOS E	0.2	1.2	0.92	0.97	0.92	27.5
Approach		75	2.7	75	2.7	0.145	14.5	LOS B	0.2	1.2	0.65	0.84	0.65	42.9
East: Cockburn Rd														
4	L2	184	2.7	184	2.7	0.101	6.4	LOS A	0.0	0.0	0.00	0.61	0.00	56.4
5	T1	671	2.0	671	2.0	0.320	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.8
Approach		855	2.2	855	2.2	0.320	1.4	NA	0.0	0.0	0.00	0.13	0.00	67.8
West: Cockburn Rd														
11	T1	382	2.0	382	2.0	0.184	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	69.9
12	R2	292	8.0	292	8.0	0.632	19.7	LOS C	1.6	11.7	0.84	1.12	1.54	40.4
Approach		674	4.6	674	4.6	0.632	8.5	NA	1.6	11.7	0.37	0.49	0.67	58.0
All Vehicles		1603	3.2	1603	3.2	0.632	5.0	NA	1.6	11.7	0.18	0.31	0.31	62.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

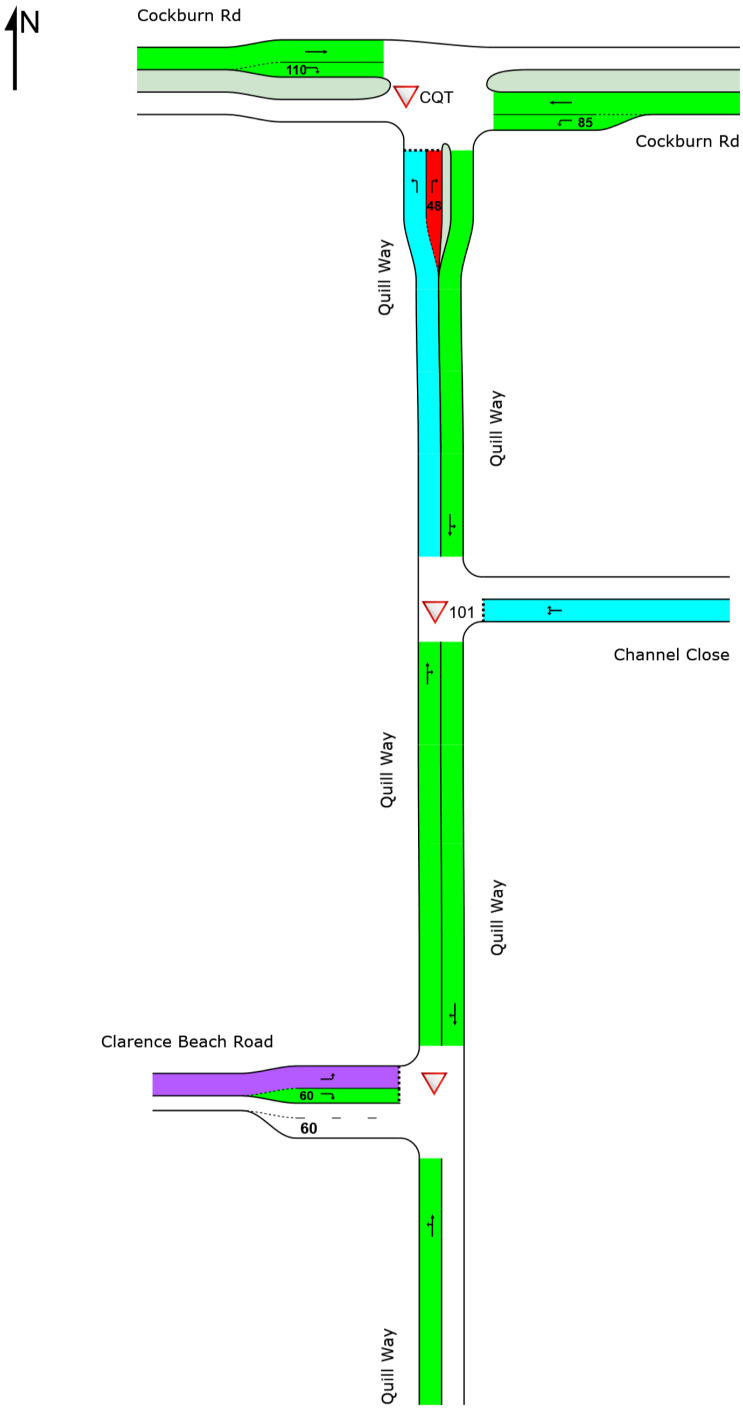
Organisation: FLYT PTY LTD | Licence: NETWORK / 1PC | Processed: Sunday, 11 October 2020 8:09:05 PM
Project: D:\Dropbox (Flyt Pty Ltd)\Flyt Pty Ltd Team Folder\Projects\81113-573 - Lot 19 Clarence Beach Road\3_Project Docs\Modelling\Computer Models\Cockburn and Quill Forecast.sip9

LEVEL OF SERVICE

Lane Level of Service

Network: N101 [2026 PM T-Intersection (Network Folder: General)]

New Network
Network Category: (None)



Colour code based on Level of Service

LOS A LOS B LOS C LOS D LOS E LOS F

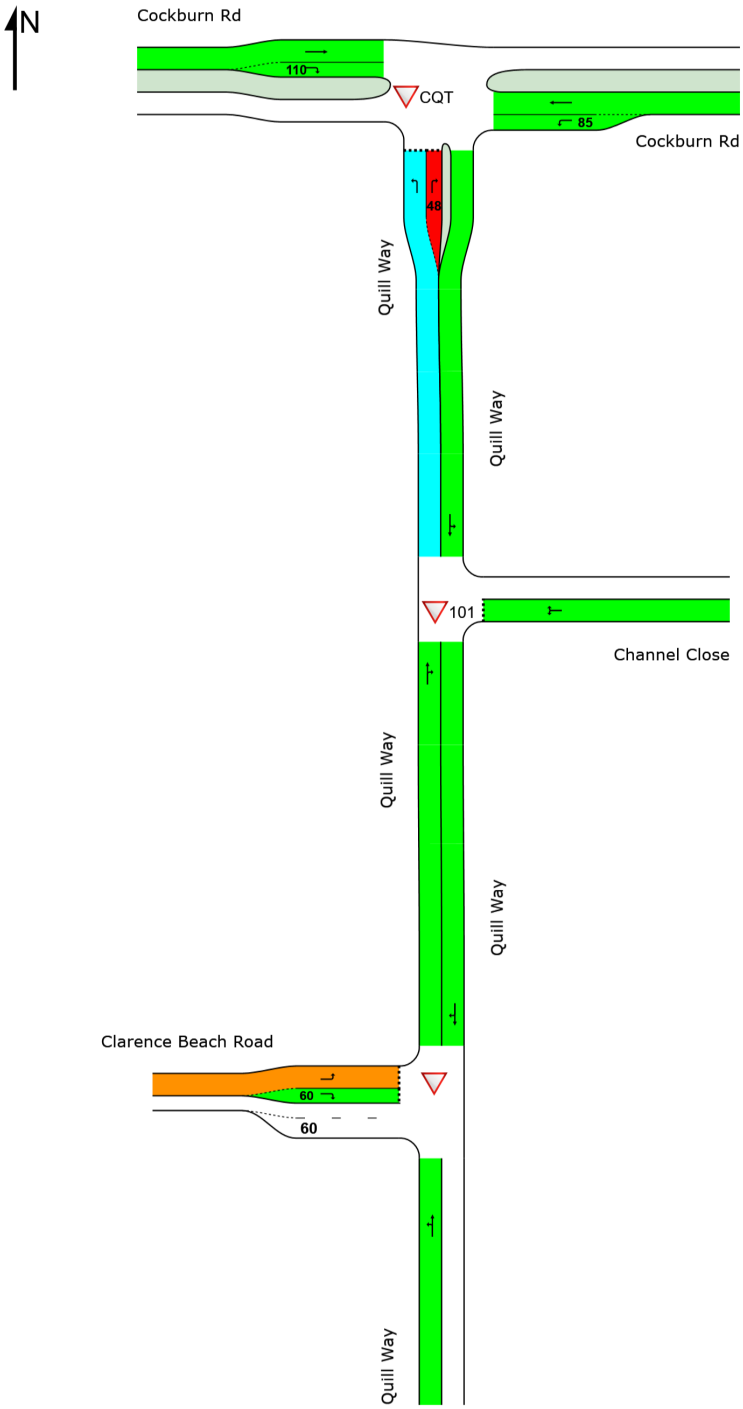
Delay Model: SIDRA Standard (Geometric Delay is included).

DEGREE OF SATURATION

Ratio of Demand Volume to Capacity, v/c ratio per lane

Network: N101 [2026 PM T-Intersection (Network Folder: General)]

New Network
Network Category: (None)



Colour code based on Degree of Saturation

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Organisation: FLYT PTY LTD | Licence: NETWORK / 1PC | Processed: Sunday, 11 October 2020 8:09:23 PM
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MOVEMENT SUMMARY

Site: CQT [2026 PM Cockburn Rd Quill Way T Intersection (Site Folder: General)]

Network: N101 [2026 PM T-Intersection (Network Folder: General)]

Cockburn Rd / Quill Way (northwest)
PM Peak
2025 model with lot 802 and subs MODIFIED GEOMETRY
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Quill Way														
1	L2	486	6.3	486	6.3	0.697	12.2	LOS B	2.4	17.4	0.74	1.14	1.49	43.8
3	R2	386	6.3	386	6.3	2.215	1118.9	LOS F	6.8	50.0	1.00	6.00	20.47	1.8
Approach		873	6.3	873	6.3	2.215	502.2	LOS F	6.8	50.0	0.85	3.29	9.89	3.8
East: Cockburn Rd														
4	L2	28	2.0	28	2.0	0.015	6.4	LOS A	0.0	0.0	0.00	0.61	0.00	56.5
5	T1	531	2.0	531	2.0	0.253	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.9
Approach		559	2.0	559	2.0	0.253	0.4	NA	0.0	0.0	0.00	0.03	0.00	69.4
West: Cockburn Rd														
11	T1	531	2.0	531	2.0	0.255	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.9
12	R2	54	2.0	54	2.0	0.071	9.6	LOS A	0.1	0.8	0.53	0.75	0.53	51.5
Approach		584	2.0	584	2.0	0.255	0.9	NA	0.1	0.8	0.05	0.07	0.05	68.7
All Vehicles		2016	3.9	2016	3.9	2.215	217.8	NA	6.8	50.0	0.38	1.45	4.30	10.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
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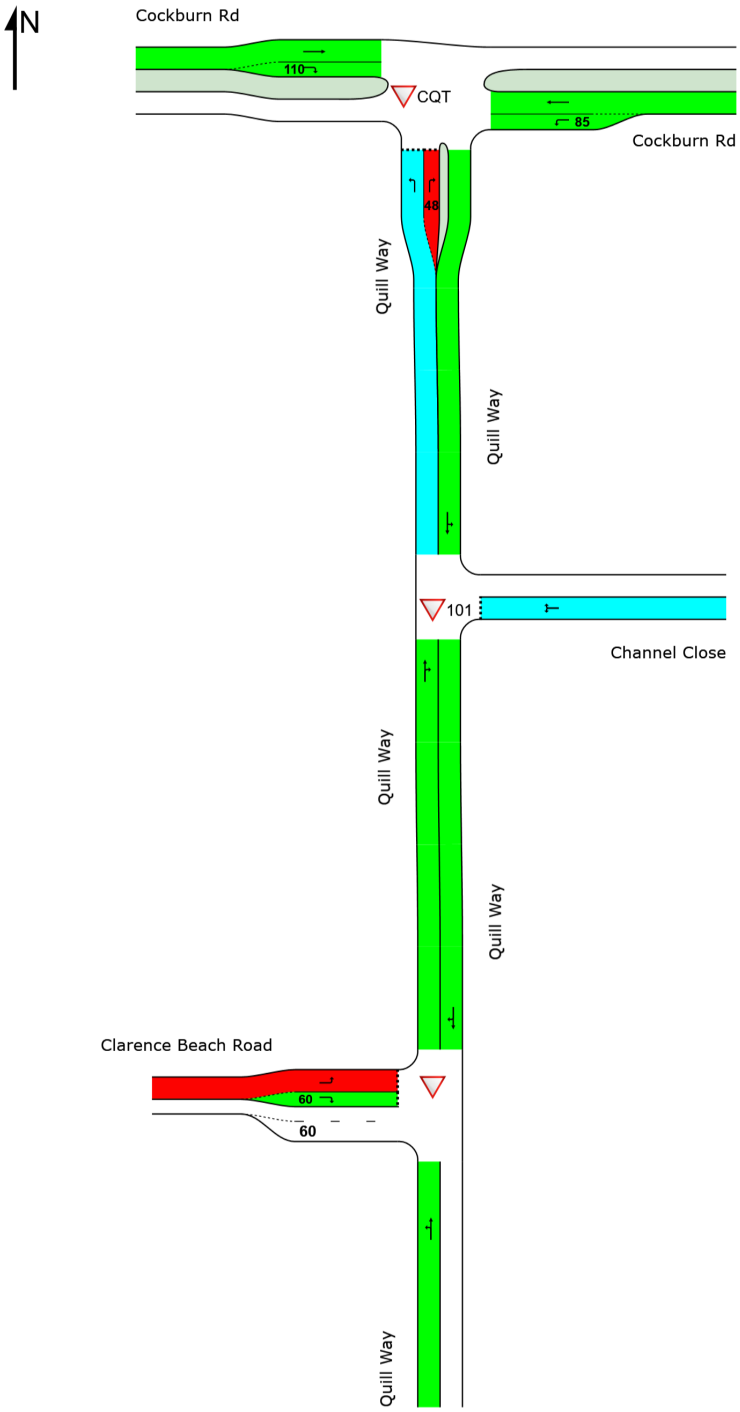
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

LEVEL OF SERVICE

Lane Level of Service

Network: N101 [2026 PM T-Intersection - Lot 19 (Network Folder: General)]

New Network
Network Category: (None)



Colour code based on Level of Service

LOS A LOS B LOS C LOS D LOS E LOS F

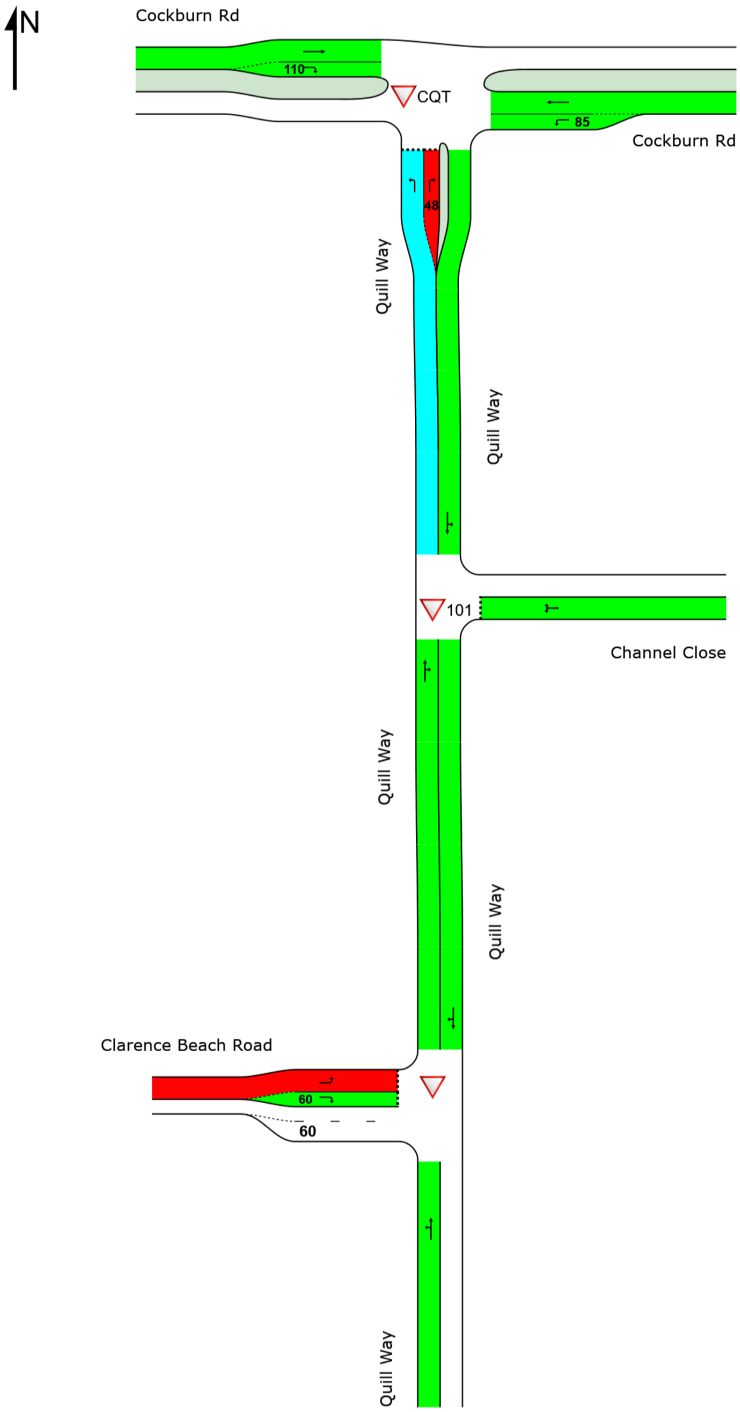
Delay Model: SIDRA Standard (Geometric Delay is included).

DEGREE OF SATURATION

Ratio of Demand Volume to Capacity, v/c ratio per lane

Network: N101 [2026 PM T-Intersection - Lot 19 (Network Folder: General)]

New Network
Network Category: (None)



Colour code based on Degree of Saturation

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Site Category: (None)
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Approach		559	2.0	559	2.0	0.253	0.4	NA	0.0	0.0	0.00	0.03	0.00	69.4
West: Cockburn Rd														
11	T1	531	2.0	531	2.0	0.255	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.9
12	R2	54	2.0	54	2.0	0.071	9.6	LOS A	0.1	0.8	0.53	0.75	0.53	51.5
Approach		584	2.0	584	2.0	0.255	0.9	NA	0.1	0.8	0.05	0.07	0.05	68.7
All Vehicles		2016	3.9	2016	3.9	2.215	217.8	NA	6.8	50.0	0.38	1.45	4.30	10.9

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Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
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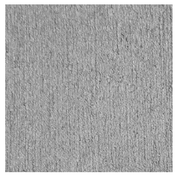
MATERIALS



PAVING TYPE 1 - IN-SITU CONCRETE
GREY CONCRETE, BROOM FINISH

MULCH ONLY - ECLIPSE AQUAMORE

TREES

CASUARINA EQUISETIFOLIA

MELALEUCA LANCEOLATA

SHRUBS

FICINIA NODOSA

OLEARIA AXILLARIS

SCAEVOLA CRASSIFOLIA

GREVILLEA THELMANIANNA

WESTRINGIA DAMPIERI

DIANELLA REVOLUTA

LOMANDRA LONGIFOLIA

GROUNDCOVERS

CONOSTYLIS CANDICANS

EREMOPHILA 'KALBARRI CARPET'

HEMINANDRA PUNGENS

ADENANTHOS CUNEATUS

MYOPORUM INSULARE

WESTRINGIA 'LOW HORIZON'

LEGEND

LOT BOUNDARY

TREES	SIZE
CASUARINA EQUISETIFOLIA / HORSETAIL SHEOAK	100L
MELALEUCA LANCEOLATA / ROTTNEST ISLAND TEATREE	100L

SHRUBS AND GROUNDCOVERS	SIZE	DENSITY
SHRUB MIX: (IRRIGATED) FICINIA NODOSA OLEARIA AXILLARIS SCAEVOLA CRASSIFOLIA GREVILLEA THELMANIANNA WESTRINGIA DAMPIERI DIANELLA REVOLUTA	Tubestock	3 per m2
GROUNDCOVER MIX : (IRRIGATED) CONOSTYLIS CANDICANS EREMOPHILA 'KALBARRI CARPET' HEMINANDRA PUNGENS WESTRINGIA 'LOW HORIZON' MYOPORUM INSULARE ADENANTHOS CUNEATUS	Tubestock	3 per m2
LOMANDRA LONGIFOLIA : (IRRIGATED)	Tubestock	3 per m2

MATERIALS

- EXISTING FOOTPATH - INSITU CONCRETE
- PAVING TYPE 1 - INSITU CONCRETE (NOT BY LANDSCAPE)
- MULCH ONLY - ECLIPSE AQUAMORE OR SIMILAR

LOT 19 + 9001	Areas
Planting Area	583m2
Mulch Only Area	17m2
Paving Area	26m3
Landscaped area abutting southern boundary	247m2
SUB TOTAL LANDSCAPE AREA	873m2
TOTAL SITE AREA	23,248m2
% OF TOTAL SITE AREA	3.76%
Clarence Beach Road Verge - West	
Planting / mulch area	400m2
Clarence Beach Road Verge- East	
Planting / mulch area	259m2

KEYPLAN

NOT FOR CONSTRUCTION

REV	DATE	DWN	DESCRIPTION
A	22/09/2020	NZ	ISSUE FOR DEVELOPMENT APPLICATION
B	23/09/2020	SP	ISSUE FOR DEVELOPMENT APPLICATION
C	24/09/2020	NZ	ISSUE FOR DEVELOPMENT APPLICATION
D	30/09/2020	TR	ISSUE FOR DEVELOPMENT APPLICATION

LD TOTAL
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172 BURSWOOD ROAD, BURSWOOD WA 6100 AUSTRALIA
TEL. +61 8 6436 1111 FAX. +61 8 9367 2034
www.ldtotal.com.au

PROJECT:
Lot 19 Clarence Beach Road, Henderson
CLIENT:
Site Planning & Design
TITLE
Landscape Concept Plan

PROJECT NO	DRAWN BY:	APPROVED BY:	REV:
10.7023	NZ	EP	D
SCALE: 1:250	SHEET NO 301	SHEET SIZE A1	

Lots 19 and 9001 Clarence Beach Road, Henderson
Marine Engineering Facility

Form 1 – Responsible Authority Report
(Regulation 12)

DAP Name:	Metropolitan Outer Joint Development Assessment Panel	
Local Government Area:	Cockburn	
Applicant:	Kareena May (SITE Planning and Design)	
Owner:	Western Australian Land Authority	
Value of Development:	$25 million ☒ Mandatory (Regulation 5) ☐ Opt In (Regulation 6)	
Responsible Authority:	Western Australian Planning Commission	
Authorising Officer:	Planning Director Metropolitan South and Peel	
WAPC Reference:	23-50298-2	
LG Reference:	DA20/008	
DAP File No:	DAP/20/01893	
Application Received Date:	23 November 2020	
Report Due Date:	20 January 2021	
Application Statutory Process Timeframe:	60 days	
Attachment(s):	1. Location plan 2. Aerial photography 3. Architectural plans 4. Works within the Waterways reservation	
Is the Responsible Authority Recommendation the same as the Officer Recommendation?	☒ Yes ☐ N/A	Complete Responsible Authority Recommendation section
	☐ No	Complete Responsible Authority and Officer Recommendation sections

Responsible Authority Recommendation

That the Metropolitan Outer Joint Development Assessment Panel resolve to:

Approve Development Assessment Panel application reference DAP/20/01893 and the accompanying plans dated 2 October 2020 (Attachment 3), pursuant to clause 30(1) of the Metropolitan Region Scheme, subject to the following condition:

Condition

1. This decision constitutes planning approval only. If development has not substantially commenced within two years of this approval being granted, the approval shall lapse and be of no further effect.

Advice

1. This decision constitutes planning approval under the Metropolitan Region Scheme only. It is the applicant's responsibility to comply with all other applicable legislation and obtain all required approvals, licences and permits prior to commencement of this development.

2. Due to the nature and extent of soil contamination identified at the site, the Department of Water and Environmental Regulation recommends works be undertaken in accordance with an appropriate site-specific health and environmental management plan.

Details: outline of development application

Region Scheme	Metropolitan Region Scheme
Region Scheme - Zone/Reserve	Lot 19: Industrial Lot 9001: Industrial (approximately 1.4ha) Waterways (approximately 1.1ha)
Local Planning Scheme	City of Cockburn Town Planning Scheme No. 3
Local Planning Scheme - Zone/Reserve	Lot 19: Strategic Industry Lot 9001: Strategic Industry (approximately 1.4ha) Waterways (approximately 1.1ha)
Structure Plan/Precinct Plan	Not applicable
Structure Plan/Precinct Plan - Land Use Designation	Not applicable
Use Class and permissibility:	Not applicable
Lot Size:	Lot 19: 23248.484 m^2 Lot 9001 24678 m^2
Existing Land Use:	Vacant land
State Heritage Register	No
Local Heritage	☒ N/A ☐ Heritage List ☐ Heritage Area
Design Review	☒ N/A ☐ Local Design Review Panel ☐ State Design Review Panel ☐ Other
Bushfire Prone Area	Yes
Swan River Trust Area	No

Proposal:

The application seeks approval to the construction of new ship building facilities on Lots 19 and 9001 Clarence Beach Road, Henderson (Attachment 1: Location plan and Attachment 2: Aerial photography). The proposed works include the construction of:

(a) two large enclosed fabrication halls measuring 110 metres by 24 metres, capable of accommodating the construction of two vessels up to 100 metres-long;

(b) specialised workshops and stores (approximately 8550m^2) located on three levels and adjacent to the fabrication halls;

(c) three storey offices (approximately 1265m^2) adjacent to Clarence Beach Road;

(d) staff amenity areas (toilets, lockers, lunchrooms and kitchen/dining facilities) on all three levels of the facility;

(e) an internal walkway connecting specialty workshops and offices;

(f) 403 parking bays (both front and rear);

(g) five service/loading bays capable of accommodating standard rigid vehicles up to 19 metres-long;

(h) a 7 metre-wide vehicle access ramp along the site's southern boundary;

() a drainage network consisting of soakwells connected by drainage pipes leading to gross pollutant traps and discharging into Jervoise Bay;

(i) landscaping.

(Attachment 3: Architectural plans)

The application seeks approval to operate 24 hours per day.

Proposed Land Use	Shipbuilding facility
Proposed Net Lettable Area	Not applicable
Proposed No. Storeys	Three storeys
Proposed No. Dwellings	Not applicable

Background:

During the late 1950s a railway line was constructed, traversing the site on a north-south alignment. This was later removed and, during the late 1960s/early 1970s, maritime facilities such as hardstand areas and a jetty, boat ramp and fabrication facilities were constructed and a rock revetment constructed along the coastline.

Since then, the dry land area and the alignment of the coastline have changed and the structures present on the site have been reconfigured/demolished. However, use of the site for maritime-related industrial purposes has continued without interruption.

Currently, the site itself is relatively flat, contains some areas of hardstand, a boat ramp and jetty and is bisected by reticulated sewerage infrastructure. There are no other structures on the site and it contains no environmental features (such as remnant vegetation or wetlands) which might require protection.

In terms of the surrounding land uses:

(a) land to the north and south contains shipbuilding, launching and mooring facilities;

(b) east of the site is Clarence Beach Road, which is a single lane in each direction; and

(c) to the west is Jervoise Bay, with coastal waters protected by a network of breakwaters.

Legislation and Policy:

Legislation

Planning and Development Act 2005
Part 2 - The Western Australian Planning Commission
Division 2 - Functions and powers
Section 16 - Delegation by Commission

Part 15 - Subsidiary legislation
Section 256 - Regulations for content of local planning schemes
Section 257B - Deemed provisions, effect of

Metropolitan Region Scheme
Part 1 - Preliminary
Clause 10

Planning and Development (Local Planning Schemes) Regulations 2015
Schedule 2: Deemed provisions for local planning schemes
Part 7 - Requirement for development approval
Clause 61 - Development for which development approval not required

State Government Policies

State Planning Policy 2.6: Coastal Planning
State Planning Policy 3.7: Planning in Bushfire Prone Areas
State Environmental (Cockburn Sound) Policy 2015

Consultation:

Referrals/consultation with Government/Service Agencies

The Westport Office raises no objection to the application and provides no further comment or advice.

The Water Corporation raises no objection to the application and:

(a) notes that the site is located near the Woodman Point Wastewater Treatment Plant and may, occasionally, be affected by odour from the plant;

(b) advises that the proposed development will require its approval prior to the commencement of works;

(c) advises that existing reticulated sewerage infrastructure which runs through the site will need to be protected.

The Department of Water and Environmental Regulation advises that:

(a) The proposed development is a prescribed premises for which works approval will need to be obtained prior to construction.

(b) The site is classified as contaminated due to the presence of metals and organotin compounds associated with the site's historic use for marine vessel construction and maintenance. However, the site appears suitable for the proposed industrial development, noting that this includes the construction of

hardstand across the site - this will minimise exposure to contaminated soil and reduce the possibility of contaminants entering groundwater or surface water.

(c) The values of Cockburn Sound are protected by the *State Environmental (Cockburn Sound) Policy 2015*, which aims to ensure water quality within Cockburn Sound is maintained or, where possible, improved.

The discharge of stormwater directly into Cockburn Sound is not consistent with current best practice and water sensitive design principles. In this regard, best practice stormwater management involves:

(i) managing small events as close to the source of stormwater runoff as possible, with water quality improvement; and

(ii) integrating landscaping and stormwater management systems using, for example, vegetated swales, tree pits and biofilters.

Design Review Panel Advice

Not applicable.

Planning Assessment:

Requirement for approval

Almost all of the proposed works affect land zoned for industrial use in the Metropolitan Region Scheme, and these will require approval under both the region scheme and the City of Cockburn Town Planning Scheme 3. Authority to assess these works has been delegated to the City of Cockburn and a separate responsible authority report related to those works has been prepared for the Metropolitan Outer Joint Development Assessment Panel to consider. That report recommends the application to undertake works within the Industrial zone be approved, subject to conditions.

However, the current instrument of delegation does not apply to works within the Waterways reservation in the Metropolitan Region Scheme and any such works require WAPC consideration. Accordingly, this assessment relates specifically to works within the Waterways reservation only.

In this regard, the preliminary stormwater drainage plan indicates that stormwater outlets covered by rock pitching will extend into Jervoise Bay (Attachment 4: Works within the Waterways reservation).

Region scheme considerations

Clause 30(1) of the Metropolitan Region Scheme requires the WAPC have regard to the following matters when considering an application for approval to commence development:

(a) the purpose for which the land is zoned or reserved under the Metropolitan Region Scheme;

(b) the orderly and proper planning of the locality; and

(c) the preservation of the amenities of the locality.

In relation to these matters:

(a) It is noted that the proposed stormwater outlets and rock pitching would not extend far beyond the existing rock revetment and would be located in areas

where the bathymetry is likely too shallow to be accessible to the marine craft most likely to be found in these waters. On this basis, it is considered the proposed stormwater outlets and rock pitching would not conflict with the purpose of the Waterways reservation.

(b) In this regard, the proposed stormwater outlets and rock pitching would be located in an area which has been used for maritime industrial purposes for many years, and there is no strategic planning which proposes to change this. Accordingly, the proposed stormwater outlets and rock pitching are consistent with the principles of orderly and proper planning.

(c) The locality is characterised by extensive industrial activity with a significant maritime focus. As the proposed stormwater outlets are consistent with the locality's existing character, they are unlikely to affect the amenities of the locality.

Stormwater and Drainage into Cockburn Sound

In relation to the collection of stormwater and its drainage into Cockburn Sound, it is noted that:

(a) options for retaining and treating stormwater runoff close to the source are limited by the need to ensure that the hardstand area between the proposed fabrication halls and Cockburn Sound can be traversed by large vehicles carrying ocean-going vessels;

(b) the applicant proposes to use soak-wells to contain some stormwater and allow infiltration as close as possible to the source of the runoff, in conjunction with the use of gross pollutant traps which would filter stormwater prior to its discharge into Cockburn Sound;

(c) the City of Cockburn recommends a condition be imposed to require the preparation of a detailed stormwater drainage plan which ensures pollutants and contaminants are removed from stormwater prior to its discharge into Cockburn Sound; and

(d) there is limited scope to impose such a condition in respect of this determination, as this determination relates specifically to the two stormwater outlets in Cockburn Sound, and the rock pitching covering those outlets.

It is considered that the condition recommended by the City of Cockburn (and the associated advice) addresses the treatment of stormwater runoff to the extent possible, and it is not necessary to impose an additional condition(s).

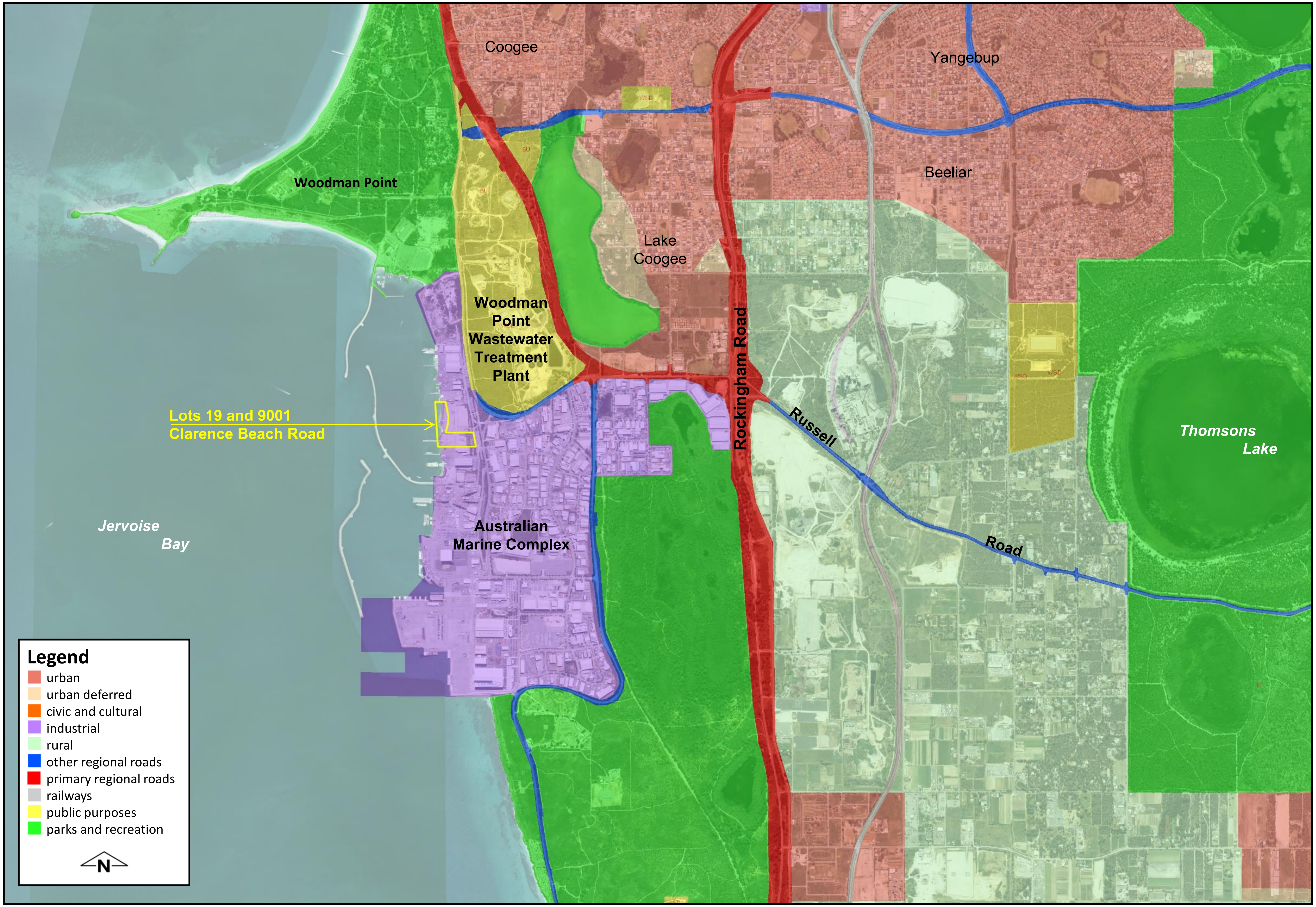
Additional approval requirements

It is noted that the applicant may need to obtain separate approvals (from the Water Corporation and the Department of Water and Environmental Regulation) for works within the Industrial zone. However, the City of Cockburn's responsible authority report addresses this matter through advice to the applicant, and it is not necessary to replicate that advice.

Conclusion:

The works proposed within the Waterways reservation are consistent with the Metropolitan Region Scheme and WAPC policy and practice. On this basis the application should be conditionally approved.

Attachment 1



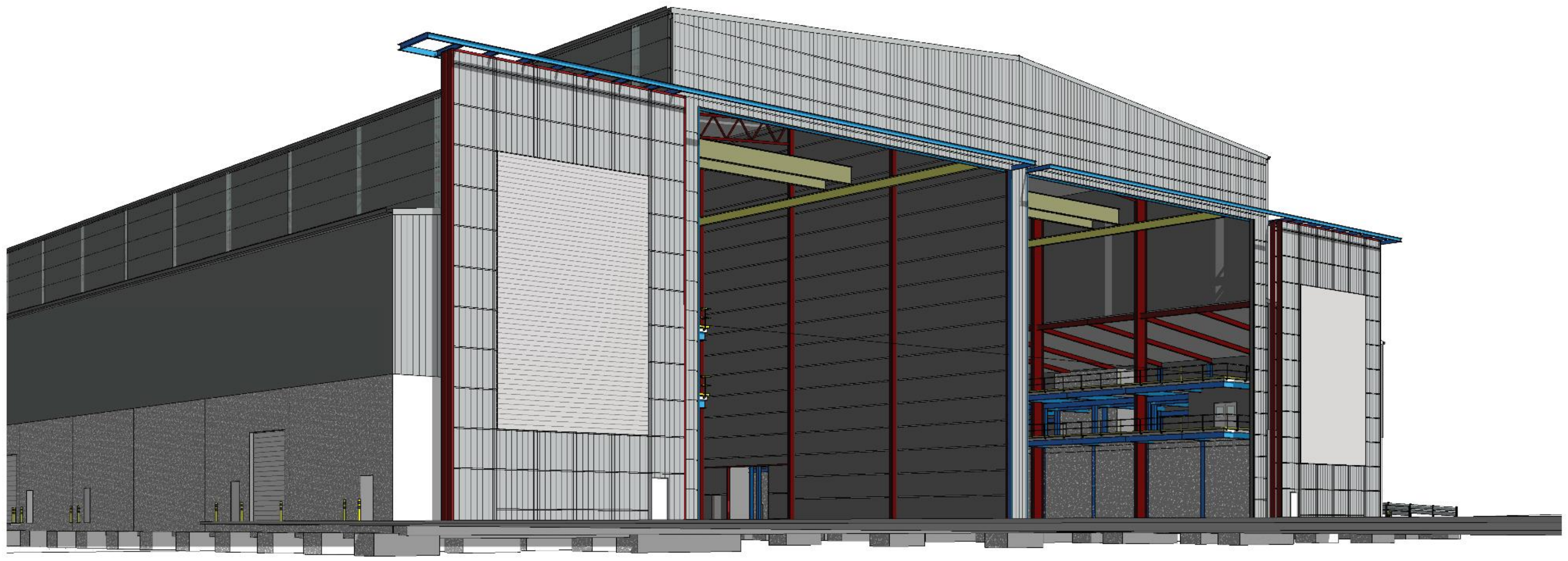
Location plan

Aerial photography

SILVERYACHT

LOT 19 CLARENCE BEACH ROAD HENDERSON WA

DRG No.	DRAWING TITLE
A0.00	COVER SHEET
A1.01	SITE LAYOUT PLAN
A2.00	KEY PLAN
A2.01	GROUND FLOOR GENERAL ARRANGEMENT - SHEET 1
A2.02	GROUND FLOOR GENERAL ARRANGEMENT - SHEET 2
A2.11	LEVEL 1 ANNEXE GENERAL ARRANGEMENT
A2.21	LEVEL 2 ANNEXE GENERAL ARRANGEMENT
A2.30	OFFICE GENERAL ARRANGEMENT
A2.40	ROOF PLAN
A3.01	ELEVATIONS - SHEET 1
A3.02	ELEVATIONS - SHEET 2
A4.01	SECTIONS
A5.01	3D IMAGES & PERSPECTIVES



DEPARTMENT OF PLANNING, LANDS AND HERITAGE
DATE 23-Nov-2020 FILE 23-50525-1

PRINT IN COLOUR

CLIENT

DEVELOPMENT WA

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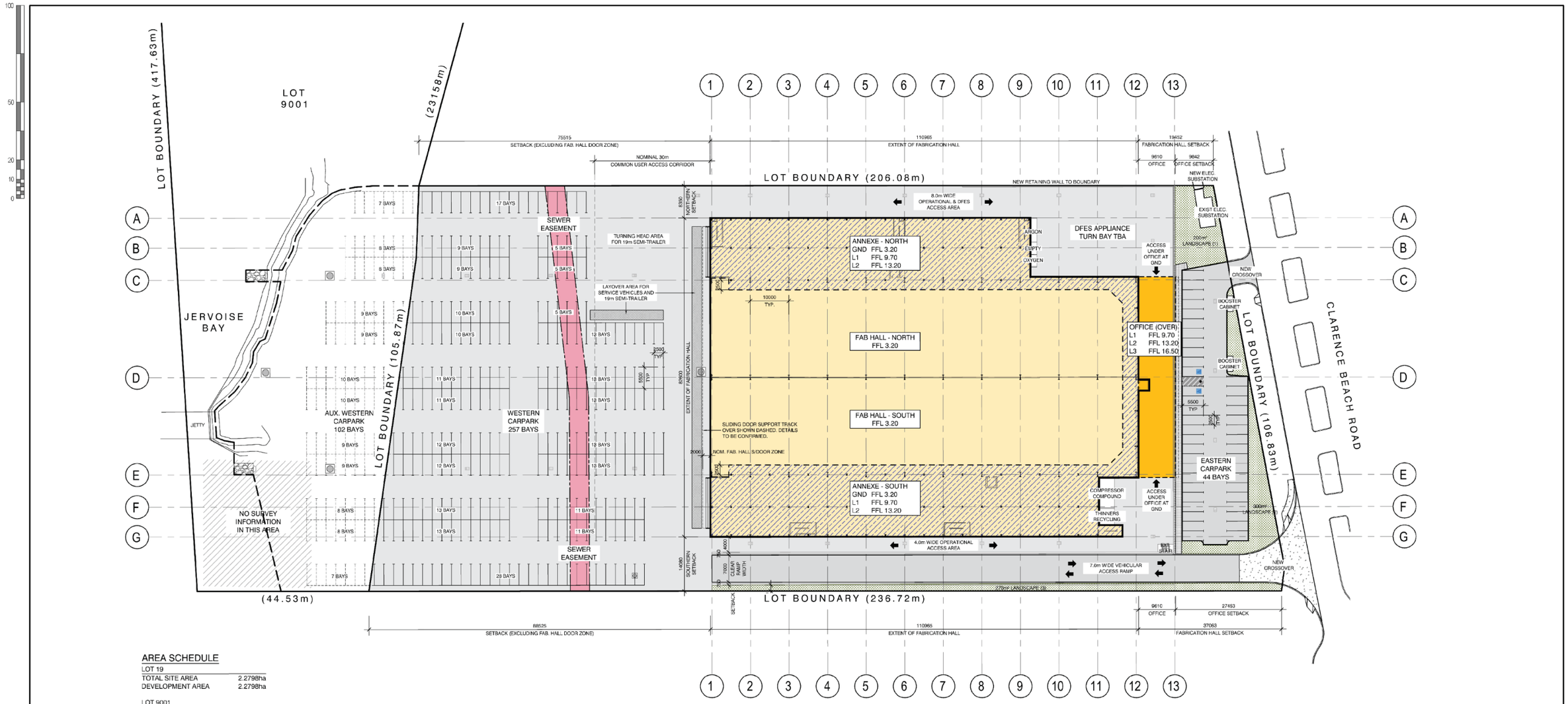
admin@pfeng.com.au

TITLE				
COVER SHEET				
SCALE @ A1	DATE 15.06.20	DESIGNED MDJ	DRAWN DWS	CHECKED
JOB No 20-042		DRG No A0.00		REV DA.1



AREA SCHEDULE

LOT 19	
TOTAL SITE AREA	2.2798ha
DEVELOPMENT AREA	2.2798ha
LOT 9001	
TOTAL SITE AREA	2.4678ha
DEVELOPMENT AREA	0.3600ha
TOTAL DEVELOPMENT AREA	2.6398ha

GROUND FLOOR
FFL 3.20
GFA 8,608m²

LEVEL 1 (L1)
FFL 9.70
GFA 500m² OFFICE
GFA 3,730m² ANNEXE (INC WALKWAYS)
SUB TOTAL 4,230m²

LEVEL 2 (L2)
FFL 13.20
GFA 500m² OFFICE
GFA 3,730m² ANNEXE (INC WALKWAY)
SUB TOTAL 4,230m²

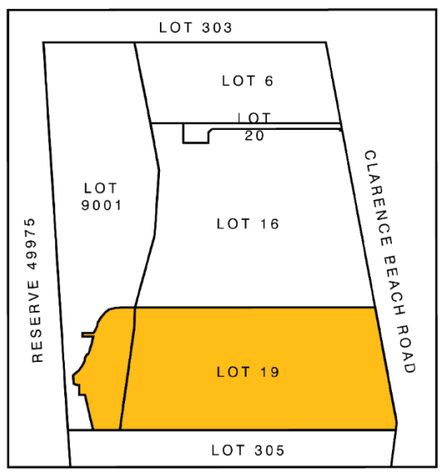
LEVEL 3 (L3)
FFL 16.70
GFA 500m² OFFICE

LANDSCAPING / PAVING

LANDSCAPE (1)	200m²
LANDSCAPE (2)	300m²
LANDSCAPE (3)	270m²
PAVING	122m²
TOTAL	892m²

CARBAYS

EASTERN CARPARK	44 BAYS
WESTERN CARPARK	257 BAYS
SUB TOTAL	301 BAYS
AUX WESTERN CARPARK	102 BAYS
TOTAL	403 BAYS



REV	DATE	DESCRIPTION	BY	APPD
DA.1	02.10.20	Development Application	DWS	DWA

STATUS: PRELIMINARY - NOT FOR CONSTRUCTION

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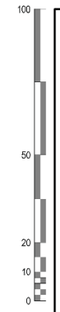
CLIENT: DEVELOPMENT WA
PROJECT: SILVERYACHT
LOT 19 CLARENCE BEACH ROAD HENDERSON WA
TITLE: SITE LAYOUT PLAN

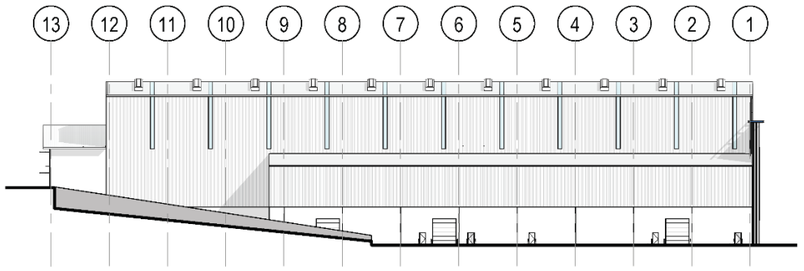
SCALE	DATE	DESIGNED	DRAWN	CHECKED
1:500 @ A1	15.06.20	MDJ	DWS	KH

JOB No	DRG No	REV
20-042	A1.01	DA.1

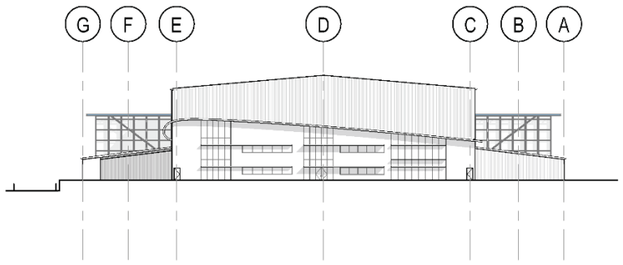
DEPARTMENT OF PLANNING, LANDS AND HERITAGE
DATE 23-Nov-2020
FILE 23-50525-1

PRINT IN COLOUR

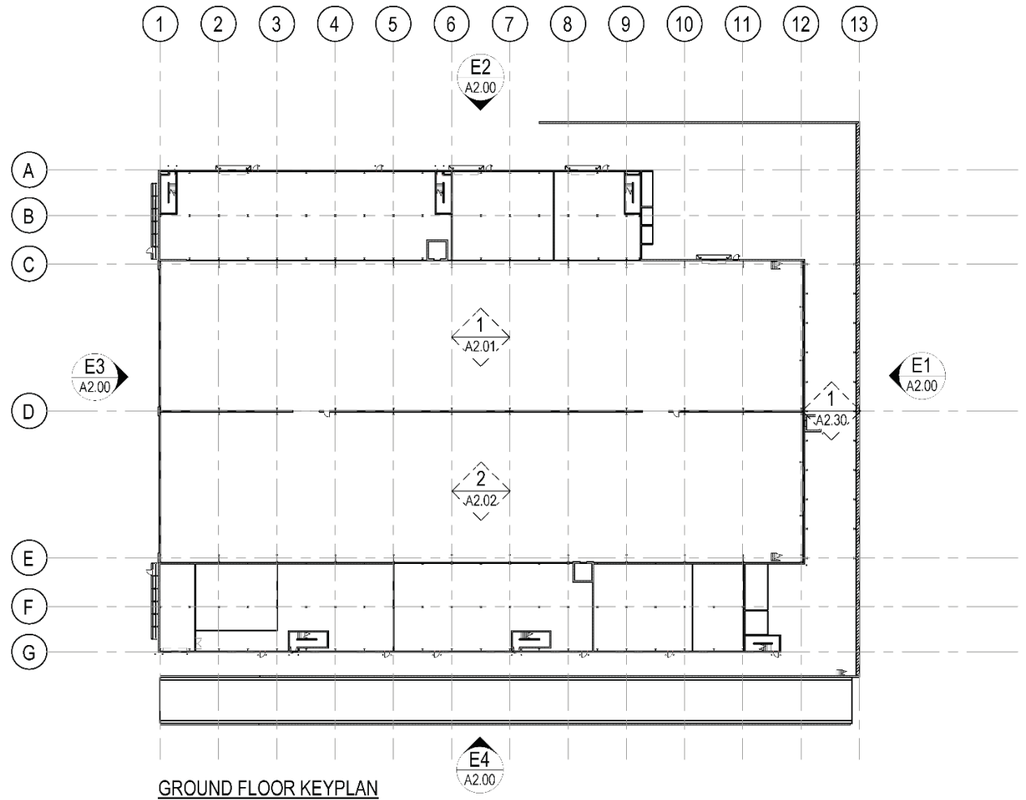




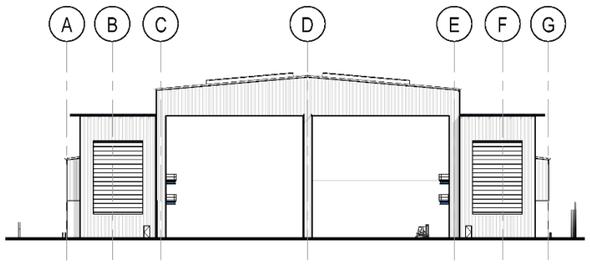
E2 ELEVATION - NORTH
1 : 500



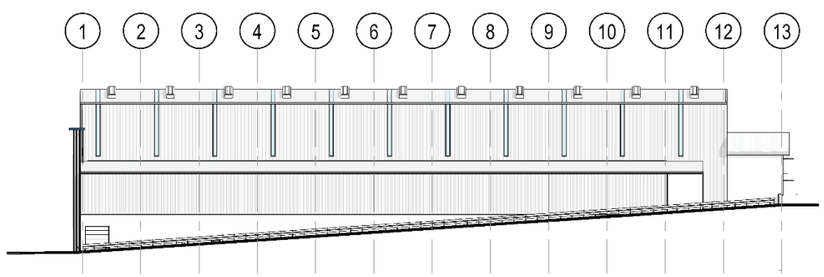
E1 ELEVATION - EAST
1 : 500



GROUND FLOOR KEYPLAN
1 : 500



E3 ELEVATION - WEST
1 : 500



E4 ELEVATION - SOUTH
1 : 500

REV	DATE	DESCRIPTION	BY	APPD
DA.1	02.10.20	Development Application	DWS	DWA

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CLIENT
DEVELOPMENT WA

PROJECT
SILVERYACHT
LOT 19 CLARENCE BEACH ROAD HENDERSON WA

TITLE
KEY PLAN

SCALE	DATE	DESIGNED	DRAWN	CHECKED
1 : 500@ A1	15.06.20	MDJ	DWS	KH

JOB No	DRS No	REV
20-042	A2.00	DA.1

DEPARTMENT OF PLANNING, LANDS AND HERITAGE
DATE 23-Nov-2020
FILE 23-50525-1

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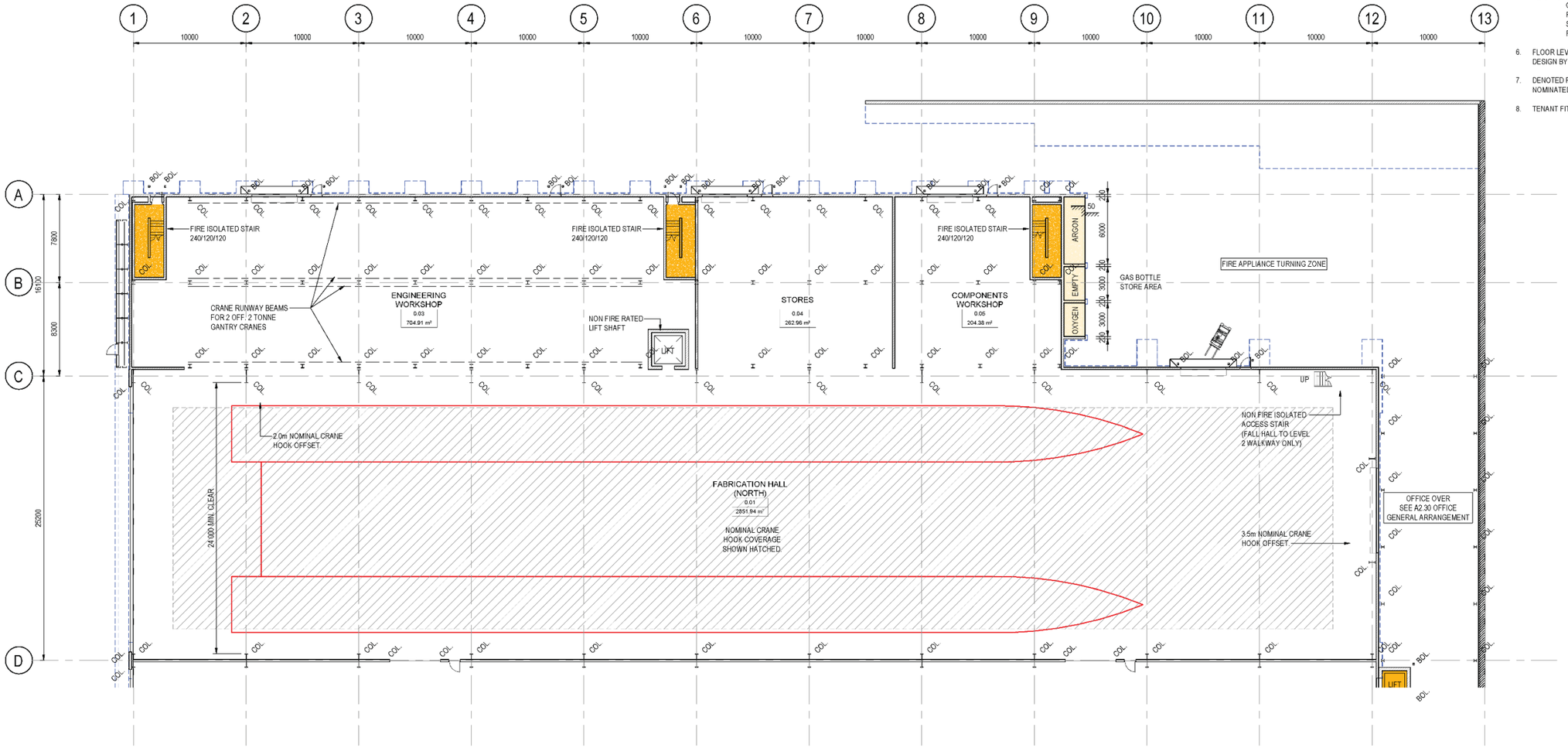

GENERAL NOTES

1. ARCHITECTURAL DRAWINGS TO BE READ IN CONJUNCTION WITH ALL SERVICE CONSULTANT DOCUMENTATION.
2. AREAS MAY VARY AND ARE SUBJECT TO FINAL DESIGN.
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   - GROUND FLOOR ANNEXE: 6.0m
   - FIRST FLOOR ANNEXE: 3.0m
   - SECOND FLOOR ANNEXE: 3.0m
   - FAB HALL/S U/S HOOK: 21.0m
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8. TENANT FITOUT BY OTHERS.

AREA SCHEDULE - GROUND FLOOR (L00)

Number	Name	Area	Comments
0.01	FABRICATION HALL (NORTH)	2851.94 m²	
0.02	FABRICATION HALL (SOUTH)	2865.60 m²	
0.03	ENGINEERING WORKSHOP	704.91 m²	
0.04	STORES	262.96 m²	
0.05	COMPONENTS WORKSHOP	204.38 m²	
0.06	PAINT BLAST RM	90.18 m²	
0.07	PAINT WORKSHOP	482.34 m²	
0.08	FITOUT WORKSHOP	478.55 m²	
0.09	FITOUT PAINT WORKSHOP	384.58 m²	

REV	DATE	DESCRIPTION	BY	APPD
DA.1	02.10.20	Development Application	DWS	DWA

STATUS: PRELIMINARY - NOT FOR CONSTRUCTION

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DEPARTMENT OF PLANNING, LANDS AND HERITAGE
DATE 23-Nov-2020 FILE 23-50525-1

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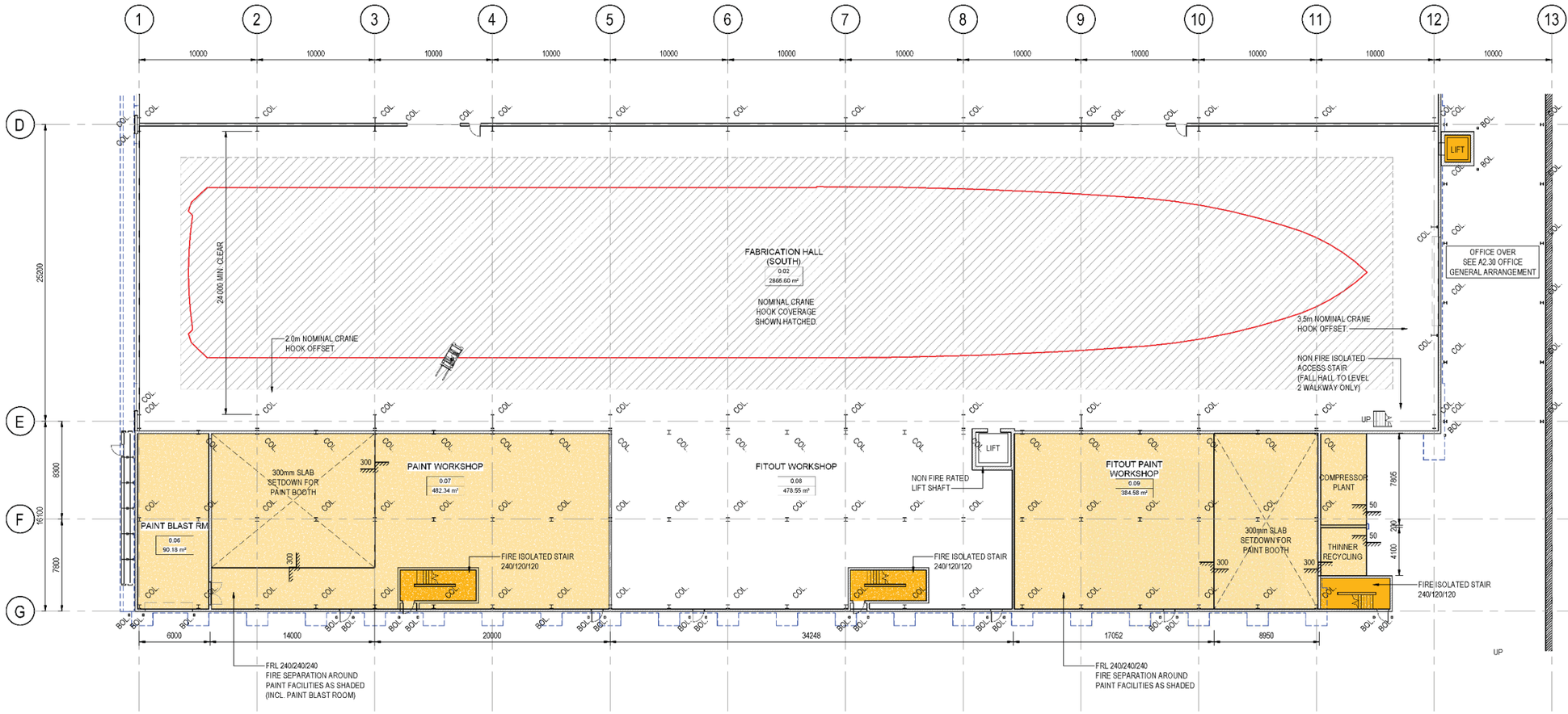
CLIENT: DEVELOPMENT WA

PROJECT: SILVERYACHT
LOT 19 CLARENCE BEACH ROAD HENDERSON WA

TITLE: GROUND FLOOR GENERAL ARRANGEMENT - SHEET 1

SCALE	DATE	DESIGNED	DRAWN	CHECKED
As indicated@ A1	15.06.20	MDJ	DWS	KH

JOB No	DRG No	REV
20-042	A2.01	DA.1



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AREA SCHEDULE - GROUND FLOOR (L00)

Number	Name	Area	Comments
0.01	FABRICATION HALL (NORTH)	2851.94 m²	
0.02	FABRICATION HALL (SOUTH)	2865.60 m²	
0.03	ENGINEERING WORKSHOP	704.91 m²	
0.04	STORES	262.96 m²	
0.05	COMPONENTS WORKSHOP	204.38 m²	
0.06	PAINT BLAST RM	90.18 m²	
0.07	PAINT WORKSHOP	482.34 m²	
0.08	FITOUT WORKSHOP	478.55 m²	
0.09	FITOUT PAINT WORKSHOP	384.58 m²	

REV	DATE	DESCRIPTION	BY	APPD
DA.1	02.10.20	Development Application	DWS	DWA

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CLIENT: DEVELOPMENT WA

PROJECT: SILVERYACHT
LOT 19 CLARENCE BEACH ROAD HENDERSON WA

TITLE: GROUND FLOOR GENERAL ARRANGEMENT - SHEET 2

SCALE	DATE	DESIGNED	DRAWN	CHECKED
As indicated@ A1	15.06.20	MDJ	DWS	KH

JOB No	DRG No	REV
20-042	A2.02	DA.1

DEPARTMENT OF PLANNING, LANDS AND HERITAGE
DATE 23-Nov-2020
FILE 23-50525-1

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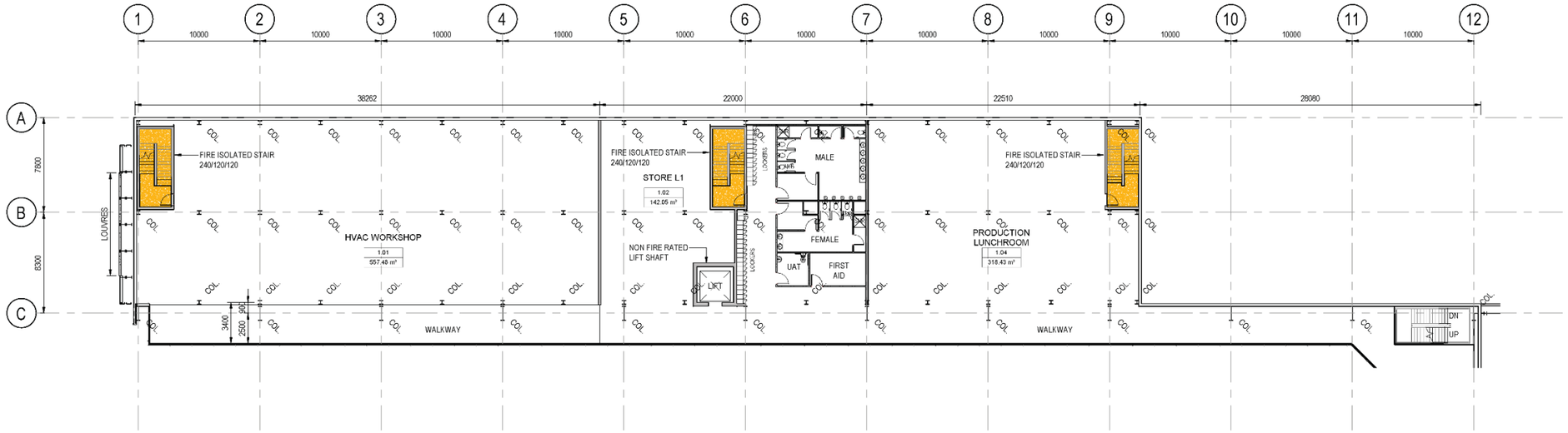
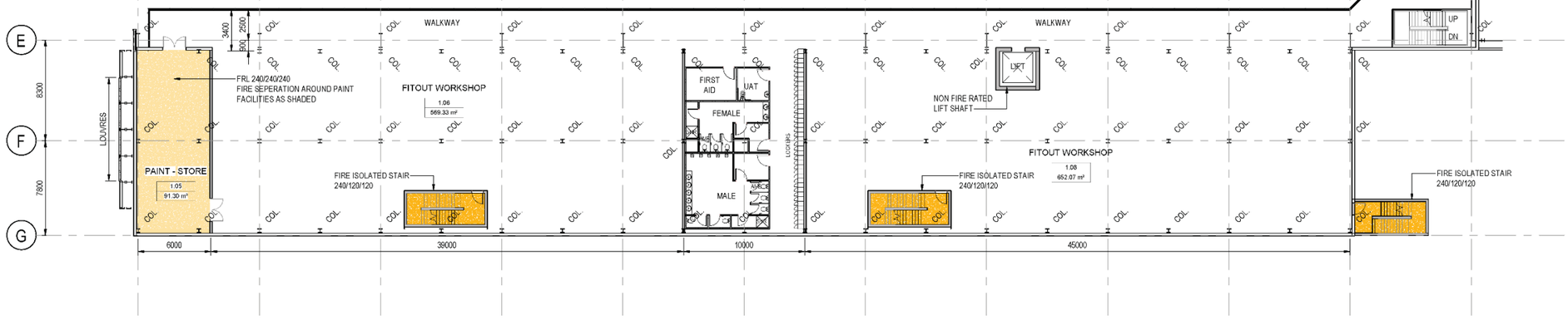


LEVEL 1 GENERAL ARRANGEMENT - PART 1

1 : 200



LEVEL 1 GENERAL ARRANGEMENT - PART 2

1 : 200

GENERAL NOTES

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AREA SCHEDULE - FIRST FLOOR (L1)

Level	Number	Name	Area	Comments
L1	1.01	HVAC WORKSHOP	557.48 m²	
L1	1.02	STORE L1	142.05 m²	
L1	1.04	PRODUCTION LUNCHROOM	318.43 m²	
L1	1.05	PAINT - STORE	91.30 m²	
L1	1.06	FITOUT WORKSHOP	569.33 m²	
L1	1.08	FITOUT WORKSHOP	652.07 m²	
L1	1.09	OFFICE L1 (NORTH)	180.33 m²	
L1	1.10	OFFICE L1 (SOUTH)	170.37 m²	

REV	DATE	DESCRIPTION	BY	APPD
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CLIENT: DEVELOPMENT WA

PROJECT: SILVERYACHT
LOT 19 CLARENCE BEACH ROAD HENDERSON WA

TITLE: LEVEL 1 ANNEXE GENERAL ARRANGEMENT

SCALE	DATE	DESIGNED	DRAWN	CHECKED
As indicated@ A1	15.06.20	MDJ	DWS	KH

JOB No	DRG No	REV
20-042	A2.11	DA.1

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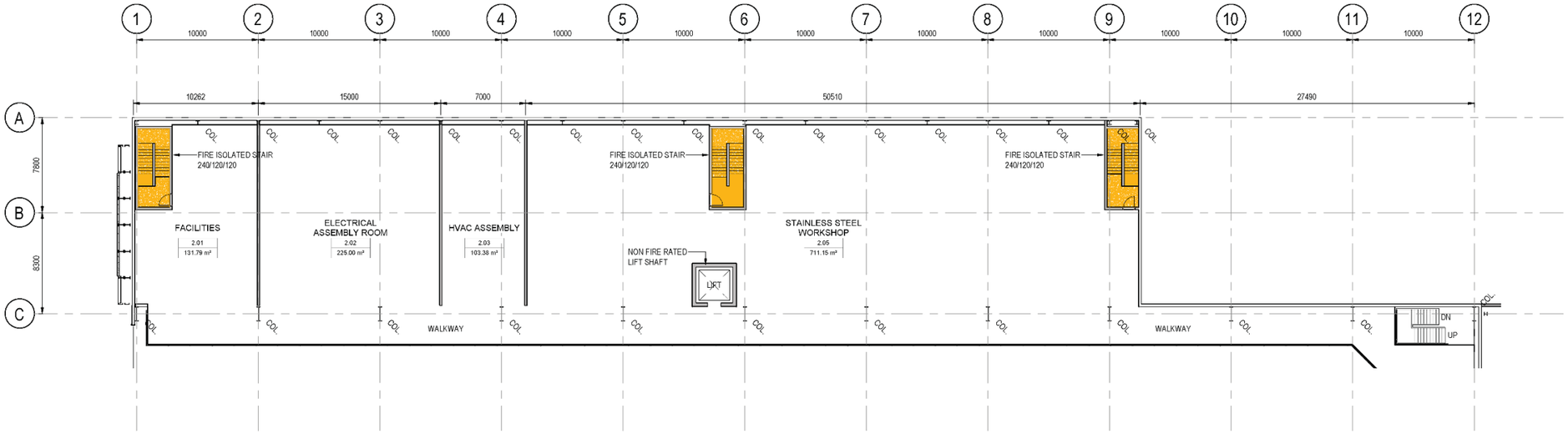

LEVEL 2 GENERAL ARRANGEMENT - PART 1

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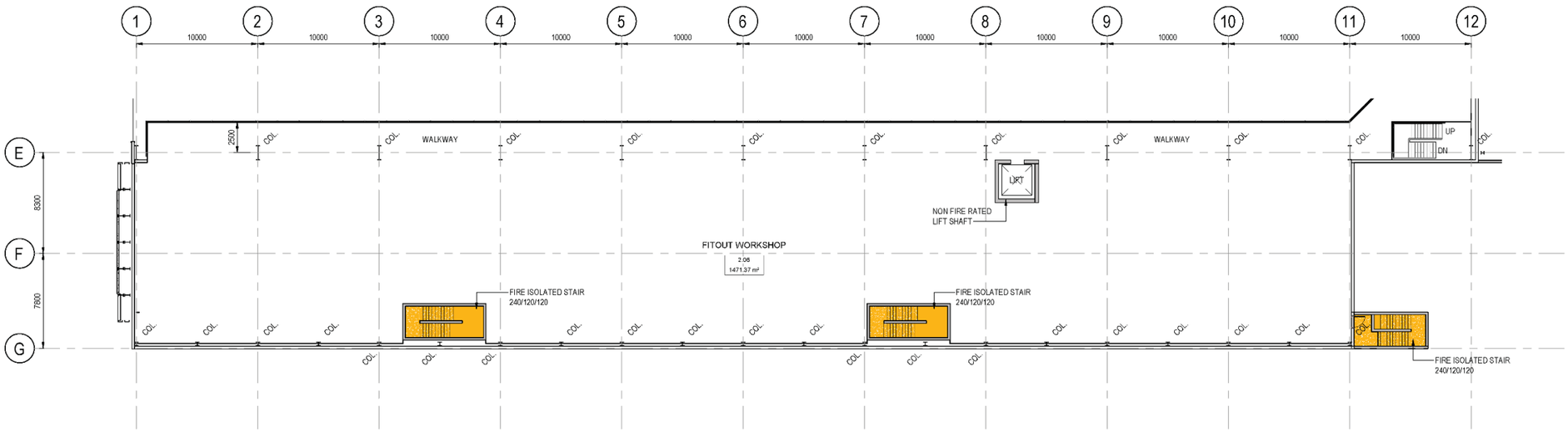

LEVEL 2 GENERAL ARRANGEMENT - PART 2

1 : 200

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8. TENANT FITOUT BY OTHERS.

AREA SCHEDULE - SECOND FLOOR (L2)

Level	Number	Name	Area	Comments
L2	2.01	FACILITIES	131.79 m²	
L2	2.02	ELECTRICAL ASSEMBLY ROOM	225.00 m²	
L2	2.03	HVAC ASSEMBLY	103.38 m²	
L2	2.05	STAINLESS STEEL WORKSHOP	711.15 m²	
L2	2.06	FITOUT WORKSHOP	1471.37 m²	
L2	2.07	OFFICE L2 (NORTH)	180.63 m²	
L2	2.08	OFFICE L2 (SOUTH)	173.72 m²	

REV	DATE	DESCRIPTION	BY	APPD
DA.1	02.10.20	Development Application	DWS	DWA

STATUS: PRELIMINARY - NOT FOR CONSTRUCTION

DEPARTMENT OF PLANNING, LANDS AND HERITAGE
DATE 23-Nov-2020 FILE 23-50525-1

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CLIENT: DEVELOPMENT WA

PROJECT: SILVERYACHT
LOT 19 CLARENCE BEACH ROAD HENDERSON WA

TITLE: LEVEL 2 ANNEXE GENERAL ARRANGEMENT

SCALE	DATE	DESIGNED	DRAWN	CHECKED
As indicated@ A1	15.06.20	MDJ	DWS	KH

JOB No	DRS No	REV
20-042	A2.21	DA.1

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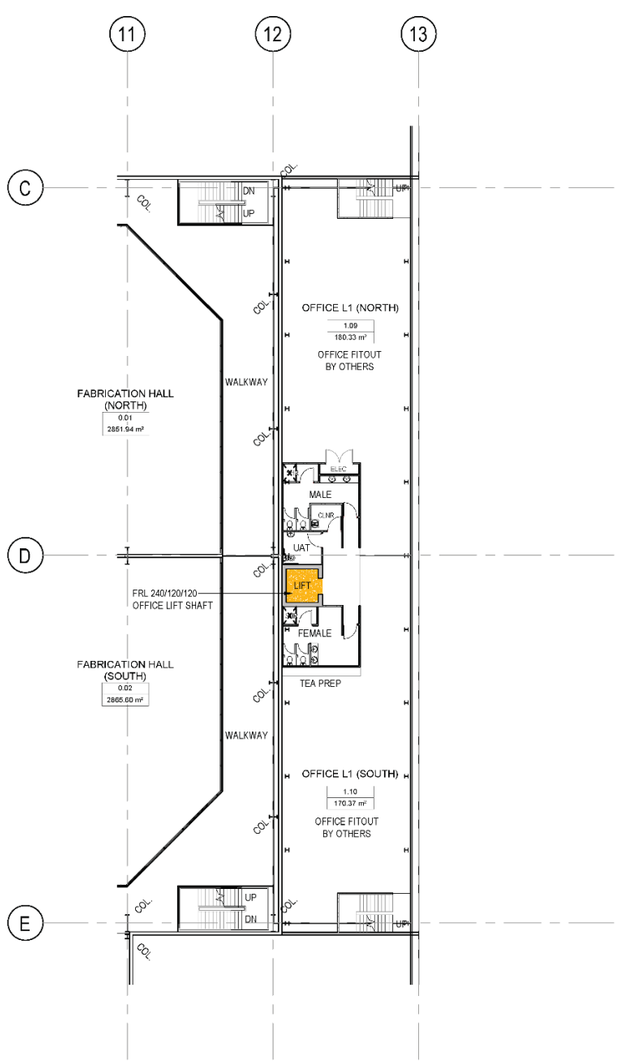
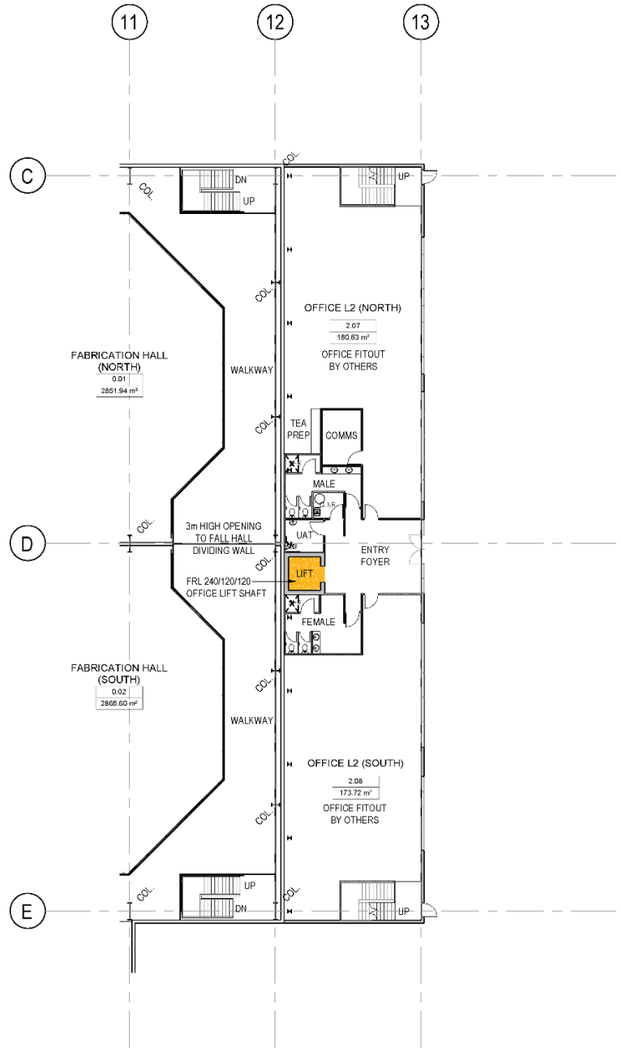
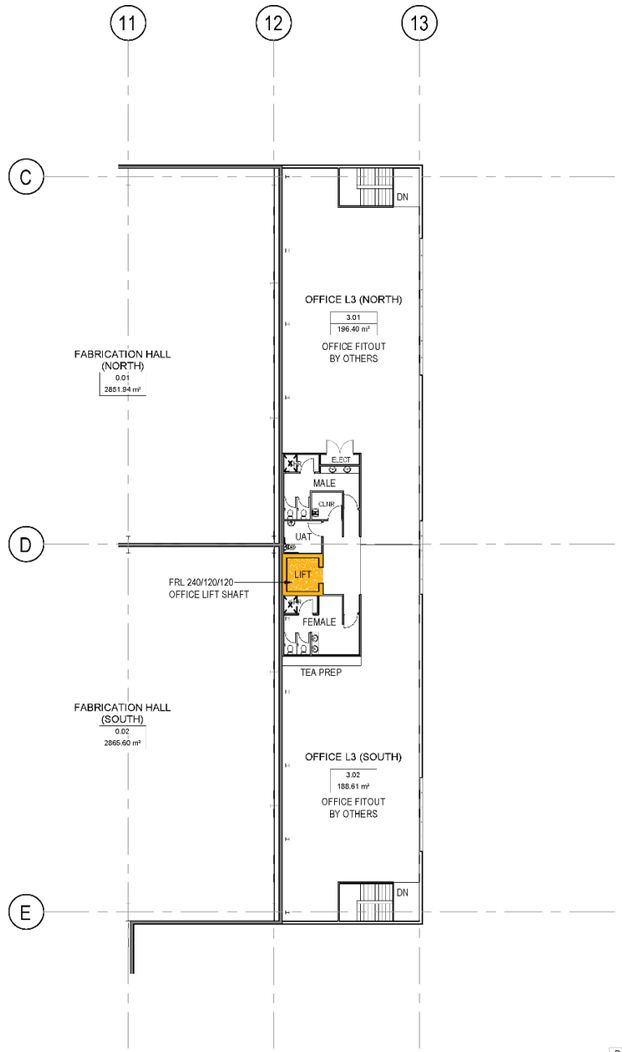


'BUNKER OFFICE'
LEVEL 1 GENERAL ARRANGEMENT - OFFICE
1 : 200



'HENDERSON ROAD ENTRY LEVEL'
LEVEL 2 GENERAL ARRANGEMENT - OFFICE
1 : 200



'UPPER LEVEL'
LEVEL 3 GENERAL ARRANGEMENT - OFFICE
1 : 200

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REV	DATE	DESCRIPTION	BY	APPD
DA.1	02.10.20	Development Application	DWS	DWA

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CLIENT: DEVELOPMENT WA

PROJECT: SILVERYACHT
LOT 19 CLARENCE BEACH ROAD HENDERSON WA

TITLE: OFFICE GENERAL ARRANGEMENT

SCALE	DATE	DESIGNED	DRAWN	CHECKED
As indicated@ A1	15.06.20	MDJ	DWS	KH

JOB No	DRG No	REV
20-042	A2.30	DA.1

DEPARTMENT OF PLANNING, LANDS AND HERITAGE
DATE 23-Nov-2020
FILE 23-50525-1

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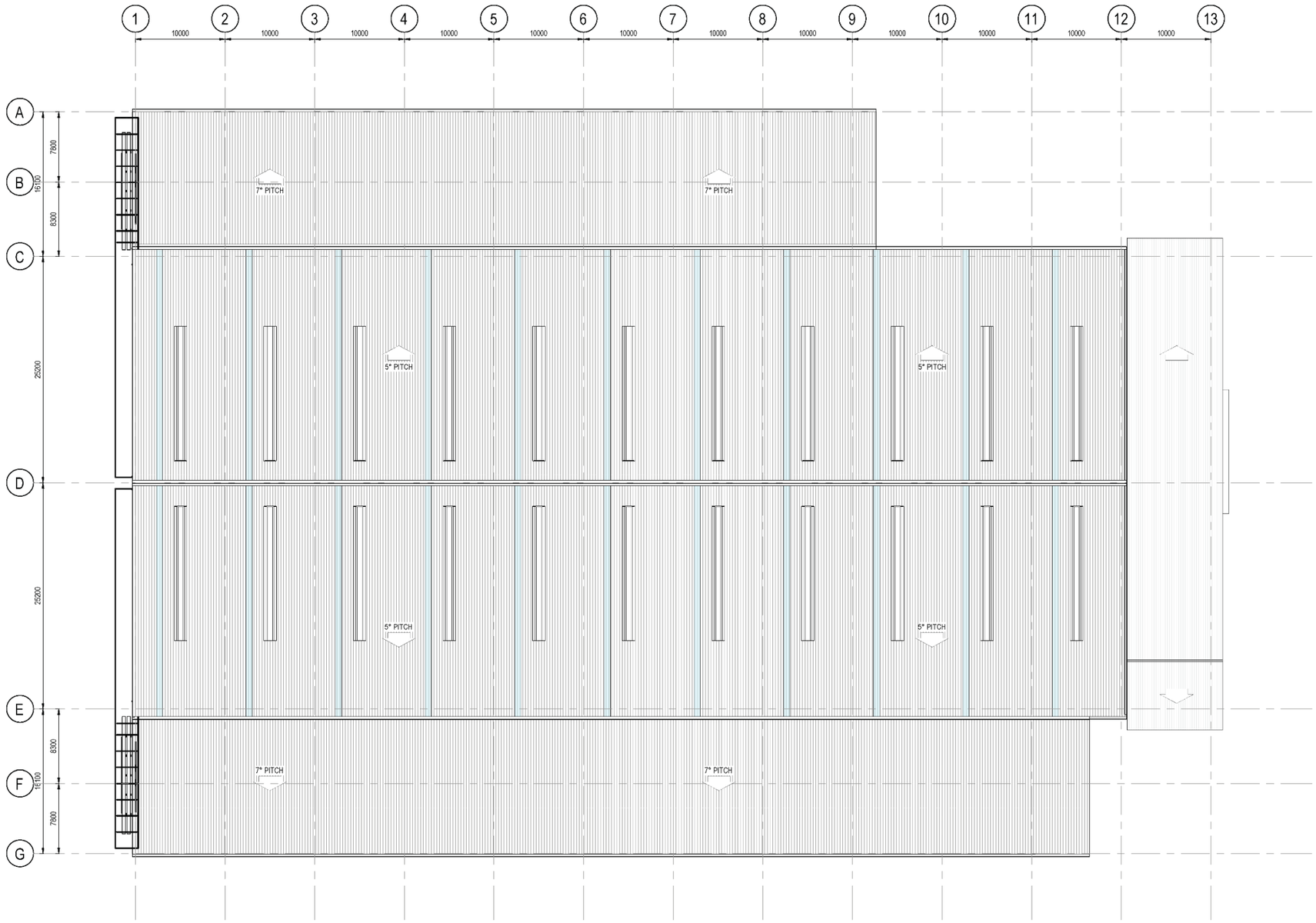

ROOF PLAN
1 : 250

100
50
20
10
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PRINT IN COLOUR

REV	DATE	DESCRIPTION	BY	APPD
DA.1	02.10.20	Development Application	DWS	DWA

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CLIENT: DEVELOPMENT WA

PROJECT: SILVERYACHT
LOT 19 CLARENCE BEACH ROAD HENDERSON WA

TITLE: ROOF PLAN

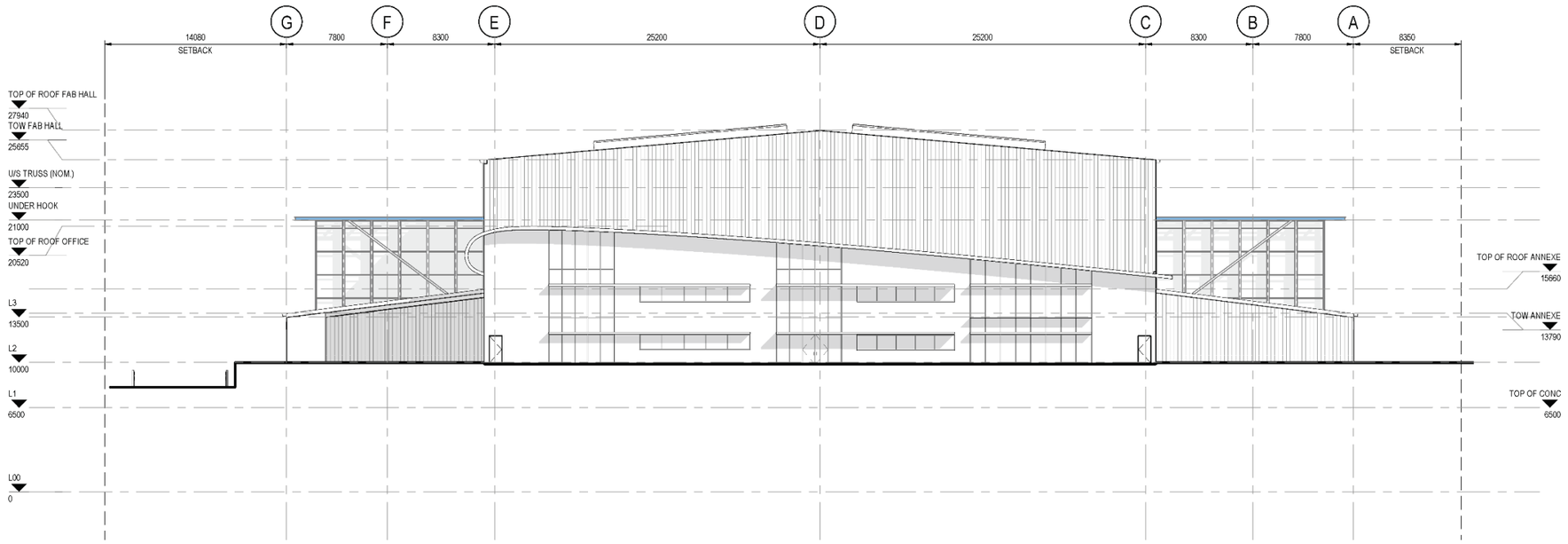
SCALE	DATE	DESIGNED	DRAWN	CHECKED
1 : 250@ A1	15.06.20	MDJ	DWS	KH

JOB No	DRG No	REV
20-042	A2.40	DA.1

DEPARTMENT OF PLANNING, LANDS AND HERITAGE
DATE 23-Nov-2020
FILE 23-50525-1

100
50
20
10
0

ELEVATION E2 (A2.01)
1 : 200



ELEVATION E1 (A2.30)
1 : 200

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REV	DATE	DESCRIPTION	BY	APPD
DA.1	02.10.20	Development Application	DWS	DWA

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LOT 19 CLARENCE BEACH ROAD HENDERSON WA

TITLE: ELEVATIONS - SHEET 1

SCALE	DATE	DESIGNED	DRAWN	CHECKED
1 : 200@ A1	15.06.20	MDJ	DWS	KH

JOB No	DRG No	REV
20-042	A3.01	DA.1

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50
20
10
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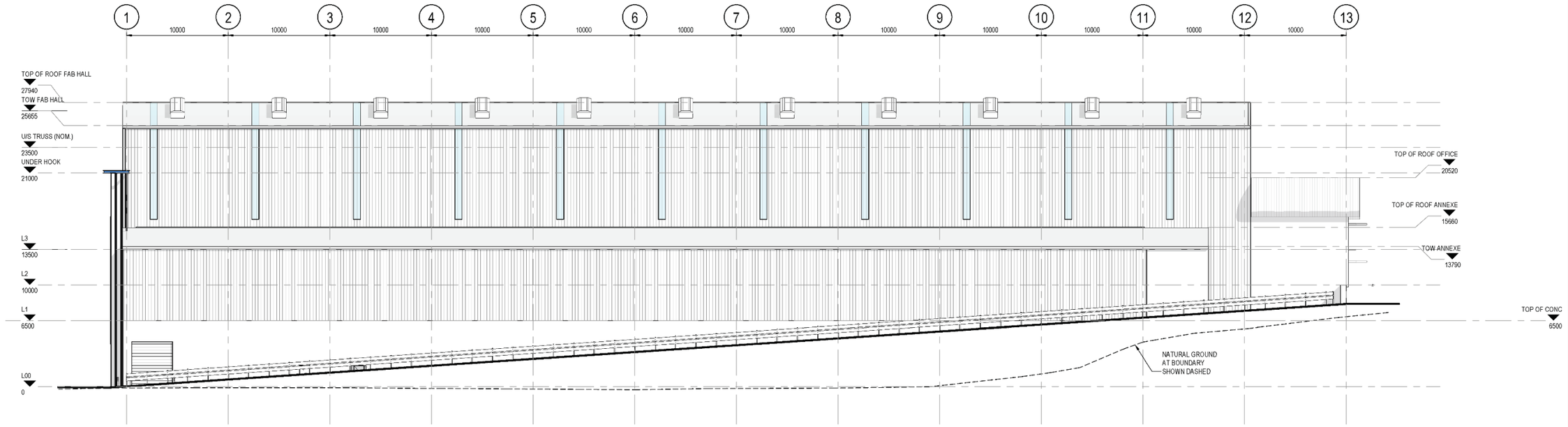

ELEVATION E4
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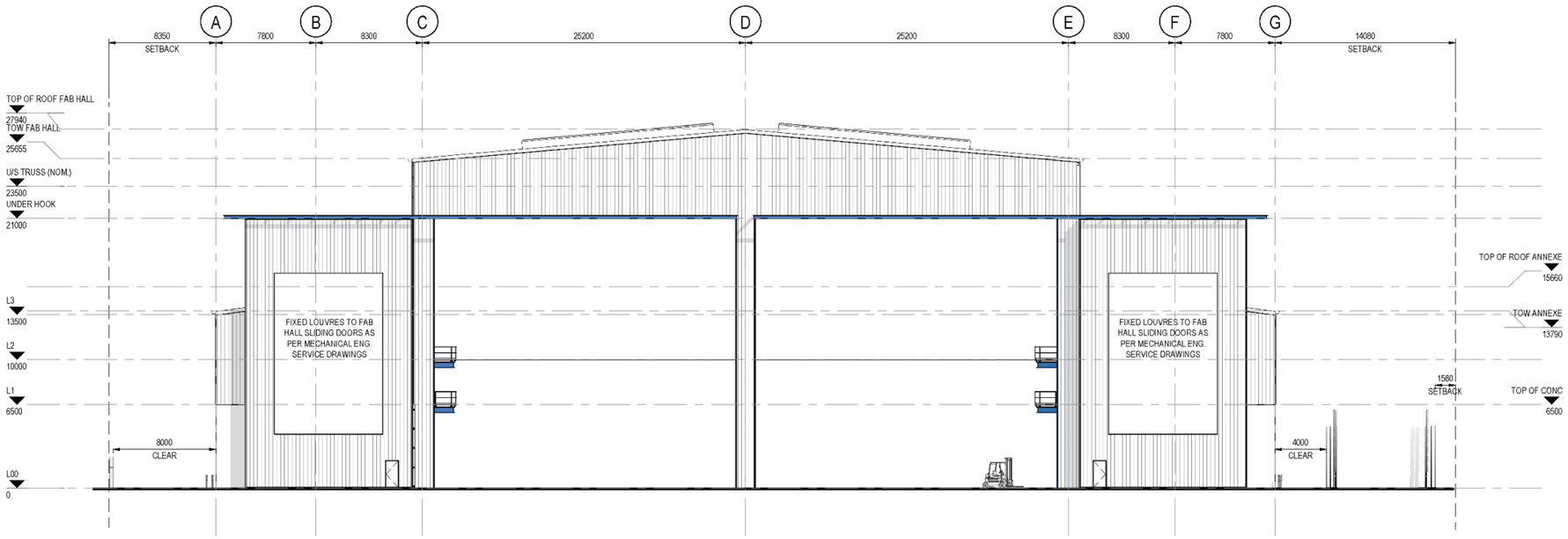

ELEVATION E3
1 : 200

PRINT IN COLOUR

REV	DATE	DESCRIPTION	BY	APPD
DA.1	02.10.20	Development Application	DWS	DWA

STATUS
PRELIMINARY - NOT FOR CONSTRUCTION

DEPARTMENT OF PLANNING, LANDS AND HERITAGE
DATE 23-Nov-2020
FILE 23-50525-1

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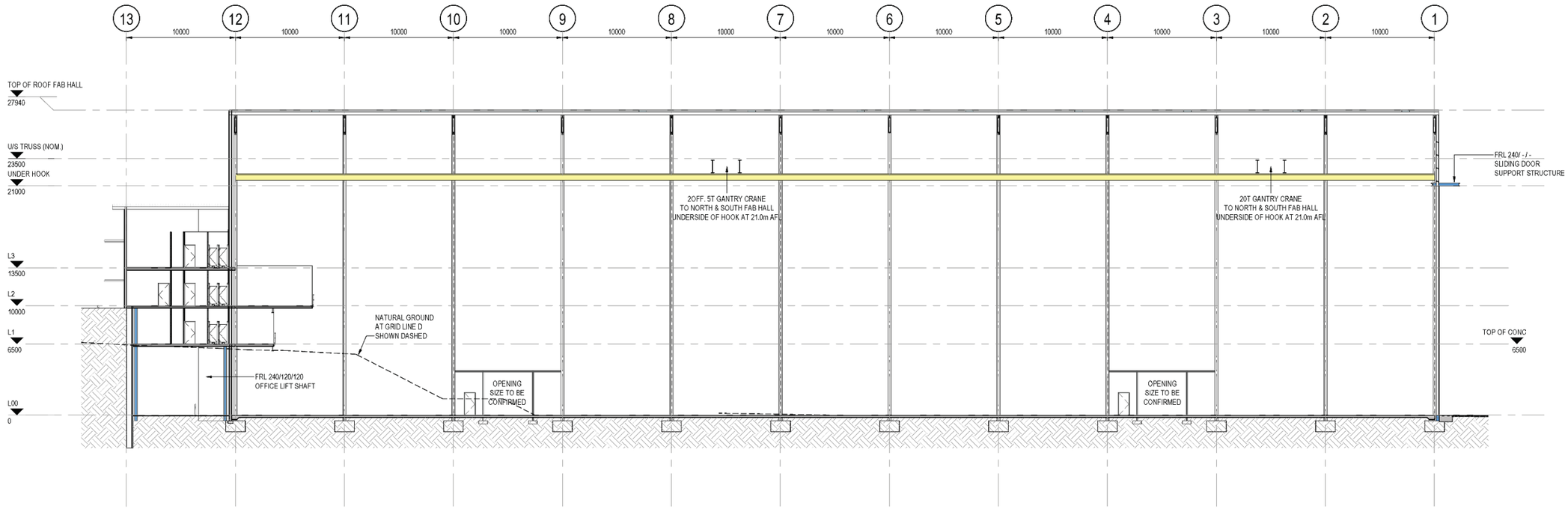
CLIENT
DEVELOPMENT WA

PROJECT
SILVERYACHT
LOT 19 CLARENCE BEACH ROAD HENDERSON WA

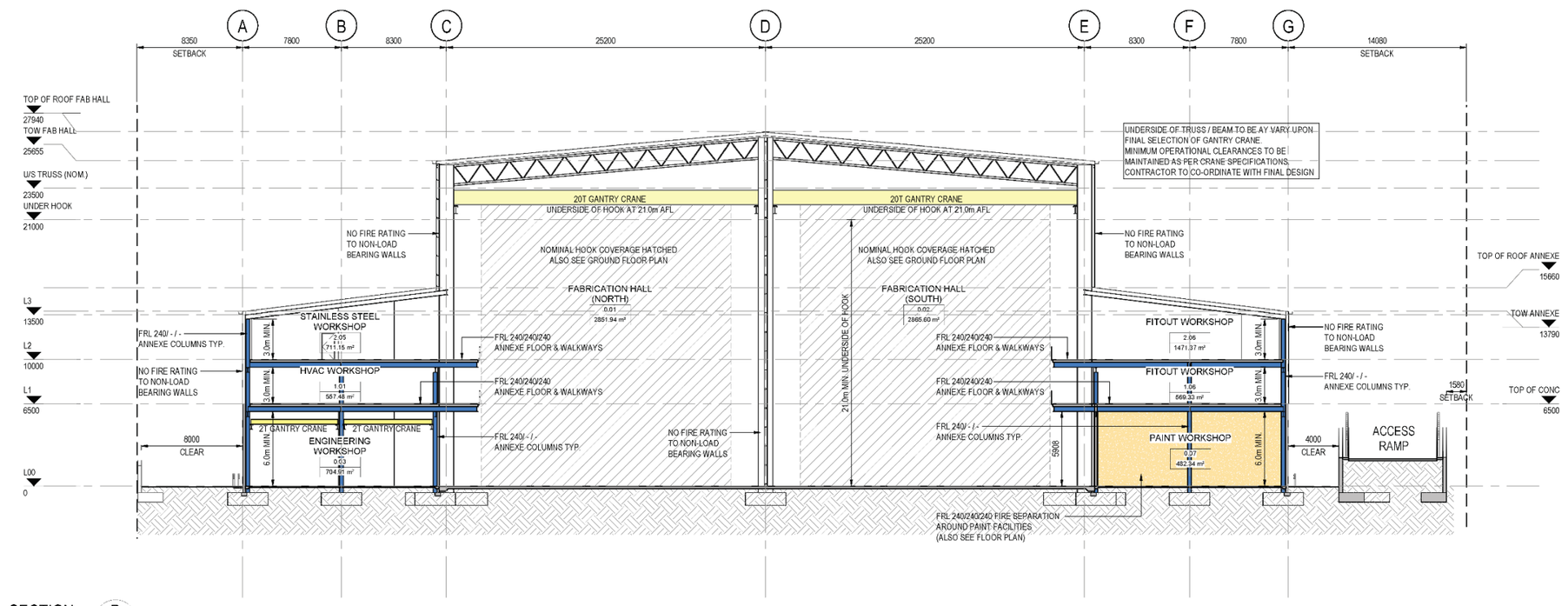
TITLE
ELEVATIONS - SHEET 2

SCALE	DATE	DESIGNED	DRAWN	CHECKED
1 : 200@ A1	15.06.20	MDJ	DWS	KH

JOB No	DRG No	REV
20-042	A3.02	DA.1



SECTION A
1 : 200



SECTION B
1 : 200

PRINT IN COLOUR

DEPARTMENT OF PLANNING, LANDS AND HERITAGE
DATE 23-Nov-2020
FILE 23-50525-1

REV	DATE	DESCRIPTION	BY	APPD
DA.1	02.10.20	Development Application	DWS	DWA

STATUS: PRELIMINARY - NOT FOR CONSTRUCTION

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CLIENT: DEVELOPMENT WA

PROJECT: SILVERYACHT
LOT 19 CLARENCE BEACH ROAD HENDERSON WA

TITLE: SECTIONS

SCALE	DATE	DESIGNED	DRAWN	CHECKED
1 : 200@ A1	15.06.20	MDJ	DWS	KH

JOB No	DRG No	REV
20-042	A4.01	DA.1

100
50
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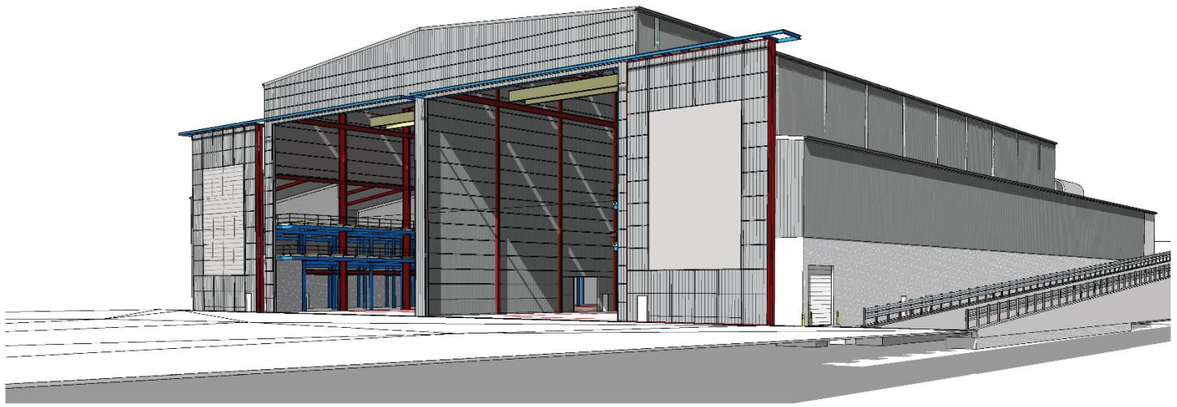

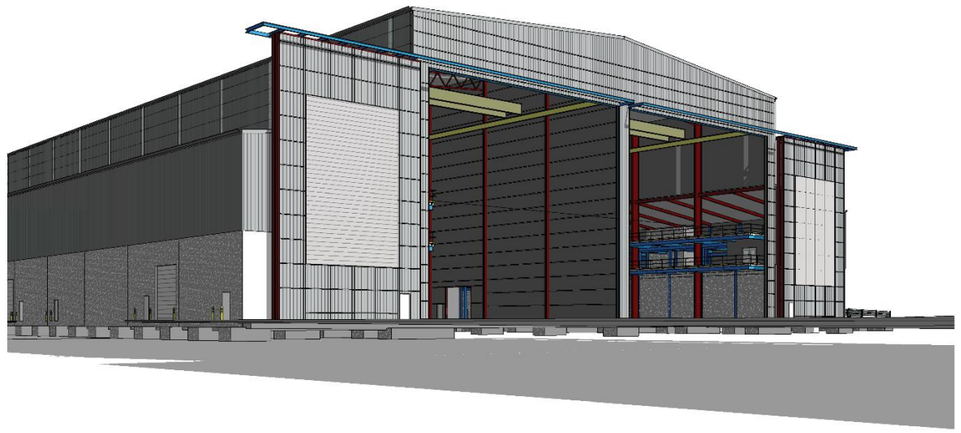

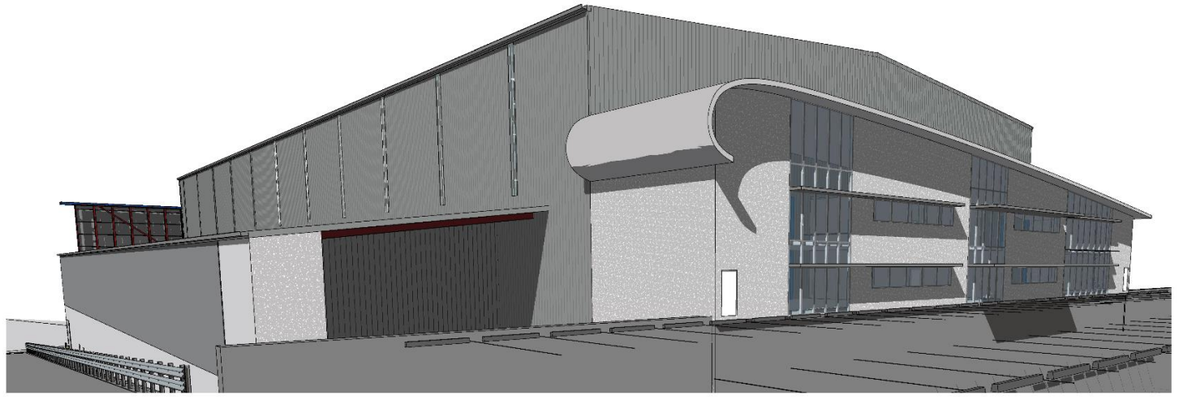

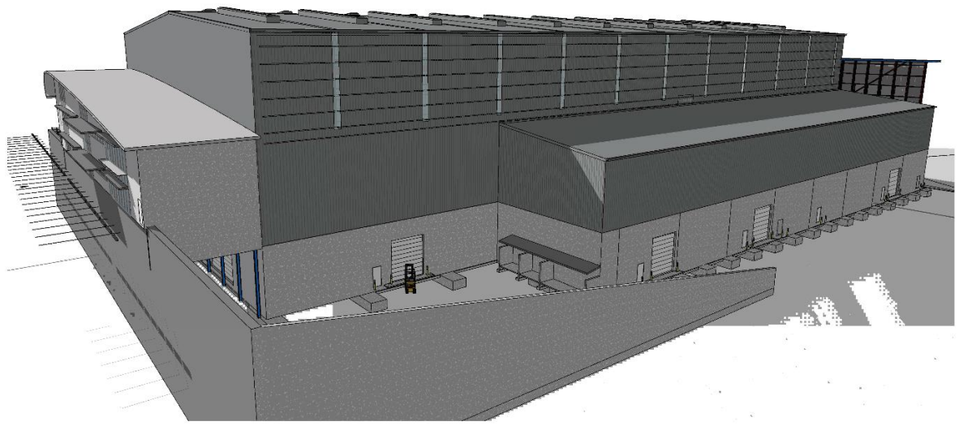

PRINT IN COLOUR

REV	DATE	DESCRIPTION	BY	APPD
DA.1	02.10.20	Development Application	DWS	DWA

STATUS
PRELIMINARY - NOT FOR CONSTRUCTION

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CLIENT
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PROJECT
SILVERYACHT
LOT 19 CLARENCE BEACH ROAD HENDERSON WA

TITLE
3D IMAGES & PERSPECTIVES

SCALE	DATE	DESIGNED	DRAWN	CHECKED
@ A1	15.06.20	MDJ	DWS	KH

JOB No	DRS No	REV
20-042	A5.01	DA.1

DEPARTMENT OF PLANNING, LANDS AND HERITAGE
DATE 23-Nov-2020
FILE 23-50525-1

NORTH

PROPOSED HARDSTAND.
REFER DRG 20042-C5-RL-02

FFL 3.20

FFL
13.20

PROPOSED CAR PARK.
REFER DRG 20042-C5-RL-01

CLARENCE BEACH ROAD

ACCESS ROAD

PROPOSED ACCESS ROAD.
REFER DRG 20042-C5-RP-01

SCALE 1:500 0m 10m 20m

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NOTES

1. ALL DIMENSIONS SHOWN ARE IN METRES U.S.O.
2. ALL CO-ORDINATES AND LEVELS SHOWN ON THIS DRAWING SHALL BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT WITH IN SEVEN DAYS.
3. ALL HEIGHTS ARE TO AUSTRALIAN HEIGHT DATUM (AHD) AND ALL LEVELS SHALL BE DERIVED FROM ESTABLISHED BENCHMARKS.
4. ALL BENCHMARKS ARE TO BE PROTECTED AND PRESERVED UNLESS NOTED ON PLANS.
5. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE SPECIFICATION AND ALSO THE REQUIREMENTS OF THE CITY OF COCKBURN.
6. DUST SUPPRESSION METHODS SHALL BE APPLIED BY THE CONTRACTOR DURING OPERATIONS IN ACCORDANCE WITH THE DUST MANAGEMENT PLAN.
7. ALL FOOTINGS, SHALL BE COMPACTED TO 95% OF THE MODIFIED MAXIMUM DRY DENSITY (M.M.D.D.) TO A DEPTH OF 750mm WHEN TESTED IN ACCORDANCE WITH AS 1289 5.2.1. ANY REGIONS OF THE FOUNDATION DEEMED UNACCEPTABLE BY THE SUPERINTENDENT SHALL BE REPLACED WITH CLEAN FILL TO THE NECESSARY STANDARD.
8. ALL BACK FILL SHALL BE PLACED IN UNIFORM LAYERS NOT EXCEEDING 300mm THICKNESS AND COMPACTED TO A DENSITY NOT LESS THAN 95% M.M.D.D.
9. CONTRACTOR TO INSTALL A TWO STRAND STAR PICKET FENCE WITH RING LOCK FENCING BEHIND THE TOP COURSE OF ALL RETAINING WALLS EXCEEDING 900mm HIGH. STAR IRON PICKETS TO HAVE CAPS AND STRAND OF TAPE FIXED TO TOP WIRE AT 2.0m INTERVALS (MIN.).
10. FENCES AND WALLS FACING ROAD RESERVES OR PUBLIC OPEN SPACE TO BE TREATED WITH SACRIFICIAL ANTI-GRAFFITI COATING.
11. BACK FACE OF WALL TO BE POINTED UP WHERE FILL DOES NOT COVER.
12. MORTAR TESTS AT RATE OF 1 PER 50 LINEAR METRES OF WALLS.
13. ALL WALLS SHALL BE SET ON BOUNDARY OF LOT BEING RETAINED AND SHALL BE CONFIRMED BY SURVEYOR ON COMPLETION OF FIRST ROW OF COURSE. THE SURVEY INFORMATION SHALL BE ISSUED TO THE SUPERINTENDENT FOR REVIEW PRIOR TO ANY FURTHER CONSTRUCTION CONTINUING/COMMENCING.
14. CONTRACTOR TO OBTAIN BUILDING LICENCE.
15. FOR RETAINING WALL STANDARD DETAILS REFER DRAWING 20042-C7-TD-03.
16. ALL BLOCKS TO BE RECONSTITUTED LIMESTONE UNLESS SHOWN OTHERWISE.
17. AS-CONSTRUCTED INFORMATION SHALL BE RECORDED AS THE WORK IS CARRIED OUT AND TIED TO CADASTRAL BOUNDARIES BY A QUALIFIED SURVEYOR. SUBMIT ALL DETAILS TO SUPERINTENDENT.

LEGEND

- PROPOSED RETAINING WALL
- 6.80 — PROPOSED FINISHED PAD LEVEL
- PROPOSED GROUND LEVEL AT BASE OF WALL
- FACE OF WALL AND TYPE - REFER STANDARD RETAINING WALL DRAWING FOR DETAILS
- TW: 15.10 — TOP OF WALL REDUCED LEVEL
- EH: 0.72 - TH: 1.09 — EFFECTIVE WALL HEIGHT (m) - TOTAL WALL HEIGHT (m)
- TW: 000.00 / EH: 000.00 / TH: 000.00 — TOP OF RETAINING WALL LEVEL / EFFECTIVE HEIGHT / TOTAL HEIGHT
- PROPOSED DRIVEWAY AND CARPARK PAVEMENT AND KERBING
- EXISTING PAVEMENT AND KERBING
- PROPOSED CONCRETE PATH
- GRATED SOAKWELL
- SOAKWELL
- PROPOSED BUILDING

DEPARTMENT OF PLANNING, LANDS AND HERITAGE
DATE 23-Nov-2020 FILE 23-50525-1

REV	DATE	DESCRIPTION	BY	CHKD
A	02/10/20	INITIAL ISSUE	JS	DS

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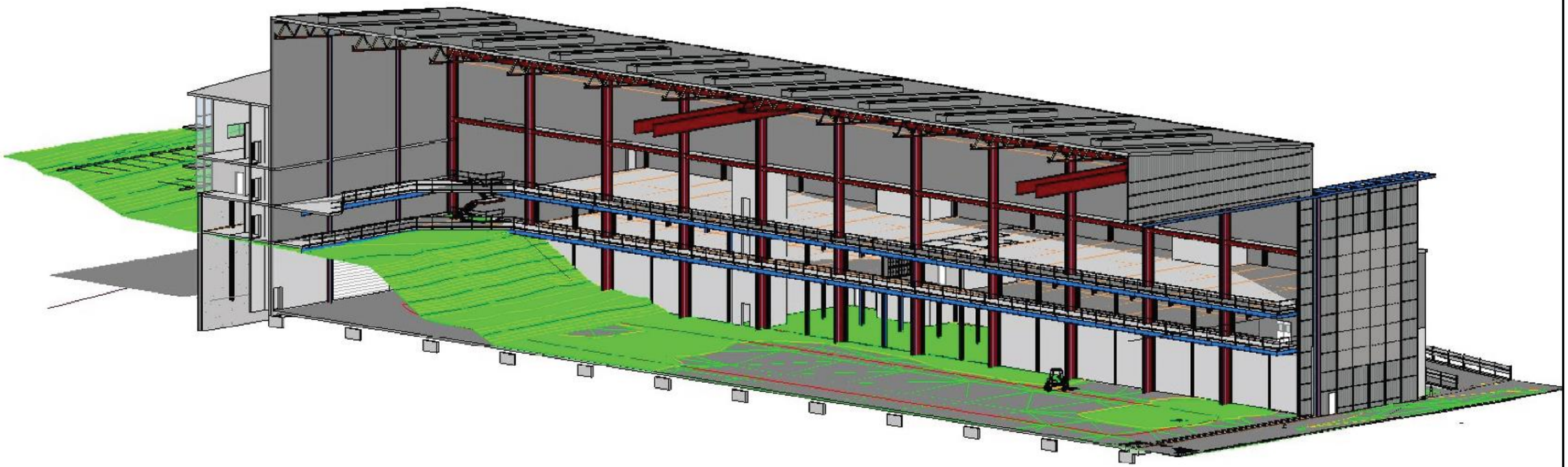
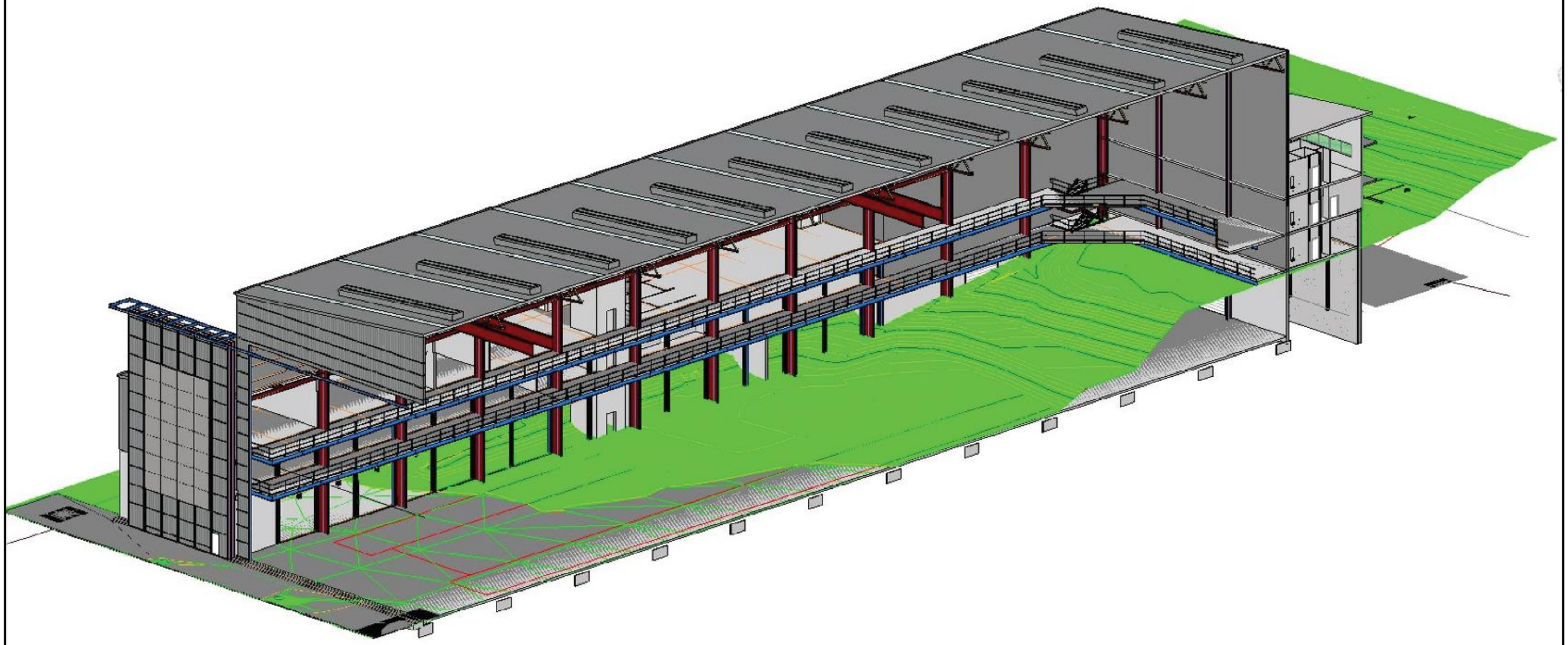
DRAWING STATUS: NOT FOR CONSTRUCTION
DATE: OCTOBER 2020
DATUM: PCG94 AHD
DESIGNED: MFC DRAWN: JS CHECKED: DS APPROVED: DS ..../...
SCALES: N/A 1:500 @
CLIENT & JOB: DEVELOPMENT WA SUPERYACHT FACILITY
TITLE: RETAINING WALL PLAN
SHEET SIZE: A1
DRG NO: 20042-C1-RW-01
REVISION: A



DEPARTMENT OF PLANNING, LANDS AND HERITAGE

DATE	FILE
23-Nov-2020	23-50525-1

Survey Mass Overlay Image
Centre North
Pritchard Francis
2 October 2020



DEPARTMENT OF PLANNING, LANDS AND HERITAGE

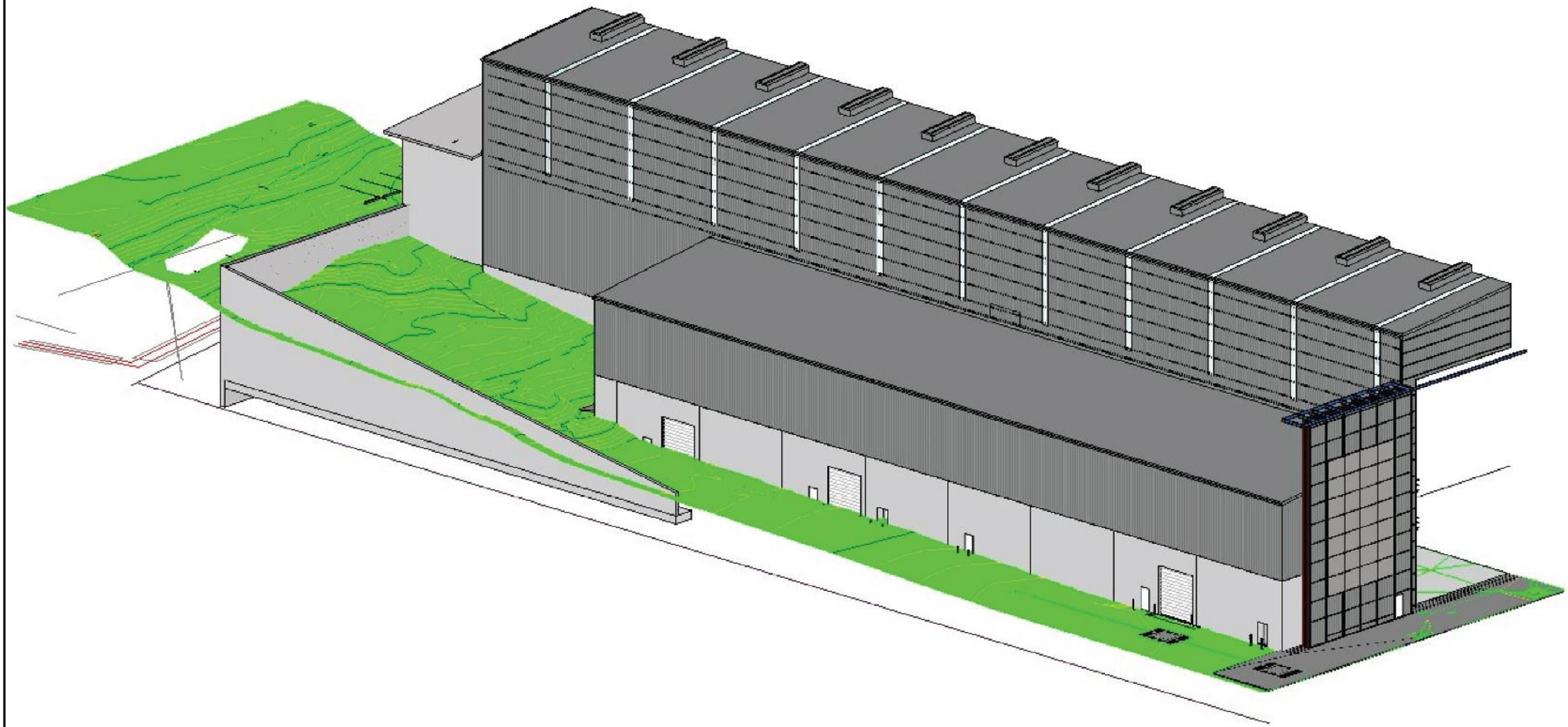
DATE	FILE
23-Nov-2020	23-50525-1

Survey Mass Overlay Image

Centre South

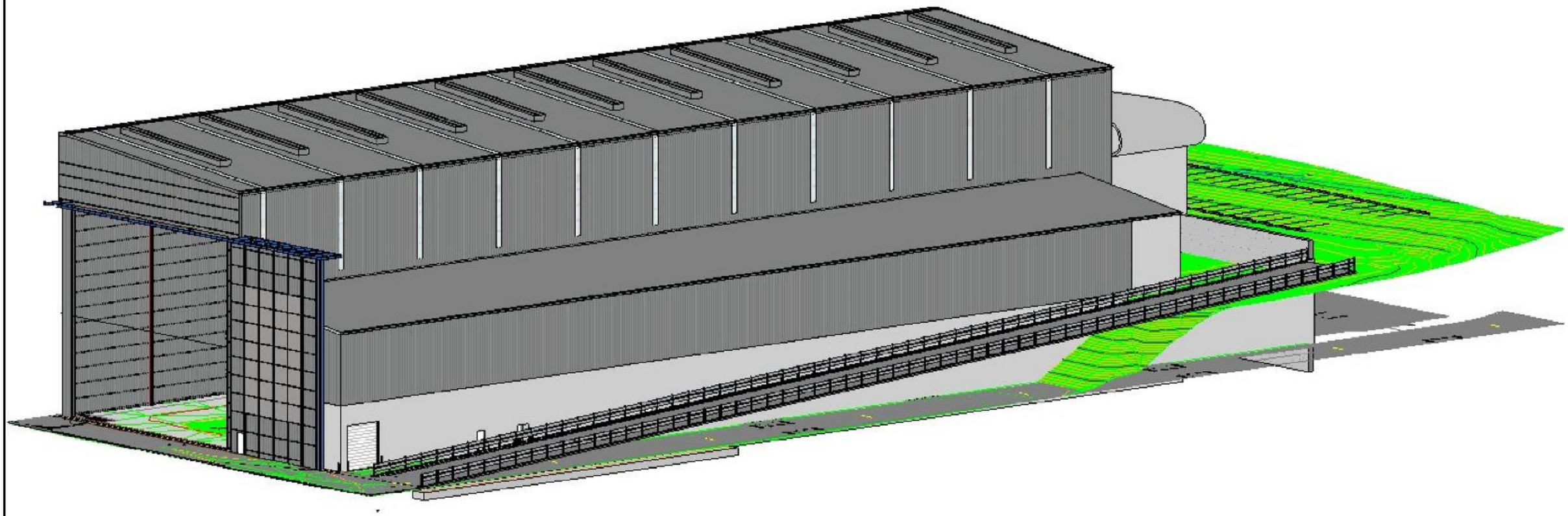
Pritchard Francis

2 October 2020



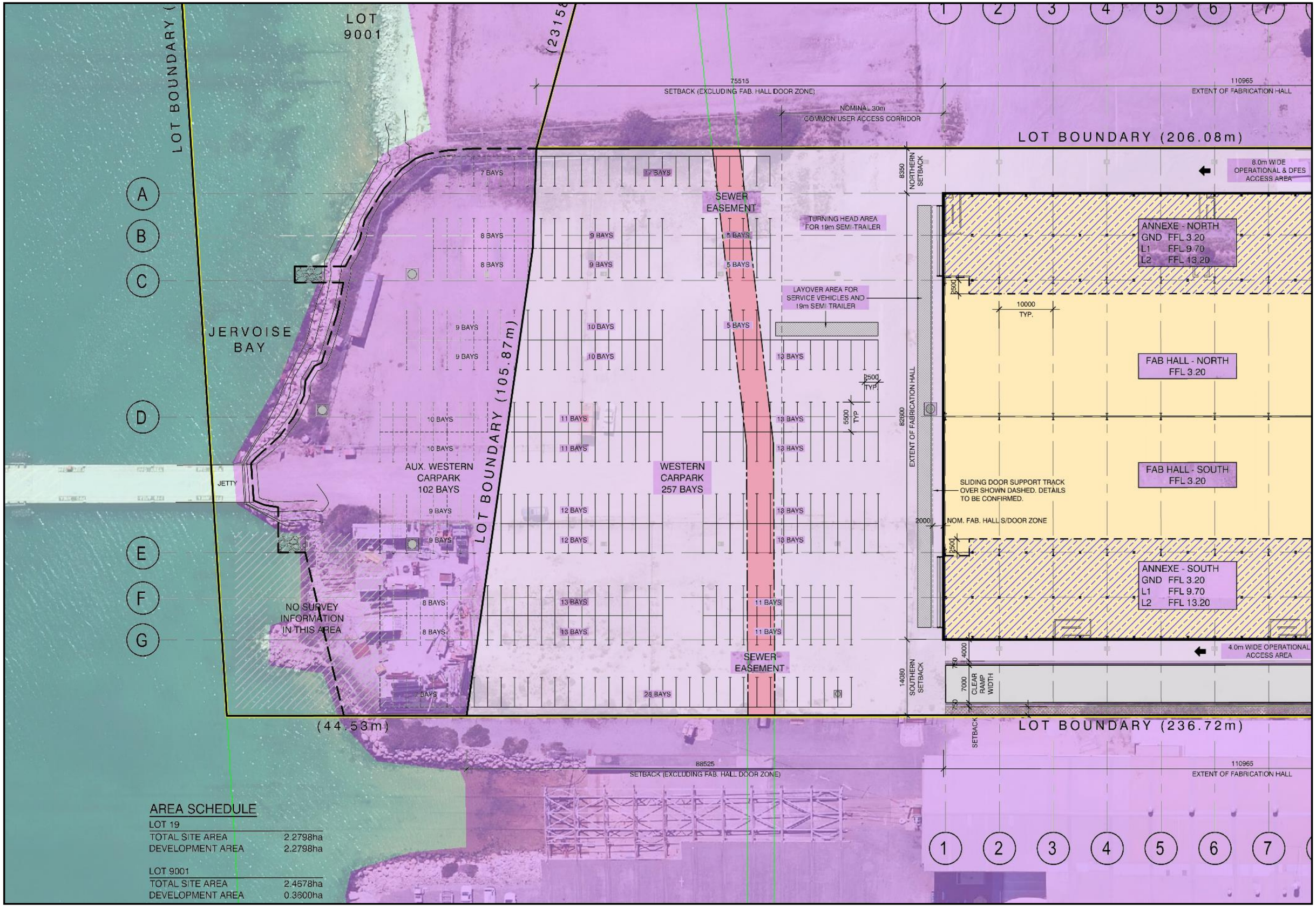
DEPARTMENT OF PLANNING, LANDS AND HERITAGE	
DATE	FILE
23-Nov-2020	23-50525-1

Survey Mass Overlay Image
Northern Boundary
Pritchard Francis
2 October 2020



DEPARTMENT OF PLANNING, LANDS AND HERITAGE	
DATE	FILE
23-Nov-2020	23-50525-1

Survey Mass Overlay Image
Southern Boundary
Pritchard Francis
2 October 2020



Works within the Waterways reservation