# PROPOSED WORKSHOP AND OFFICE DEVELOPMENT



LOT 5 - 777 YAAMBA ROAD, PARKHURST, ROCKHAMPTON

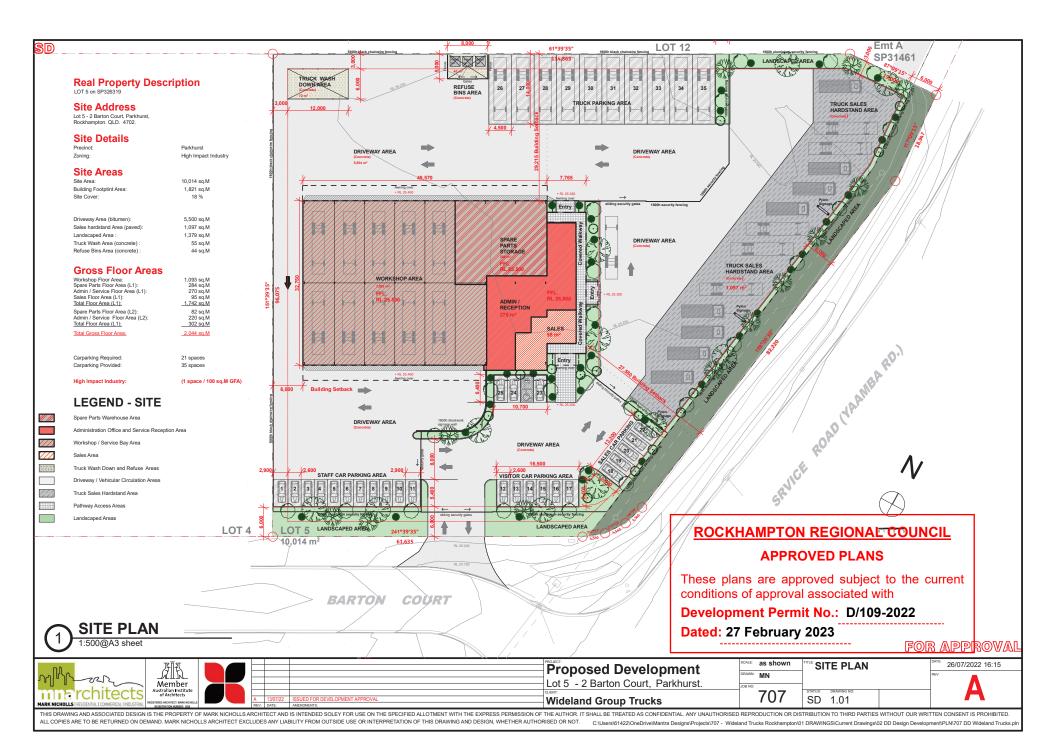
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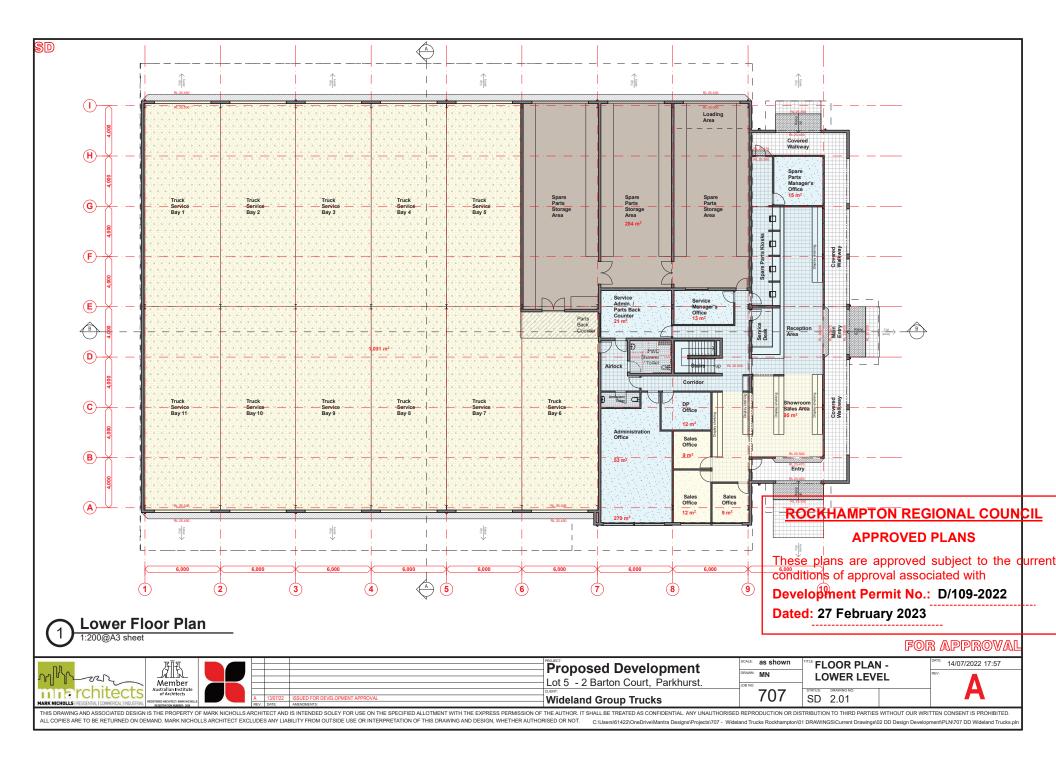
Member Member			Proposed Development  Lot 5 - 2 Barton Court. Parkhurst.	DRAWN: MN	Cover Sheet / General Notes	14/07/2022 17:56
Australian Institute of Architects  MARK NICHOLLS   RESDENTIAL   COMMERCIAL   INDUSTRAL   RESIDENCE AMERICAN MARK NICHOLLS   RESDENTIAL   COMMERCIAL   INDUSTRAL   RESIDENCE AMERICAN MARK AND A RESIDENCE AMERICAN MARK	A 13/0 REV: DATE	22 ISSUED FOR DEVELOPMENT APPROVAL AMENDMENTS:	Wideland Group Trucks	707	SD 1.00	A

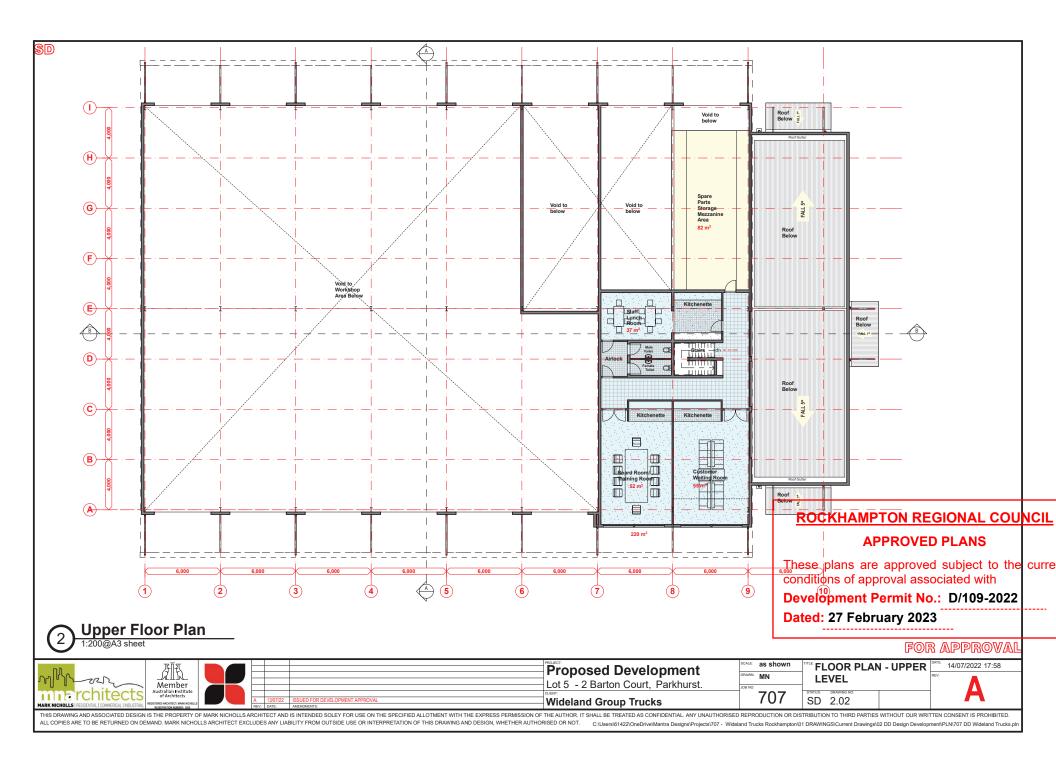
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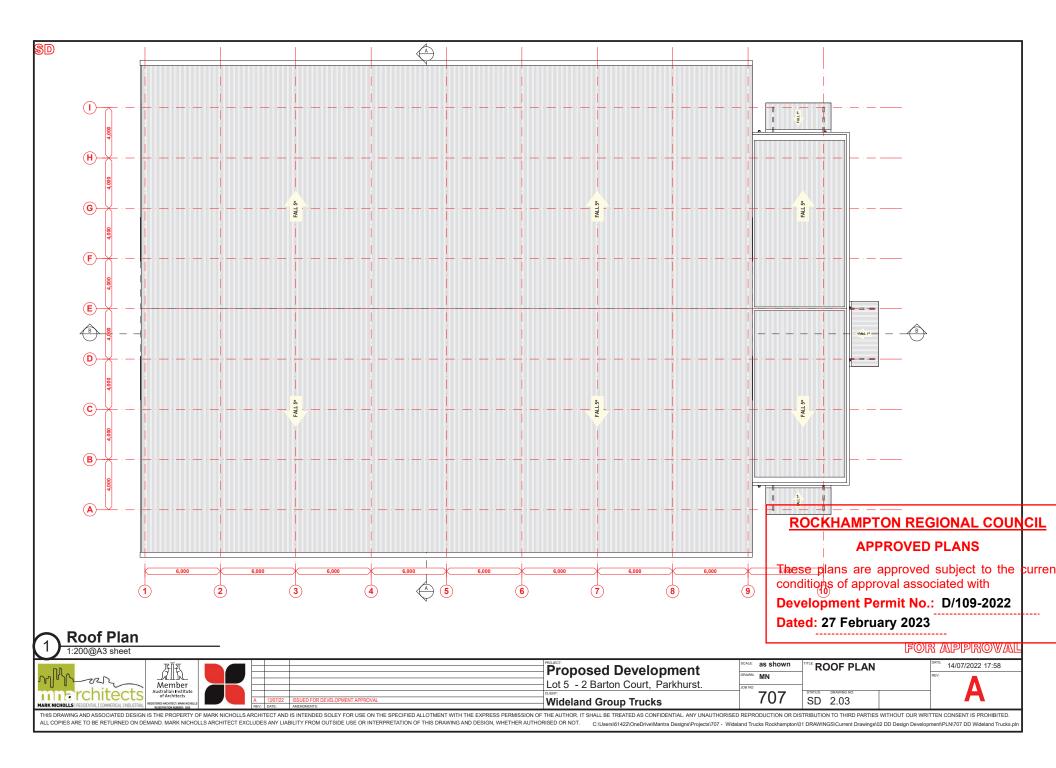
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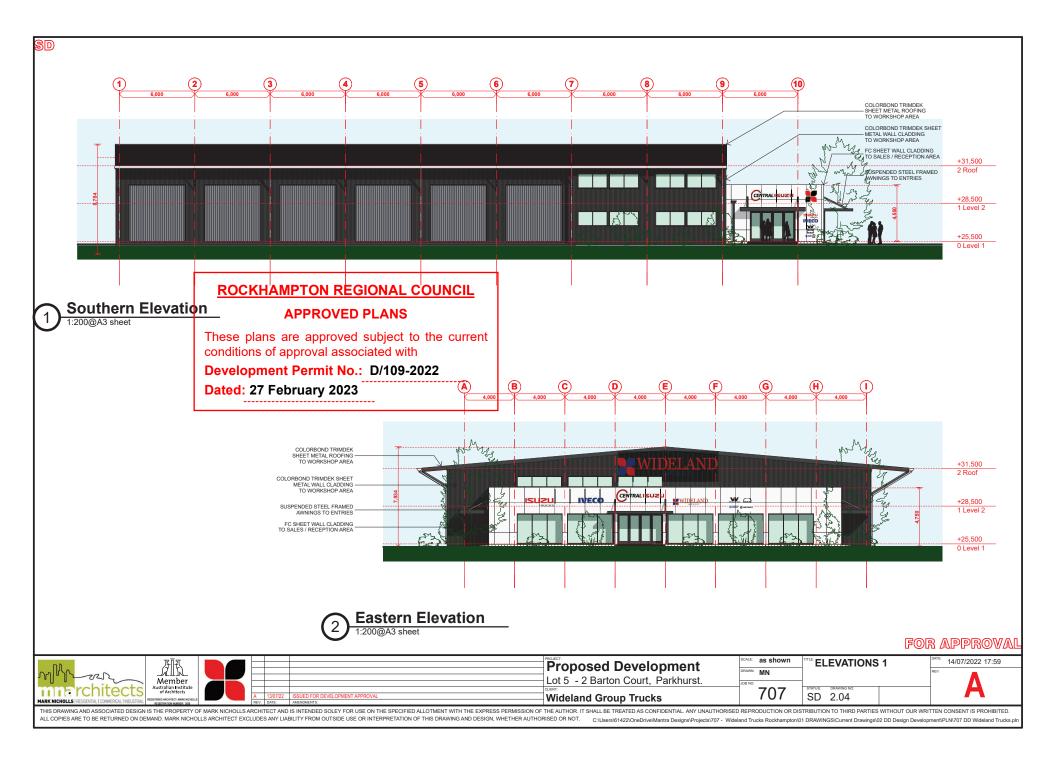
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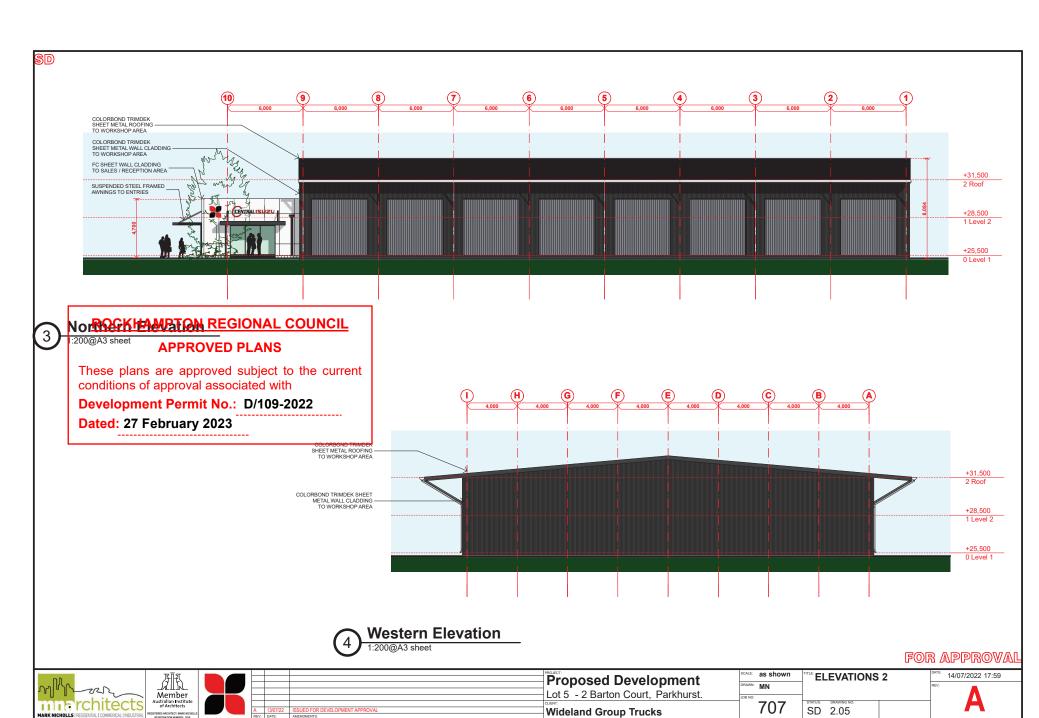








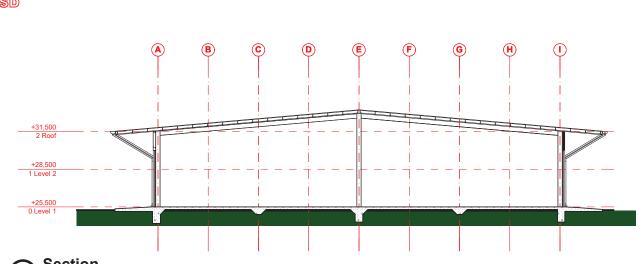




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# ROCKHAMPTON REGIONAL COUNCIL

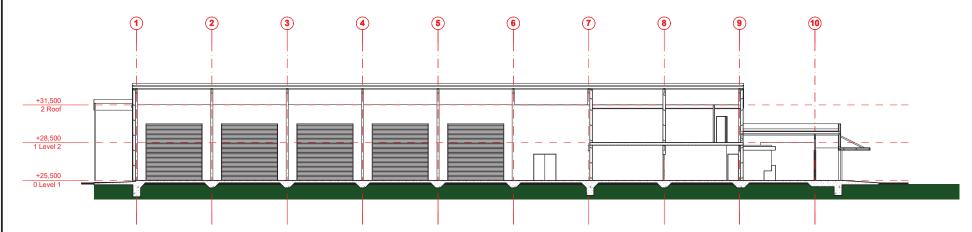
#### **APPROVED PLANS**

These plans are approved subject to the current conditions of approval associated with

**Development Permit No.: D/109-2022** 

Dated: 27 February 2023

A Section
1:200@A3 sheet





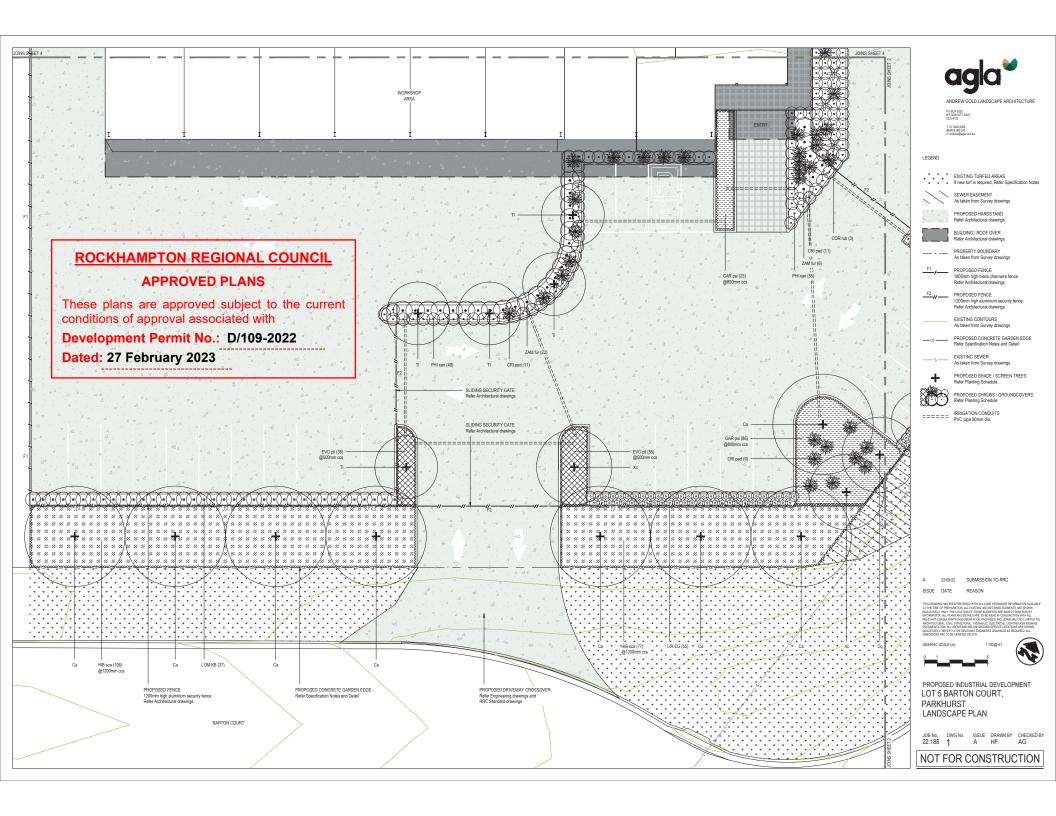
## FOR APPROVAL

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MARK NICHOLLS DECIDENTIAL LONAMEDICAL LINDUSTRIAL	of Architects  D ARCHITECT: MARK NICHOLLS  TENATION NIMBERS: MARK	13/07/22	ISSUED FOR DEVELOPMENT APPROVAL	Wideland Group Trucks	707	SD 2.06	

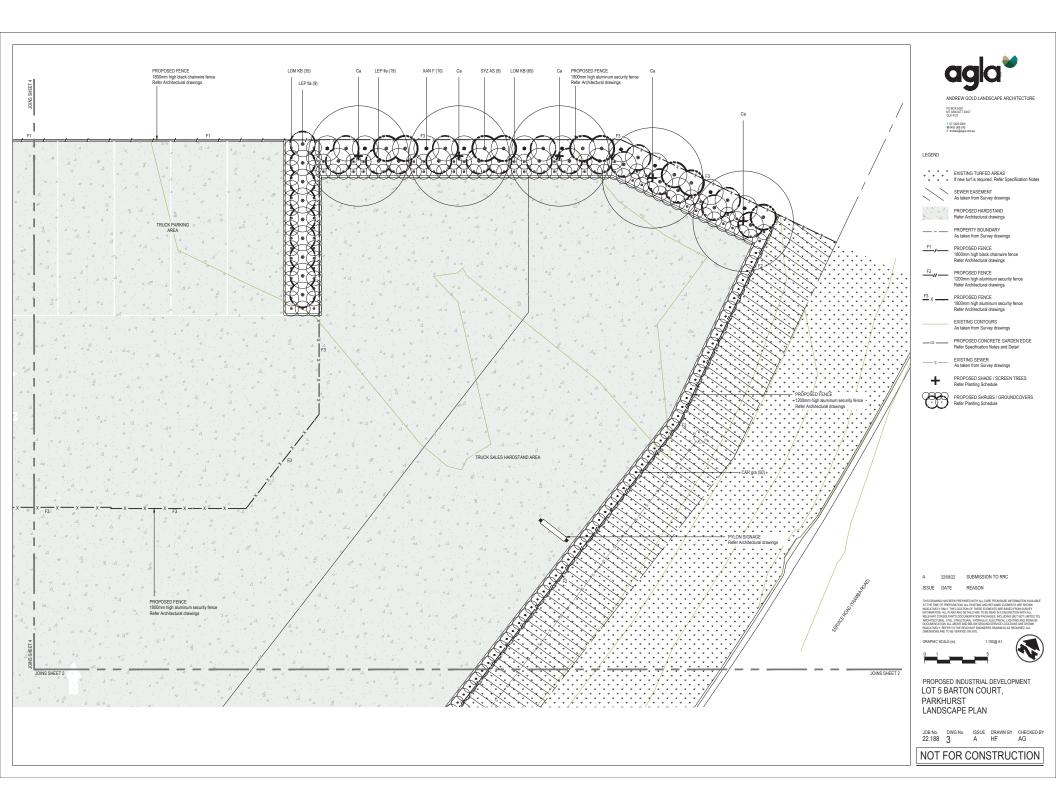
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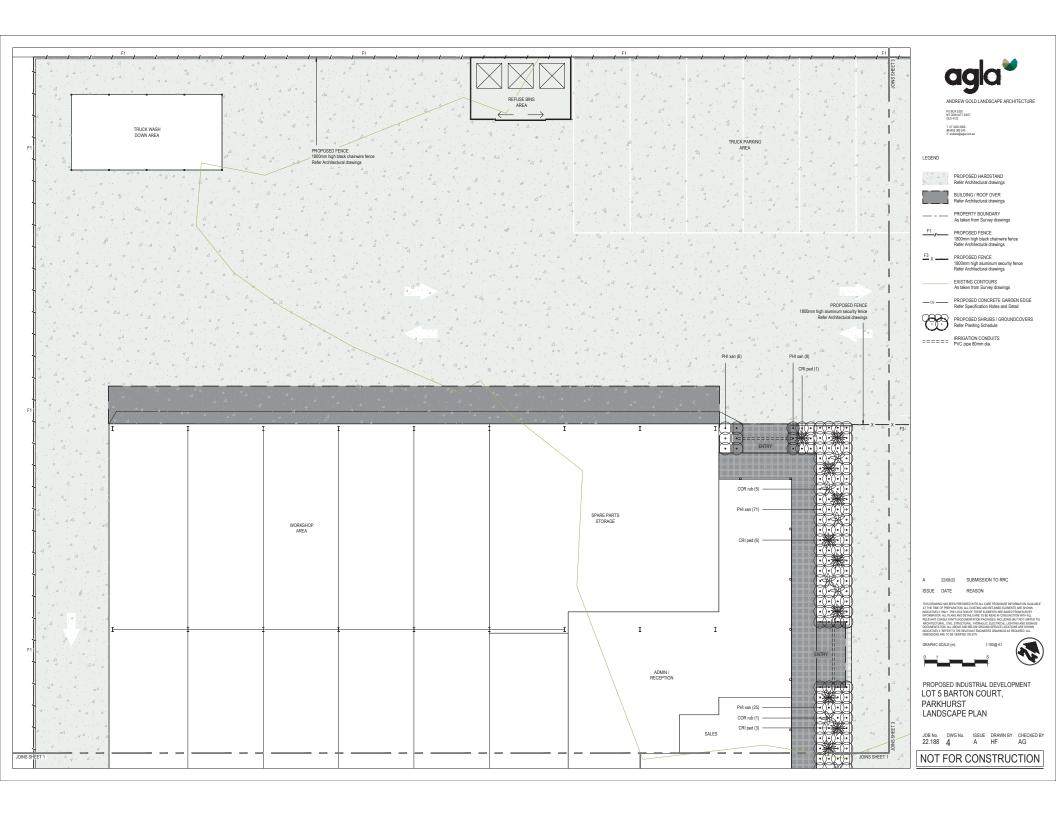
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#### PLANTING SCHEDULE

CODE	BOTANICAL NAME	COMMON NAME	SIZE**	QUANTITY	SPACING	HEIGHT*	WIDTH
TREES							
Cq	Cassia queenslandica	Golden Shower Tree	45L	1	as shown	12	5
Ca	Cupaniopsis anacardioides	Tuckeroo	100L	13	as shown	15	8
TI	Tristaniopsis laurina Luscious	Water Gum	45L	8	as shown	12	5
Xc	Xanthostemon chrysanthus	Golden Penda	45L	2	as shown	8	6
SCREENIN	G SHRUBS						
LEP fla	Leptospermum flavescens Cardwell	Tea Tree Cardwell	300mm	28	1.5	2	2
SYZ AS	Syzygium australe Aussie Southern	Lillypilly	300mm	9	1.5	5	2
XAN F	Xanthostemon chrysanthus Fairhill Gold	Golden Penda	300mm	10	1.5	3	2
SHRUBS A	IND GROUNDCOVERS						
CAR gra	Carissa grandiflora	Desert Star	200mm	127	0.8	1	1
COR rub	Cordyline fruticosa Rubra	Palm Lily	200mm	9	0.8	1-2	1
CRI ped	Crinum pedunculatum	Swamp Lily	200mm	41	1	2	2
EVO pil	Evolvulus pilosus Blue Sapphire	Blue Sapphire	200mm	93	0.5	0.3	1
GAR psi	Gardenia psidioides Glennie River var White Star	Native Gardenia	200mm	109	0.8	0.75	2
HIB sca	Hibbertia scandens	Golden Guinea Vine	200mm	183	1.2	0.5	3
LIREG	Liriope muscari Evergreen Giant	Liriope	140mm	134	0.6	0.8	0.8
LOM KB	Lomandra Katie Belles	Mat Rush	140mm	137	0.8	1.8	1.5
PHI xan	Philodendron Xanadu	Xanadu	200mm	214	0.8	1	1
ZAM fur	Zamia furfuracea	Cardboard Palm	200mm	28	1	1	2

Heights and widths as shown are at full maturation, indicative only and dependent on environmental and microclimatic factors

#### " PLANT CONTAINER SIZE:

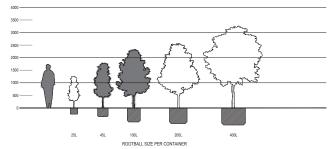
100L	100 Litre container stock min
45L	45 Litre container stock min
300mm	300mm dia minimum pot size
200mm	200mm dia minimum pot size
140mm	140mm dia minimum pot size

The recommended minimum plant size relative to the container size is as follows. Should the stem calliper of height of the tree relative to the container size be less than the figures shown, the tree should be rejected. Ensure minimum plant height at time of planting for the specified container stock urless otherwise agreed to by the landscape architect due to availability, species type and/or time of season.

Root ball volume	Height (above container)	Calliper (at 300mm)	Clean trunk h
100 litre	2.4 metres	50mm	1500mm
45 litre	1.9 - 2.3 metres	30mm - 35mm	1200mm

The general rule of thumb for planting is at least twice the width of the rootball and to the same depth. The corresponding dimensions to the plant container sizes are as follows. To obtain the planting hole width, simply multiply the diameter by two.

Plant container size	Diameter	Height	
100L	520mm	560mm	
45L	420mm	350mm	
300mm	300mm	270mm	
200mm	200mm	190mm	
140mm	140mm	1/0mm	



## 1 TYPICAL PLANT SIZE (ALONG WITH TYPICAL ROOTBALL SIZES) DIAGRAM SECTION 1:50 @ A1

#### **TREES**







Tristaniopsis laurina Luscious Water Gum



#### **SCREENING SHRUBS**







#### SHRUBS AND GROUNDCOVERS





Cordyline fruticosa Rubra Palm Lily



Crinum pedunculatum



Evolvulus pilosus Blue Sapphire Blue Sapphire



Gardenia psidioides Glennie River var White Star Native Gardenia







A 22/08/22 SUBMISSION TO RRC

PROPOSED INDUSTRIAL DEVELOPMENT LOT 5 BARTON COURT, PARKHURST PLANTING SCHEDULE & IMAGES

JOB No. DWG No. ISSUE DRAWN BY CHECKED BY 22.188 5 A HF AG

NOT FOR CONSTRUCTION

Xanadu

Zamia furfuracea Cardboard Palm

#### GENERAL NOTES

#### A ARCHITECTURAL WORKS INFORMATION

A. ANCHITECTURAL WURSE, SIN-CHAIN LON.
Reflet to Architects drawings for all information contained within these documents related to and nominated as Architectural Works. This includes all hardscape items such as paving, outdoor structures / shelters, wells and feering. Architectural Works information contained within these documents are indicative only and not for construction or certification purposes.

B CIVIL WORKS INFORMATION befer to Civil Engineer's drawings for all information contained within these documents related to and ominated as Civil Works. Civil Works information contained within these documents are indicative only and not

C. STRUCTURAL WORKS INFORMATION
Refer to Structural Engineer's dawings for all information contained within these documents related to and
noministed as Structural Works. This includes retaining walls. Structural Works information contained within
these documents are indicative only and not for construction or certification purposes.

#### D. ELECTRICAL WORKS INFORMATION

D. ELECTION. EVANORATION REPORTS IN COMMISSION FOR REPORT OF THE PROPERTY OF T

#### E HYDRAULIC WORKS INFORMATION

Refer to Hydrautic Engineer's drawings for all information contained within these documents related to and nominated as Hydrautic Works. Hydrautic Works information contained within these documents are indicative

When setting out lines and levels ensure the accurate formation of grades and crossfalls leading to drains to enable surplus water to reach the drainage system and to prevent potential erosion channels. Ponding is

- Paving and artificial grass 1:75 Grassed and mulched garden areas 1:50
- Maximum crossfalls are as follows:
- Paving 1:40
- Mulched garden areas 1:3

Finish organic mulch surfaces adjacent paving surfaces and / or edging. Finish Islam surfaces flush with adjacent paving surfaces and / or edging. Ensure adequate falls in finished surface levels away from but to drainage collection points (e.g. feld inlets, etc).

#### SUBSOIL DRAINAGE - GENERAL NOTES

- Garden beds that are adjacent to buildings surrounded on all sides by pavements or in any garden

Unless otherwise specified, all subsoil drains shall be corrugated, 90mm slotted PVC contour pipe, wrapped in Bidum V14 filter cloth or equal equivalent. Filter gravel to be 10mm clean washed aggregate. Lay drainspie in continuous lengths where possible with minimum 1:100 falls. Discharge pipes into stormwater system.

Sumps are to be fitted with a heelguard no-slip grate and connected to the stormwater system. Refer to Hydraulic and Civil Engineer's drawings for drainage pit specifications and connection

- NATIFEC shall apply be trees where Council requires this certification.

  Tiese under met AS 2023/2018 Ties Book for Landscape Use

  Films are but page of adaptive parsays both on 1945/A According nazery.

  They shall be fundamentally treed pale and diseases, suprace, well established, hardened aff, all good form

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  Provide parties of a height and segment appropriate be the specified portion of the evidence of

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  Children the section of the proper parties for the proper with adoptive measures taken to protect against adoct and varied demange.

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- After installation they shall be thoroughly watered.

  Trees to be single-trunked canopy shade tree species able to attain a clear trunk height of 1800mm on

## TURF

#### SUBGRADE PREPARATION:

Tutred areas shall be prepared initially by removing all deleterious material Cultivate subgrade surface by thoroughly sping to a minimum depth of 150mm before spreading topsoil unless otherwise directed (ie. no cultivation under trees to be retained)

#### SUIL: Spread turf underlay topsoil to a minimum depth of 100mm unless otherwise directed. Proposed topsoil must

comply with Australian Standards AS4419-2003 and described as "Soil blend"

To be fundamentally free from weeds and disease or other deleterious substances.

- Use "Wintergreen"

#### INSTALLATION:

Turf shall be close turfed with staggered cross-joints and laid in straight lines, running perpendicular to the direction of slope (and/or parallel to contours).

Proposed topdressing soil to comply with Australian Standards AS4419-2003 and as described as

Topdressing!

All joints shall be filled with an approved topdress light soil or sand and the turf shall be lightly rolled.

Trishabel levels shall be 3mm below surrounding surface levels to allow for future top dressing. Allow should be made for strinkage and settling.

The fair shall be adequately watered once installed, refer Management Planis.

lawn-ferfilisers/fawn-builder-seed-turf-starter-slow-release-lawn-ferfiliser/

FERTLISER: Fertilizer to be applied to the furf at the rates and period of time from installation as recommended by the supplier. If no starter Fertiliser supplied by the supplier, we recommend: Operatio: Little Truf Starter:

oynamic uner für ösiner. http://www.yates.com.au/products/fertilisinglorganic-based/dynamic-fifter-turf-starter/t/tbCQXOZuF.JZ01z18.97 Lawn Builder™ Seed & Turf Starter Slow Release Lawn Fertiliser: https://www.scottsaustralia.com.au/scotts-brands/lawn-builder/lawn-builder-slow-release-

We recommend the application of a soil wetting agent wetting agent (ie: non biodegradable detergerystals) to stop hydrophobia if not already in the starter fertilizer supplied with the furf, at the rates

#### WEEDS PESTS DISEASE MANAGEMENT

Weeds are required to be removed by physical or chemical (non-residual Glyphosate or other herbicides) means. If chemical means, as per the manufacturer recommendations. Refer to the following reference for guideline on weeds, pest and disease management.

#### PLANTING BEDS

#### SURGRADE PREPARATION

face by thoroughly ripping to a minimum depth of 150mm before spreading topso

Spread topsoil to a minimum depth of 300mm unless otherwise directed. Proposed topsoil must comply with Australian Standards AS4419-2003 and described as 'Soil blend'. Provide certification of soil types delivered to site, as per AS4419-2003.

e tree stock shall be properly prepared for transport with adequate measures taken to protect against Misure tree successions are a second state of the state o

FERRILIZER

Ensure soft nitrinist and PH levels are suitable for specific plant species (ie. native or exotic species). Apply some release fertilizer to each plant as per manufacturer's recommended rates.

A slow or controlled release fertilizer organic or inorganic to be incorporated generally into the imported (or excavated of late topoil). We recommend the following:

- E-Scane DD∩ by aCo-Emiromen

Organic slow release:
Dynamic Lifter
Organic Link by Plant of Heal

- WETTING AGENT WE LTIMS AGENT: A wellting agent and / or soil ametiorant including a welting agent is required to all mass planting beds: Scotts Hydrathow Wetts Soil Searle's Penetraide Plant of Health Soils Soaker
- Multipro by eCo-Environer

PLANTING: To locations as shown on the plan and to the sizes and numbers as shown on the schedule.

#### ORGANIC MULCHING:

ORGANU. MLC:NNC.

Proposed mush must comply with Australian Standards AS4454-2003. "Composts, soil conditioners and mulches." Spread an even cover of (1" thosp bank) to a minimum depth of 100mm entirely over planting bed areas where organic mulch as specified.

Rake smooth to first flush with surround levels. Do not place in contact with stems of plants.

Any mulch used must be feed or plant after letter or the plant of the plants.

Any mulch seed must be feed or plant after letter instant material.

#### CONCRETE EDGE

Supply and install concrete edging in the locations and extents as shown on the drawings and as detailed.

#### Ensure construction joints at max 1800mm centres and/ or at changes of curvature/ direction.

Flush concrete edge – 100 x 100mm concrete edge with pencil round profile. Concrete edge is to finish flush with adjoining surfaces.

#### IRRIGATION

Pletring plan has been designed to survive without on automatic inspirition system. Water additives and water relations releasements, storing with businy water-wise plants will ensure an implicion system in coll repressive to the present pressive properties of the pressive pressive pressive pressive properties of pressive properties in plants and pressive properties of pressive pressive properties of pressive pressive properties of pressive pressive properties properties and as any Pressive properties of pressive pressive pressive pressive properties properties and as any Pressive pressive pressident pressive pressident pressive pressident pressive pressident pressive pressident pressive pressident pressive pressident pressive pressident pressive pressident pressive pressinter pressive pressive pressive pressive pressive pressive pressi

- Dripline system under mulch
   RPZ backflow prevention device

All design and documentation, materials supplied and work carried out should be in accordance with the current relevant Australian Standards and best practice.

- All materials and worksmanship shall be to the relevant Australian Standards
- All interests and worksmanning half be the retevant Austrians Standards.
   Where pipe work shorn nurning passill winter pared surfaces, has been done so for clarify purposed only.
   All pipe work is to be installed within soft instructioned areas only where possible.
   All pipe work is a be installed within soft all noticeped areas only where possible.
   Pipe pop one mainten and attention. All connections to manifera soft power for the pipe of the p

- All pipe work under concrete paying to be installed in sleeves

- All give all not further controlled proposed position of the controlled proposed pro
- hotizontally offset by a minimum of 300mm from mainlines.

  All pies work shall be rounded smound any sensiting hees and no close than tree canopy drip line\*. All tree roots smaller than 50mm disember which are damaged during excession shall be clearly cut with a saw or sensitivars. Any tree motors 50mm or greather concilented are not be desimged and pile hash all be hand-excessed. When the tone of (purities) or air-diffeet (either pressure and/or sustine).

  A minimum length of 200mm of pies shall be provided between fileign is latered pies bench.
- Please note that this drawing is to be read in conjunction with the detail drawing and the specifications.

#### WATER BUDGET AND CONSUMPTION NOTES

- WAINLE MANUSE I ANUL CUNSUMPTION NOTES to Registion are is for counter project works stage only and is approximate. The area has been calculated from the valve data side as a function of flow rate and nominal precipitation rate. Operator to be aware of any water usage restrictions which may be gipsizable, such as total exclusion periods (e.g., June to August ractivate) anation restrictions on the number of cycles per week (e.g., groundwafer 3, object per week, (pies. groundwafer 3, object per week), provincedure 3, object per week, positive some water 2, object per week).

#### PLANT ESTABLISHMENT / CONTINUING MAINTENANCE

Allow a 12 WEEK for Plant Establishment Period from Practical Completion to the satisfaction of the

- Landscape Architect.

  Maintain adequate watering regime

  Remove weed growth from all mass planting beds and turfed areas.

  Keep landscape areas tidy and free of litter and debris
- Adep banchage areas toly and the of little and denote ferminate (spe the freed stacking) (Ferminate (spe the freed stacking) For the property of the stacking of the stacking stacking and stacking stacking and Full property and stacking other stacking of the stacking stacking stacking stacking Registers dead (Fight plant material Familitate Stacking stack or stacking stacking stacking stacking Familitate Stacking stack and marker stakes where necessary

- Reinstate erosion control matting and other erosion control measures as necessary
   Make good any disturbance to surfaces and mulch

#### MANAGEMENT PLAN/S:

The turfed areas shall be throughly watered on the day of turf installation and then as follows at the equivalent of 5l/m², including natural rainfall, or as required to maintain active healthy growth.

If no irrigation, apply the above rates to the mass planting beds. Watering to use rainwater tanks if possible.

#### SPECIAL NOTE

Accord particular diligence to the following prime items:

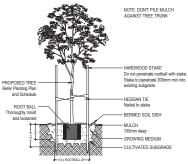
TOPSOIL QUALITY and SUBGRADE PREPARATION as specified.

PLANT QUANTITY: Use only consistently well nurtured nursery stock from an approved supplier. Check with Landscape Architect where species substitutions must be made.

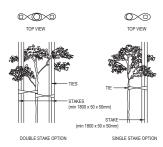
MAINTENANCE: Ensure a continuing maintenance program, including weed/disease, fertilising, watering (but beware of over-waterina) and rediscement of ailing plant material.

#### GUARANTEE

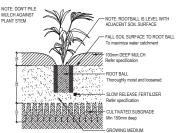
Failure to adequately address these items, best practice and relevant Australian Standards WILL result in a sub-standard landscape outcome.



TYPICAL TREE PLANTING DETAIL SECTION 1:100 @ A1

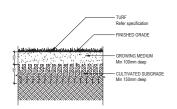


TYPICAL TREE STAKING DETAIL

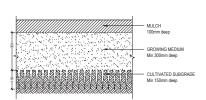


TYPICAL SHRUB / GROUNDCOVER PLANTING DETAIL (3)

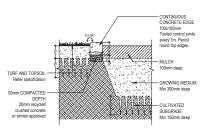
SECTION 1:10 @ A1



5 TYPICAL TURF PLANTING DETAIL SECTION 1:10 @ A1



4 SECTION 1:10 @ A1



6 SECTION 4-40 2 SECTION 1:10 @ A1

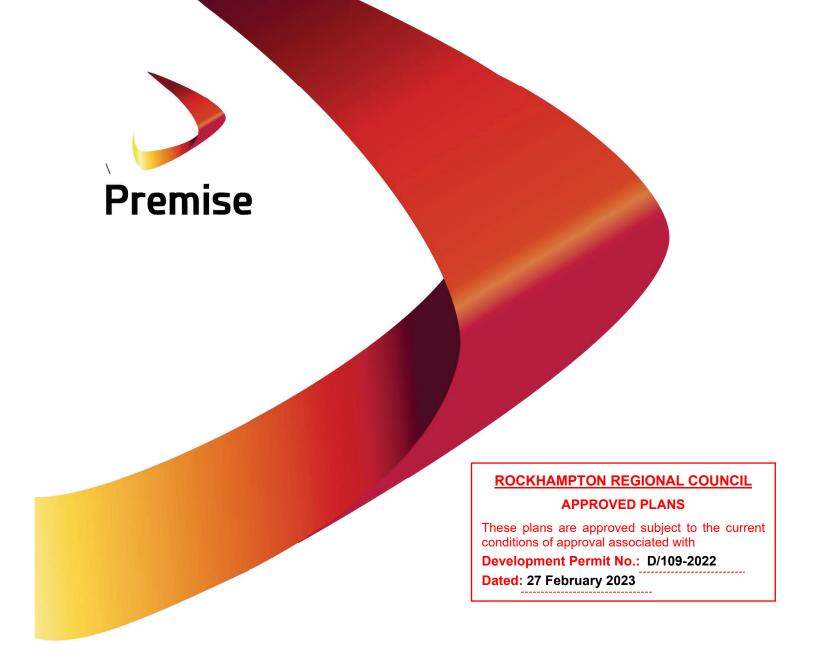


22/08/22 SUBMISSION TO RRC ISSUE DATE REASON

PROPOSED INDUSTRIAL DEVELOPMENT LOT 5 BARTON COURT, **PARKHURST** LANDSCAPE NOTES & DETAILS

JOB No. DWG No. ISSUE DRAWN BY CHECKED BY 22.188 6 A HF AG

NOT FOR CONSTRUCTION



WIDELAND TRUCKS AND EQUIPMENT PTY LTD

# 2 Barton Court, Parkhurst

**ENGINEERING INFRASTRUCTURE REPORT** 

Report No: MIS-1045/R01

Rev: D

1 February 2023



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DOCUMENT AUTHORISATION						
Revision	Revision Date	Report Details	Report Details			
А	26/07/22	For DA Submissi	For DA Submission			
В	10/10/22	Stormwater Amendments - For DA Submission				
С	14/12/22	Stormwater Ame	ndments - For DA	Submission		
D	01/02/23	Stormwater Ame	ndments - For DA	& Op Works Subr	nission	
Prepared By	Prepared By		Reviewed By			
Lawrence Mills	LM	Chris Shields	CS	Chris Shields	CAROL	



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## 1. INTRODUCTION

Premise Australia Pty Ltd (here within referred to as "Premise") has been commissioned by Wideland Trucks and Equipment Pty Ltd C/- Nielsen Project Management to prepare an Engineering Infrastructure Report (EIR) in support of a DA and Operational Works Application to implement a truck sales and workshop business at 2 Barton Court, Parkhurst (Lot 5 on SP326319). The site is approx. 1ha in size, is located within the recently developed Lily Place Industrial Estate and is currently vacant. A two-way access / egress driveway crossover is currently proposed for the site from Barton Court.

This report intends to address the Civil Engineering Infrastructure for the proposed development including earthworks, sewer reticulation, water reticulation, stormwater management, electrical, and telecommunications for the project.

With respect to stormwater management, specific details are provided in Section 2.4 noting that should be considered in conjunction with the separate *Stormwater Management Plan (Including Hydraulic Impact Assessment)* that has previously been prepared by Knobel Engineers for the Lily Place Industrial Estate DA (D/52-2019).

Note that all traffic and transport matters pertaining to the site, including proposed access and egress, parking, sight distance and service vehicle access, are being addressed by a separate third party Consultant.

Refer to Figure 1 below:



Figure 1 - Subject Site

## 1.1 Proposed Development

The proposed development will be classified as High Impact Industry as per the Rockhampton Regional Council (RRC) Planning Scheme. The site layout illustrated in **Figure 2** consists of an Administration / Reception building, Workshop area and Truck Sales and Hardstand area, combining to generate a Gross Leasable Floor Area (GLFA) of 2,057 square metres.







Figure 2 - Indicative Proposed Site Layout

The proposed order of construction works is planned to generally following this summary below:

- · Minor clearing and grubbing;
- Earthworks;
- Underground services installation;
- Construction of new buildings, parking and hardstand areas as per the Development Proposal;
- Final detailed works; and
- · Landscaping establishment.

Refer to attached drawing C001 (Rev 5) for the generally proposed Civil Works Layout.

## 2. EXISTING SERVICES & CONDITIONS

## 2.1 Terrain & Earthworks

All sites within the recently constructed Lily Place Industrial Precinct are currently vacant and have been cleared of vegetation. The site is bordered by a neighbouring lot to the west, whilst a fully developed heavy industry precinct is located to the north. Access to the site is provided from Barton Court via the southern entrance.

Based on the survey provided by Capricorn Survey Group (CSG), the gradient across the site is relatively flat with an approximate slope of 0%-0.5%. Elevations reach a maximum of 25.5 m AHD on the north-eastern corner of the site, however are otherwise consistent at an elevation of 25.25 m AHD. Refer to **Figure 3** below for a photo of the existing terrain taken from Barton Court:





Figure 3 – General Site Terrain towards the northern site boundary



Figure 4 – General Site Terrain towards the western site boundary

In terms of the proposed earthworks for the site, it is expected that cut and fill would be minimal with the depth of cut or fill not exceeding 0.5m for "slab on ground" type structures and pavement areas. It is likely that the majority of earthworks required for this site would be to get to a subgrade level for pavement and structural elements such as footings and slabs. The proposed finished floor level for the main building is RL25.500m AHD.

It is recommended that a geotechnical investigation is undertaken on this to confirm the in-situ conditions, which will inform pavement, slab, driveway crossover and structural footings designs.



## 2.2 Water Reticulation

Council's Geographical Information System (GIS) illustrates that the site has sufficient access to existing water mains. There are existing 150mm diameter mPVC water main which run adjacent to the southern and eastern boundaries. There is also a fire hydrant located on this main, located approx. 17 metres from the south-west site corner, as shown by the site photo in **Figure 6**.

Given that the water mains have likely been sized to meet the industrial demands of Lily Place, no external upgrades are anticipated to meet flow and pressure requirements.

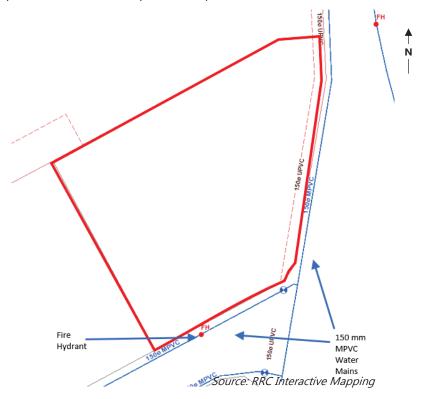


Figure 5 – Existing Water Infrastructure



Figure 6 – Existing Fire Hydrant near southwest site corner



The internal water supply for the proposed development, including any necessary booster and metering arrangements if required, will be detailed by a suitably qualified person (Hydraulic Engineer) during the detailed design phase, and all appropriate approvals sought from Council.

## 2.3 Sewer Reticulation

Council's Geographical Information System (GIS) shows that there are currently two (2) access chambers along a 150mm diameter uPVC sewer main located within an easement that runs along the eastern site boundary. Refer to **Figure 7** below. Site inspection photographs showing the north-east access chamber and the southeast access chamber are illustrated in **Figure 8** and **Figure 9** respectively.

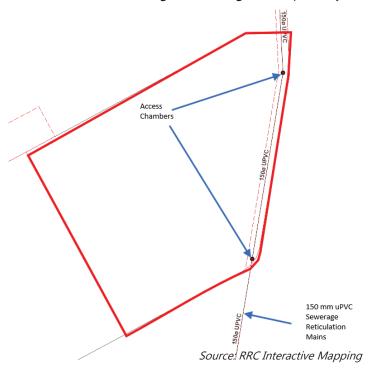


Figure 7 – Existing Sewer Infrastructure



Figure 8 - Existing Sewer Access Chamber - North-east Corner





Figure 9 - Existing Sewer Access Chamber - South-east Corner

All proposed internal sanitary drainage will be documented during the detailed design phase by a suitably qualified person (Hydraulic Engineer) during the detailed design phase, and all appropriate approvals sought from Council. This includes any first-flush diverters or grease/oil separators that are intended to discharge to the sewer network via a trade waste approval.

## 2.4 Stormwater

Knobel Engineers have previously prepared a *Stormwater Management Plan (Including Hydraulic Impact Assessment)* that was approved by Council as part of the DA for the Lily Place Industrial Estate ('D/52-2019' RRC Reference and '1907-12044 SRA' SARA Reference). The SMP / HIA quantified the peak stormwater discharge up to a 1% AEP flood event in a post-development scenario and provided measures for water quantity and quality management for the whole precinct. The post-development scenario in this case considered a fully developed industrial site with all building pads levelled to be above adjacent major flow channels, to maintain adequate freeboard. The adoption of conveyance channels and a basin located near the south-western corner of the site, was adopted to maintain a 'no worsening' case from pre- to post-development states. Furthermore, a bioretention basin was also integrated within this basin to treat stormwater and meet reduction targets for Gross Pollutants (GP), Total Suspended Solids (TSS), Total Phosphorus (TP) and Total Nitrogen (TN) as per RRC requirements and the State Planning Policy (2017).

As both hydraulic modelling and water quality modelling were undertaken to account for the entire Lily place Industrial Estate being fully developed up to 90% impervious, Premise previously considered that any stormwater issues relevant to the site in question have already been resolved through measures outlined by Knobel Engineers. Therefore, no further investigation into stormwater management was considered necessary for the proposed development in the first iteration of this report.

This approach was further confirmed by Jamie McCaul from RRC at the time via email correspondence on 14 July 2022, whereby he stated:

I can confirm that the basin and water quality device that has been constructed/ designed is considering a fully developed (90% impervious) site. Hence no site-specific detention or water quality improvements are needed.

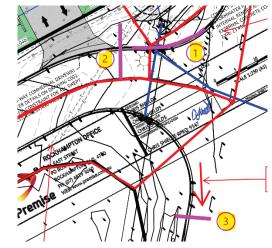
Following further email correspondence with Jamie McCaul and Mohit Paudyal from Council between 6 September 2022 and 14 September 2022, we understand that there may be some inconsistencies between what was documented by Knobel Engineers in the DA phase of the Lily Place development, and what was subsequently documented by Siris Consulting Engineers in the detailed design / Operational Works phase,



approved by Council, and ultimately built and accepted On Maintenance by Council. In summary, it appears that some form of supplementary stormwater detention and quality improvement is now required within the site, and Council Officers were willing to agree a practical compromise that meets both parties' interests.

With reference to the attached amended drawings C001 (now Rev 5) and C002 (Rev 3), the following approach for internal stormwater management has now been taken:

- The proposed interconnectivity of the internal piped stormwater system has been changed to send runoff from over half the site out to the existing grassed swale to the east, to assist with stormwater quality improvement. This approach also lengthens the Time of Concentration for these eastern subcatchments to assist in peak flow attenuation at the existing pit and pipe system immediately to the south of the site;
- SPEL Stormsacks (or approved equivalents) are now included within the six (6) pits noted with an asterisk, as part of the proposed piped system that connects to the existing stormwater pit at the bottom end of the grassed swale immediately to the south of the site, to further assist with stormwater quality improvement;
- Along with the change in proposed interconnectivity of the internal piped stormwater system, this system has been reassessed and sized in line with Table 7.13.4 from QUDM, being 'Level IV' drainage with a design storm of 5% AEP (Q20 ARI) and we have applied a 5min Time of Concentration to all internal catchments due to the high fraction impervious and desire to err on the conservative side. This has led to a number of proposed pipe sizes being amended from the previous iterations, to ensure runoff from the design storm is appropriately conveyed to the Legal Point(s) of Discharge in line with QUDM;
- 2 x 5,000L slimline tanks plumbed for detention (ie. not to hold water for re-use) have been nominated on the western end of the building to command approximately half of the proposed roof area via gutters and downpipes. This will provide peak flow attenuation (throttling) before that portion of the runoff enters the proposed piped system on the western side of the main building and ultimately discharges into existing downstream piped infrastructure;
- We have introduced a Class D grated strip drain across the access to reduce surface runoff to Barton Court itself to a practical minimum. It is only the minimum area of the proposed concrete driveway crossover (which is 'as of right') that is grading towards Barton Court, and cannot practically be reduced any further;
- We have assessed the gap flow and therefore depth-velocity (dV) product at 3 critical sections at the Barton Crt / Southern Service Rd intersection. The dV products at these 3 locations (see snips below) are within acceptable limits:





Section Location	Description	Depth (mm)	Velocity (m/s)	d*V
1	Weir equation over top of kerb	80	0.53	0.04
2	Izzard equation gutter flow	84	1.21	0.10
3	Izzard equation gutter flow	172	1.21	0.21

- As part of the gap flow and dV calculations, we identified that the existing stormwater pit and pipe system at the Barton Crt / Southern Service Rd intersection is not adequate to convey the minor flows from the existing road catchments plus the developed site, without unacceptable freeboard or surcharge. This appears to be the product of the aforementioned disconnect between the stormwater approach during the DA, Operational Works and construction phases of the subdivision itself. Following further recent consultation with Patricia Farrow and Jamie McCaul at RRC, Drawing C001 (now Rev 5) has therefore been updated to include direct piped connections from a portion of the site to the two (2) existing gully pits along the western side of the Southern Service Rd, with high flow dome grates within the existing grassed swale, to maximise flow capture and conveyance through existing pipes beneath this road to the open drainage reserve on the eastern side. These pits will also allow surcharge and bypass as required in larger rain events, if the capacity of the existing pipes beneath the Southern Service Rd is exceeded. A proposed piped connection to the existing high flow inlet pit near the corner of Barton Crt and the Southern Service Rd has been maintained to command a portion of the site, and the two (2) remaining portions of the site discharge into the existing grassed channel surface; and
- Proposed pit invert levels, pit surface levels, pipe sizes, pipe grades, pit sizes and site hardstand perimeter surface levels are all now documented on Drawing C001 (now Rev 5) for completeness to demonstrate that the site can effectively capture and manage all roofwater water and surface water to the agreed Legal Points of Discharge being the existing grassed swale and pipe infrastructure along the eastern side of the site.

All proposed internal roofwater management (downpipes, minor grated inlets and minor pipes) will be documented during by a suitably qualified person (Hydraulic Engineer) during the detailed design phase, and all appropriate approvals sought from Council.

## 2.5 Electrical and Telecommunications

There does not appear to be any existing overhead electrical infrastructure within the vicinity of the site. Ergon Energy maintains an underground asset (below 33 kV) which runs along the Southern Service Road adjacent the eastern boundary (Refer **Figure 10**), and underground LV electrical reticulation is evident through the existence of an electrical turret near the south-east corner of the site, and a nearby street light.

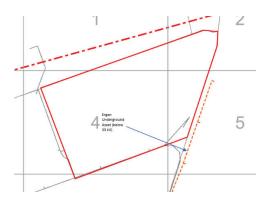


Figure 10 - Ergon DBYD Extract





Figure 11 - Existing Street Light on Barton Court

Any electrical reticulation design for the proposed internal works will be completed by a qualified Electrical Engineer during the detailed design phase, and all appropriate approvals sought from the relevant authority.

Existing telecommunications infrastructure is also located within the vicinity of the subject site in the road reserves of Barton Court and the Southern Service Road. There are also a number of pits located close to the site including one adjacent the south-east site corner. Refer to **Figure 12 below:** 

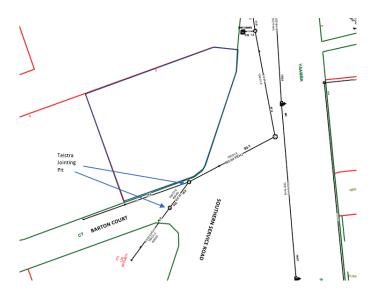


Figure 12 - Telstra DBYD Extract

Any telecommunications reticulation design for the proposed internal works will be completed by a qualified Telecommunications Engineer during the detailed design phase, and all appropriate approvals sought from the relevant authority.

## 2.6 Gas

There does not appear to be any existing gas services immediately adjacent to the subject site.



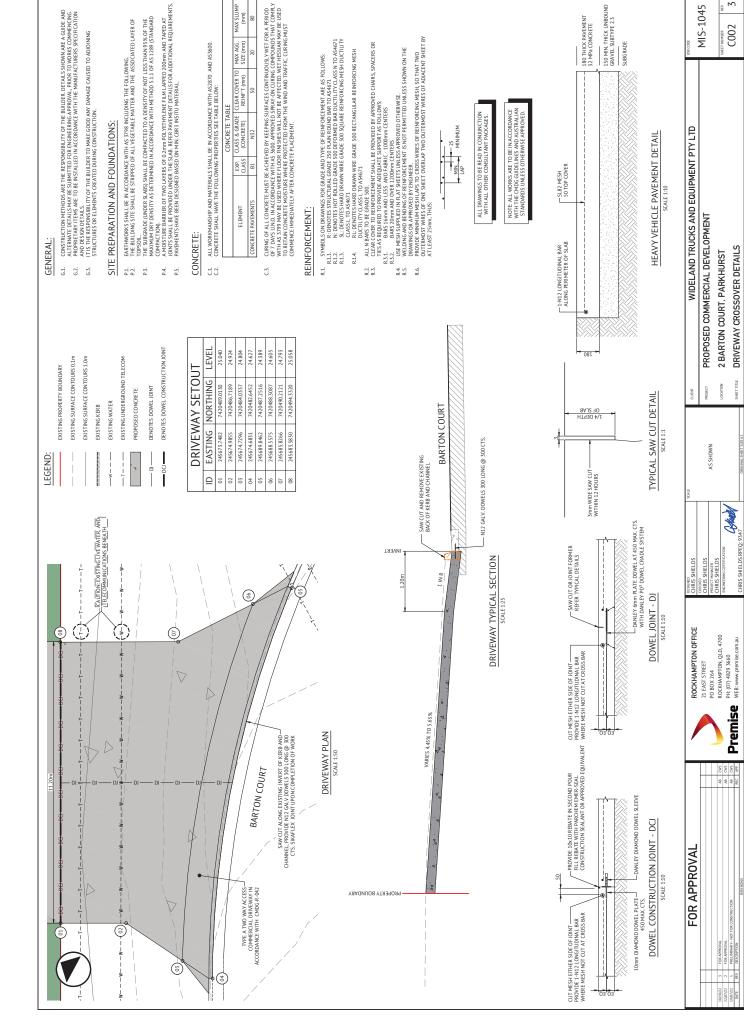
## 3. **CONCLUSION**

There appears to be no insurmountable engineering infrastructure difficulties with the proposed development on the subject site at 2 Barton Court, Parkhurst (Lot 5 on SP326319). A review of the services proposed for this development and their impact on surrounding services, indicates that there is no impediment to development. The development can be adequately serviced by the existing water and sewer networks and electrical and telecommunications services are also available immediately adjacent to the site. The management of stormwater quantity and quality for a fully developed site has also been addressed in Section 2.4, to be read in conjunction with the previous modelling and reporting tied into the DA Approval for the Lily Place Industrial Estate itself (D/52-2019).

Minor alterations in the design may eventuate from future applications, however the fundamentals of the design strategy ensure that service provisions will not pose a serious constraint to development.

If you should have any questions regarding this report, please do not hesitate to contact the Premise Office in Rockhampton.







# PROPOSED INDUSTRIAL DEVELOPMENT 777 YAAMBA ROAD, PARKHURST TRAFFIC ENGINEERING ASSESSMENT

**3 AUGUST 2022** 

PREPARED FOR
WIDELAND GROUP TRUCKS

# ROCKHAMPTON REGIONAL COUNCIL APPROVED PLANS

These plans are approved subject to the current conditions of approval associated with

**Development Permit No.: D/109-2022** 

Dated: 27 February 2023







#### **DOCUMENT CONTROL RECORD**

DOCUMENT								
Report	t Title:	777 Yaamb	777 Yaamba Road, Parkhurst - Traffic Engineering Assessment					
Client	;	Wideland G	Wideland Group Trucks					
Projec	t Number:	22-701						
REV	PURPOSE	DATE	AUTHOR	REVIEWER	APPROVED	SIGNED		
А	FINAL	AUG-22	ВН	JPG	JPG (RPEQ 22233)	12-		

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Document Set ID: 37718900 Version: 1, Version Date: 09/08/2022



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#### 1.0 INTRODUCTION

## 1.1 BACKGROUND

In July 2022, Pekol Traffic and Transport (PTT) was commissioned by Nielsen Project Management on behalf of Wideland Group Trucks to undertake a traffic engineering assessment for a proposed industrial development at 777 Yaamba Road, Parkhurst. The location of the subject site is shown in Figure 1.1.



Figure 1.1: SITE LOCALITY

#### 1.2 AIM

The aim of this assessment is to evaluate the proposed development in terms of its access, parking and servicing arrangements, pedestrian / cyclist facilities, peak hour traffic generation and impact on the surrounding road network.

#### 1.3 SCOPE OF REPORT

This report begins by summarising the characteristics of the existing road network (Chapter 2), followed by a description of the scope and scale of the development, including a consideration of the site access, parking provision and design, servicing arrangements and pedestrian / cyclist facilities (Chapter 3). The report concludes with a summary of key findings (Chapter 4).



## 2.0 EXISTING CONDITIONS

## 2.1 SUBJECT SITE

The subject site is located at 777 Yaamba Road, Parkhurst and is formally identified as Lot 5 SP326319. According to the Rockhampton Regional Council (Council) Planning Scheme, the site is zoned as high impact industry. The subject site is currently vacant with a total site area of 10,015m², as shown in Figure 2.1.

Figure 2.1: SUBJECT SITE



The subject site is bounded as follows:

- an industrial property to the north
- Yaamba Road service road to the east
- Barton Court to the South
- Vacant land to the west

The surrounding area consists primarily of commercial / industrial uses.

## 2.2 ACCESS

No formal access is currently provided to the subject site.



## 2.3 ROAD NETWORK

Key attributes of the surrounding road network are summarised in Table 2.1.

Table 2.1: ROAD NETWORK ATTRIBUTES

ATTRIBUTE	YAAMBA ROAD	YAAMBA ROAD (SERVICE ROAD)	BOUNDARY ROAD	BARTON COURT
Road Hierarchy	Highway	-	Urban Arterial	Industrial Access
Jurisdiction	TMR	TMR	Council	Council
Speed Limit (km/h)	60	-	60	50
Predominant Land Uses	Industrial	Industrial	Industrial	Industrial
On-Street Parking	No	No	No	No
Footpaths	Yes	No	No	No
Bicycle Lanes	Yes	No	Yes	No
Bus Route	Yes	No	No	No

Yaamba Road and the Yaamba Road service road form part of the state-controlled road network.

#### 2.4 ACTIVE AND PUBLIC TRANSPORT

## 2.6.1 Pedestrians and Cyclists

There is a pedestrian footpath on the eastern side of Yaamba Road and parts of the western side. No pedestrian footpaths are provided on the Yaamba Road service road, Boundary Road or Barton Court in the vicinity of the site.

Bicycle lanes are provided on parts of Yaamba Road and Boundary Road in the vicinity of the site.

## 2.6.2 Public Transport

A public bus stop is located on the western side of Yaamba Road approximately 340m east of the site. The stop is served by SunBus route 410, which provides access to the Rockhampton CBD. Accordingly, the site is served by public transport.



#### 3.0 PROPOSED DEVELOPMENT

## 3.1 SITE LAYOUT

The proposed development comprises a 1,460m<sup>2</sup> GFA workshop and an associated 585m<sup>2</sup> GFA administration / office area, supported by 25 car parking spaces and 10 Heavy Rigid Vehicle (HRV) parking bays. The proposed layout is attached in Appendix A and shown in Figure 3.1.



Figure 3.1: PROPOSED SITE LAYOUT

## 3.2 ACCESS

## 3.2.1 Location

As shown in Figure 3.1, vehicular access to the development is proposed via an 11.2m wide all-movements crossover on Barton Court.

The Capricorn Municipal Development Guidelines (CMDG) requires that crossovers be located a minimum of 20m from the centre point of any adjacent intersection or roundabout and 2m from the property boundary. The proposed crossover is located greater than 20m from the adjacent Yaamba Road service road / Barton Court intersection (measured centre to centre) or 2m from the property boundary. Therefore, the proposed driveway crossover complies with CMDG requirements for location.



Additionally, Australian Standard AS2890.1:2004 Parking Facilities Part 1: Off-Street Car Parking (AS2890.1) requires access driveways to be located a minimum 6.0m from the tangent point of adjacent intersections. The proposed crossover is located approximately 7.2m from the tangent point of the adjacent intersection, as shown in Figure 3.2 and complies with AS2890.1 requirements for location.

Also, as shown in Figure 3.2, the proposed crossover is located such that a 20.0m long Articulated Vehicle (AV) would not impact traffic at the Yaamba Road service road / Barton Court intersection while turning into the site.

#### 3.2.2 Design

The crossover has been designed to accommodate the largest vehicle anticipated to visit the site, which is a 20.0m AV. The crossover splays have been designed generally in accordance with the Institute of Public Works Engineering Australia's (IPWEA) Standard Drawing RS-051 and Australian Standard AS2890.2:2018 Parking Facilities Part 2: Off-Street Commercial Vehicle Facilities (AS2890.2), as shown in Figure 3.2.

## 3.2.3 Sight Distance

On a 50km/h road (ie Barton Court), AS2890.1 requires an absolute minimum sight distance of 45m, with a desirable sight distance of 69m. The proposed crossover on Barton Court achieves approximately 22m sight distance to the east (ie to the Yaamba Road service road / Barton Court priority-controlled intersection) and in excess of 100m sight distance to the west. The reduced sight distance to the east is considered acceptable, as vehicles exiting the adjacent intersection are expected to be travelling at significantly slower speeds to perform turn movements. Therefore, the available sight distance at the proposed crossover complies with AS2890.1 requirements.

#### 3.3 PARKING

#### 3.3.1 Council Requirement

The car parking requirement for the site has been determined based on the parking provision rates outlined in Council's Planning Scheme. As shown in Table 3.1, 21 car parking spaces are required to support the proposed development.

Table 3.1: COUNCIL PARKING REQUIREMENT

USE	SCALE	PARKING RATE	REQUIREMENT
High Impact Industry	2,045m²	1 space per 100m² GFA	21 spaces

#### 3.3.2 Provision

The proposed layout provides 25 car parking spaces on-site, including a Persons with Disability (PWD) bay. Therefore, the proposed parking provision complies with Council's Planning Scheme requirements.



## 3.3.3 Design

The proposed on-site parking facilities have been designed consistent with the requirements of AS2890.1 and Australian Standards AS2890.6 Parking Facilities Part 6: Off-Street Parking for People with Disabilities (AS2890.6), in terms of minimum parking space and aisle dimensions, and are typified by:

- parking spaces dimensioned 2.6m wide by 5.4m long
- PWD space dimensioned 2.6m wide by 5.4m long, with an adjacent 2.6m wide shared area
- 0.3m additional width provided for parking spaces located adjacent to a wall or structure greater than 0.15m in height
- parking aisles dimensioned a minimum 6.5m wide

#### 3.4 QUEUING

AS2890.1 identifies a minimum queuing length of two cars for a car parking area with 25 spaces. The proposed access arrangement provides clear queuing space for at least two cars. Therefore, the proposed site layout provides sufficient on-site queuing.

#### 3.5 SERVICING

The largest vehicle expected to access the site would be a 20.0m long AV. A total of 21 HRV parking / workshop bays dimensioned a minimum of 14.0m long by 4.5m wide are proposed on-site, as shown in Figure 3.1. A Refuse Collection Vehicle (RCV) will also require access to the site. A swept path drawing of a 20.0m long AV accessing and egressing the subject site is shown in Figure 3.2 and attached in Appendix B.

Swept path drawings showing a HRV accessing the parking bays and workshop bays are shown in Figure 3.3 and attached in Appendix B.



INTERSECTION TANGENT POINT

TANGENT POINT

THE SITE

THE

Figure 3.2: AV MANOEUVRING

Figure 3.3: HRV MANOEUVRING





A swept path drawing showing an RCV accessing the refuse store is shown in Figure 3.4 and attached in Appendix B.

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Figure 3.4: RCV MANOEUVRING

## 3.6 ACTIVE TRANSPORT

Considering the nature and location of the development no external pedestrian access or footpaths are proposed nor considered to be required. The internal pedestrian facilities are expected to facilitate safe and convenient movement for pedestrians throughout the site.



#### 4.0 CONCLUSIONS

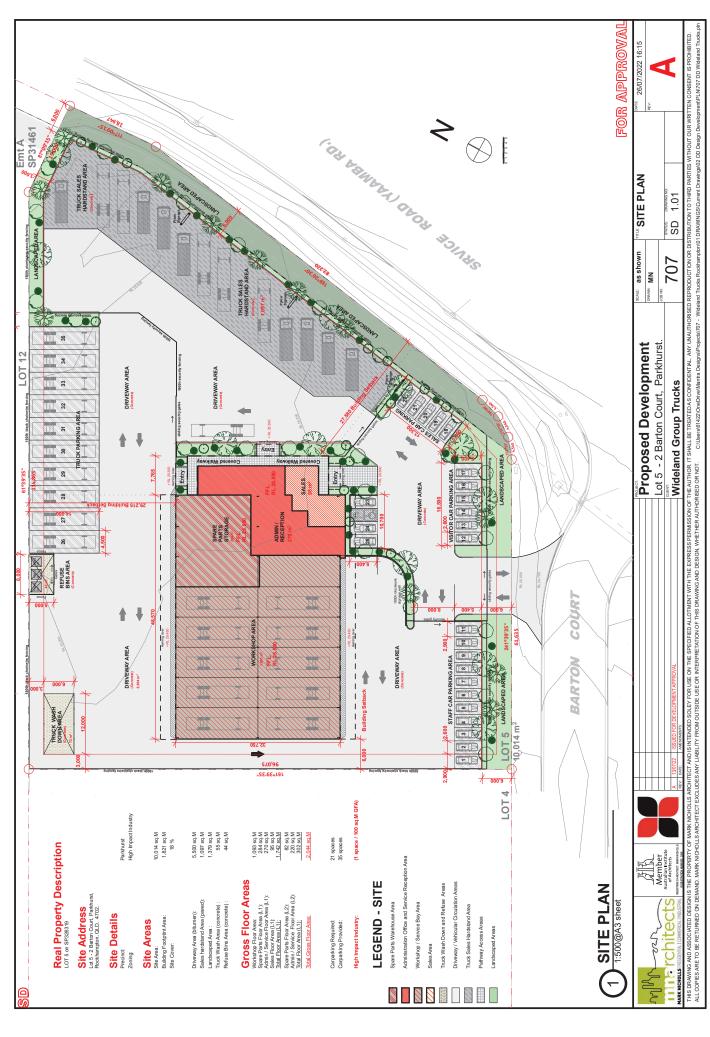
The proposed development has been evaluated in terms of the site access arrangements, parking provision and design, servicing arrangements, pedestrian / cyclist facilities and likely traffic impact. The main points to note are:

- the proposal involves a 1,460m<sup>2</sup> GFA workshop and an associated 585m<sup>2</sup> GFA administration / office area
- access is proposed via an 11.2m wide all-movements crossover on Barton Court designed generally in accordance with the Institute of Public Works Engineering Australia's (IPWEA) Standard Drawing RS-051 and AS2890.2
- sight distance and queuing at the proposed crossover is consistent with AS2890.1 requirements
- the parking provision of 25 spaces is consistent with Council's minimum parking requirements
- the development can accommodate on-site servicing of a 20.0m long AV and HRV
- the internal pedestrian facilities are expected to facilitate safe and convenient movement for pedestrians throughout the site



# APPENDIX A PLANS OF DEVELOPMENT

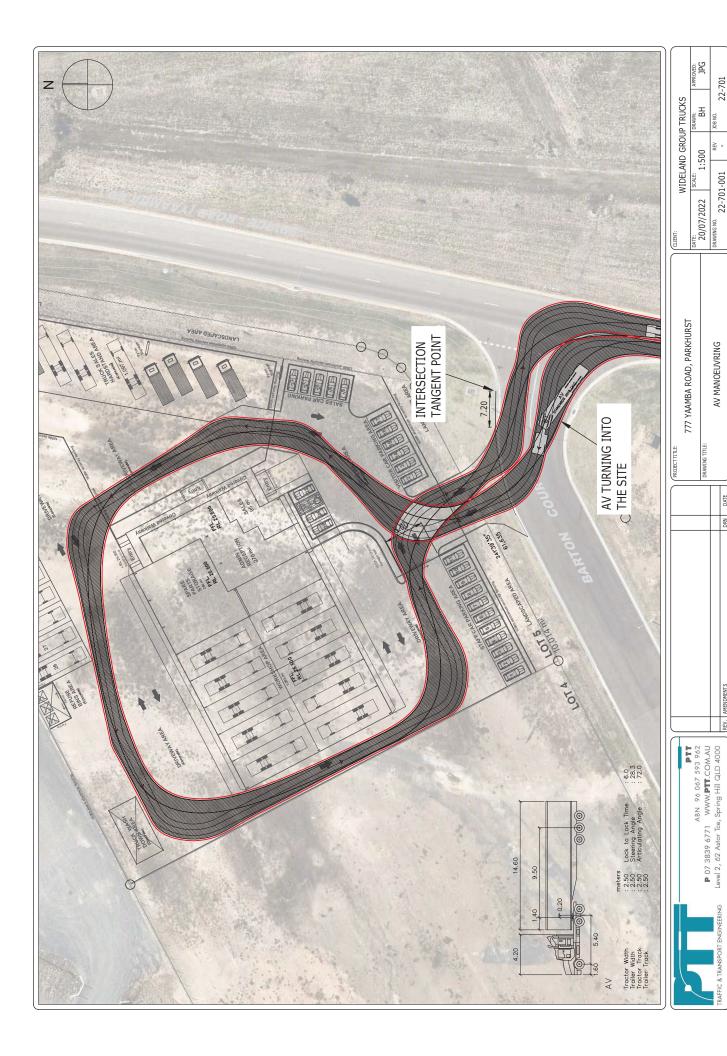
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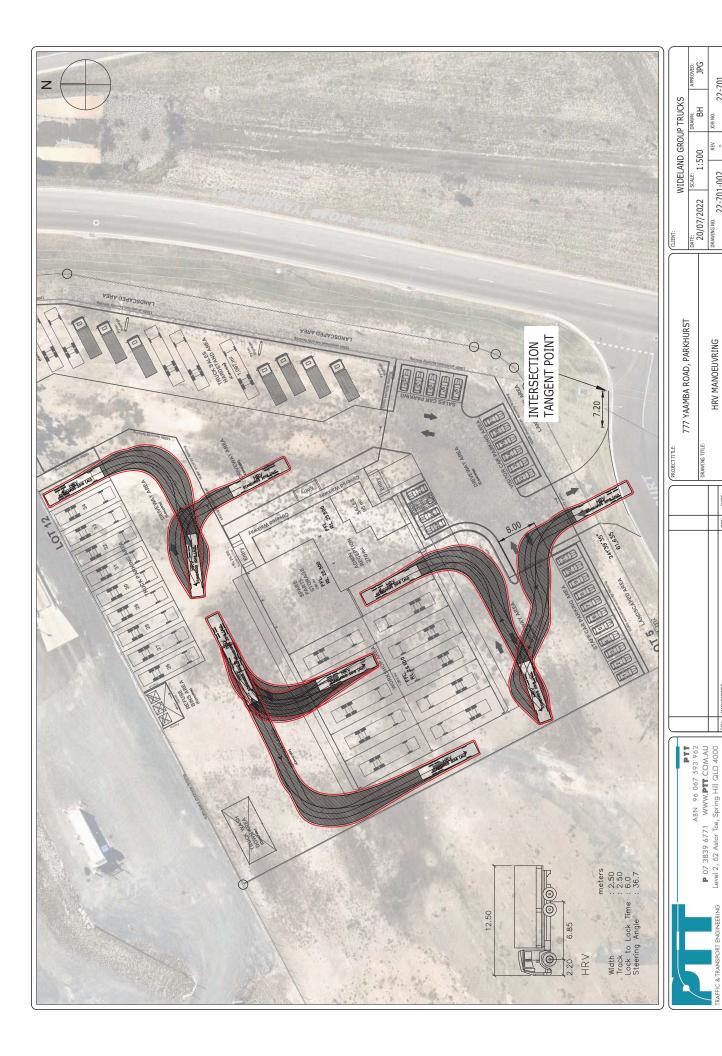




# APPENDIX B SWEPT PATH DRAWINGS

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